Addressing the Underlying Causes of Deforestation and Forest Degradation

Case Studies, Analysis and Policy Recommendations

Cover page: The richness of ancient temperate rainforest is evidenced by this picture by Ian McAllister of falls in the mixed forest of British Columbia, Canada

We gratefully acknowledge Ian and Karen McAllister and Greenpeace for contributing their pictures to this publication. All pictures so identified are © Ian McAllister / Raincoast. © Greenpeace pictures is as specified in the captions.

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Preface

How the Initiative Came About

In 1995, the UN Commission on Sustainable Development established an Intergovernmental Panel on Forests (IPF) to address a wide range of forest-related issues, including one element entitled: "Underlying Causes of Deforestation and Forest Degradation." The IPF produced a final report in early 1997 containing a set of 135 Proposals for Action, which were formally endorsed at the June 1997 UN General Assembly Special Session (UNGASS) on the implementation of Agenda 21. The IPF Proposals for Action urged all countries, with the support of international organizations and the participation of major groups, to undertake case studies to identify the most important underlying causes of deforestation and forest degradation, to undertake in-depth studies of these underlying causes, and to support the convening of a global workshop on underlying causes.

As a follow-up to the IPF, UNGASS established the Intergovernmental Forum on Forests (IFF) to promote implementation of the IPF Proposals for Action, to monitor such implementation, and to address matters left pending by the IPF. At the first meeting of the IFF, held in October 1997 in New York, a large group of non-governmental organizations (NGOs) announced their willingness to contribute to a joint initiative on national and international underlying causes, designed to help inform the IFF discussions on this topic. The proposals put forward by the NGO-coalition were welcomed by many participants and several governments expressed their willingness to join as partners in the process, including the Government of Costa Rica, which offered to host a global workshop to analyze the issue.

This workshop took place from 18 to 22 January 1999 in San José and was attended by over 125 participants from all regions who joined in an effort to deliver to the international community solution-oriented approaches to address underlying causes. The workshop was preceded by 7 regional and one Indigenous Peoples Organizations (IPO) workshop, which were held between July 1998 and January 1999 in Russia, Fiji, Canada, Chile, Ghana, Germany, Indonesia and Ecuador. Also, more than 60 case studies and discussion papers on the underlying causes of forest loss were collected. These studies formed the basis for the discussions in these workshops.

It should be noted that most existing studies on underlying causes have, so far, focused on deforestation in tropical countries. Balanced regional representation in this initiative has ensured not only a wider representation of on-the-ground experiences with forest degradation, but also a far wider representation of experiences from regions with temperate and boreal forests.

Main Goal and Specific Objectives

The main goal of this initiative is to support and build upon the effective implementation of the IPF Proposals for Action that address underlying causes of deforestation and forest degradation and the ongoing work of the Intergovernmental Forum on Forests. More specific objectives of this project are:

- to contribute to further analysis of the major underlying causes of deforestation and forest degradation at the national, regional and global levels on the basis of new and existing case-studies, other in-depth studies, a global workshop and various participatory dialogue / consultation processes;
- to raise the level of awareness and facilitate a heightened dialogue about these underlying causes among a broad range of governmental and non-governmental actors, both within and outside the forest sector; and
- to stimulate partnerships among stakeholders around solution-oriented approaches to these issues, including needed policy reforms and other actions.

Participation

Participants in the initiative include governments, NGOs, Indigenous Peoples' Organizations (IPOs), Afro-American organizations, grass-root organizations, intergovernmental agencies, farmers' cooperatives,

trade unions and representatives of business and industry. The process is coordinated by a Global Secretariat, composed for the World Rainforest Movement and the Netherlands Committee for IUCN. An Organizing Committee was established for the initiative, which includes the Government of Costa Rica (the host country), the United Nations Environment Programme (UNEP, the lead agency of the Interagency Task Force on Forests[1]), one focal point per region, a focal point for Indigenous Peoples, and the Global Secretariat. The organizers receive regular advice and guidance from a Steering Committee, which includes the members of the Organizing Committee, government representatives from a number of countries including the UK, Nepal, Portugal, the Russian Federation, Denmark, The Netherlands, Canada, Ghana, Finland, Australia and Japan, the IFF secretariat, IUCN / WWF and Via Campesina - a worldwide farmers' organization. Other members of the Interagency Task Force on Forests, including the Center for International Forestry Research (CIFOR), the World Bank, the UN Food and Agriculture Organization (FAO) and the United Nations Development Programme (UNDP), have participated actively in the process. The entire process was and remains open to all parties with an interest in participating in the different activities.

Acknowledgements

The Organising Committee would like to thank all the organisations and individuals who have contributed financially or otherwise to this process, including: The Government of the United Kingdom, The Government of Portugal, The Government of Finland, The Government of Australia, The Government of New Zealand, The MacArthur Foundation, The Turner Foundation, The United Nations Environment Programme (UNEP), World Wide Fund for Nature (WWF) International, The European Commission, The Government of the Netherlands (NEDA), The Ford Foundation-Indonesia, The Government of Sweden, The Government of Canada, The Government of Denmark, The Government of Switzerland, The U.S. Forest Service, The Embassy of Finland in Indonesia, The Indonesian Tropical Institute (LATIN), The Consortium for Supporting Community-based Forest Management in Indonesia (KPSHK), The Indonesian Forum for Environment (WALHI), The Institute for Global Environmental Strategies (IGES), Japan, The Institute for Policy Research and Advocacy (ELSAM); the Institute for Empowering Indigenous People (LPPMA), West Papua, The Government of Nepal, The Government of The Russian Federation, The Government of Ghana, The Government of Japan; the IFF Secretariat, the Center for International Forestry Research (CIFOR), IUCN-The World Conservation Union, The United Nations Development Programme (UNDP), Via Campesina, The Canadian Environmental Network, and Coordinadora Indigena Campesina de Agroforesteria Comunitaria (CICAFOC). The usual caveats apply.

A final gathering of Steering Committee members and local organizers in San José

[1] The ITFF is an informal, high-level group of individuals representing: The Intergovernmental Forum on Forests Secretariat, the World Bank, the United Nations Food and Agriculture Organization, the United Nations Environment Programme, the United Nations Development Programme, the Center for International Forestry Research, and the International Tropical Timber Organization.

Introduction

This report is the first outcome of a 16-month initiative of a diverse group of NGOs, governments, Indigenous Peoples' Organizations, intergovernmental agencies and other stakeholders that included 7 regional workshops, one Indigenous Peoples workshop, and a Global Workshop to Address the Underlying Causes of Deforestation and Forest Degradation. The latter was attended by 125 participants from 40 countries, and took place in Costa Rica, from 18 to 22 January 1999.

A deepening forest crisis worldwide has been documented in alarming trends in global deforestation and forest degradation. During the last decade, in particular, the forest crisis has received increasing attention and has prompted many initiatives by governments and intergovernmental agencies. Still, these and other responses appear to be insufficient in achieving a significant deceleration and reversal of the above-mentioned trends. Many have analyzed the potential explanations of why these recent responses to the forest crisis have failed to generate the significant progress needed. There seems to be broad agreement that these initiatives have focused far too much attention on the proximate causes of deforestation / forest degradation (and factors within the forest sector), and have largely ignored the underlying (root) causes of these problems.

The first aim of this joint initiative is to contribute to the deliberations of the United Nations Intergovernmental Forum on Forests. The initiative also hopes to contribute to the work program on forests of the United Nations Convention on Biological Diversity.

In all, over 40 case studies were collected, along with numerous discussion papers, documenting the underlying causes of forest loss all over the world. A number of key points clearly emerge from the actions recommended by the Global Workshop. Full participation of local communities and other stakeholders in decision-making over management of natural resources at the national and international level is required if we intend to reverse the current rates of forest loss. Also, forests are more than just stands of timber. Their rich biological diversity, particularly natural forest biological diversity, constitutes complex ecosystems that provide valuable services such as water, air purification, stabilization of climate, soil protection, and have spiritual meaning for individuals, communities, and society as a whole. These lessons seem to be absent in current international policy deliberations that affect forests, and we urge all responsible actors to include them in the future. From our participation in this process we have learned an important lesson: that a participatory process such as this carried forward by collaboration between governments, international organizations, NGOs, Indigenous Peoples and local communities can significantly advance the international agenda.

We invite you to ask yourself how you can apply these important lessons in your work and warmly welcome comments, suggestions, and ideas for follow-up.

Contents and structure of the report

Following the introduction, this report includes:

An overview of major underlying causes of deforestation and forest degradation and recommended actions

This section presents an overview of the main underlying causes identified throughout the initiative, illustrated with concrete examples drawn from the case studies. The recommended actions that are listed in this section were selected from the complete list of recommendations adopted at the Global Workshop (for the full list, please see Annex II). This selection was compiled just after the workshop at the direct request of the participants in order to highlight the most innovative or otherwise important recommendations that had emerged.

Proceedings of the Global Workshop

This section presents summaries of speeches that were given throughout the workshop, including the panel discussion on the last day, and describes the different tasks assigned to the working groups in order to arrive at recommendations proposed.

Future steps to address forest loss

This sections gives a brief, non-exhaustive, outline of the goals for the next stage of the Joint Initiative to Address the Underlying Causes of Deforestation and Forest Degradation, and includes contact information for the Global Secretariat and the IPO and regional focal points.

Regional and IPO workshop reports

The reports of each of the regional and IPO workshops are included as the last section of this book. Each report includes a brief description of the workshop itself; the recommended actions that were proposed at the workshop; summaries of the case studies that formed the basis of the discussions; and a list of participants. Some of the reports also include summaries of in-depth studies that contributed to the discussions.

Annexes

Annexes include a glossary of selected acronyms; the complete list of recommended actions adopted at the Global Workshop; and participants of the Global Workshop with their contact information.

Overview of the Major Underlying Causes of Deforestation, Forest Degradation and Recommended Actions

The forty case studies that were prepared for the initiative followed guidelines given by an Organizing Committee, which were largely based on the IPF's Diagnostic Framework. The case studies were complemented by over 20 additional papers prepared by NGOs, Indigenous Peoples' Organizations (IPOs), intergovernmental organizations including the United Nations Food and Agriculture Organization (FAO) and the World Bank, international research institutions such as the Center for International Forestry Research (CIFOR), government representatives, and representatives of labor and industry.

Discussions at the regional and IPO workshops aimed to identify the common underlying causes of deforestation and forest degradation, and to then identify actors and solutions to address them. The recommendations that emerged from the eight workshops and the case studies reflect a wide range of causes, actors and possible solutions in diverse social, political, economic, cultural and environmental contexts. While each case was unique, a number of causes were identified as underlying deforestation and forest degradation on multiple occasions, in all types of forests. Important trends also emerged regarding the actors identified, both domestic and international, which are part of the problem and therefore can be part of the solution.

The following categories formed the basis for division into thematic working groups at the Global Workshop, and are expanded on below:

- Land tenure, Resource Management, and Stakeholder Participation
- Trade and Consumption
- International Economic Relations and Financial Flows
- Valuation of forest goods and services

It should be emphasized that underlying causes that fall under one category are often influenced by underlying causes in another. Both causes and the actors form part of a complex chain of causality, and improvement in one area can promote or facilitate the adoption of measures in another, leading to an improvement in forest conservation.

Baka family in forest, Cameroon

© K. Horta / M. Rentschler, 1990

Land Tenure, Resource Management, and Stakeholder Participation

The non-recognition of the territorial rights of indigenous and other traditional peoples, and the resulting invasion of those territories by external actors was often highlighted as an underlying cause. The case study of deforestation in the Colombian Pacific illustrates the historical government practice of granting Afro-American and Indigenous ancestral territories as concessions to the forest and mining industry, and the **ineffective regulation of local industry operations** which do not take into account their environmental and social impacts. The case study of the Primorskii region of Russia shows how the lack of protection of the rights of the Indigenous Udege and their traditional role in forest management intensifies the destructive natural resource extraction in the region.

Government-led colonization processes into the forests, stemming from **inequitable land-tenure patterns** in distant agricultural areas are illustrated in the case study of India, where much of the deforestation was caused by state-sponsored agricultural expansion,

The Underlying Causes of Deforestation and Forest Degradation: A Case Study of the Mau Forest in Kenya
by Lynette Obare and J.B. Wangwe, Forest Action Network

The Mau Forest is located in the Rift Valley Province of Kenya and straddles four districts. The forest covers an area of 900 km^2. According to the FAO, Kenya is classified among the countries with low forest cover (less than 2% of the total land area).

The forest is rich in biodiversity and hosts several indigenous tree species and important mammals of concern to the international conservation community. Mau is the home of the largest group of forest dwellers, the Ogiek, who depend upon the forest for subsistence and shelter. Since forest resources play an important role in Ogiek culture, they deem traditional conservation as being vital and have, therefore, instituted various traditional conservation measures that were passed on to the community by the elders.

The study highlights direct causes and actors leading to deforestation and forest degradation. The causes identified include clearing natural forests to establish plantations, logging, conversion of natural forests into agricultural land, human settlement, forest excision and fires. The actors responsible include the forest department, saw mills, politicians, and other influential people. It is assumed that since the forest is gazetted and, therefore, government property, no individual or community has the legal right over the forest. This encourages illegal exploitation as the people are alienated from resources which they depend on for survival.

Possible interventions to counteract the deforestation process and the problems include protection of the rivers and streams in the area, community involvement in forest conservation, and legal mechanisms. The following underlying causes of deforestation and forest degradation were identified in the study:

- Weak policy formulation and enforcement;
- Political factors manifested through, for example, the practice of giving patches of forest to supporters of politicians for political patronage;
- Macro-economic policies, such as increasing cash crop farming for exports;
- Structural adjustment;
- Population pressures; and
- Trade liberalization.

The workshop identified three categories of responsible actors responsible at the local, national and global levels, and strategies were formulated to counter effects of these actors on forests. The following possible solutions to the underlying causes were tendered:

- Decision-makers should involve local stakeholders in policy formulation;
- Management of the forest should be done by a board of trustees;
- Advocacy for sustainable forest management should be encouraged at the local level;
- Advocacy for forest protection should be encouraged at the global level;
- Activities that reduce the pressure on forests should be promoted; and
- Marketing and value-adding processes to existing products should be facilitated.

NGOs, policy-makers, the Ogiek Welfare Management Committee, the Kenyan Forest Department, the Ministry of Water Resources, the Ministry of Agriculture, the Kenya Wildlife Service, the Ministry of Lands and Settlement, local authorities, and others should all be involved in implementing the possible solutions identified above.

permitted under the British land ownership policies. The lack of legally-recognized land titles for local communities as an underlying cause of deforestation is illustrated in the study of the Mau Forest in Kenya. The study shows that government ownership of the forest and a **lack of legal rights over the resource** leads to a feeling of alienation from the land and, ultimately, in high rates of illegal exploitation of the forest.

Many case studies identified the **privatization of forests for the benefit of large-scale private or corporate landowners** as an underlying cause. This was illustrated by the case study of deforestation in Alaska's coastal rainforest, where it was shown that much of the deforestation occurred as a result of 50-year timber contracts offered by the Forest Service to the growing pulp and paper industry and to Alaska Native logging corporations.

Large-scale and/or unsustainable agricultural practices were identified as a major underlying causes, as in the case of the lowlands of Hungary, where natural forest degradation was said to have resulted from agricultural intensification, which, serviced by intensive water management regimes, created difficult growing conditions for native tree species.

Underlying Causes of Forest Loss in the Georgia Republic
by Alexander Urushadze, Ministry of Economy, Georgia Republic

Deforestation in Georgia has historic roots. Since the 1920s however, deforestation rates have been under control. Recently, government forest management agencies have taken active measures to cultivate wood, resulting in a new threat of rapid deforestation. In addition, the conditions stemming from the current power crisis have resulted in the increased cutting of wood around populated areas, parks, and gardens by the general population.

Wood is the only raw material used in Georgia's furniture and cellulose-paper production and Georgian furniture manufacturers use only local raw materials. The forests also play a vital role in providing fuel for the country — an importance which has increased in recent years as the volume of Georgia's gas and oil supplies has sharply decreased.

After the breakdown of the Soviet Union and during the ensuing power crisis, which primarily harmed the living conditions of refugees and the socially unprotected stratum of society, forest degradation has increased. The measures taken by government agencies and non-governmental organizations to prevent this have proved insufficient.

Forest degradation has accelerated due to continuous export of timber to foreign countries, largely due to weak ecological protection. For this reason, ecological education needs to be drastically improved. Other contributing factors include:

- Failure of the Georgian Parliament to adopt key forestry laws;
- Responsibility for forest devastation remains unmentioned in the criminal code;
- No real costs have been assigned to wood, encouraging speculation;
- Illegal harvests in reserves;
- Environmental agencies are extremely weak in regions which depend particularly on the implementation of existing law; and
- A general indifference to the problem.

Improvements could be brought about by strengthening the control of wood exports. Unfortunately, Georgian timber is exported to foreign countries at very low prices. The firms which are engaged in producing timber and in its sale are not concerned with the condition of Georgian forests, which has led to the predatory nature of forest exploitation. This can only be countered by organized activity to restore forests and supervise forest use.

The way in which natural resources are managed at the country level, expressed in explicit or implicit policies, was widely identified as a major underlying cause as well. These often result in negative impacts on forests and conflict with policies and practices aimed at forest conservation. For example, **the lack of empowerment and participation of local communities in decisions over forest management** was identified as an underlying cause in many case studies, ranging from Austria to Thailand. In the latter, underlying causes were found to stem from national policy-making and centralized natural resource management, where people do not have control over the fate of their natural resources. The Austrian case study showed that, while the political structure strives to equally represent interest groups, environmentalists do not have formal representation among the policy-making elite, leading to serious problems of forest degradation. One of the case studies undertaken in Sweden, focusing specifically on the experience of the Indigenous Sami, highlighted **conflicts over land ownership** as a major underlying cause of the deforestation in the region.

The promotion of large-scale development projects often has negative impacts on forests as evidenced in a second case study of deforestation and forest degradation in Thailand, prepared for the IPO workshop. In this case, the development projects over the last 30 years aimed at eliminating opium production and shifting agriculture, by United Nations agencies and the government, have been the main causes of the large-scale deforestation in the country.

Inappropriate and conflicting policies related to natural resource management were often cited as an underlying causes of forest loss, as in the case of the 1998 IMF structural adjustment package in Indonesia, which on the one hand required removal of all formal and informal barriers to investment in palm oil plantations – leading to increased pressures for international investors to convert forest land – and on the other hand required the government to reduce land conversion targets to environmentally sustainable levels by the end of 1998.

Economic and other incentives were widely cited as underlying causes, as in the case of deforestation in the Polva County of Estonia, where as part of the transition to a market economy, **subsidies** were removed for non-

wood sources of fuel, leading to increases in legal and illegal logging. This same case also illustrates the issue of **inadequate enforcement of existing laws and lack in institutional capacity** to adequately manage forests. The Estonia State Forestry administration has not been able to keep up with the paperwork that accompanies the rapid privatization of forests, much less to adequately oversee forest management. The case study of deforestation and forest degradation in Australia also identified, among others, **inadequate management, weak institutions, and lack of regulatory control** as these relate to forests. In the case of the southern Chilean native forests, home of the Mapuche Indigenous People, the weakening of the forestry and environment departments has rendered them unable to stand up to the powerful interests of transnational corporations that have unified with national economic groups following recent trade liberalization.

Issues of governance, including corruption, and human rights abuses were often cited. Underlying the 1998 fires in the Chimalapas rainforest in Mexico has been intense social conflict and abuses of the human rights of the local Indigenous population resulting from outside pressures to restructure the area as part of a broader program of industrial development. This is exacerbated by the disadvantaged position of forestry communities in negotiations with local, state, and federal agencies.

The need to eliminate **militarism** from governance, and from all economic and social policy-making, was highlighted in the Thai case study prepared for the IPO workshop. It was shown that forests on the border with Laos were largely cleared between 1974 and 1977, the period of the heaviest fighting at the border, in an effort to eliminate hiding places for communist insurgents.

The **dominance of industry's interest** in decisions which affect forests (timber, pulp and paper, mining, oil, shrimp farming, and others) was cited as an underlying cause throughout the case studies. In the case of the deforestation resulting from road building in the U.K., construction proceeded despite widespread protest and the designation of the area as a Site of Special Scientific Interest (SSSI), largely due to the dominating influence of the road and car building lobbies on government transport policy.

Poverty and other forms of social exclusion were identified as an underlying cause, but were in general not given the high profile which they have received in the past. The case studies of Michoacán in Mexico and

Burning a cleared farm field, Roca. Brazil

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of Nepal cited local unemployment and the need for firewood as underlying causes of deforestation in those regions. These were identified, however, as a consequence of a number of national and international policies, which create and increase social exclusion, in turn resulting in unsustainable use of forests. Regarding population growth, only two workshops highlighted it as an underlying cause.

The working group on **Stakeholder Participation and Land Tenure** was asked to address the following topics:

- land tenure inequities;
- Indigenous Peoples' rights;
- inadequate functioning of forestry departments;
- lack of influence of some stakeholders in developing forest laws;
- the role of government versus other stakeholders; and
- dominance of industry's interests.

Issues proposed to be added to the list by workshop participants included:

- inequitable distribution of costs and benefits derived from forest activities; and
- military dictatorship and corruption with regard to land tenure inequities.

Actions Proposed Included:

On Traditional Forest-related Knowledge

1. Establish a community-directed research programme on traditional forest-related knowledge, traditional values, and cosmo-visions integrating traditional and academic

Southern Chilean Native Forests and the Mapuches
by Rodrigo Catalan, CET and Ruperto Ramos, Indigenous Community Juan Queupán

Chile has approximately 7 million hectares of native forest. Compared with other temperate forests, it is high in biodiversity, as characterized by endemic birds and plants (34% of the angiosperm class are endemic). For centuries, the native forests in the south of Chile have been inhabited and used sustainably by the Mapuche Indigenous Peoples. Currently, the Mapuche have been driven from their original, abundant territories to marginal lands and forced to live in poverty. Despite this, they have resisted cultural transformation by maintaining their ancient relationship with the forest and their traditional uses of forest products for daily subsistence. More than 80% of the local flora have at least one use by the Mapuche and have consequently been named in the Mapuche language.

The forest of the region is deteriorating and disappearing at a high rate. Currently, the main cause of this phenomena is the substitution of native forests by fast growing, exotic species for forest plantations. Between 1985 and 1994, a total of 31,000 hectares were replaced in the region. Other direct causes of deforestation and forest degradation are: fuel wood consumption and sale, forest fires, land use changes for agriculture and cattle ranching, cattle overgrazing inside the forests, and selective timber mining. The direct actors of deforestation and forest degradation are the timber industry and small landowners.

The main underlying causes of forest loss in the region analyzed in the case study correspond to macroeconomic policies applied in Chile since the 1980's. These policies favor economic growth over social equity (inter-cultural) and environmental sustainability and move away from the sustainable development concept. The growth registered in the country, resulting from these policies, has been based mainly on the reduction of natural capital, including the native forest. The policies have included the support of subsidies and other incentives for the timber industry to grow monocultures of pines (*Pinus radiata*) and eucalyptus (*Eucalyptus globulus*). The growing paper consumption by Northern countries and the opening of commercial barriers has increased profit-making activities, attracting transnational capital to powerful national economic groups. Parallel to this, the state's institutional capacity has been reduced resulting in weakened government forestry and environment departments, preventing the passing of legislation on native forests. As a consequence of all of these factors, there has been a great expansion of plantations not only covering lands that were subject to erosion, but also others with native forests.

The current situation shows a great inequity in land distribution and wealth by which the Mapuche communities are the most harmed. The problem is serious one because the native forests which play a fundamental role in the community economy and lifestyle are disappearing as a result. It is concluded that in order to reconcile the direct and indirect pressures on Chile's forests, Indigenous territorial management must be secured, ensuring development with equity, recognizing rights of the Indigenous Peoples and respecting the environment. This appears to be the only way to resolve the problems of the Mapuche people and those of Chile's native forests.

methodologies. Research results should only be disseminated taking into account ongoing discussions on intellectual property rights in relation to the CBD. Create awareness and denounce all forms of destruction of traditional and indigenous forest values. Promote learning and effective use of Indigenous languages. **Actors:** local communities, Indigenous Peoples Organisations, community-based organisations, NGOs, governments, academia, UNESCO, FAO, media, progressive political and religious leaders, elders of traditional communities, donor agencies.

2. Create and develop a database on women's traditional knowledge on forest use, to be administered by Indigenous and local community women, provided legislation is in place protecting rights governing that knowledge. Provide funding for training on and enable the distribution of information on women's traditional knowledge. **Actors:** governments, UN and other international agencies, women's groups, Indigenous Peoples and local communities, donor agencies.

On Conservation and Protected Areas

1. Establish national forest plans through an open participatory process that will include all stakeholders, covering the following essential elements: protected areas, extractive reserves, community forest projects, restoration projects and development and implementation of criteria and indicators for sustainable forest management**.** Ensure that no concessions are granted for private exploitation in protected areas. **Actors:** governments, NGOs.

On Governance and Compliance

1. Establish (an) independent review panel(s) consisting of Indigenous Peoples, local communities, other interest groups and

Trade as an Underlying Cause of Forest Loss and Degradation
by Nigel Dudley

Global consumption and the trade that services it have become the main motor of the global economy. With the most wealthy 20% of the population consuming 85% of the world's resources, levels of consumption continue to climb, despite economists' assurances that economic growth need not mean greater resource use. Global *per capita* consumption has climbed steadily by 3% per year for the last 25 years, a trend that is projected to continue. Encouraging consumption is a fundamental objective of economic ministries, and industry, commerce and the media work together to promote it.

Although extraction of resources may not make economic sense if the long term costs and benefits of all goods and services are factored in, the global political economy is structured to exclude such externalities. Personal profit is thus allowed to override the wider interest and the influence of the wealthy minority that results is far-reaching in determining natural resource management policies. Markets are volatile and often ephemeral, discouraging long term investments in prudent resource use and encouraging short term planning and "grab it and run" tactics.

Global trade is resulting in an increasing concentration of wealth and power in the hands of a tiny minority. Transnational corporations are increasingly important players in the global economy and now control 70% of global trade. The top 300 companies now own 25% of the world's productive assets. They wield enormous influence in relation to national governments, particularly in small and relatively impoverished developing countries.

Timber extraction is considered by some to be the main cause of forest loss in boreal and temperate forests and in tropical frontier forests. Even though the international trade in timber and other wood products constitutes only 2% of all wood extracted from forests, the global trade in quality timbers and, increasingly, in paper-pulp are major forces opening up forests to other interests. Despite the small volume of timber entering international trade, the impact it has on those forests that are richest in biodiversity is disproportionately large. Many other commodities traded on the world market are also implicated in forest loss. Minerals, oil, shrimp and cocoa are examples of commodities that are often extracted or grown in areas cleared of forests. Yet many other cash crops cultivated *outside* forests also lead to forest loss by displacing peasant farmers from the best agricultural land and forcing them into the forests in search of a livelihood. Land concentration and the creation of a wealthy elite with undue power and influence in national economies are often driven by international markets in cash crops.

The economic policies currently in vogue encourage deregulation and an increase in private sector investment in export-oriented production. International legal regimes developed under the GATT and the WTO actually penalize countries from restricting trade on environmental grounds as they are considered "non-tariff barriers" to free trade. This has made regulation of trade to prevent forest destruction difficult and has further increased the power and influence of the trade lobby. As regulatory capacity has been weakened and private sector penetration has increased, there have been growing opportunities for malpractice, such as political manipulation, bribery and transfer-pricing. Yet developing countries find it hard to resist the power of these interests as they have grown dependent on further trade and investment to keep their economies afloat.

The author proposes in his paper a number of solutions to restrain the worst effects of trade. Subsidies and fiscal regimes need to be reformed so that destructive practices are no longer rewarded and good natural resource management is encouraged instead. Measures should be introduced to internalize costs so that resource extraction is made socially and environmentally beneficial. National regulatory systems and institutional capacity needs to be reformed, at least to prevent corruption and illegal extraction. An international regulatory body also needs to be established to oversee the enforcement of binding regulations controlling the operations of the national and international timber trade. At the same time, voluntary regulation by companies should be encouraged through the adoption of codes of conduct, certification and corporate strategies that include social and environmental concerns. More information and more participatory systems of government and decision-making are also needed.

government that review and monitor legal instruments that protect the rights of Indigenous Peoples and local communities. Specifically, promote the adoption of environmental, oil and mining legislation guaranteeing such rights. **Actors:** legislators and ministries, Indigenous Peoples Organisations, community-based organisations, NGOs and other major groups.

2. Strengthen centers of technical assistance to Indigenous Peoples and local communities in their development of databases with information on forest legislation and the rights of Indigenous Peoples and local communities, inventories of experiences with successful technologies, and international and national marketing strategies. **Actors:** governments, NGOs, scientific community, Indigenous Peoples and local communities.

Development and Resource Politics in Post-War Japan
by Yoichi Kuroda, IGES/JATAN

Post-War Japan Development Policies and Forest Resources

Pulp and Paper Sector

The Japanese Ministry of Commerce and Industry (now known as MITI) actively pursued two strategies in the post-war period to develop the pulp and paper sector: growth of hardwood forest species on its lands and large-scale domestic pulp plantations. The first strategy was implemented on a massive scale, the latter however, was abandoned due to poor cost performance. Instead, MITI and the Japan Paper Association turned to the rest of the world which had resources it lacked and began extensive "resource development and import" schemes in other countries.

Timber Imports

As Japan quickly rebuilt its post-war economy, the annual logging rate increased, resulting in a sudden shortage of old growth softwood for sawn wood and for the housing sector. The government responded with further intensive logging, and soon lifted tariffs resulting in large imports of logs from North America, Russia, and tropical countries.

Tropical Timber: Development and Import

The development of a wood-based economy in Japan began after the war when it started to import logs from the Philippines, with the encouragement of the U.S., to build an export-oriented plywood industry. This launched Japan into a period of rapid economic development, which centered on massive foreign investment in countries (namely, Indonesia) rich with forest resources.

Key factors Leading to Continuous Timber Imports and Large-scale Consumption

National Large-scale Land Development Schemes

When Japan's export oriented economic development reached some limitation to growth in the early 1970s, the prime minister promoted large scale national land development, such as roads, new industrial zones, dams, and ports. This was the beginning of large-scale land destruction, which required tremendous amounts of resources including wood, such as tropical plywood, for civil engineering.

Japan-US Trade Disputes and US Demands to Increase Domestic Consumption

Because Japan's post-war export oriented industrial development caused serious trade disputes with the U.S., the government decided to spend more money for construction works. Government public spending for construction projects skyrocketed throughout the 1980s and 90s and Japan became the world's largest construction investor in the world. For example, Japan built about 30 million houses in the last 30 years but only less than half of the total housing stock increased, meaning some 16 million houses were destroyed in a wave of urban redevelopment schemes. This disastrous policy, along with others, resulted in the massive destruction of Japan's urban and natural landscapes; massive forest destruction overseas; massive industrial-waste dumping problems in rural areas; further land speculation and a bubble economy; and huge government and private debts.

The Role of Japanese AID and TNCs in Overseas Forest Development

The government played a central role in stimulating overseas resource development and imports through various public schemes including ODA and export credit agencies, such as the Ex-Im Bank of Japan. There were numerous overseas projects involving mining, forests (in Indonesia, Sarawak, Southeast Asia), plantations, and pulp mills (in Alaska, Brazil, Canada, etc.). Among private companies, general trading companies have been the most active in various types of resource development projects, including wood chip and pulp wood plantation development. Japan also became a major player in overseas "reforestation" schemes, both for private companies as well as for governments. However, most government reforestation programs resulted either in a waste of public money with no accountability or in corruption, due to narrow development visions and bureaucracy. Radical reform is necessary at the national legislative and executive levels with regard to the control of aid activities.

Major Underlying Causes, Factors and Agents

Background Factors

- A chronic shortage of wood due to domestic forest exploitation;
- Government policy of militarization and economic expansion to combat colonization by the Western powers;
- Wood-based Western pulp production technology and the lack of domestic softwood resources (the beginning of overseas forest exploitation);
- Post-War Japan's overall direction towards export-oriented economic development (with the emphasis on heavy and chemical industries);
- Huge population migration from rural to urban areas as well as to New Industrial Zones; and
- The over-emphasis on domestic construction projects.

Government Led Consumption Stimulation after the 1970s:

- Nation-wide, large-scale development schemes after the first oil shock (after Japan faced its growth limitations);

- Development policies which increased urban, housing, and land development projects in the early and mid 1980s;
- U.S. demand that Japan stimulate domestic consumption;
- Creation of a large demand in the construction industry resulting in over-capacity and wasteful government policies;
- Ignorance on the part of Japanese industries and consumers of resource limitations. Higher domestic costs for production and low costs of imports made it almost impossible for the survival of the domestic forestry industry. This resulted, in turn, with increased dependency on foreign imports and further collapse of the rural sectors.

Production/Technology/Industry Consumption Linkages to Deforestation

- Paper consumption was stimulated by the overall economic boom;
- Paper consumption was also stimulated by the publishing sector. Japan consumes 20 times more paper than in the 1930s and, during the bubble economy period (1980s), there was a 60% increase;
- Out of the 30 million tons of paper consumed by Japan, more than one third is for cardboard due to intensive export activities (electronic equipment and other products);
- Timber consumption has been stimulated not only by the housing sector, but also by other growth demands of the industrial sector; and
- Imbalanced trading patterns combined with imbalanced industrial development — policies which require continuous imports of large-scale forest and mineral resources as well as agriculture and fishery products – keep Japan dependent on foreign markets. Although it could be possible to stimulate domestic forestry (using established plantations), major exporters of timber and wood products, such as Indonesia, Malaysia, the U.S., and Canada might resist, and Japanese exporters of industrial products would certainly not allow such an approach.

3. Require training in law enforcement of all policymakers, as well as of interest groups associated with all levels of government. Also, require separate and dedicated funding for environmental and forest-related law enforcement. **Actors:** governments, law enforcement agencies, civil society.
4. Improve enforceability of the Convention on Biological Diversity and develop its dispute settlement process. **Actors:** Parties to the CBD.
5. National governments should separate the regulatory from the enterprise functions within the forest department. **Actors:** governments.
6. Strengthen regulations promoting the effective implementation of legislation regarding environmental impact assessments. **Actors:** governments, legislators.
7. The United Nations should develop a "forest keeping" mechanism by supporting civil society networks that monitor investments in forests and ensure compliance with international treaties and conventions pertinent to sustainable forest management. **Actors:** UN, civil society.
8. Ratify and promote implementation of the Convention to Eliminate Discrimination Against Women and ILO Conventions 87, 98, 105, 110 and 169, and develop linkages between these conventions and existing international environmental agreements. Promote the participation of major groups in all conventions and support the current Draft Declaration on the Rights of Indigenous Peoples, as well as the establishment of the Permanent Forum on Indigenous Peoples. **Actors:** governments, IFF participants, UN and other international agencies, women's groups, Indigenous Peoples Organisations, donor agencies.

Trade and Consumption

Trade, both national and international, is neither good nor bad in and of itself, and as such was not identified as an underlying cause. The current **trade liberalization** process has, however, been directly linked to many activities that underlie deforestation and forest degradation. Trade related issues were identified, such as **heavy reliance in the economy on the extraction and export of natural resources**, as in the case of the Primorskii region of Russia, which has been exacerbated by the transition to a market economy. Unsustainable rates of extraction have lead to widespread deforestation in the region.

Trade pressures resulting from **rising, unsustainable patterns of consumer demand and consumption** of a wide variety of products extracted either from forests, or from productive activities which substitute forests, were identified as major underlying causes. This is illustrated in the case study of deforestation and forest degradation in Japan, a country whose post-war

Sawmill in Tokyo, Japan

© Campbell Plowden/Greenpeace, Nov. 1989

development policies stimulated wood consumption and resulted in a high domestic consumption of wood and paper products. Rising consumption levels in Asia were also identified as underlying causes in the case of the deforestation of Alaska's coastal temperate rainforest.

The case study of the increasing forest loss in the southeastern United States showed the underlying cause to be the promotion of the **substitution of forests by other systems of production**, often aimed at the international market. In this case the substitution of forests is motivated by the growing number of chip mills and the increased logging needed to supply them, but other case studies also cited natural forest conversion for pulpwood and other tree plantations, cattle-raising, shrimp farming, etc. The Chachi community of Ecuador identified **high levels of consumption by Western societies** as underlying the deforestation in the ecological reserve and protected forest Mache-Chindul, where not just timber exploitation, but also road construction, shrimp factories, cattle-ranching and agricultural uses are causing widespread deforestation. Elsewhere in Ecuador, in the province of Paztaza, government sponsored policies of oil exploitation, mining, and road building, and private agriculture and mining projects, were also cited as as the underlying causes of deforestation in the region.

The working group on **Trade and Consumption** was asked to address the following topics:

- over-consumption and over-industrialization;
- sustainable product discrimination (certification);
- the impact of the free trade agenda;
- overvaluation of materialistic values;
- trade and marketing policies that encourage over-consumption; and
- lack of trade regulation.

Issues proposed to be added to the list by workshop participants included:

- the linkages between trade and investment policies and valuation;
- undervaluation of spiritual and recreational values;
- dominance of trade policies over other policies;
- trade and transfer of technology; and
- lack of transparency in trade negotiations.

Actions Proposed Included:

On Consumption and Production

1. Increase education and raise public awareness of the full life-cycle and impacts of production, consumption, and trade of forest products and other products that may impact on forests by:
- devoting additional resources to education (both formal and informal) and awareness-building, as well as to environmental education;
- incorporating awareness-building into curricula and conducting research on changes in consumption and production patterns;
- identifying and promoting initiatives and lifestyle changes that reduce consumption and impacts of consumption;
- developing a consumers' guide and further developing consumer networks; and
- improving consumer information by labelling.

Actors: governments, private sector, academia, NGOs, consumer organisations.

2. Improve collection and dissemination of data on production, consumption, and trade in forest products, and products that impact on forests. Strengthen independent initiatives (such as Global Forest Watch) that monitor the status of forests and pressure on forests. **Actors:** FAO, governments, NGOs, academia.
3. Develop, implement and enforce integrated and holistic national policies to change consumption and production patterns, with full transparency and civic participation, by:
- incorporating the concept of ecosystem services into policy-making and actively pursuing green procurement policies;

European Aid and Forests by Tim Rice

Taken together, European countries provide more than half of all development assistance to developing countries and countries with economies in transition. This "aid" is delivered through a veritable octopus of institutions with overlapping goals and competencies including bilateral agencies, export credit guarantee schemes, political risk insurance, multilateral development banks, the European Commission and the specialized agencies of the United Nations. Aid in general is strongly shaped by the national interests of donor countries and is usually treated as an arm of foreign policy. Much bilateral aid remains "tied" and thus promotes the export of national industries, products, expertise and is also used to promote the import of valued commodities.

Most aid budgets to recipient countries are determined by macro-economic considerations, as a means of securing the economies of recipient countries through adjusting balance of payments and facilitating debt servicing. Development assistance may thus have very broadly defined goals and those planning these large disbursements of money have little conception of the possible environmental implications of such grants and loans. Multilateral aid monies provided to dictatorships, in particular, have been criticized for ignoring the consequential political and human rights implications and for helping to prop up arbitrary forms of government, such as the Philippines under Marcos and Indonesia under Suharto, with devastating environmental consequences.

Structural adjustment lending, which aims to promote exports and cut back national expenditures, has often explicitly encouraged an intensification of forest exploitation without measures being simultaneously taken to strengthen governments' regulatory capacity. The author notes, through the mention of a number of specific projects, how aid may act as an underlying cause of forest loss in a large number of ways. Funds may be provided directly to facilitate logging operations, to boost production in the whole forest sector, to facilitate clearance of forest lands for plantations or other agro-businesses, to promote road-building and forest colonization schemes, to build dams, to develop mines, and to promote cash cropping on fertile lands outside forests thereby displacing the landless poor into forests. Major short-comings in such destructive projects extend to their narrow focus and ignorance of wider effects and the lack of public participation.

On balance, aid agencies are not able to prioritize environmental benefits and are awkwardly placed to address the underlying causes of forest loss, because of their political nature. By ignoring these problems, aid often acts itself as an underlying cause of forest loss, and sets in place in developing countries the same failed models of forest management and economic development that have caused forest loss in the developed countries.

Not all aid is bad. The author singles out a number of "best practice" projects which demonstrate how development assistance can work to enhance forest management and secure local peoples' welfare and livelihoods. Such projects are often small-scale, intensely participatory and entail high overheads in project preparation, administration and oversight.

The author proposes a number of essential, "first-step" recommendations to address some of the current problems of aid. For example, policies and procedures used to safeguard the environment and local communities (and indeed to meet the wider objectives of sustainable development) should be reviewed and revised, or adopted, where necessary. Such policies and procedures should be mandatory and enforced. Consultation with beneficiaries and other stakeholders should be an integral part of the whole project cycle. Full public access to all project documents (including voting decisions) is required if stakeholders are to play a meaningful role in projects and programs. Where projects and programs have adversely affected people, a mechanism should be established to have these complaints independently assessed (with possible redress).

The author also proposes a re-prioritization in the direction of aid. Increasingly, projects and programs need to be identified and designed by the beneficiaries themselves. Beneficiaries should also have control during implementation; such management and participation would unify communities, increase self-reliance (including control over funds) and recognize Indigenous Peoples' rights (including land tenure issues). This, however, places an even greater burden on donors — they need to be better equipped and empowered to provide outreach to potential beneficiary communities and to assist such communities to identify and develop projects themselves. This requires considerably greater country-level coordination amongst donors — where the ethos is on shared experienced and feedback, where overheads and bureaucracy are reduced and where projects are complementary.

- elaborating the work program on consumption and production of the UN Commission on Sustainable Development in the field of forest products and other products which impact upon forests; and
- collecting information and reporting to the IFF on innovative government policies aimed at changing consumption, production and trade of all products that affect forests. **Actors:** IFF, CBD, governments, NGOs.

Deforestation in Alaska's Coastal Rainforest: Causes and Solutions by Rick Steiner, University of Alaska

The Alaskan coastal rainforest is part of the largest temperate rainforest on Earth, and is perhaps the most intact. As coastal temperate rainforests are one of the most severely threatened ecosystems in the world, protection of the remaining stands, particularly in Alaska, offers an important conservation opportunity. This study describes the rich ecological characteristics of the forest and the history of deforestation. Much of the deforestation in the Alaska coastal forest occurred as a result of fifty-year timber contracts offered by the U.S. Forest Service in the 1950s to help develop a pulp industry in the Southeast, and as a result of the Alaska Native corporation logging in both south-central and southeast Alaska in the past decade. The pulp mill era and the bizarre tax loopholes that encouraged the unsustainable logging on Native lands are described, as is the downturn in the international market for Alaska forest products. The beginnings of forest protection in Alaska are described, particularly the political determinants originating in Washington. The new era in the Alaska coastal forest appears much more hopeful and sustainable than the past 50 years.

Proximate causes of deforestation in the Alaska coastal forest have been mainly the Asian market demands and the desire for political power and wealth accumulation. The fundamental causes, though, relate to our predisposition toward competitive, selfish inter-relations with others. These underlying causes are bound with our rather primitive psychological and social motivations. The influence of monotheism in the development of the ideology of domination over and disconnection from the natural world is discussed. Solutions discussed include the participation of world religions and several other short-term approaches including campaign finance reform, tax restructuring, license limitation, a moratorium on the loss of old-growth forest, a $10 billion world forest conservation fund, citizen's coalitions, alternative product development, and others.

4. UN agencies, governments, and corporations should commit to buying viable alternative products, adopting accepted criteria and indicators, and commit to auditing of their wood and paper usage to eliminate egregious sources. **Actors:** governments, UN, private sector, major groups.
5. Reduce advertising that promotes unsustainable lifestyles and consumption. Reduce paper consumption in the advertising industry by 75%. **Actors:** private sector, governments, NGOs.
6. Shift penalties and incentives (subsidies, taxes, sector promotion, etc.) from promoting unsustainable consumption and production patterns to promoting sustainable consumption and production patterns and trade. In particular, encourage the Inter-agency Task Force on Forests (ITFF) to assess at the global and national level the impacts on forest ecosystems of perverse subsidies and incentives in the forest and non-forest sectors, such as in agriculture, mining, and hydro-power. **Actors:** governments, ITFF, scientific community, Indigenous and local communities.

On Trade

7. Recommending <u>not</u> to establish an intergovernmental negotiating committee, on a legally binding instrument on forests until progress has been made to redress the imbalance between trade and other international agreements. **Actors:** UN CSD, IFF.
8. Include discussion of the imbalance between trade and sustainable development regimes in the agenda of IFF-3 and IFF-4 and organize an intersessional on this specific issue between IFF-3 and IFF-4. **Actors:** IFF.
9. The IFF should promote development and agreement on core global criteria and indicators and install these as the basis for internationally enforceable World Trade Organisation rules. **Actors:** IFF.
10. Allow all NGOs with ECOSOC status access to trade negotiations. Specifically, IFF should ask for seats at the negotiating table of the WTO for consumer groups, Indigenous Peoples, local communities, and NGOs. Publish and disseminate international and regional trade negotiation preparatory and final documents. **Actor:** WTO, UN, IFF, regional trade organisations.
11. Prohibit trade in illegally produced forest products, by assisting developing countries to control such trade and building up the capacity to monitor and expose illegal trade**. Actors:** IFF participants, donor agencies, NGOs.

International Economic Relations and Financial Flows

Practically all of the workshops identified underlying causes stemming from **the current economic development model**, but with different levels of

importance following the high consumption-low consumption (or rich-poor) country divide. In the above-mentioned Mexican case study of the 1998 fires in the Chimalapas Rainforest, the main underlying cause identified was the inappropriateness of the current development model that encourages economic growth over, and at the expense of, environmental conservation and social justice. The same was found in the case study of the boreal forest of Northern Quebec in Canada, where the economy is based almost entirely on natural resource extraction and the Indigenous Cree, who have traditionally inhabited the forest, are largely excluded from participation in decision-making in the government forestry sector. The Southern Chilean case study found that the rapid economic growth that commenced in the early 1980s did not place any priority on environmental sustainability or social equity.

It is important to highlight both the existing and potential effects of **private investment, and the lack of regulation of transnational corporations**, on forests. The case study of Papua New Guinea underscored the concern that the Multilateral Agreement on Investment (MAI), for example, would accelerate exports of cheap logs from Papua New Guinea, with no processing done in the country itself. Among others, one of the key MAI provisions would require countries to treat foreign investors no less favourably than domestic companies, thus preventing regulations on corporate activity, including those based on environmental concerns, leaving developing countries with no recourse to protect their forest ecosystems.

Macroeconomic policies imposed on less developed countries, including **structural adjustment**, were cited in the cases of Indonesia, Ecuador, Guyana, Cameroon, and Ghana, among others. Pressures to relieve heavy debt burdens have left many countries **dependent on foreign aid**, whose policies have repeatedly been associated, either directly or indirectly, with forest loss. The adoption of structural adjustment has lead to a rapid escalation of logging and mining and increasing pressures on forests. Even when, as in the case of Guyana, measures have been taken in the last decade by government and aid agencies to control logging and, to a lesser extent, mining, these measures have been too little, too late. Moreover, even when environmental concerns are taken into consideration in macroeconomic policy, Indigenous and local community land rights are seldom considered.

Logging barge from Russian/South Korean joint venture, Svetlaya, Russian Far East.

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The working group on **Investment Policies, Aid, and Financial Flows** was asked to address the following topics:

- inappropriate development strategies;
- the down-grading of capacity by SAPs;
- debt generation;
- perverse subsidies;
- negative impacts of private capital flows;
- governance and corruption;
- conflicting policies; and
- non-recognition of land rights and community issues.

Issues proposed to be added to the list by workshop participants included:

- lack of women's participation in decision-making;
- insufficient recognition of land tenure regimes;
- access and user rights;
- policy problems pertaining to implementation and regulation;
- valuation of environmental services in trade;
- issues of social exclusion and domestic consumption;
- dependence of urban populations on forests; and
- recognition of the non-market values of forests.

Actions Proposed Included:

On Public Financial Flows and Stakeholder Participation

1. Conduct and make public, in local languages, independent evaluations of potential social, cultural and environmental impacts and establish

negotiation processes with local populations before any economic activity in forests is undertaken. Refrain from granting or extending concessions in areas where Indigenous communities live unless explicit approval has been obtained. **Actors**: governments, Indigenous Peoples and local communities, private sector.

2. Assist in building and strengthening the capacity of communities to understand, and effectively interact with, international financial institutions (IFIs). **Actors:** NGOs, UNDP, local, regional and national government agencies, Indigenous Peoples and local communities.
3. OECD Development Assistance Committee (DAC), supported by NGOs, community-based organisations, and Indigenous Peoples' Organisations, should develop terms of engagement for donor and other funding institutions. **Actors:** OECD/DAC, civil society organisations, donor agencies, lenders.

On Private Investments

4. Oppose the Multilateral Agreement on Investment (MAI)[2] as it poses a major threat to forests. **Actors:** IFF participants.
5. Stimulate and support community micro-enterprises that utilise the full potential of natural resources through sustainable management plans. Implement capacity building programs for communities as a mechanism to increase the marketing of independent third-party certified forest products. **Actors:** NGOs, Indigenous Peoples and local communities, donor agencies, governments, international agencies.
6. Create an international association of environmentally and socially responsible investors with the purpose of establishing a clearinghouse that will enable institutional investors to support community-based development for sustainable forest management. Lending institutions should provide favorable conditions or preferential treatment to investments, which support socially and environmentally sustainable management. **Actors:** donor agencies, international financial institutions, institutional investors, private sector, potential lenders and recipients.
7. Develop public and accountable mechanisms to scrutinize investment proposals and monitor ongoing operations of large-scale (forest) industries. Government should lead with civil society involvement to ensure transparency, free information flow and legitimacy. Compliance with national and international regulations should be enforced, inadequate regulations and legislation should be revised. **Actors:** UN agencies, governments, civil society.
8. Both multilateral development banks (MDBs) and private banks should adopt policies prohibiting investments in corporations which unsustainably exploit natural forests. Towards this end, assessment processes must include key civil society groups (especially Indigenous Peoples and local communities). **Actors:** MDBs (such as the World Bank Group), private banks, civil society.
9. OECD country export finance agencies (including investment insurance and export credit agencies) should develop and enforce high standards of social and environmental sustainability of investments they guarantee. The appropriate criteria for such sustainability should be developed with multi-stakeholder involvement. **Actors:** OECD governments, export finance agencies, private sector, NGOs.
10. Restructure, and where appropriate, write-off debts. Countries, which implement ecologically

Intervention from the floor at the Global Workshop

[2] *The abbreviation MAI stands for the Multilateral Agreement on Investment, which was negotiated under the auspices of the OECD last year. While the OECD decided to halt the negotiations, several governments have proposed a similar instrument to be negotiated under the auspices of the World Trade Organization.*

Forest Loss in Papua New Guinea by Brian Brunton, Greenpeace Pacific

Papua New Guinea is the world's fifth largest producer of tropical timber. At present, Papua New Guinea still has some large areas of intact tropical forest — 1% of the world's frontier forest. About 85% of the frontier forests are under moderate or high threat, primarily from logging, agricultural clearing and mining. The demand for unprocessed logs from Asian markets is the greatest cause of forest loss in Papua New Guinea.

Ultimately, forest loss in the country is due to a number of underlying causes including IMF structural adjustment program policies and the subsidization of the logging industry by forest authorities. The lack of recognition of the role of women in use of forests and the undervaluation of the philosophical and religious value of forests also plays an important role in forest loss. Population pressure on land and on the rainforests, and mining, oil and gas industries opening the way for loggers are additional underlying causes, as is the market pressure from Japan, and in the future, from China. The lack of environmental considerations in the free trade agenda, and the pressure from the World Bank to export round logs were also identified as underlying causes. Finally, powerlessness of the rural poor in the modern economy, lack of land-use planning, and ineffective policing and management of oil palm plantations were also identified as issues that need to be systematically corrected if deforestation is to cease.

and socially sustainable forest management, should be rewarded with measures that reduce their debt service. Resources that are freed up in this manner should be earmarked for sustainable forest management. **Actors:** Lending institutions, governments.

11. Finance and planning ministries, together with the World Bank and IMF, should establish national level independent consultation mechanisms with civil society to improve the transparency of decision-making with respect to Structural Adjustment Policies (SAPs). Similarly, the ITFF should establish a dialogue with the IMF regarding long-term sustainability of IMF interventions, such as SAPs, ensuring environmental, social and economic goals have equal weight. Also, establish a public commission to review operations of the IMF in order to increase its transparency. **Actors:** Finance and planning ministries, World Bank, IMF, civil society, ITFF, international organisations.

Valuation of Forest Goods and Services

Several case studies highlighted the role of **perverse policy instruments,** such as certain subsidies, that artificially enhance the economic attractiveness of land uses in the destruction of forest ecosystems. The importance of ensuring that all forest values are taken into account in all decision-making processes that affect forests, and of incorporating these values into the forestry sector, is a clear message that emerged throughout the initiative. Among the most common underlying causes was **the failure to recognize the multiple values of forests**, which are either treated as a source of wood materials or as occupying land which could be dedicated to other activities such as agriculture, cattle-raising, mining, hydropower, or other forms of land use. Valued for their potential as land for agriculture, most of the coastal forests of Portugal, for example, had been cleared for agriculture by 2000 BC. The Papua New Guinea case study identified **the lack of recognition of the philosophical and religious values** of the forest as one of the main underlying causes contributing to the loss of its forests to logging, agricultural clearing, and mining that had occurred in response to strong external market pressures. The case study of the Jokkmokk Municipality of Sweden illustrated the dominance of the promotion of clearance of forests for settlement and for timber production in government policies.

It should be noted that lack of a coherent **current definition of forests** incorporating an ecosystem approach has lead to a severe underestimation of the problem of forest degradation in some countries. For example, under an ecosystem approach, Sweden would be classified as a country with low forest cover.

The working group on **Valuation of Forest Goods and Services** was asked to address the following topics:

- lack of recognition of cultural values and land tenure;
- inadequate legislation and capacity to manage forests;
- inadequate education for foresters and politicians on forestry matters;
- failure to value forests as an ecosystem;
- overvaluation of timber as the main forest product; and

- undervaluation of community forestry and non-timber forest products (NTFPs).

Issues proposed to be added to the list by workshop participants included:

- inadequate inventory and monitoring data for forest resource assessment;
- lack of personal experiences with forests;
- lack of recognition and use of traditional knowledge;
- failure to value indigenous cosmologies and spiritual concerns;
- unclear distinctions between direct and underlying causes;
- an insufficient definition of "forest";
- inadequate information about forest services; and
- lack of recognition of other forest values.

Actions Proposed Included:

On Valuation

1. Establish community-level forums and utilise other mechanisms, including mass media, to inform and educate foresters, politicians, other decision-makers, and civil society on the importance of forest ecosystem management, which incorporates traditional forest-related knowledge. Change the curricula in formal education, especially those on forestry, to include methodologies on the comprehensive valuation of forest ecosystems. **Actors:** Local, regional, and national government authorities, local community leaders, academia, mass media, donor agencies.
2. Change current FAO definitions of forests and forest-related concepts (such as of deforestation, afforestation, reforestation, and plantations) to include the ecosystem approach as developed in the CBD and introduce definitions of different forest types. **Actors:** FAO, ITFF.
3. Develop an international research program to assess forest values, goods and services, with a special emphasis on non-timber forest products. Criteria for choosing the coordinating institute should include independence, global mandate, interdisciplinary knowledge, encompass an advisory board, scientific capacity, and capacity to link different areas of knowledge. Local communities should be fully involved in the program. Results from the research should be widely disseminated and bring all major groups together to integrate this information into management and decision-making. **Actors**: scientific community, NGOs, governments, local communities.

Marking vines in a controled growth experiment, Alto Rio Guama, Brazil

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Proceedings of the Global Workshop

The Global Workshop to Address the Underlying Causes of Deforestation and Forest Degradation took place between 18 and 22 January, 1999, in San José, Costa Rica. The workshop was attended by 125 experts from all over the world, many of which had participated in the regional and IPO workshops that preceded it.

Opening Remarks

Carlos Manuel Rodriguez Echandy, Vice Minister of Environment and Energy on behalf of Isabel Odio, Vice President of Costa Rica and Minister of Environment

Mr. Rodriguez Echandy welcomed all of the participants in the name of the Government of Costa Rica, and formally excused the absence of the Minister of Environment and Vice President Isabel Odio. Having just come from spending three days with the Presidents of Costa Rica and Mexico on Costa Rica's Isla del Coco, he told of the Presidents' discussions on the environment, and their recognition of the interrelationship between the environmental, economic, and social issues in their respective countries. He noted how natural resource use and market stimulants have interacted with negative consequences on the citizens of both countries. It is widely understood that the causes of environmental degradation cannot be directly related a single sector, such as agriculture. Instead, President Zedillo had stated that environmental problems in Mexico have been the result of the competitive use of lands, agrarian reform, and land tenure policies, where the forests have ultimately lost the battle. With both countries so rich in biodiversity, it was satisfying, said Mr. Rodriguez Echandy, to see that their leaders are aware of the issues and the actions that need to be undertaken to reconcile the multitude of factors involved.

The battle for the defense of natural resources needs a clear strategy in order to bridge the gap between the academic / technical / scientist community and decision makers – and this is the value of the Underlying Causes Initiative. Open markets and globalization come with challenges, and these challenges need to be kept in mind given the vulnerability of tropical and other developing countries to outside influences. Whereas we may be

Rainforest, Milne Bay Province, Papua New Guinea

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financially or technologically poor, he said, we are rich in biodiversity. This biodiversity contains much information about ecosystem functioning, some still undiscovered, and should provide an alternative with which to enter the world market and to take part in the process of globalization.

Luis Rojas Bolaños, Director General of the National System of Conservation Areas, Ministry of Environment and Energy Co-Chair of the Global Workshop

Mr. Rojas Bolaños praised this workshop, whose aim was to explore the principal causes of deforestation and forest degradation and to propose solutions to addressing those causes. With so many representatives from all over the world, he said, there was a great opportunity to work together based on a thorough, multidisciplinary and participatory analysis to confront the differing policies that affect forest loss.

Despite the richness in biodiversity that is found in Central America, deforestation in the region is occurring at alarming rates. The causes, he said, are both diverse and deep-seated, and range from structural adjustment to the cultural issues. In the end, however, forests are cut down for fuelwood, and every day the consequences of deforestation are felt, including flooding, degradation of soils, and worse. While it would be correct to attribute the principle causes of forest loss to timber exploitation and clearing for agriculture, it may be more appropriate,

however, to cite the combination of poverty, underdevelopment, population growth and the lack of alternatives for employment and production as the true cause. The challenge is to search for alternatives and means to avoid forest loss, and the ensuing consequences for the nations of Central America.

Simone Lovera, Global Secretariat for the Underlying Causes Initiative Co-Chair of the Global Workshop

Ms. Lovera opened the workshop with words of welcome to all participants of the Global Workshop to Address Underlying Causes of Deforestation and Forest Degradation. Costa Rica, the "Rich Coast" as the Spanish had called it, turned out to be particularly rich in nature. Her own country, the Netherlands, has a bilateral sustainable development contract with Costa Rica, which is based upon the principle of mutual learning. She assured participants that there was much to be learned from Costa Rica, and particularly from its local communities. In this respect, she welcomed the representatives of CICAFOC at this workshop, a coalition of farmers and indigenous communities from Central America who held an important workshop on alternatives to deforestation the weekend that preceded the Global Workshop. Whereas we are still searching for solutions, she told the group, they have already found many of them.

Ms. Lovera went on to welcome the representative of the leading UN agency in the field of the environmental advocacy, UNEP. She also welcomed and thanked the many donors who helped in making this possible, often with great personal effort. Noting that the full list of donors contributing to this process is too long to mention, she wished to thank at this particular occasion the governments of the UK, the Netherlands, Finland, Portugal, Australia, Canada and the US, and UNEP and WWF. She welcomed Dr. David Kaimowitz of CIFOR, one of the world's leading research institutions on underlying causes active in four of the seven regions that would be discussed in the coming days. One of the main objectives of this initiative has been to use his work, and the work of many other researchers, NGOs, CBOs and governments, as stepping stones for our analysis.

This analysis has been, first and foremost, fed by over 40 case studies from all corners of the world, from the Russian Far East to the Mau forest in Kenya and from the Kingdom of Tonga to Newbury in England. Case studies highlighted a tremendous diversity of direct and underlying causes of forest loss, varying from structural

Aftermath of August 1994 forest fire, Yeste, Sierra Segura, Albacete, Spain

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adjustment to the Bambi-image of deer, and from the competitive nature of humans and greed to, remarkably, trees. She highlighted the latter, as it links up to a central question that participants might ask themselves before starting the debate in the working groups: what do we really want? What is our objective if we want to address forest loss? What do we mean by forests? Coming from Holland, which originally means woodland, proving that the country had something else to offer than windmills and polders some 20 centuries ago, she underscored this question.

She hoped that this was just one of the many, potentially controversial, but certainly interesting issues that would be debated in the week to come. In closing she emphasized the fact that this was, as the Intergovernmental Panel on Forests originally recommended, a workshop. It was not a formal intersessional, where participants represent well-prepared, clearly defined government and NGO positions, but instead that it was meant to be a process in which people should feel free to express their own opinion about the questions at hand, based upon their own, personal experience and expertise. She thus wholeheartedly welcomed active participation throughout the debate, a titre personnel.

Jaime Hurtubia, Intergovernmental Forum on Forests Secretariat

Mr. Hurtubia expressed his pleasure in having the opportunity to take part in the Global Workshop, and to present the status of international forest policy deliberations on underlying causes in the IFF and the contributions that were expected from the workshop.

He stated that one of the most valuable aspects of the IPF/IFF process has been the opportunity to establish new partnerships among countries, NGOs and UN agencies, and that the Global Workshop was a good example of this. He reminded participants that the IFF was addressing matters left pending from its predecessor, the IPF, on the topic of underlying causes of deforestation and forest degradation. He explained the fact that underlying causes were the subject of a background discussion at IFF2 (August-September 1998, Geneva) and of substantive discussion at IFF3, (May 1999, Geneva). The input from the Global Workshop into IFF3 was therefore key.

Mr. Hurtubia stated that the IPF Proposals for Action were a good starting point for understanding the underlying causes of deforestation and forest degradation in that they had addressed the following concepts: the importance of recognizing the value of local initiatives involving Indigenous and local communities in contributing to efforts to arrest current trends in forest loss; that sustainable economic growth can indirectly reduce underlying causes such as demographic pressure and poverty and that each country would have its own particular circumstances within which to achieve this; that the historical and synergistic dimensions of factors causing forest loss need to be considered; and that most underlying causes are political, social and economic in character, such as policies applied in sectors outside of the forest sector including in energy, mining, and agriculture.

For example, the IPF recognized consumption and production patterns, land tenure patterns, land speculation and land markets as possible underlying causes. While Mr. Hurtubia warned against generalizations, he went on to list illegal land occupation, illegal cultivation, grazing pressures, unsustainable agriculture, demand for fuelwood and charcoal to meet energy needs, refugee-related problems, mining and oil exploration not conducted in accordance with national legislation, and natural climatic events and forest fires as important factors influencing forest loss in many regions.

Mr. Hurtubia welcomed the study completed by CIFOR and UNEP for input into both the Global Workshop and IFF3 in the hope that it would shed light on other issues possibly related to forest loss, such as discriminatory trade practices, trade distorting practices, structural adjustment programs and external debt, long-range transboundary air pollution, market distortions, subsidies and relative prices including those of agricultural commodities, and undervaluation of wood and non-wood forest products.

He noted the dilemma regarding the different requirements that countries have regarding decision-making with respect to changes in forest cover, in that many such changes can be justified with economic, social commercial and ecological arguments, all of which can be seen as rational.

He also stressed the importance of acknowledging the role that both sustainably managed natural forests and forest plantations can play in fulfilling needs for forest products, goods and services, conserving biological diversity, and providing a reservoir for carbon, all of which are needed. He added the need to assess the different costs and benefits and negative impacts of different types of forest management, and that for this to be done effectively our knowledge on the roles of plantations needs vast improvement. Individual countries' ability to properly assess whether changes in forest cover are beneficial could be done against the framework of National Policy Framework for sustainable forest management and land-use plans. Also at the national level, he stressed the importance of trans-sectoral decision-making processes affecting land use, and of increasing the effectiveness of policy and institutions for natural resource management, land use, research, and education.

He brought attention to the diagnostic framework adopted by the IPF to help in the further analysis of the sequence of causes that contribute to patterns of forest loss and the actions that could change those patterns. Having gained experience in the application of the diagnostic framework, the IFF welcomed lessons learned and suggestions for improvement from the NGOs involved in the Underlying Causes Initiative.

In closing Mr. Hurtubia stated the need for preparedness, efficiency, political will and willingness to build consensus on the part of all concerned countries if progress is to be made on this and on all other program elements during the third session of the IFF. He stated that the IPF/IFF will only be able to claim success if it can assure that implementation of IPF proposals for action have indeed been implemented through increased commitments on the part of the international community and at all levels, with active support from governments, non-governmental organizations, and members of the ITFF, supported by international and regional organizations, and existing instruments.

Privately owned land logged without regulation above Lowe Inlet, BC, Canada

© Ian McAllister / Raincoast

Bai-Mass Taal, on behalf of Klaus Töpfer, Executive Director of the United Nations Environment Programme

Mr. Taal thanked the Government of Costa Rica for hosting this very important event. He remarked on the "Alliance for Nature" project launched by Costa Rica in 1994, which marked an important transition to a widespread recognition that the natural world was the ultimate spiritual and physical context out of which humans emerge. The Alliance produced an integrated model for sustainable development for the country that yields maximum social and economic benefits while preserving the environment and quality of life.

He went on to discuss the various ecological and social goods and services that forests contain and provide for millions of people. He noted the tens of millions of living species supported by tropical forested countries such as Costa Rica, and the hundreds of millions of people living in or at the edge of tropical forests including the indigenous people who rely on forests for their way of life.

He then stated the alarming rate at which the world's forests are being destroyed and natural forests are being lost. While mostly due to clearing for agriculture, other causes, such as population pressures, poverty, subsistence agriculture, unsustainable and illegal logging, large scale industrial and infrastructure projects, and national policies that subsidize forest conversion to other uses are also to blame. He also addressed the increases in global consumption of wood over the past few decades and FAO predictions that consumption will continue to grow into the next century. These trends are alarming and, although numerous initiatives have evolved in efforts to counter them, their focus on direct causes of forest loss have led them to fail. He expressed satisfaction with the extensive regional and IPO consultation processes that preceded the Global Workshop. Their results, he said, allude to a distinction between underlying causes in the developed and the developing countries.

On poverty, he noted that while not a cause in and of itself, it leads to deforestation through survival instincts and desires to escape from poverty. Many of the world's poor live in or on the margins of tropical forests, and subsistence - or slash and burn - agriculture is the main cause of deforestation in developing countries mostly for lack of alternative employment. He cited many studies that try to make the linkages between poverty, population pressures and deforestation, and their inability to come to clear conclusions because of the complexity of the dynamics of rural land use, and the interaction of many forces in the deforestation process. Undoubtedly, population growth is a major driving force behind tropical deforestation.

Mr. Taal urged the taking of a holistic approach to conservation and the support of greater and more coordinated forest assistance to support national priorities, with a focus on capacity building, training, development of human resources and the implementation of forest laws to prevent illegal logging. He emphasized the prominent role that the private sector should take in the promotion of sustainable forest management, in concert with NGOs and governments. He supported the development of a global process for assessing and monitoring forests and the promotion of market mechanisms and economic instruments for sustainable forest management (SFM) including tax and other economic policy reforms. Most importantly, secure land tenure arrangements need to be established which provide meaningful participation in decision-making processes.

He confirmed UNEP's interest in receiving guidance on approaches to address all of these issues effectively that could also contribute to its own, people-oriented, program on forests, and UNEP's readiness to collaborate with NGOs to mobilize funds through the Global Environment Facility for projects that could contribute to this end.

In closing, he warned that with half of the world's population concerned with immediate needs for food,

firewood and shelter, we will need to work together to meet those needs while working to protect the world's forests, through helping to stabilize population growth, finding more efficient food growing techniques, and developing new sources of energy for rural communities.

Presentation by David Kaimowitz, based on a paper by Arnoldo Contreras, Center for International Forestry Research (CIFOR)

Mr. Kaimowitz presented highlights from the paper on underlying causes of forest loss in tropical countries prepared by Arnoldo Contreras at the request of UNEP. Kaimowitz started his presentation by pointing out that clearing forests generates both costs and benefits. However, these costs and benefits are not shared equally among different groups in society, making it difficult to assess whether deforestation is, in fact, appropriate. Even so, it is clear that too much deforestation is inappropriate. He noted that the research was limited to certain tropical countries, as CIFOR's mandate did not extend into the temperate and boreal regions.

Kaimowitz highlighted five main sets of underlying causes. The first regards market failures, which occur because environmental services are not valued and future generations are not represented in the market. In addition, market forces may create land speculation and concentration that, without government intervention, may threaten some people's livelihood. Second, certain policies help in overcoming market failures, while others contribute to deforestation. It should be kept in mind that policies reflect society's power relations. A lack of political will to address deforestation will be reflected in policy interventions. Examples of problematic policies identified were: road building in or near forests, subsidies to agriculture and logging, land tenure policies that promote land conversion, hydro-power investments, exchange rate devaluation, and trade liberalization.

Thirdly, he highlighted the area of governance, including corruption. In order to limit deforestation regulations, taxation and certain restrictions on the use of government property are needed. Governments that lack legitimacy or condone illegal activity and corruption seriously undercut these efforts. Fourth, Kaimowitz looked at the controversial link between population and deforestation. He said that while high population *densities* have been associated with a decrease in natural forests, the link between population *growth* and forests is weaker. At the sub-national level,

Logging truck, Cameroon

© K. Horta / M. Rentschler, 1990

population growth is endogenous. He also pointed out that high population densities promote reforestation.

Finally, the impact of economic growth on deforestation varies. Initially, deforestation may increase with per capita income, but it will subsequently fall. The evidence for the tropical countries studied is weak. In any case, while economic growth is expected to increase deforestation in many countries, economic decline may not have the opposite effect. Evidence of the effects of foreign debt is mixed. To the extent that indebted countries have weaker currencies and promote exports of forest products, foreign debt may increase forest loss. In addition, structural adjustment policies may promote deforestation by promoting migration into forest areas, stimulating agricultural and forest product exports, and reducing the public regulatory capacities. This is, nonetheless, a complex issue, and situations vary between countries. Some adjustment measures actually reduce deforestation.

In conclusion, Kaimowitz emphasized that inappropriate deforestation is a complex problem with few easy solutions. Because current policies have failed to solve the problem, he said, we will be required to experiment with second-best policies in our efforts to address forest loss.

Parallel Poster Sessions and Synthesis Report

Following the morning presentations on the first day of the workshop, participants separated into four groups, in which they would remain for the duration of the workshop. The first activity was to attend parallel poster

Extent and Causes of Deforestation and Forest Degradation in Bolivia
by Pablo Pacheco, CIFOR, CEDLA, TIERRA

The Bolivian lowlands are covered by 440,000 km² of tropical rainforests which represent 57% of the lowlands total surface. Between 1976 and 1993, the annual Bolivian deforestation rate was 168,000 hectares (0.3% per year) which is comparatively low in relation to other tropical forest countries. Nevertheless, in recent years deforestation has increased significantly, particularly in the department of Santa Cruz.

Bolivia's structural adjustment policies, initiated in 1985, have contributed to large-scale forest clearing for soybean production for export and, to a lesser extent, forest degradation by lumber companies. The devaluation of the local currency, fiscal incentives to exports, road improvements designed to make the country more competitive in international markets, and the general economic stability associated with adjustment were particularly important. Inequitable land distribution policies and inadequate forest legislation have also contributed to Bolivian forest loss.

Structural adjustment increased poverty among certain groups, but this did not lead to widespread migration to the agricultural frontier, except perhaps to the coca-producing regions. Nor did structural adjustment have a major discernible effect on average forest clearance for food crop production by small lowland farmers.

Forest clearing for soybeans and current logging practices can be justified from a short-term, economic perspective. Alternatives, however, might have provided greater long-term economic and environmental benefits and a more equitable distribution of those benefits.

New policies in the 1990s, related to expediting the implementation of new land and forest laws (Agrarian Reform National Service Law, 1996 and the Forest Law, 1996), are positive steps toward an alternative approach to managing forest resources. These policies, however, continue to be separated from economic and social reforms, and support the expansion of export crops, the effects of which remain uncertain for forest conservation.

presentations on the regional and IPO processes and workshops that had preceded the Global Workshop (Note: Reports of the regional and IPO workshops are included at the back of this report).

Immediately following the poster presentations, Ricardo Carrere, of the Global Secretariat for the Initiative, gave a presentation of the background to the Global Workshop along with a synthesis of the initial findings that had been collected.

Ricardo Carrere, World Rainforest Movement and Global Secretariat for the Underlying Causes Initiative

Mr. Carrere gave a short explanation of the process that led up to this Global Workshop. From the onset, the process was meant to be participatory, to be founded on concrete realities, solution-oriented (and not accusatory) and representative of all regions of the world. In that vein, seven regional (Asia, Africa, CIS, Europe, Latin America, North America, Oceania) and one Indigenous Peoples focal points were selected to organize eight workshops. Their first task was to identify organizations / people interested in and capable of carrying out case studies. Authors of case studies received a number of agreed upon guidelines, which were based, inter alia, upon the diagnostic framework elaborated by the IPF itself. Furthermore, an important guideline was that case studies should be carried out, whenever possible, in collaboration with local communities facing deforestation or forest degradation. Once the case studies were finalized, they formed the basis for discussions at the workshops, which included the participation of governments, academics, NGOs, Indigenous Peoples organizations, local communities, peasant organizations, industry, trade unions and international agencies. Using the case studies as a starting point, the workshops identified the major underlying causes and responsible actors and elaborated a number of recommendations to address them. In total, this process included case studies in some 40 countries as well as 20 more papers presented in the different workshops. Mr. Carrere stated that the possible conclusions to be derived from that process were many, but that some deserved to be highlighted:

First, deforestation and forest degradation is occurring in all regions of the world. Until now, the prevalent idea was that these were problems of the South and particularly of tropical countries. Although it is undeniable that the problem is a serious one in those countries, it has now become clear that temperate and boreal forests are facing similar problems and that deforestation and / or forest degradation is taking place in most countries of the world. Second, there is a great

heterogeneity of direct and underlying causes in the different contexts. Third, there are great similarities with respect to a number of common underlying causes and actors identified in the regional and Indigenous Peoples processes. Fourth, the level of understanding of these underlying causes is still insufficient and many actors (including local communities, governments, academics, industry, and even NGOs) still find difficulties in identifying the chain of causalities leading to the direct causes. The lesson learned from this process is therefore that it is important for participatory processes to take place in all countries, inviting all those directly involved or interested to identify the main direct and underlying causes and agents of deforestation and forest degradation. This kind of process will pave the way for solutions.

To facilitate the discussions at this Global Workshop, common underlying causes in all or most regional/ Indigenous Peoples' workshops were grouped under four headings. He stressed the similarity with the causes identified by the paper prepared by Arnoldo Contreras (CIFOR) for UNEP and the Underlying Causes Initiative, that had been presented by David Kaimowitz earlier that morning.

Regarding **land tenure** he noted that among the many different situations, two are predominant in discussions on underlying causes. At the forest level, the lack of recognition of the legal rights of Indigenous Peoples and other traditional communities over their territories allows the entry of external agents to those forests and implies the beginning of the deforestation process. Outside of the forest, inequitable land tenure patterns in nearby or distant agricultural areas which result in spontaneous or government-sponsored migration to the forest also result in deforestation.

Temperate native forest North Island, New Zealand

© White / Greenpeace, 1991

With respect to **resource management** he noted that the workshops had identified the following common underlying causes:

- limited vision of the forest and its multiple values, especially by agents external to the forest. Because of this limited vision, only some aspects are taken into consideration, such as wood, underground resources (oil, minerals), or land for agriculture. The decisions made are usually merely economical. As the water produced by the forest has no market value it is therefore considered as non-existent. The same is applicable to all the other products and services produced by the forest but which have no price tag attached to them;
- decision-making without the participation of local communities and where industrial or macroeconomic interests prevail;
- development policies which result in deforestation, such as road-building, energy-related projects, etc.;
- issues related to governance, such as corruption (leading to illegal felling and / or to the occupation of lands), lack of institutional capacity, human rights violations related to the struggle for land; and
- the desire of local communities to participate in decision-making, and laws that are not enforced or that are contradictory with other existing laws.

Regarding **trade**, particularly international trade, he stated that the issue is not trade itself but its continued growth and promotion, resulting in:

- unsustainable extraction of forest products and of subsoil resources within the forest;
- substitution of forests by other productive activities, such as agriculture, cattle-raising, large- scale tree plantations, oil palm plantations, shrimp farms; and
- ever increasing trade (linked to overconsumption), which is to a great extent made possible by the undervaluation of forests and the externalization of the environmental and social costs of natural resource exploitation.

On **international economic relations**, Mr. Carrere emphasized that although underlying causes grouped under this heading affect mostly Southern forests, it is important to highlight them at the

global level because the involvement of Northern countries is crucial to address them, given that it is mostly they who establish the rules of the game. Among the issues that need to be addressed he noted:

- macroeconomic policies imposed or promoted by the North, such as structural adjustment programs, which in many different ways constitute an important underlying cause. For instance, the promotion of an export-oriented development model based on natural resources or the reduction of the size of the state which results in lack of personnel to control forest management (or leading to corruption linked to lower salaries);
- the issue of external debt and its service and repayment, that, linked to the above, leads to the unsustainable extraction of natural resources;
- unfair international trade relations, which translate into lower prices and in the need to increase extraction to unsustainable levels to compensate for loss of revenues; and
- the active promotion of investments by transnational corporations and the inadequate regulation of their activities by either host or home countries.

Mr. Carrere then addressed the topic of **social exclusion**, noting the importance of underscoring that even when the issue of social exclusion which includes poverty was identified as an underlying cause, it was also highlighted that it is part of a chain of causality which originates in some of the causes identified above (for example, unfair land distribution, macroeconomic policies, etc.).

He then highlighted some general conclusions which seemed to stem from the case studies and workshop discussions. The first conclusion he mentioned was that – given the heterogeneity of situations – there is a need to identify the chain of causality in each country, with the informed and active participation of all relevant actors. The second conclusion is that there is a clear need for the establishment of democratic mechanisms for decision-making over natural resource management, including in particular the recognition of the territorial rights of Indigenous Peoples and other traditional communities, as well as the establishment of equitable land tenure systems in agricultural areas. Thirdly, it is necessary to introduce changes to the current international macroeconomic policies, including the trade liberalization process. Finally, it is essential to modify the current unsustainable consumption patterns.

Working Groups

Working Group I addressed Trade and Consumption

Working Group II addressed Stakeholder Participation and Land Tenure

Working Group III addressed Investment Policies, Aid, and Financial Flows

Working Group IV addressed Valuation of Forest Goods and Services

For more detail on the specific issues addressed in each Working Group, see the Overview Section.

In closing Mr. Carrere clarified that the above are only general conclusions which aim to provide input to the Global Workshop discussions, discussions which he hoped would result in a number of important recommendations to be presented at IFF3. Additionally, on behalf of the organizers of the Initiative, he expressed his hope that a shared and deeper vision about the issues could be reached, resulting in concrete commitments to begin to address the underlying causes of the serious deforestation and forest degradation that is affecting the world as a whole, and the lives and livelihoods of the people who inhabit those forests.

Working Group Sessions

In the afternoon of Monday, 18 January, the first day of the Global Workshop, participants met in small groups to reflect on the four working group themes that they would be asked to address in their working groups and to identify the most important underlying causes, the links between the themes, any gaps that needed to be filled, and the different levels of solutions.

In the evening, the Government of Costa Rica hosted an outdoor reception for the participants.

On Tuesday, 19 January, participants met in plenary to share the outcomes of these discussions. They then met for the first of four parallel working group sessions which focussed on **identifying common general objectives and indicators for the different underlying causes identified in the working group.** After a lunch break, participants again met for the second session of parallel working groups, this time focussing on **identifying responsible actors and possible actions to take per underlying cause, as well as identifying difference of opinions and areas for further research.** In the late afternoon, rapporteurs from the parallel working groups presented the results of the working

Underlying Causes of Deforestation in Indonesia
Indonesian Working Group on Underlying Causes of Deforestation and Forest Degradation

Forest Lost in Indonesia

Up until 1966, 75% of the Indonesian territory were still covered by forest. The beginning of forest resource exploitation started the "timber boom" era in the 1970s, during which time Indonesia became the biggest log exporter in the world. As a result of government import policies of the early 1980s, Indonesia became the biggest producer in the world of plywood by the 1990s, fulfilling 75% of the world market demand. The combination of an overestimate of available forest resources, weaknesses in management and regulations, and an over-capacity of the plywood industry, resulted in an acceleration of primary forest exploitation to levels never seen before.

The most recent deforestation rates, derived from satellite aerial photos taken by Indonesian government data, is 2.4 millions hectares per year – a rate much higher than 1990 FAO estimates. In addition, the deforestation rate in Indonesia has turned out to be higher than the average rate of tropical forest deforestation in the world, which is only 987,000 per year. Today, only 53 millions hectares of primary forests in Indonesia remain.

Underlying Causes of Deforestation and Forest Degradation in Indonesia

The development paradigm, structural adjustment, bilateral and multilateral loans.

Suharto's accession to power in 1966 marked the official acceptance by Indonesia of the development paradigm based on economic growth, with the acceptance of its first structural adjustment loan from the IMF, along with other bilateral loans. The 1967 Basic Forestry Law was also established at this time, which facilitated commercial access to and development of forest resources and was used as a mechanism to legitimize state claims of ownership over forest resources, and to arbitrarily sanction the removal of local control from forest communities, including Indigenous ones. All policies enacted during this early period supported the exploitation of the Indonesian rainforest as part of a national development policy aimed at financing foreign debts through oil and gas exploration, logging concessions, and general support for mining in any forest area.

International and regional trade pressures.

Large scale logging of timber followed the adoption of the Basic Forestry Law, which declared all Indonesian forests as state property, creating opportunities for foreign investment in logging activities. The timber boom in the 1970's was also supported by an increased demand of round wood and plywood in Japan and Korea. These countries needed an alternate supplier of plywood, as the Philippines, which had been their primary source, could no longer meet demand due to overexploitation of its own forests. The Indonesian government established policies to support the development of the pulp and paper industries in the mid-1980s in response to this increased demand.

Influenced by the high demand and the profitable returns offered by plywood, the government changed its forest policy by introducing a ban on raw log exports in 1980, and began to actively promote the plywood industry. Overestimates of available forest resources, poorly managed large-scale operations, non-compliance of concessionaires to the principles of sustainable forestry, lack of law enforcement, over-capacity in the plywood industry and meager reforestation programs resulted in the rapid exploitation of primary forests. As a result of this short-term, profit-oriented timber exploitation, forest cover in Indonesia decreased to 119.3 million ha in 1982 and to 92.4 million ha in 1983, including plantations.

The economic growth development paradigm in view of depleted natural resources.

In response to the realization that Indonesia's oil resources were soon to be depleted (as soon as the year 2005) and the expected loss of oil export revenues, national development planners identified other promising sectors including pulp and paper and agro-business (especially tree crops), for further development as potential export revenue-generators. Concurrently, in the mid 1980's it became clear that a timber crisis due to over-logging in the forestry sector was about to occur. The government responded by establishing a timber estate program, which focused on growing trees to support the pulp, paper and rayon industries.

Despite the originally purported goal by the government to use timber plantations to counter hardwood shortages, the thrust of the timber estate scheme in practice was to create fast-growing tree plantations for the pulp and paper industry. There was speculation on the part of government ministers that Indonesia was aiming to become the greatest supplier of paper pulp and palm oil in the world. By the 1990s, an enormous program was underway to convert primary forests into timber, as well as into rubber and oil palm plantations.

Another ambiguous government development program to increase export revenues was the development of tree-crop (oil palm, coffee, cocoa and pepper) plantations, serving the government's long standing goal of relocating people from the densely populated island of Java to the outer islands (referred to as the Transmigration Program).

A recent trend is the establishment of Malaysian plantations because of Malaysia's own decreasing production of rubber and oil-palm plantations and because of more lax controls in Indonesia on clearing trees. Between 1991 and 1996, Indonesian exports of palm oil products increased 32%, and were worth more than US $1 billion. Government plans call for the production of 7.2 million tons of crude palm oil by the year 2000, with a plantation area of two million hectares. In addition, the recent monetary crisis has prompted plans by the Ministry of Agriculture to add additional 1.5 million hectares to this, and to lift the export ban on palm oil in the same year. The integration of the Forestry and Plantation Ministries into one in 1998 is further evidence of the government's oversight of the indirect effects plantations have on national forests.

Lastly, some measures in the recent IMF package directly concern the palm oil sector and actually contradict each other, with the final victim being the Indonesian forests. The requirement to remove all formal and informal barriers to investment in palm oil plantations will intensify pressures from international investors to convert forest land. Contradicting this is the requirement that the government reduce land conversion targets to environmentally sustainable levels by the end of 1998.

group discussions in plenary, and gave participants from the other working groups a chance to comment on their results.

The third session of parallel working groups took place on the morning of the third day, Wednesday, 20 January, with the aim of **taking on board comments from the Plenary, revising actors and actions if necessary, and starting to draft joint recommendations.** Later that day, the fourth and final session of the parallel working groups took place, with the task of **drafting recommendations on addressing underlying causes.** Late in the afternoon, rapporteurs for each of the working groups presented their recommendations in plenary, followed by discussion. Specific comments and recommendations for additions were made at this time and the individual rapporteurs noted these and submitted them to the drafting group.

On Thursday, 21 January, a large group of participants went on a field trip organized by the Ministry of Environment and Energy of Costa Rica. One group visited Braulio Carrillo National Park and an experimental site for sustainable timber harvesting, while a second group visited an agricultural cooperative.

A drafting committee consisting of representatives of governments, intergovernmental organizations, NGOs and Indigenous Peoples' Organizations stayed behind and worked all day on a draft report of the meeting, which included all the action proposals of the four working groups. The full list of recommendations is annexed.

Reflections on the Conclusions of the Workshop

On Friday, 22 January, participants received the entire list of recommendations that had been prepared by the drafting group. The recommendations were adopted as the outcome of the workshop, with a few minor changes proposed. Several suggestions were also made for follow-up during plenary discussion. Odin Knudsen, World Bank, and Mia Siscawati, Indonesian Bioforum, were then asked to reflect on the outcomes of the workshop.

Odin Knudsen, on behalf of Ian Johnson, Vice President for Environmentally and Socially Sustainable Development, The World Bank

Mr. Knudsen expressed the sense of loss and anger that he had felt when reading the case studies that were prepared for the Initiative. He stated that we need to try to alleviate the damage done and put sustainable development in place. Emphasizing that the reason for Bank staff to participate in the Underlying Causes Initiative was to listen and learn, not to influence the process, he noted that the outcomes would be used as an input into the World Bank's 1991 Forest Policy Implementation Review and Strategy. He stated that the battle against deforestation is being lost and the Bank, in partnership with NGOs, bilateral donors, UN organizations, and the private sector needs to do more to try to reverse this.

The Bank's approach to forestry is different from that of other organizations. Its mission is, above all, poverty alleviation. The Bank can play an important role in recipient countries as convener and as provider of substantial knowledge and expertise, as well as through its lending power. The wealth of actions proposed at the meeting means, Mr. Knudsen said, that we have to be selective in what we can do. For example, structural adjustment programs (SAPs) amount to over 50% of World Bank lending. Currently, these loans have too much of a short-term focus, and James Wolfensohn, President of the World Bank, and Ian Johnson want this

to change. The IMF has a similar focus on short-term crisis, and it is time to pass these comments on to the IMF and have an open dialogue with them on the subject. For that purpose, the Bank will study the effects of SAPs on the environment in general, and forests in particular.

Since policy recommendations are an important part of the Bank's dialogue with recipient governments, the issue of conflicting policies is another important point made at this meeting that he stated the Bank will take into account. For example, agriculture, land tenure and trade policy are relevant to the Bank's work. On participation, Knudsen found the contributions by Indigenous Peoples representatives relevant to the revision of the Bank's social safeguard policy.

He admitted the Bank still lacks in transparency and doesn't do enough listening. It needs to recognize that it works not only with governments but also with the people, and that the Bank's goals lie beyond individual projects. On the subject of governance and corruption, Knudsen admitted that through its technocratic approach the World Bank in the past had shied away from this issue. Now, corruption and transparency have become a top priority in the Bank. There is an urgent need for strong institutions and a sound legal framework. The Bank recognizes the important role that NGOs sometimes play as whistleblowers.

On the subject of valuation of forest products, Knudsen acknowledged the failure to properly value forests. The needs of future generations and local and cultural values are not taken into account. The Bank will submit a paper on this issue to IFF-3. Forests are not only about dollars and cents. The research will emphasize the irreversibility of the damage documented in this process.

In closing, Knudsen said there were many other worthwhile issues in the report. The Bank will continue to have ad hoc consultations with participants of the Underlying Causes Initiative. At a global meeting in February 2000, the Bank will present its new Forests Strategy, seek partnerships and build consensus.

The participants warmly welcomed the comments by Knudsen. Some called for the Bank to make protection of primary forests the primary target of its new Strategy. Others were cautious and urged the Bank to move beyond assurances. An equation that is made up of the World Bank and government and excludes IPOs and affected communities can only lead to failure. On this note, an IPO representative noted that while for many years the Bank's work had been harmful, recently a complete change in policy had occurred. He mentioned recent consultations on the Indigenous Peoples policy and pointed out that the struggle for recognition of indigenous rights to territory cannot be separated from forest policy. Another participant expressed support for the Bank's interest in the distribution of the benefits obtained forest conservation, and that any work on full valuation of forests needs to address distribution effects.

Simone Lovera, Odin Knudsen, Mia Siscawati and Guido Chavez at the head table in San José

Mia Siscawati, Indonesian Bioforum and Asian focal point

"The world forests are in crisis, especially natural and indigenous forests. We not only face a loss of ecosystems, species and genetic resources of the forests, but a loss of their ecological functions as well as their social, cultural and spiritual functions. The 1997 and 1998 forest fires, extensive floods, landslides, and other well-publicized natural disasters in several countries were an example of a long process of deforestation and forest degradation. Floods brought on partly by deforestation have killed thousands of rural Asians in recent years.

"As I come from Indonesia, one of six mega-biodiversity countries in the world and yet one of the countries with the highest rates of deforestation in the world, allow me first of all to share my serious concern. The deforestation rate in Indonesia is higher than the average rate of tropical forest deforestation in the world: it is almost three times higher. Primary forest coverage left nowadays is only 37% of the total forest area in 1966, a critical year for Indonesia. Before 1966, Indonesia had not suffered from structural adjustment programs, debt, and aggressive private capital flows.

"Up to 1966, 75% of Indonesia's territory — or 144 millions hectares — were still covered by forest. The forest resource exploitation that started the 'timber boom' era in the seventies was also known as the 'Forest Development Olympiad' era. During this era, with assistance from foreign companies (the possiblity of which was due to the 1967 Foreign Investment Law), Indonesia became the largest log exporter in the world. In 1982, when oil prices started to decline, the forestry sector became the second highest contributor to foreign exchange in the Indonesian economy after the oil and gas sectors.

"In 1980, the government restricted log exports and began to promote plywood industry development. By the end of the 90s, Indonesia was the biggest plywood producer in the world and managed to fulfill 75% of world market demands at the time. Meanwhile, the overestimation of forest resources, the weakness in management and law system, and the over-capacity of the plywood industry, caused an even higher acceleration rate of primary forest exploitation.

"To begin my reflection, I would like to comment on this Joint Initiative on Addressing the Underlying Causes of Deforestation and Forest Degradation as a whole.

"The process leading to this Global Workshop involved the preparation of case studies and consultation processes in seven different regions of the world and one Indigenous Peoples workshop. The regional and Indigenous Peoples' processes, as well as the Global Workshop, have been highly valuable in developing constructive dialogues amongst various stakeholders, dialogues which should be continued. Indigenous Peoples, local communities, NGOs, and other interest groups joined the process with much enthusiasm and an expectation to produce a clear message to stop and to reduce deforestation and forest degradation all over the world.

"Now, allow me to comment on the outcomes which we produced in this Global Workshop. In a very enthusiastic atmosphere, this Global Workshop has produced a set of recommendations, most of which are innovative for the IFF process.

"Under the theme of consumption and trade, this workshop identified actions to change unsustainable patterns of consumption and production of both forest products and other products that impact on forests and to steer trade to an economically, environmentally and socially sustainable path. This workshop also identified a set of actions to change the fundamental philosophy and framework of international trade agreements including WTO/GATT and a potential Multilateral Agreement on Investments (MAI), and to increase the legal enforceability of human rights and environmental agreements at national and international levels and to balance vested interests (governments and industry) with the interest of other parts of civil society in international negotiations.

"Under the theme of involvement of Indigenous Peoples, local communities and other stakeholders and solving inequities in land tenure, this workshop produced a set of actions that aim at ensuring that individual and collective rights, social existence, traditional knowledge, spirituality and land tenure of Indigenous Peoples and local communities - including women - are recognized, protected, and guaranteed under national, regional and international legislation and conventions. Further along this line, there is a call for all governments that participate in the IFF process to ratify and promote participation in the ILO 169, the Convention to Eliminate Discrimination Against Women (CEDAW), and to develop linkages amongst those two treaties and environmental conventions.

"As an NGO activist concerned with the serious problems of mining legislation and operations in Indonesia which are influenced by transnational corporations, I am glad that there is a strong recommendation coming from the workshop to promote environmental, oil and mining legislation that guarantees and protects the rights of Indigenous Peoples and local communities. As Asia Regional Focal Point for this Joint Initiative, I congratulate this workshop for having adopted one of the recommendations of the Asian Regional Workshop to address the lack of transparency and accountability and the inappropriate and increasing power of government bodies and corporations in land tenure including corruption, militarism and dictatorship, and the inability of Indigenous Peoples and local communities to access information on, influence, support, or oppose development plans or projects. As you might be aware, forest governance in Indonesia and in many Asian countries creates opportunities to create corrupt political

and government systems. Often, such corrupt regimes foster militarism that further contributes to deforestation, forest degradation and the violation of human rights.

"To address counter-productive investment and aid policies and finance flows, a set of actions was identified to overcome issues of perverse incentives and subsidies, private capital flows, inappropriate development strategies, structural adjustment programs, and good governance. A call to establish national level independent consultation mechanisms to improve transparency of decision making with respect to structural adjustment programs, and a call to reform the country assistance strategies (CAS) of international financial institutions (IFIs) and donor countries. Following this line there is a call to multilateral development banks and private banks to adopt policies which forbid investment in corporations which unsustainably exploit natural and indigenous forests.

"As a forester by formal education, I would like to note that I am glad to see the recommendations under the theme of valuation of forests. One of these is a call to change the FAO definition of forests and forest-related concepts (deforestation, afforestation, reforestation, plantations), to include the ecosystem approach as defined in the Convention of Biological Diversity, and to emphasize quality of forests. Along this line, there is a call to change curricula of formal education to reflect the ecosystem, social, and spiritual values of forests. To be frank, I learned about the holistic concept of forests from elders of the Dayak Peoples in East Kalimantan, a much more comprehensive concept compared to curricula of forestry education. With respect to German-based forestry knowledge which has developed since the 16th century and spread to most of the world since then, it is now a time for Indonesia and many other countries to adopt traditional knowledge and practices related to forest resources into their curricula of formal education. I personally hope that this action will affect political will among politicians, bureaucrats, professionals, and managers.

"Before I close, I would like to deliver a message from one leader of Indigenous Peoples who participated in the Asia Regional Workshop which is that he and his peoples need immediate action to abruptly halt deforestation and forest degradation. I believe all of us here share those same expectations.

Working group 3 debates aid polices in San José

"To conclude, I would like to invite all workshop participants to jointly follow up the workshop's recommendations. Survival of the world's forests and all forest values and functions, including social and spiritual values, are in the hands of all of the main actors identified in our workshop. The recommendations will simply become a beautiful background document if the main actors who should take action do not respond appropriately. I would like to urge the main actors who are present here to take urgent and consistent action. Otherwise, millions of Indigenous Peoples and local communities, as well as all of us here, will continue to suffer from deforestation and forest degradation."

Panel Discussion

A Panel discussion in the afternoon followed these reflections, this time focussing on ways to implement the recommendations.

Panelists were:

- Jean-Pierre LeDanff, Secretariat of the Convention on Biological Diversity
- Amrit Joshi, United Nations Food and Agriculture Organization
- Marcus Colchester, Forest Peoples Programme
- Lourdes Barragan, Ministry of Environment, Ecuador
- Alberto Chinchilla, Coordinadora Indigena-Campesina de Agro-foresteria Communitaria (CICAFOC)

Chair: Guido Chavez, Ministry of Environment and Energy, Costa Rica

Mr. Jean-Pierre LeDanff, Secretariat of the Convention on Biological Diversity

Mr. LeDanff reminded participants of the specific Work Program for Forest Biological Diversity under the CBD, adopted in Brastislava, June 1998, in decision IV/7, and welcomed suggestions on how best to incorporate the results of the workshop in the process of implementing that work program. He informed the meeting he will advocate that the Secretariat of the CBD take into consideration these suggestions as well as the outcomes of the Global Workshop, which had indeed produced rich results.

The Fourth Conference of the Parties had sent a clear message regarding anticipation of the results of this work for incorporation into the Work Program for Forest Biological Diversity.

However, Mr. LeDanff clarified that although the Secretariat, whom he was informally representing at the Global Workshop, is in a position to relay messages to the Parties of the Convention, the responsibility lies with the Parties to take decisions and actually implement the Work Program for Forest Biological Diversity.

Forest ecosystems are scheduled to be one of the main topic for discussion at the Sixth Conference of the Parties (COP) of the CBD. This means that the meeting of the CBD SBSTTA that would prepare for that particular COP would thus be the most appropriate forum for presentation of the results of the Global Workshop on Underlying Causes of Deforestation and Forest Degradation. However, the provisional agenda of SBSTTA 5 (February 2000) includes a report on "Forest biological diversity: status and trends and identification of options for conservation and sustainable use". The Secretariat may well envisage making a first presentation of the results of the Global Workshop on that occasion.

In addition, the CBD Secretariat has a mandate to prepare several papers for the fifth COP on topics on its agenda including: progress made in the implementation of the Forest Biological Diversity Work Program, indicators of biodiversity, and the ecosystem approach, all of which he anticipated could gain from incorporating the results of this workshop.

The Work Program for Forest Biological Diversity is meant to take a holistic approach to forest management as well as address the causes of deforestation. He noted that while this work program is research-oriented, this too could benefit from several of the recommendations coming out of the Global Workshop.

Finally, the Convention specifically addresses Indigenous Peoples and traditional knowledge under Article 8j. In decision IV/9, COP IV decided that an ad hoc open-ended inter-sessional working group should be established to address the implementation of Article 8(j) and related provisions of the Convention. Decision IV/8,on matters related to benefit sharing, decided to establish a panel of experts appointed by governments. Its mandate would be to draw upon all relevant sources on access to genetic resources and benefit sharing arising from the use of those genetic resources. Here too the results of this workshop can and should be taken into account.

Amrit Joshi, UN Food and Agriculture Organization

Mr. Joshi emphasized the responsibility of the various international organizations to undertake the important actions recommended by the workshop. He said that the main problem is how to mitigate the underlying causes, and a clear answer is to involve communities in resource management. He referred to the case studies prepared throughout the course of the Initiative to Address Underlying Causes, most of which point to the importance of ensuring community involvement in decision-making. Everyone knows what the underlying causes are, he stated, and many policies have changed accordingly. Focus is needed now on the implementation of those policies that have changed in accordance with current knowledge on underlying causes.

What we have to do now, Mr. Joshi stated, is to follow the recommended actions to solve the problems identified in all regions. He urged international organizations to take the lead in follow-up and implementation of the actions recommended. He noted, however, that action needs to be taken at the regional and national levels. He described the FAO's ongoing community forestry and Forests Trees and People programmes, stressing the need to enable forest users to manage the forests and receive their benefits, and highlighted the case of community forestry in Nepal as a successful example of community oriented National Forest Policy and Forest Law. In Nepal, National Forests

Forests and Forestry in Jokkmokk Municipality: A Case Study Contributing to the Discussion of Underlying Causes of Deforestation and Forest Degradation of the World's Forests, by Karin Lindahl

Forests have played a central role in Sweden's development and in its transition from an agrarian to an industrial society — ever since 8,000 to 10,000 years ago, human populations in Sweden have depended on forests. The intensive industrial-scale use of forests, however, is relatively recent and, in the northern part of the country, has developed over the past 150 years. The country today remains predominantly covered with trees, but less than 5% of the productive forest land retains old growth forests. As the author states, "*Sweden is a country full of trees but with very few forests.*"

Since the 14th century, national policies towards forest lands have alternated between those promoting forest clearance and frontier settlement and those prioritizing timber production and the maintenance of tree cover. In the early 19th century, the government promoted vigorous agrarian development and forest colonization and granted forest lands to settlers prepared to migrate from the central regions. Since then, forestry has been prioritized. Since World War II, the Social Democrat governments have encouraged an industrial model of development, which encourages large efficient industries and a Keynesian redistribution of wealth. This has stimulated migration into the cities and urban centers and helped concentrate forest industries into the hands of fewer and fewer, large companies.

Forestry is an export-oriented industry which services a substantial share of the global market in furniture, sawn timber, pulp, and paper products. However, its processing capacity far exceeds national production levels: Sweden is a net importer of timber. The country thus depends both on secure access to unprocessed timber from abroad and on an intensive use of national forest lands.

The case study focuses on the two million hectare municipality of Jokkmokk in the north of the country — an area largely covered by boreal forests in which scotch pine, Norway spruce, aspen, birch, and willow predominate. Originally inhabited almost solely by the Indigenous, reindeer-herding Sami people, the area was administratively annexed from the early 17th century, while extensive settlement by ethnic Swedes only took off with the phase of land grants in the early 18th century. Mining and hydropower development, still economically important in the area, are now in decline. Intensive timber extraction only developed over the past 150 years and is now the dominant use of forest land.

Forest ownership became heavily concentrated in the hands of major logging companies, sometimes through shady methods, and focused on the extraction of pines for saw mills. In the 20th century, the focus of extraction switched to other species for the emerging paper and pulp industry and forestry became increasingly mechanized. Today, most timbering is in the fourth phase of forest exploitation and involves the clear-cutting of even-aged stands, often planted on mechanically scarified soils. However, remnants remain of old growth forests of exceptionally high conservation value in the Jokkmokk area. The domination of forestry in the municipal economy has contributed to the decline of other activities such as farming and cattle-raising, although mechanization and improved transport means that scarcely more people are employed in forestry-related work than in reindeer-herding.

Recently, as a result of national and local campaigns by environmentalists, the main timber companies have reduced their more damaging activities such as old growth logging, herbicide-spraying, deep plowing and wetland ditching, and have accepted Forestry Stewardship Council standards of forest management. Sami rights of forest access have been promoted as a consequence. Large companies and other forest owners, however, remain committed to plantation forestry and resist more radical demands by environmentalists to cease clear-cutting, soil scarification and allow for more natural forest regeneration.

The author singles out consumer demand and industrialization growth models, and the way national forest policies have been defined by them, as the driving forces underlying forest degradation in Jokkmokk and suggests that the relative lack of local resistance to the imposed changes has stemmed from the local peoples' early dependency on employment in industries and their acceptance of the Social Democrats' development model, which provided material benefits at the expense of a loss of local control. New measures to increase local community powers in decision-making, including access to land, and to legally protect biodiversity and other forest values are needed, as well as a reduction in global demand for wood especially pulp and paper products, to make forest use more socially and environmentally sustainable.

are handed over to their users as much as possible, where the users are interested in their management. These user groups manage the forests and get 100% of their benefits. The surplus funds can then be used for rural development activities as well.

Mr. Joshi noted that many countries had learned from this example, and that the FAO is helping to communicate methods and tools to manage forests in a participatory way, and under the framework of sustainable development.

Breaking the Iron Triangle: the Influence of the Private Sector in Forest Policy by Simon Counsell, Rainforest Foundation

This paper focuses specifically on the ways the private sector has sought to influence forest policies at both national and international levels. Control and ownership of forests around the world has made a rapid transition from communities to states to the private sector. Today, 50 of the largest forest products corporations control some 140 million hectares of forests, an area the size of the total forest estate of Europe.

These interests have sought to eliminate competition from small-scale industries and promote further concentration of forest resources in their hands. They have also sought to influence many different aspects of forest policy including those related to downstream processing, pollution control, health and safety regulations, employment legislation, land use legislation and endangered species laws. They have sought to shape policies related to forest concession systems, forest management standards, trade policy, fiscal arrangements, subsidy regimes, research priorities, training schemes, education programs, including public education, and land tenure systems. Their common objectives in doing so have been to eliminate competition, reduce costs, capture subsidies and tax benefits and reduce the influence of adversaries such as environmental groups.

To these ends they have targeted official agencies of all kinds, politicians and the general public. At the international level, the private sector has targeted the WTO and has pushed heavily for free trade regimes. Others, such as British timber importers, have been very active in lobbying for the exclusion of certain species from gaining listing under the Convention on International Trade in Endangered Species. According to some analysts, so strong has their influence become at the International Tropical Timber Organization, that the process has been described as one of self-regulation, whereby the industry sets the standards by which it should itself be judged. The strong promotion of a Global Forest Convention by the Canadian forest products industries is seen as another example of this attempt to define international standards so that they favor the interests of industry rather than social and environmental values.

Nationally, the private sector has sought similar ends by, for example, securing advantageous subsidies and capturing support from aid agencies. A startlingly high proportion of forestry research is also funded by the private sector, which has the effect of both setting research priorities and influencing the findings of researchers so they favor industry interests. Research is seen as especially important by the private sector as a way of influencing public perceptions about the role of forests and forest industries. Accordingly, the industry also invests massively in public relations "selling," a simplified message that forests are just trees. A major objective of industry-public relations is to stimulate total demand.

Influence is exerted by numerous means. Where regulations are lacking, industry practice tends to become the accepted norm. To shape policies, the private sector finances political parties, establishes clientelistic relations with politicians, and offers bribes and other benefits to forest services and personnel and senior government officials, including cabinet ministers and members of parliament. In extreme cases, in countries heavily dependent on forest product exports, companies have even threatened to halt production to demonstrate their opposition to proposed policy changes.

The author examines in particular detail the way the private sector has sought to influence the standards set for the European Union's Eco-labeling scheme. By persistent lobbying and leverage, including by foreign diplomats, industry succeeded in getting the EU to adopt lower standards for eco-labels than had been proposed on technical grounds. The author concludes that, "in terms of policies that promote forest conservation and sustainable management, the influence of the private sector is generally pernicious. Specific legislation and general policy frameworks, as well as public perception of forests that help to shape these policies, have been strongly influenced by the private sector. Companies have largely sought policies which maximize short-medium term profits, eradicate competition and promote economies of scale. Any engagement of the private sector in public policy with a putative aim of promoting long-term sustainability and public benefits is only of very recent occurrence."

The solutions to this problem lie in changing the mechanism by which forest policies are developed. This requires:

- recognizing the current processes by which such influence is exerted;
- promoting transparency in decision-making;
- publication of all contracts;
- balanced participation of private sector and other interest groups in government delegations;
- establishing codes of conduct for official dealings with private companies;
- reform of aid programs to promote transparency and make them conditional on good governance;
- dismantling all aid and trade provisions;
- adopting legislation banning the import of illegally produced timbers;
- reducing subsidies to private sector forestry;
- providing greater support for independent forestry research;
- raising public awareness about the social and environmental impacts of forest product use.

Marcus Colchester, Forest Peoples Programme and European Focal Point

Curbing Forest Loss: Time for a Triple Shift

Mr. Colchester thanked the Chairman and proceeded to sum up where he felt that participants had arrived in their discussions. Having first become involved in international forest policy debates in the early 1980s when the 'Forest Crisis' was just becoming a global issue, and noting that many of the participants present had probably been involved in this work for even longer, he observed that a global debate on the Underlying Causes of deforestation and forest degradation had finally been achieved, some 20 years later. But why did it take so long? Why even now did it take an NGO-led coalition to create the impetus for this process? Was the deep resistance to tackling the root causes of forest loss and reluctance to face up to the real issues one of the main underlying causes of forest destruction itself?

At the intergovernmental level, he stated, it seems that awareness has been growing painfully slowly. But through this meeting and the regional consultations that built up to it, three major sets of causes that need to be tackled had been identified.

The first of these regards the **values of forests**. We have seen that official policies tend to value forests mainly for their commercial and industrial values. Their environmental values are given very much second place, with the interests of local people very much in third place or excluded altogether. Official policies towards forests also tend take a **sectoral focus** and to be limited to a consideration of the technical aspects of forestry and forest management. They tend not to address the social issues and wider environmental concerns, and ignore the broader pressures on forests from other sectors. Also learned in this process was that control, and **power over forests** is concentrated in the hands of elites who may have limited values but apparently unlimited interests.

He hoped that this debate would help to shift thinking about how to deal with forests, having seen that a number of different kinds of shift are necessary.

The first of these shifts relates to **which types of forests** we are talking about: we have seen that we need to shift away from too much of a focus on tropical rainforests, as if other types of forests weren't equally at risk or important. During the 1980s, we can now see with the benefit of hindsight, NGOs were too successful in focusing global attention on tropical forests. As a result, at the Rio Summit, forests became a bargaining chip in a debate between North and South, with the South demanding better terms of trade, additional aid and more technology transfer in exchange for agreeing measures to protect their forests. To secure their bargaining chip they asserted sovereignty over forests. In the event, the North did not value forests that much and had anyway moved on to a different model of development driven by free trade and foreign direct investment, not aid and trade deals. The result was stalemate. He hoped that this meeting would help to break this deadlock, not by creating a global commons, which many of us fear might become a global open access regime, but rather by showing how deforestation and forest degradation are equally a problem in North and South. In the future we need to keep this balance in global negotiations.

Addressing the rich harvest of proposed actions to combat forest loss that the workshop had produced, he noted the call for a **shift in the way that forests are valued**, to show that forests are not just stands of timber but reserves of biodiversity, providers of crucial ecological services and, above all, fundamental to the livelihoods of local people. He urged foresters to open their minds to this approach, and move from a timber-centric to a more holistic appreciation of forests. He wished Amrit Joshi every success in the FAO in helping to catalyze this shift in thinking. He added that the meeting also called for a shift in official definitions of forests so that they accommodate this more inclusive vision of forests.

For such a shift to take root and see expression in decision-making about forests, the workshop called also for a **shift in ownership and control**, in the direction of the communities that embody these wider visions and values of forests. The meeting had heard in particular from Indigenous Peoples who demand recognition of their rights to own, control and manage their traditional territories as set out in the UN's Draft Declaration on the Rights of Indigenous Peoples. This meeting has called on governments to support this declaration and to ratify ILO Convention 169, something that he urged governments and donors to follow up on. He added that not just Indigenous Peoples need to benefit from this kind of a shift but also other local communities with links to forests. A strong message from this meeting has been the overall need for a shift in who controls forests in favour of the poor and marginalized.

A similar **shift in forest governance** and forest policy making had also been called for. If these new values

and ownership patterns are to be accepted, there will need to be a shift in the balance of power: this can be achieved in part through greater transparency, to expose the cozy secret deals between government and the private sector to public scrutiny. Presently marginalized 'stakeholders' need to be given negotiating power, not just politely listened to and dismissed. This shift will also require the reform of forestry institutions and the re-education of forestry officials and above all the creation of links with other sectors of government. There is a big role for governments and donors in this process.

This meeting has also called for a **shift in aid priorities**. He reminded the participants of the plans of the World Bank to make its structural adjustment programmes more sensitive to forest concerns, by making them more participatory in both their planning and implementation and by paying full attention to the implications of these reforms for the poor, for forest-dwellers and for the forests themselves. He welcomed and strongly endorsed this shift, including in the case of Guyana, where the World Bank imposed one of its earliest Structural Adjustment Plans with the explicit aim of promoting exports of minerals and timber. The result has been the unleashing of a wave of devastation on the forests and on Indigenous Peoples of the interior. He stated that measures are urgently needed to restore control over this process and to secure the Amerindians' rights to their lands. Let us make Guyana a test case of the Bank's resolve.

Mr. Colchester pointed to the radical **shift in patterns of consumption**, especially in the North, that is needed if forest loss is to be curbed. Raising consumer awareness, technical reforms in resource use and recycling, and voluntary self-regulation by industry may be of some help, but this meeting has called for more, for *mandatory* regulations to limit the availability of consumer goods that are produced in damaging ways.

Nick van Praag, Miguel Tarin, with Jean-Pierre LeDanff in the background, listen to panelists at the Global Workshop

One of the central obstacles to international forest policy reform, he noted, is the current imbalance in international legal regimes which presently give priority to free trade over human rights or environmental considerations. The meeting therefore called for a **shift in the dominance accorded trade agreements** and for them to be given only equal weight to human rights and environment agreements both by weakening the present hegemony of trade and by strengthening other existing instruments or seeking their more effective implementation. He urged governments to make this an issue for national debate and to educate those in other ministries and in their treasuries about the broader implications of trade policy.

On the whole he felt that, given the limitations of time and resources, the group had done quite well. However, the necessary **shift to an inter-sectoral focus**, which was to move the debate out of the forest sector, had not been discussed sufficiently. Notably missing was an examination of the unsustainability of the agricultural sector as a major cause of forest loss. The potential of participatory agrarian reforms to give livelihoods to the landless poor and provide alternatives to spontaneous or government-directed forest colonisation had not been adequately addressed. Perhaps a follow-up meeting on this subject was needed.

He warned not to leave this meeting with illusions about the ease of the task ahead. Reforms to the status quo will be resisted by all those who profit from the current process of destruction, at all levels, internationally, nationally and locally. Other international debates teach us this lesson all too clearly, such as the resistance to change in global policy making about nuclear energy, climate change or the negotiations at the International Tropical Timber Organisation. The big industries in these sectors, and their government backers, have resisted measures to curb their destructive activities. The result has been delay, delay, delay. He noted that even at the IPF the same difficulties existed. It was no accident that the one Programme Element that did not get elaborated on through an intersessional process was the one on the Underlying Causes of forest loss.

For this reason, he stated his special appreciation of the Government of Costa Rica, UNEP and the donors for supporting this politically delicate but crucial process, and thanked them. Having made a good start, he was now eager to exchange ideas about how to follow-up on this meeting. Above all he welcomed suggestions on how to secure government support for the proposals coming from this meeting at the next session of the IFF,

given that the Government of Costa Rica would need active support from other governments if the ideas emerging from the workshop are be heeded.

In closing he stated that it used to be that deforestation was blamed on shifting cultivation, and pointed to the very different kinds of shift now needed to curb forest loss.

Lourdes Barrágan, on behalf of Yolanda Kakabadse, Minister of Environment, Ecuador

On behalf of the Minister of the Environment of Ecuador, Yolanda Kakabadse, Ms. Barrágan thanked the Government of Costa Rica and the meeting's organizers for allowing them to participate in this enriching event. She then highlighted some items of fundamental importance to the workshop, a pioneering experience in many ways.

Firstly, she stated that deforestation and forest degradation cannot be halted if they are not addressed from a holistic and multisectoral perspective. The chains of causality must be confronted at the international, regional, national, and local levels, and special attention must be paid to the men and women who live in and depend on those forests.

Second, she noted that the Global Workshop resulted not only in a valuable document, but in a participatory process, from the local to the international level. Through discussion and analysis, capacities have been strengthened and consensus was achieved among the various sectors and interest groups of the most diverse regions of the world.

She observed that the level of agreement about underlying causes is surprising, including regarding foreign debt and structural adjustment programs that are suffocating her country and others. She found it surprising that what appears to be the true cause of these problems is really their *consequence*: i.e. the poverty that puts pressure on the forests. The mechanisms proposed here to decrease these burdens will allow our States to better achieve sustainability, Ms. Barrágan noted.

She observed that the document coming out of the Workshop establishes paths to follow and innovative work proposals, the result of collective creativity and of specific experiences, and sets the pattern for making recommendations that can be implemented. She highlighted two of Ecuador's experiences as examples: First of all, after a long struggle, the indigenous organizations achieved ratification of the ILO Agreement 169 and explicit recognition of the indigenous peoples' collective rights in the new Constitution. Nonetheless, Ecuador still has a long way to go until secondary legislation for the implementation of those rights is enacted. Secondly, the country is in the midst of a legal reconciliation process, incorporating environmental and indigenous rights into legislation on mining, petroleum, and forests. For the first time, two areas have been declared off limits for oil production, mining, and logging. One of these is currently inhabited by an uncontacted indigenous people, the Tagaeri; the second is very rich in biodiversity (Imuya in the Cuyabeno Wildlife Reserve).

But how to mobilize and strengthen this process? Ms. Barrágan pointed to some of the many actions that can be taken immediately:

With citizen participation, inter-ministerial work teams can be set up in the interior to make policy decisions in the interest of the forests. Lobbying of political parties and forming alliances among sectors and countries is also essential. She stated that she believed that a first step would be to present the document of the Global Workshop at the upcoming Andean conference on Forests, and the Trade and Environment conference in Geneva, so that countries can submit together, en bloc, proposals for consensus. Also, countries that must pay debt servicing should coordinate to bring, en bloc, proposals to the negotiating table with the countries to the North.

She urged governments to encourage participation in analysis of the recommendations, involving all sectors, including the private (national and transnational) sector, and to establish priorities and strategies.

She urged each of those present to assume responsibility for disseminating the results in our own countries (communication media, forums, electronic communication, etc.), and in particular for the Global Secretariat of the Initiative to disseminate the results to governments and other sectors.

In closing she emphasized the need for follow-up to this Global Workshop. Based on the actions that take place in the immediate future, an assessment conference could be planned for a year and a half from now, and Ecuador could well be the host.

Alberto Chinchilla, Coordinadora Indigena-Campesina de Agro-foresteria Comunitaria (CICAFOC)

On behalf of the 70 Indigenous, peasant, and Afro-American groups that make up CICAFOC, Mr. Chinchilla stated explicitly the intent of CICAFOC to play a role in the implementation of the recommendations put forward at the Global Workshop to address the Underlying Causes of Deforestation and Forest Degradation.

In addition, he brought attention to need to recognize the existing capacity of communities to manage natural resources in an economically, socially, and environmentally sustainable way and urged all international discussions on deforestation to take this into account. Alternative types of locally formulated and managed development should be supported, as should international collaboration to open up national and international markets to local communities within the framework of environmental and social sustainability.

Mr. Chinchilla stated that various recommendations put forward at the Global Workshop were already being implemented by his organization, but that CICAFOC was committed to implementing the others as well. He urged participants to remember upon their return to their respective countries, that they too are actors named in the recommendations, actors who need to work to implement the agreed upon actions. Each participant has an equally important role to play in this respect.

He gave some examples of the programs that his organization is involved in, which regard protected areas, capacity building in local schools, and agriculture. In all aspects of their work they strive to exchange experiences and methodologies among peasants, Afro-American and Indigenous people in Central America. He closed by saying that on behalf of CICAFOC, they are happy to share with the rest of the world their humble experiences in managing natural resources.

Participants were then invited by Guido Chavez to contribute with their own ideas about ways to implement the outcomes of the workshop.

A group of Costa Rican participants made, and shared in plenary, a joint declaration calling upon the implementation of all of the conclusions and recommendations coming out of the workshop and put forward additional proposals specific to Costa Rica.

Rick Steiner (Alaska) read out a declaration of a global forest crisis, prepared by a himself and a group of North American partcipants, which he asked the participants to endorse and include in the report to IFF. The report recognized and acknowledged:

- the alarming rate at which the Earth's original forest cover has dissappeared;
- the fraction of the Earth's original forest still remaining as large, relatively undisturbed primary, or frontier, forests today;
- the alarming number of hectares of forests that are lost each year;
- that the majority of terrestrial species on Earth inhabit and depend on the world's forests;
- the number of people, of which a significant amount are Indigenous, which inhabit and depend on the world's forests;
- the rates extinction of species caused by deforestation every day;
- the combination of increasing worldwide demand for wood products, road building, climate change, fires, population, corruption, illegal logging and ineffective trade policies which increases the threat to the world's forests, and finally;
- the severity and consequence of this unprecedented situation and the necessity for recognition and acknowledgement such that urgent action will be taken.

The declaration called upon all nations and international organizations, in particular the United Nations Intergovernmental Forum on Forests, to take swift, aggressive action to correct this urgent crisis, and to immediately implement the recommended actions from the Global Workshop to Address the Underlying Causes of Deforestation and Forest Degradation.

Marcial Arias (International Alliance of Tribal Peoples of the Tropical Forests) reminded the participants of the problems of IPO participation in intergovernmental negotiations, and urged support for direct access for all IPOs to intergovernmental negotiations beyond the current access, whereby only IPOs with consultative status with the United Nations are granted access to negotiations, and ones who are not are forced to seek indirect accredidation through other NGOs.

Some participants warned not to place too much emphasis on market mechanisms to solve the problem of deforestation and forest degradation. Others drew attention to contradictions between the public image of

Costa Rica and actual conservation efforts in the country. It was also noted that it was important not to forget temperate forests in these discussions, given that over the past decade tropical forests have received the largest share of attention in international discussions.

Bernardo Ortiz (IUCN Regional Office for South America) drew attention to the need to establish a follow-up process to ensure the implementation of the recommendations. On another note, he drew attention to the need to focus on some specific issues leading to forest loss such as hydroelectric projects and road building, and the terrible failure that environmental impact assessments have been.

Several participants supported the preparation of a short, summary document highlighting the main recommendations coming out of the workshop, to be prepared as soon as possible for immediate dissemination.

Closing Remarks

The meeting was formally closed by Ms. Isabel Odio, Vice-President and Minister of Environment of Costa Rica, the host country.

Isabel Odio, Minister of Energy and Environment and Vice President of Costa Rica

Vice President Odio was thanked by Simone Lovera for the role that the Costa Rican government played in this workshop.

Ms. Odio then told of the emergency meeting of Central American and Mexican Environment Ministers that had brought her to Mexico earlier in the week, which was organized to develop a regional response to the effects of Hurricane Mitch – the natural disaster that caused so much tragedy in Honduras, Guatemala, El Salvador, Nicaragua, and Costa Rica. She likened the hurricane to a punishment inspired by the fury of nature in response to the harm done to it by humankind.

Ms. Odio spent the years between 1993 and 1998 participating in the war crimes tribunal that was set up after the break up of the former Yugoslavia. She brings this experience to her new position as Minister of Environment, and is the likely reason that she treats environmental degradation in her country as she would a war; a war in which the ultimate victim is the human species.

Had the environmental disaster that her country and the rest of Central America was still recovering from not kept her away from the opening day of the workshop, she would have wished the participants luck in discussing a problem that is common to all of mankind, and invited each and everyone to share both their positive and thier negative experiences. Making a closing speech instead, she told of the success of the workshop that she had been informed of through her colleagues in the Ministry, and thanked all of the participants for the hard work that made it happen.

She reminded participants that it was in 1992 that, for the first time, the international community explicitly stated the need to incorporate all actors in addressing environmental degradation. Despite the few years that have passed since then, she stressed that it was now time to welcome participation of the private sector in addressing environmental issues as well. She stressed that no one group has the all of the answers, and that working together is the only way forward.

On behalf of the government of Costa Rica, she committed herself to divulge and support the results of this workshop to the IFF and to the international community.

Ms. Odio noted that dedicated individuals will always be found, both inside and outside of the NGO community, that are working for the protection of natural resources. What is of utmost importance is to educate ourselves and others on the issues in order to take responsibility and be part of the solution.

Future Steps to Address Forest Loss

As part of the solution, it is important to highlight that the process leading to the workshops, as well as the workshops themselves, constituted an important step forward in raising awareness and increasing knowledge about what, for many, is still a relatively new way of looking at the causes of deforestation and forest degradation. This diversity of case studies and participants facilitated a wider understanding of the problem through the exchange of different types of information and different viewpoints, all with the common aim of addressing the problem. Given the success of the approach, we feel that it could be extremely useful to continue carrying out similar processes at the national level. We hope the issues and actions identified will provide a source of inspiration for such national processes.

More generally, there is a clear need to:

- continue raising awareness of the importance of the Underlying Causes of deforestation and forest degradation;
- continue building partnerships around solution-oriented approaches to these underlying causes at global, regional, national and local levels; and
- facilitate and support the implementation of the actions recommended in the Global Workshop.

The organizers of this initiative look forward to working with existing and new partners in this joint, multi-stakeholder initiative to develop concrete actions to support these objectives.

For more information about how to join this ongoing initiative, please contact:

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For the lastest updates on the Underlying Causes Inititative, please visit the Global Secretariat Website, @ http://www.wrm.org.uy

Africa

The four-day African Regional Workshop on Addressing the Underlying Causes of Deforestation and Forest Degradation held in Accra, Ghana brought together 36 participants from 14 countries. The participants were drawn from governments, international donor agencies, international research institutes, and African and international non-governmental organizations (NGOs).

A total of ten papers were presented in the workshop – seven commissioned, three voluntary, which were complemented by two oral presentations. These papers formed the basis for all discussions in the workshop. During the workshop, participants were separated into three working groups on two separate occasions to conduct brainstorming sessions to identify the main, underlying causes of deforestation and forest degradation in the region. In all, 15 underlying causes were identified in the session and 15 practical approaches of dealing with these were concomitantly generated.

The African Regional Workshop came up with strategies that can be woven into the Inter-governmental Forum on Forest (IFF) process for sustainable management of forests. The strategies enunciated will guide IFF, governments and NGOs to facilitate the sustainable management of forest resources. It is clear that some of the actions are regional in nature and need inter-governmental collaboration. Participants were urged to make it a policy to remind their respective governments about the state of the African forest.

Participants were of the conviction that the resulting awareness created among stakeholders — governments, civil society and international institutions — will go a long way towards changing attitudes towards the sustainable management of forests.

The following are presumed to be the direct causes of deforestation in Africa:

- Natural forests converted into agricultural land and plantation concerns
- Logging and timber production
- Fuel wood consumption
- Forest fires
- Human settlement

The following charts give an overview of the factors preventing us from achieving sustainable forest management, and puts forward the practical steps needed to combat forest loss in Africa. Both charts were developed during workshop sessions.

What factors are preventing us from achieving sustainable forest management?

Inappropriate And Conflicting Policies	**Population Growth**	**Inadequate Macro- Economic Policies**	**Unsatisfactory Tree / Land Tenure**	**Unjust World Economic Order**	**Improper Valuation of Resources**
Conflicting policies Government policies Privatization of forest land Perverse incentives Inappropriate policies	Population growth Rapid population growth / Migration Urbanization Rapid rate of Urbanization	Devaluation Over-dependence of the economy on forestry Debt burden	Exclusion of women from land rights Insecurity of tenure Non-recognition of customary land rights Poorly defined property rights	Inappropriate trade and marketing policies International trade, markets	Inappropriate valuation of resources Poor valuation of forest resources

What are the underlying causes of deforestation and forest degradation?

Governance	Poverty	Inadequate Participation	Inadequate Capacity	Unsustainable Development Programs
Poor governance Bad governance Corruption and graft Civil war	Poverty Food security Lack of employment opportunities	Poor involvement of local people Exclusion of stakeholders in decision-making	Institutional weakness Ineffective monitoring and control Limited technical opportunities for women	Industrial development Road building Clearing additional lands for small projects Oil industry Development projects Commercial river transport

Low Levels of Awareness	Inappropriate Technologies	Conflicts in Religious and Cultural Practices	Negative Impacts of SAP
Awareness level/ inadequate information Attitudinal change with higher income	Inappropriate technology Inefficient conversion of wood to charcoal Unsustainable patterns of production and consumption Lack of locally adapted technology for efficient use of wood	Cultural erosion Religion	SAPs

Summaries of Case Studies and In-Depth Papers

Underlying Causes of Deforestation and Forest Degradation in Cameroon

by Wilfred J. Aung, Centre for Environmental and Rural Transformation (CERUT)

Cameroon's forest resources are estimated to be about 22 million hectares. The forest contains an estimated 1.5 billion m^3 of timber. It is estimated that about 200,000 hectares of forest is lost annually, and that due to the high rate of forest exploitation, over 40 species of wild life are threatened with extinction.

The case study centers on the area at the foot of the Mount Cameroon forest region, in the humid tropical forest of Cameroon. The rich volcanic soil and humid climate provide a habitat to a rich collection of plants and animals. The population of the area is estimated to be about 100,000 people including the Bakwerian Indigenous People. The major economic activity of the people in the region is farming. The Cameroon Development Corporation (CDC) is the major agro-industrial business in the region.

The forest in the study area is a secondary forest. Logging is not done by large companies in the area, but rather on a smaller scale by farmers who use engine saws to provide raw material for the carpentry industry.

Underlying causes of deforestation and forest degradation identified in the study are:

- Population growth which has caused the area to be increasingly cultivated for food production;

- Poverty which has exacerbated and intensified pressure on natural resources;
- Development projects such as road construction and the building of dams;
- Lack of information made available to and non-involvement of the local people in forest policy formulation; and
- Structural adjustment programs and the related reliance on non-traditional exports, e.g. timber.

The three actors identified as being linked to the above-mentioned underlying causes are rural dwellers, private loggers, and the government.

The following possible solutions were tendered in the study:

- Natural forest policy should be translated into practical reality by having clear and unambiguous objectives;
- There should be proper incentives for rural dwellers to manage forest resources in a sustainable manner; and
- Small and medium-size indigenous companies should be encouraged with tax exemptions to take part in forest management.

The study concluded that efforts to control the exploitation of forest resources should be made through community involvement with the assistance of the Mount Cameroon Project in harvesting and rejuvenating the forest with seedlings.

Cutting of a felled tree, Ivory Coast

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The Underlying Causes of Deforestation: A Case Study of the Tain Tributaries II Forest Reserve and its Surrounding Areas in the Brong Ahafo Region of Ghana by Nana Abayie Boateng and James K. Adomako, Resource and Environment Development Organization (REDO).

The case study was conducted in the Brong Ahafo region of Ghana, specifically, in the Tain Tributaries II Forest Reserve in the Berekum District. The forest is a dry, semi-deciduous fire-prone zone and has patches of Savanna-woodland. It is rich in fauna, some of which are completely under protected status under the Government of Ghana.

The Tain II Forest was last logged in 1991. The reserve consists of degraded forests with 25 to 50% being of damaged trees. The causes of deforestation and forest degradation observed in the study area were identified as being both direct and indirect.

The direct factors identified are firewood and charcoal collection (fuel wood production), timber production, agriculture and forest fires. The indirect or underlying causes observed in the study area are local, national, and international, namely:

- Population growth
- Poverty
- Distribution of royalties and other benefits
- Difficulty in obtaining permits
- Misguided policies of the government
- Structural adjustment programs and foreign aid
- International trade and global economic pressures

Actors identified as being responsible for the underlying factors are farmers, forest-edge dwellers and concession holders, traditional authorities, government agencies and the international community.

The study concluded with the identification of possible solutions to address the problems. For example, a new approach to the management of the forest reserves is urgently needed. Government policies on agriculture, mining, and energy should be reviewed to make them more sensitive to the notion of conserving the country's forest estate.

Gathering fuelwood, Ivory Coast

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Underlying Causes of Deforestation and Forest Degradation: A Case Study of the Indigenous Ogoni in Nigeria by Kananwi Wayi, Program for the Development of the Ogoni (PRODO)

This paper centers on the eastern part of Nigeria, specifically, in the Niger delta. The study area covers 404 square miles of coastal plains. This area is inhabited by Ogoni Indigenous Peoples, whose population is about 500,000. They are mainly farmers and fishermen.

The area abounds in natural resources which support the livelihoods of the people. Their religious and cultural practices help to protect the environment. Deforestation and degradation of the forest, however, have hampered the socioeconomic progress of the people. The underlying causes of deforestation and degradation identified were:

- Civil war;
- Crude oil extraction;
- Foreign religion;
- Community projects;
- Poverty;
- Land as income i.e., people selling land to foreigners in order to accumulate wealth; and
- A centralized state structure.

Solutions proposed in the paper were:

- A public information campaign to educate people on the consequences of deforestation;
- Poverty alleviation through the development of projects which reduce total dependence on the forest;
- Environmental and social impact assessments before companies undertake major projects;
- Usage of equipment which meets internationally accepted environmental standards in areas like oil exploration to minimize environmental effects;
- Introduction of alternate sources of energy to reduce dependence on fuel wood; and
- Regenerating forests in Ogoni through reforestation programs as well as remediation programs such as those cleaning oil spills.

Food Security and Sustainable Forest Management by Peter Lowe, Forest Planning Officer (FAO)

The paper addresses the linkage between food security and conservation of forest resources in Africa. Only 22% of the area is covered by natural forest.

The paper defines food security as access by all people at all times to the food needed for a healthy and active life. About 20% of the population in developing countries do not have sufficient food despite worldwide increases in food supplies. In Africa, 40% of the people do not enjoy food security. This situation is expected to worsen. The paper discusses the root causes of hunger and food security in Africa in terms of supply and demand.

In terms of supply, the following are identified:

- Continued area expansion onto less fertile, marginal lands;

- Reduced fallow cycle in traditional shifting cultivation;
- High seasonal and year-to-year variability in food supplies; and
- Reliance on rain-fed agriculture and the unreliability of rainfall and watercourses for crop and livestock production.

The demand-side factors identified are:

- High population growth in Africa;
- Poverty; and
- Lack of off-farm employment opportunities.

The role of forests in food security is highlighted in the paper. The paper opines the supportive role that forests play in attaining food security apart from the provision of land for agriculture. For example, forests offer protective functions, maintain soil fertility and structure, and also provide food sources for people or fodder for livestock. In addition, forests provide fuel wood for cooking. Commercialization of forest products can be a major source of income for many rural poor in developing countries. Forest products generate income and foreign exchange.

The FAO's response to food security and forest conservation constitutes the concluding part of the paper: The priority of the Organization is to encourage sustainable agriculture and rural development and a long-term strategy for the conservation and management of natural resources. The FAO's mission in forestry is to enhance human well-being through the sustainable management of the world's trees and forests. In this vein, the primary clients are national governments, NGOs, private companies, foundations, universities and organizations of rural peoples.

FAO thus seeks to assist these actors and others in achieving a better understanding of the world's trees and forests, thereby facilitating progress towards sustainable management of forests.

Macro-economics, Markets and the Humid Forests of Cameroon: 1967-1997 by Dr. Ousseynou Ndoye, Centre for International Forestry Research (CIFOR)

This paper examines how macro-economic changes and market fluctuations influenced changes in land use and forest product extraction in the humid forest zone of Cameroon between 1967 and 1997. It is argued in the introduction that population-based explanations of forest change have great intuitive appeal but nevertheless are not conclusive. Contrary to what was expected, the study found that higher population densities were associated with greater forest cover. This implies that population-based explanations alone cannot fully explain deforestation rates and that changes in macro-economic and sectoral policies and market trends probably also play important roles.

The paper tentatively concludes that during the first part of this period (1967–76), when food production was largely for household consumption and urban migration had just begun to be important, the level of forest clearing for food crop production probably was largely determined by rural fertility rates. Government policies limited forest clearing for cocoa and coffee production through high implicit taxation on these crops.

The situation changed during the oil boom years (1977–1985). High international coffee and cocoa prices during the first few years and lower taxation during subsequent years encouraged moderately higher levels of forest clearing for coffee and cocoa production. The government's use of oil revenues to expand parastatal palm oil and rubber plantations led to additional deforestation.

By 1990, declining real cocoa and coffee prices and reduced government services and subsidies were seriously affecting humid forest zone farmers. This eventually led many of them to cutback on planting new cocoa and coffee fields and to put more effort into food crop production. The net effect was higher total forest clearing by small farmers.

The devaluation of the CFA Franc in 1994 was expected to result in a rapid increase in cocoa and coffee exports but export growth so far has been moderate and farmers appear to continue their shift towards greater emphasis on food crops. The devaluation did, however, greatly stimulate timber production for export and may have promoted forest exploitation including certain non-timber forest products.

The paper concludes that economic policy and market fluctuation have both greatly affected the magnitude and location of forest clearing in Cameroon. In the cases of commercial timber exploitation and agro-industrial plantations, this may be almost self-evident, but it also applies to small cocoa, coffee, food crop, and fuel wood production. Migration patterns should not be considered as external determinants of deforestation without taking these conditions into account.

Underlying Causes of Deforestation in Africa: The Effects of the Timber Trade by Wale Adeleke, WWF Africa and Madagascar Forest Program

This paper focuses on the effect of trade on deforestation and forest degradation in Africa. Deforestation in Africa is reported to be at the rate of 4.1 million hectares per year — a rate at which Africa could lose all her forest cover within 50 years. Countries in the West African region, such as Benin, Cote d'Ivoire, Ghana, Nigeria and Togo were also reported as being at risk of losing all their forest cover.

The principal actors responsible for deforestation have been identified as governments, corporations, food producers, and consumers. The paper states that trade is a basic human custom and when practiced responsibly it can bring about many benefits such as employment and improvement in the social and economic well-being of individuals. However, timber trade, as it is practiced presently in Africa and the world, is destructive to the environment with attendant problems.

The paper discusses the causes of deforestation and forest degradation in terms of complex economic, social, political, and natural resource management pressures.

The underlying causes which trigger the above causes are:

- Poverty
- Inappropriate government policies
- Rapid population growth
- Destructive logging
- Practices by foreign logging companies
- Weak and inefficient forest management institutions
- Non-involvement of Indigenous Peoples in planning and management
- Conflict and contradictions on land-use rights and responsibilities
- Poor design of agricultural and forestry projects financed by international aid agencies
- Illegal trade

The solutions proposed by the paper as the way forward are:

- Internalization of environmental and social factors
- Economic and environmental regulation
- Forest certification
- Capacity building for the forest sector
- Stakeholder involvement
- Information

List of Case Studies and In-Depth Studies

Country Case Studies

- *The Underlying Causes of Deforestation: A Case Study of the Tain Tributaries II Forest Reserves and its surrounding areas in the Brong Ahafo Region of Ghana*, Dr. Nana Abayie Boateng and James K. Adomako, Resource and Environment Development Organization (REDO).
- *The Underlying Causes of Deforestation and Forest Degradation: The Case Study of Mau Forest in Kenya*, Lynette Obare and J.B. Wangwe, Forest Action Network (FAN).
- *Underlying Causes of Deforestation and Forest Degradation: A Case Study of the Indigenous Ogoni in Nigeria*, Kananwi Wayi, Program for the Development of the Ogoni (PRODO).
- *Underlying Causes of Deforestation and Forest Degradation in Cameroon*, Wilfred J. Awung, Centre for Environmental and Rural Transformation (CERUT).

Additional Presentations made

- *Underlying Causes of Deforestation and Forest Degradation in Gambia*, Jatto S. Sillah, Department of Forestry, Banjul, Gambia.
- *Causes of Deforestation and Forest Degradation in Togoland: A Case on Firewood Consumption in Tsevie and Sokode in Togo*, El Hadj Ouro-Djeri, Forestry Department, Lome-Togo.

In-Depth Studies

- *Food Security and Sustainable Forest Management*, Peter Lowe, FAO.
- *World Bank's Forestry Program in Africa*, Odin Knudsen, World Bank Headquarters, Washington DC.
- *Macro-Economics, Markets and the Humid Forests of Cameroon, 1967 – 1997*, Dr. Ousseynou Ndoye, Centre for International Forestry Research (CIFOR).
- *Underlying Causes of Deforestation in Africa: The effects of the Timber Trade*, Wale Adeleke, WWF Africa and Madagascar Forest Program.

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Asia

The Asia Regional Workshop on Addressing Underlying Causes of Deforestation and Forest Degradation took place in Anyer, West Java, Indonesia on December 4-6, 1998. The workshop was organized by Bioforum, a coalition of 65 Indonesian NGOs, and funded by the Global Secretariat of the Underlying Causes Initiative, the Embassy of Finland, the Indonesian Tropical Institute (LATIN), and the Indonesian Consortium for Community-Based Forest Management (KPSHK), with additional support from several local NGOs. The local political situation in Indonesia created significant hurdles for the task of the organizers as demonstrations and road blockades were expected at any moment, prior to, and during the event.

The workshop was attended by 32 participants representing governments, the World Bank and NGOs of seven countries in South Asia, East Asia, Southeast Asia, and Australia. Regretfully, some invited participants from governments of several other countries cancelled their participation due to official travel bans in response to the political situation in Indonesia during that time. The workshop faced a lack of participation from other sub-regions such as West Asia, Central Asia, and the Middle East due to funding limitations.

At the workshop, substantive dialogue was launched in the plenary discussion on definitional issues. Afterwards, participants separated into working groups to focus discussion on the following topics:

Tuva old growth forest, Northern to Mongolia. SE Russia.

Cause and Effect Mapping

This exercise was carried out by all working groups. Its purpose was to identify causes and their effects on forests and to inscribe them into a categorized and prioritized double-entry matrix. The results of the working groups were synthesized by a synthesis group composed of one representative of each group and were presented for scrutiny at the plenary session. Through this process, a clear and well-defined set of underlying causes and their most critical effects were identified and prioritized.

Objectives Setting

This exercise was also carried out in all working groups. It was rather confusing because the elements identified in the previous-mentioned exercise had not been prioritized. However, the discussion at the plenary yielded a clear set of objective-setting elements.

Seeking Solutions, Setting Time Frames and Defining Responsibilities

The working groups elaborated sets of solutions they believed to be practicable at the regional level. These sets of solutions were then elaborated to include timing and responsibilities.

To encourage substantive discussions, the workshop also had roundtable discussions where two resource experts presented their views on major underlying causes of deforestation and forest degradation.

Forests in the Asia Region

The regions in Asia are large and diverse and include one-fourth of the world's tropical forests and approximately half of its biological species. The forests of this region range from the temperate forests of East Asia to tropical forests of various types in South and Southeast Asia. Asia also has a wide diversity of languages, religions, and cultures, as well as political systems, which renders forest issues in Asia very complex. In addition, every country in the region has a different historical background of deforestation. China and India are those that have long histories of deforestation, dating back to the period of the dynasties

and kingdoms, while tropical Asia has a more recent experience with deforestation. Japan falls somewhere in the middle.

The forests of the region have developed over millennia and existing forests may include trees which are several hundred years old. In this balanced ecosystem, all the ecological niches have been filled by species through a long process of competition and adjustment. Fertility is primarily held within the mantle of the forests rather than in the soil on which they grow, particularly in hilly areas. It is not, therefore, expected that forests, managed on a felling cycle of 35 years or so, will yield a harvest in each cycle as large as that produced by the initial felling of pristine forests.

During the past century, the pressures on tropical forests have intensified massively. The slow, progressive expansion of sedentary farming has been overtaken by intense pressure on rainforests due to accelerated industrialization, rapid population growth, expansion of mass communications and transport, and the increasing interdependency between the region and world markets. Logging, mining, plantations, agribusiness and colonization schemes have brought the forest people into conflict with the outside world on an unprecedented scale.

Despite the fact that most of the Asian elite protested colonialism, they and their successors preserved most of the legal inequalities and inertia of the colonial system after independence because of the benefits that they had become accustomed to. In keeping with their colonial legacies, South and Southeast Asian nations continue to adhere to Western legal doctrines and to principles that do not value — let alone recognize — community-based property rights and management systems.

The tropical rainforests of Asia are home to millions of tribal peoples, for whom the destruction or degradation of the forest means not only economic impoverishment, but the end of their distinctive ways of life. Only a small proportion of these peoples, most notably the Penan of Kalimantan and Sarawak, do not practice agriculture and rely entirely on hunted and gathered food for their subsistence. However, it is not only food that these people derive from their forests. Building materials, rattan for basketry, leaf wrappers, gums, resins, latex, drugs, poisons, medicines, perfumes, birds' nests, bone, horn, and ivory have all become integral to their economies and have linked them over millennia to an extensive trade network that has encompassed the whole region and beyond.

The exact number of forest-dependent people in South and Southeast Asia has not yet been determined. Whatever their numbers, most of their governments consider them to be squatters, illegally using state-owned resources, no matter how long they have occupied the forest. As such, they can be arbitrarily displaced, often with the sanction of the state. This transgression ripens into eviction when government officials grant outsiders commercial concessions to extract or control natural resources in areas forest dwellers already occupy and use.

Since the early 1970s, the Southeast Asia-Pacific region has been the main source for the tropical timber trade — taking over the position from Africa, which supplied considerable quantities of logs to Western Europe during the 1950s and early 1960s.

In some countries of Southeast Asia, such as Indonesia, Malaysia and Vietnam, there has been a large movement of people who have been sponsored, or at least encouraged by their national governments, to form new agricultural settlements away from their native areas. The areas chosen and prepared by governments for new settlement programs are always close or immediately adjacent to forests and throughout these regions the loss of forests is one of the major direct and indirect environmental impacts. Transmigration or resettlement programs also occur in the Philippines and Japan (Hokkaido).

Official reluctance to acknowledge the causes and magnitude of deforestation remains, but grave threats to forest resources and their local users is beginning to prompt change. Forest fires, floods, landslides, and other, well-publicized natural disasters have heightened both international and domestic awareness of deforestation's toll. Floods, brought on partly by deforestation, have killed thousands of rural Asians in recent years. Restrictions and bans on commercial logging have, thus, ensued. In other cases, the reality of decreasing productivity and the loss of environmental services has prompted the development of alternative forest management practices.

Deforestation contributes to an array of environmental damage besides the loss of biodiversity. As suggested above, these include soil erosion, silting of riverine and coastal water systems, flooding, drought, harm to infrastructure, destruction of mangroves and both freshwater and saline fishing areas, and declines in agricultural productivity.

Case Studies

The case studies presented in the Asia Regional Workshop came from three different sub-regions.

- East Asia: Case study from Japan.
- South Asia: Case studies from Nepal and India
- Southeast Asia: Case studies from Thailand and Indonesia.

Definitional Issues

One significant issue raised in the workshop was the definition of **forests**. Almost all participants felt that the FAO definition of forests is insufficient. It should be linked to the definition of deforestation and forest degradation.

It was agreed by the participants at the workshop that **forest ecosystems** are defined by their biodiversity functions, be they water production, soil development or other ecosystem functions.

A forest must be looked at as a whole — that is, as an ecosystem, as a dynamic ecosystem in equilibrium, and as an ecosystem whose signature can be seen in terms of biodiversity. Natural landscapes are **natural forests**, managed without exotics, ensuring that the original ecosystem pattern exists.

Plantations, conversely, are part of agriculture. There was no consensus on the plantation issue. For participants from developed countries, a "plantation forest" in their countries was considered a forest as there are not many other types of forest, while to participants from developing countries, a plantation was not a forest. Participants noted that these definitional issues should be discussed further at the Global Workshop in Costa Rica.

Identification of the Major Underlying Causes

The plenary session of the workshop agreed to the following as major underlying causes of deforestation and forest degradation:

- There is a critical lack of recognition of real value and the integral role of forests in maintaining life support systems. The value of forests, including socio-cultural and ecosystem services, are not fully reflected at present because criteria for valuation are not rooted in ecosystem sustainability. In addition, there is a lack of a clear definition and understanding of forests. This leads to deforestation due to the unrealized opportunity cost of maintaining/losing forest resources. As there is insufficient economic promotion of forest goods and services, there is insufficient will to practice sustainable forest management;
- The current development paradigm, which is based exclusively on consumerism and growth, leads to a high demand for natural resources, including timber. It depreciates indigenous and traditional knowledge and usurps communities' rights to manage their own resources. Globalization of this paradigm has lead to massive deforestation and forest degradation and undermines the will for sustainable development;
- Governmental policies have created subsidies and other perverse incentives that lead to deforestation and forest degradation. With the lack of proper forest and land-use policies and control measures, mining, agriculture, transportation, dams, etc. supersede the intrinsic values of forests. This is exacerbated by the lack of commitment from politicians, bureaucrats and law enforcement agencies with regards to conservation. Private enterprises seeking financial profit at any cost take advantage of this and help maintain weak institutions and corruption to achieve their goals. Repressive governance facilitates these conditions;
- Corrupt political and government systems lead to arbitrary decisions on natural resources management, over-riding established laws, norms and traditional practices and values. Oftentimes, these corrupt regimes foster militarism that further contributes to deforestation, forest degradation and violation of human rights. Other contributing factors are the lack of decentralization, participation and transparency in government decision-making;
- Current land and resource allocation systems lead to the concentration of land and resources under the domain of a few and block the necessary access of Indigenous and local peoples to their territories and their resources. This is exemplified by cases in which the state takes over communal lands including forests. This situation prevents the participation of Indigenous and local communities in the sustainable management and benefits arising from the use of their forests;

- Population growth, migration and the poverty created by a deficient land and resource allocation system, coupled with a lack of alternative livelihoods, forces rural communities to clear the forest and practice unsustainable agriculture for subsistence and for income-generating activities;
- These problems are exacerbated by the lack of appropriate knowledge of forest biodiversity and ecosystem management as well as an inadequate understanding of Indigenous knowledge among forestry professionals, politicians, academicians, bureaucrats and other natural resource managers who implement forest policies; and
- Through their role in structural adjustment programs, international financial and aid institutions, as well as private capital investors — all of which are linked to international market forces — make a critical contribution to policies that lead to deforestation and forest degradation. In this context, debt servicing may lead to massive changes in land-use which negatively affects forests.

Suggested Solutions and Actions

The participants proposed several solutions to the address the underlying causes identified above:

Market Forces

- Consumer awareness education
- Promote the practice of recycling, reducing consumption and reuse
- Support adding value (to control log exports)
- Sustainable agriculture
- Rationalization of industrial practices
- Sustainable forest management

Economic Policies

- Eliminate inappropriate subsidies
- Fully assess international loans
- Assess export credits
- Eliminate monopolies
- Support community-based economies

Legal Measures

- Pass laws which recognize the right of involvement and the knowledge of local communities in forest management
- Effective enforcement of legal measures to prevent corruption
- Institute laws to prevent cross-boundary damage

Institutional

- Participation and transparency in forest land use, management and decision-making
- Institutional strengthening
- Training
- Decentralize forest governance
- Elimination of the military in economic and social policymaking and from governance
- Effective enforcement of legal measures to avoid corruption

Policy

- Eliminate contradictory policies
- National forest policy should define forest estates and land-use
- Effectively implement national forest policies
- Recognize Indigenous and local community rights, knowledge, and involvement in forest management
- Participation and transparency in forest policy decision-making

Social

- Land reform
- Building environmental (biodiversity) awareness for all groups
- Building awareness of forest functions (social, economic and environmental; as well as cultural values of forests)
- Provide technical and financial support to local communities for forest management
- Strengthen community networks for the management of resources

Immediate action to bring about the above solutions was the clearest call from the workshop. However, it was acknowledged that a series of actions can only be accomplished in the medium and long-term. The strategic plan identifies the third session of the IFF as the key moment for instigating action in the policy field. As to responsible institutions or individuals, there was a clear concern about the role of governments vis-à-vis market forces. There was also a great deal of preoccupation with the situation of Indigenous Peoples and local communities, particularly in reference to respecting their human rights. The participation of these communities in any attempts to achieve the conservation and sustainable use of the remaining world's forests is critical.

Summaries of Case Studies

Deforestation and Participatory Forest Management Policy in Nepal by Amrit L. Joshi, Kumud Shrestha, Harihar Sigdel

The case study provides a country profile and information on the country's forest types, biodiversity and data on the change in area of natural forests and crown cover. The environmental functions of the forests are also discussed, such as the role they play in retarding natural erosion and in supporting biodiversity, as well as the people who are partially or totally dependent on them.

Deforestation (changing forests into other land uses) and forest degradation (the deterioration of forest quality), together make up one of the biggest socio-economic and environmental problems in Nepal. Various reports suggest that deforestation and forest degradation, which have occurred in the middle hills, was common for the last hundreds of years and that the rate of deforestation is neither rapid nor of recent origin. However, forest degradation is continuing in the hills. In the Terai and Siwalik regions, deforestation is wide-spread due to government resettlement programs and illegal clearing of forests for agriculture.

Deforestation has socio-economic impacts, namely, an increase in natural disasters, decreases in agriculture production, biodiversity, and wood production, and damage to cultural heritage of Indigenous People.

In general, main causes of deforestation are agricultural production, need of firewood and forage for livestock, local unemployment and lack of government management. There are additional reasons including political instability, attitudes of politicians, fire, shifting cultivation, natural processes, forest concessions, individual attitudes, roles of donors, and government policy.

A Master Plan for the Forestry Sector and the Ninth Five-Year plan have put forward many strategies to cope with deforestation and forest degradation. Out of these programs, the community forestry program is quite successful. As of mid-1998, 6,658 Forest User Groups were managing about 0.45 million hectares of forest involving more than 733,000 households. A World Bank study indicated that communities receive an additional 660 rupees per hectare per year because of the community forestry program. Although the program is progressing quickly, especially in the hills, progress is slow in the Terai region due in part to government policy.

In addition, a Forestry Sector Coordination Committee, established at the government level and a federation of community forest-user groups are playing a vital role by supporting the implementation of community forestry policy and establishing a good working relationship between government officials and the communities and field staff. Although decisions are still highly influenced by political and non-forestry bureaucratic pressure, negative impacts are minimized because the resources are ultimately managed by the users and the system is fully protected by community-oriented forest legislation and guidelines. The communities get all the benefits and the funds are earmarked for forest development programs.

A "Federation of Community Forest Users of Nepal" (FECOFUN) exists to guide the government in policy - making, implement government programs and work as a pressure group when needed. Presently, this organization has built a nation-wide network in almost all 75 districts.

The authors annex a case study of Patle Ban, a community forest in the Lalitpur District with an area of 400 hectares, used and managed by 152 households. Before becoming a community forest, this forest was protected by the government and was harvested only once immediately after the earthquake of 1934. Occasionally, the Department of Forests has sold dried firewood from the area as Chatta. In addition, planting was done in small patches around the villages in the 1980s. There was a high demand by the local communities for the forest products, however, and it was gradually misused, ultimately being converted into barren hill slopes.

Deforestation occurred mainly for subsistence reasons and commercial needs of the local market, such as fuel wood, charcoal and small timber. Once deforestation took place, other problems occurred, such as land slides, floods, forest fires and shortages of firewood, timber, fodder, grass, livestock bedding and compost for farming in the locality. Finally, after many tensions and meetings between the District Forest Office and the local people, it was agreed to accept the area as community forest in late 1990. 1,050 hectares of forest, the largest area of forest designated to a community at that time, was handed over to a user group.

The ensuing Forest User Group was then split into three groups. One of the groups was awarded 400 hectares of forests and is governed by a constitution prepared and endorsed by the District Forest Office. This Forest User Group is managing the forest quite well — natural trees are growing and soil and lands are protected. Thus, the main objective of Patle Ban community forests is to make forest products available to all users by protecting forests, using silviculture, establishing a forest committee, conserving soil and managing the watershed. This case study demonstrates that real solutions to the underlying causes of deforestation and forest degradation are feasible and that participation of communities in the process is crucial.

Politics of Dynamic Deforestation in Thailand by Thai NGOs Working Group

The case study begins with a profile of geo-ecological cultures in Thailand. The case study then turns to three communities in Thailand and their respective forestry problems. The three case studies demonstrate that the political dynamics of deforestation stem from various elements, from the policy-making level to the local, with economic and political factors unique to Thailand also contributing.

The Ban Klang Forest Initiative

Ban Klang village is located in a fertile forest area with several creek sources where in the past was dense with teaks. The Ban Klang forests can be divided into three types: evergreen forests, sundry forests, and deciduous forests.

Ban Klang community has lost its forest cover through legal and illegal forestry concessions granted to businessmen and the mafia. These concessions have resulted in several "natural" crises in Ban Klang. Creeks have been short of water, rice cultivation has been unsuccessful due to drought, and creeks and streams have become filled by landslides from the degraded forests.

The state of the forests by the river sources continues to worsen and is consequently threatening the existence of living things and the richness of the watersheds. These trends have prompted villagers to assess the causes and attempt to rehabilitate, maintain and protect the threatened forests by the water sources. They have joined together to establish "Ban Klang Community Forest Committee", with the objective of fostering cooperation between communities and government, to promote the knowledge and understanding of forestry preservation, and to find methods for rehabilitation of the invaded and declining forests located around the Maemai and the Maetum creeks. This area is a source of life and is an essential resource for its inhabitants.

The initiative and resulting activities of the community aimed at protecting the forests have resulted in increased fertility in the forests around the village. The villagers have realized that community survival is based on sharing common elements from the forests and that their way of life depends highly on nature.

The authors of the case study explain, however, that although the villagers have a new forest management system and can implement it efficiently, the government does not accept and recognize the community's organization. As a result the villagers' regulations can be imposed only on community members but not on outsiders that violate them.

The Nong Yo Community Forest

The Nong Yo community forest consists of an area 249 hectares. The forest is a mixture between hardwood and evergreen forests. The Nong Yo forest is surrounded by eight communities made up of both Indigenous People and new settlers. The communities' main sources of income are agriculture and providing manpower in Bangkok and other big cities.

In the late 1960s, the Tammai Company in the Surin province was granted forestry concessions to produce sleepers and firewood. The forest was thinned allowing people to expand their areas of cultivation. In 1979, the Forest Industry Organization (FIO), which was hired by the Tammai Company, began to restore and rehabilitate the forest and its area by planting wattle, eucalyptus and Melia azedlarach.

The authors mention that the "Eucalyptus garden-like reforestation project", which coincides with the communities' cultivation area, has caused several economic and social problems: communities have lost a vast cultivation area, the level of underground water is decreasing, the forest area has become arid, the soil is no longer fertile, endemic trees have been cut for use

and various species have become extinct. Because of the impacts on the eight villages, the communities protested to the organizations involved to cancel the garden-like forest project. The Nong Yo Forest Rehabilitation Plan, which would be run by the communities themselves, was offered as an alternative.

Satoon's Loss of Forests

Satoon is a province located on the Andaman seaside. It is in southern Thailand and has mountainous areas covered with forests and a shore area. Most forest areas in Satoon are in the north of the province. There are 18 preserved forests in Satoon which cover 729,981 rai — about 47.12% of the province.

The authors point out that Satoon lost a forest area of 27,300 hectares within five years or, on average, 5,460 hectares per year. The causes of this loss are: illegal forestry concessions for trade; community expansion to ensure livelihood; and expansion of territories for rubber tree plantations. The case study served to highlight different community reactions to the problems of deforestation: some communities are proactive and fight for the rights to preserve their resources while others are driven to utilize the resources unsustainably.

Underlying Causes and Possible Solutions

In the presentation of the case study, the authors noted that the causes of deforestation in Thailand are forestry concessions, expansion of cash crops, failure of problem-solving in regards to land possession and licensing, illegal logging, reforestation by private business, development of infrastructure, the purchase of land for profit making, and the loss of power and rights of the people to control their own resources and knowledge. The authors also singled out underlying causes of deforestation in Thailand as liberal capitalism, current economic growth policies, state-centralized natural resource management, the weakening of civil society and conflicting worldviews in different sectors.

A number of solutions were proposed to counter deforestation, including alternative agriculture, effective watershed management, effective management of forests by preventing people from being driven out of their forests, supporting community forest programs, and allowing the local community and civil society to participate in natural resource management at all levels.

Causes of Deforestation Underlying and Forest Degradation: Case studies of Andaman Island, Uttara Kannada and Gadchiroli – Chandrapur, India coordinated by Pankaj Sekhsaria, Kalpavriksh, India

Introduction

A large part of India, as most other parts of South Asia and the rest of the world, was, until recently, covered with thick forests. This region is probably best known for the civilizations that flourished in the valleys of its great rivers, but what is much less known is that there are innumerable, small, vibrant, diverse and extremely sustainable forest cultures that survive and flourish even today in the areas where the forests still exist. Across India one has also seen many people's movements where communities have voluntarily come together for the purpose of conservation or in response to environmental and ecological crises.

This summary covers three case studies, prepared in conjunction with the Asia workshop on underlying causes, on various areas of India which represent different ecological, geographical and social situations. What is of significance in all these cases is the successful initiative taken by the local communities for the protection and regeneration of degraded and denuded forests.

The Andaman Islands by Pankaj Sekhsaria, Kalpavriksh, Environment Action Group

The Andaman and Nicobar Islands are clothed in thick, evergreen forests and have some of the finest mangroves and coral reefs of the world which all host a large amount of biodiversity. They are also home to six Indigenous tribal communities: the Shompen, Nicobari, Great Andamanese, Onge, Jarawa, and Sentinelese. These tribes are hunter, gatherer communities and have successfully survived in these islands for centuries. Their knowledge and understanding of the forests is extensive and they share a close relationship with it.

The main timber operations in these islands are limited to the Andaman islands only although there has been deforestation in the Nicobars for the establishment of settlements.

Similar to the rest of India, the prime responsibility for starting forestry operations in these islands rests with the British. Upon gaining independence, India launched a colonization scheme which brought thousands of settlers to the islands. The case study provides data of population figures and annual extraction of timber in the Andaman and Nicobar islands to prove that the growth in the timber extraction operations corresponds directly to the growth in the population of the islands as there was a need for a source of employment for the new settlers. This destruction of the forests for the extraction of timber was in addition to clearing that was done for the settlements.

Today, the timber based industry in the Andamans comprises of two government saw mills, some small private saw mills and furniture makers and three private plywood units. It is these private plywood mills that are today the largest consumers of timber in the islands.

The profits made and the incentives offered by the administration encouraged the plywood mills to substantially augment their production capacities. Today, however, with growing awareness, intervention by the courts, and a change in policies, logging in the islands appears to be declining.

The people who have suffered the most in these islands are the Indigenous communities by the combined impacts of forest destruction and the imposition of an alien and insensitive culture which brought along various diseases and vices such as alcohol and tobacco. The two negrito communities, the Jarawa and the Sentinelese have scrupulously avoided contact with the outside world and even used violent means to do so. This, however, appears to be changing in the case of the Jarawa. The Great Andamanese have declined because of various epidemics and the Onge are likewise suffering from the impacts of settlement.

Little Andaman Island remained completely untouched until very recently when it was targeted for a rehabilitation and resettlement program because of its few inhabitants (the Onge) and the presence of rich timber resources. Over the last 35 years roughly 30% of the island has been taken over by outsiders for settlements, agriculture, timber extraction operations and plantations and about 20,000 hectares of the island have been logged. The Onge have been driven away from what was their prime and preferred habitat and have been forced to move deeper into the forest. With excessive poaching of their food sources like the wild pig, survival is becoming excessively difficult. Infrastructure created for logging operations has given settlers greater and easier access to areas that were otherwise inaccessible. The Onge have also had to face the onslaught of an alien, modern culture that is highly insensitive and unable to appreciate, let alone acknowledge their traditional way of life.

Evident causes of deforestation for the whole of the Andaman Islands are: clearing forests for settlements, agriculture, and logging to supply the timber-based industries. The underlying causes of deforestation identified in the study are:

- A colonial mentality that seeks to expand its own culture and power resulting in the large scale migration of people from mainland India to the islands;
- Strategic location of the islands. The island chain is located close to countries in South East Asia and just north of an important commercial shipping lane. To maintain a commercial advantage and strengthen claim over the islands the Indian government has encouraged mainlanders to settle in the islands;
- Governance by outsiders who do not belong to the islands results in policies that are ill-conceived and insensitive;
- A lack of respect, understanding or even acknowledgement of the life, society and culture of the original inhabitants — the true owners of the islands;
- An attitude that does not value the forest except for its timber;
- Perverse economic policies, e.g.: subsidies offered to the timber-based industry; and
- Industrial and consumer demand, e.g.: the ever-increasing demand for plywood from the markets of mainland India.

The following solutions are proposed:

- Government measures to discourage the migration of people into the islands from mainland India;
- Removal of subsidies that make the plywood industry a viable and profitable venture and, simultaneously, creation of alternate sources of wealth and employment. This can include Non Timber Forest Produce (NTFP), fisheries and redeployment of people inside the forest department for conservation and wildlife protection activities;

- Education and awareness programs in the islands on the fragility, beauty, and importance of the islands, on the real cost of the destruction of the forests, and on the rights of the Indigenous People and the knowledge they bring in regards to sustainable lifestyles and ethno-botanics. This is particularly important because Indigenous groups are small compared to the dominant population in the islands. There is need to educate the settlers and provide positive incentives to encourage conservation;
- Legal provisions for safeguarding forests and the rights of the Indigenous communities with strict enforcement; and accessible legal redress in the case of violations, for instance, a provision could be made for court hearings in Port Blair, the administrative capital of the islands.

Uttara Kannada by Pandurang Hegde, Parisar Samrakshan Kendra, Hulemalgi Brothers, Chowkimath

The Uttara Kannada district of western India is known as the "Forest District" because 80% of the total geographical area are forests, compated to all of India where forest cover is barely 18% of the total area. The forests of Uttara Kannada are a major source of tropical timber and the teak from the deciduous forest regions of Dandeli is famous for its excellent quality timber.

The tropical forest region of the Western Ghats has been identified as one of the 18 biodiversity "hot spots" of the world. The Uttara Kannada region originally exported spice to the Roman Empire and the transactions were so frequent it became known as the "Pepper Queen." In the 18th century, the forests were brought under the control of the government to meet the ever-increasing demand of the British Empire. Previously community-owned, forests were appropriated by the British and became state property. Commercial forestry was introduced and the process of converting natural forests into commercial teak plantations began. The introduction of commercial forestry resulted in a conflict over natural resources and the "right" of the people to use the resources became a "privilege."

Profits and the incentives inherent in timber harvesting, mining and power projects are the underlying causal factors of deforestation. Uttara Kannada was considered a backward district and so a development plan was launched by the state. The plan's main components were known as the four "P's":

- Paper and pulp based industries
- Plywood Industries
- Power projects
- Planned development in Forestry (plantations), mining etc.

The Western Ghats Forestry Projects (WGPF) funded by the Department for International Development (DFID) U.K. made an attempt to involve all the stakeholders in the region to implement the project. This was to be achieved through the establishment of village forest committees (VFCs) and to evolve Joint Forest Planning Management (JFPM). Participation was the basis for the reforestation project. Unfortunately, however, the project was more rhetoric than anything else — it was unsuccessful in achieving participation.

In conclusion, the author states that people have to be included at all levels of planning, decision-making and implementation to make any program successful and that reforestation cannot be looked as the responsibility of the forestry sector. It is instead a process of social engineering that should involve all the stakeholders. Any reforestation project will make a mark only when the underlying causes for deforestation are adequately addressed. Without paying attention to the causes of deforestation, reforestation projects cannot succeed.

Gadchiroli – Chandrapur by Mohan Hirabhai Hiralal, Vrikshamitra, Tandon Wada, Gandhi Chowk

The Gadchiroli – Chandrapur district is located in the central part of India. This region has a large population of tribal communities, in particular the Gonds, who have a prestigious history of strong kingdoms. Many other non-tribal communities, largely traders from various parts of India, have also moved into the region.

Traditionally, the people of the area had rights to procure commodities necessary for living from the surrounding area and forests. These rights were known as nistar rights. These were an important arrangement devised to meet the survival needs of the people and to ensure, in return, that the communities conserved the forests.

The take over of the forests by the British changed this in most parts of the country with the complete abolishment of nistar rights in the early part of the 19th century. In this region, however, the rights were continued, mainly due to the pressure exerted by the powerful landlords who were tribesmen themselves. The rights continued undisturbed until 1950. In recent

times, however, this has been changing, producing a certain confusion and lack of clarity regarding the rights.

The residents of the area depend substantially on the forests as a source of food and livelihood, particularly through the collection of Non Timber Forest Products (NTFP), including honey, roots, fruits, mushrooms, bamboo shoots, fresh leaves, and different types of fruits. People are also extremely fond of hunting, though it is not a very common activity. Major NTFPs collected from the forest includes the flowers and fruits of mahua (*Madhuca indica*), leaves of tendu (*Diospyros malyxylon*) and fruits like amla (*Emblical officinalis*).

Over the last few decades, the direct causes of deforestation in the region are partly due to clearing for agricultural activities and grazing of cattle in the forest which prevents regeneration of new herbage. Natural forest fires are common annual occurrences in the dry seasons and sometimes the Forest Department also uses fire to manage the area. The main benefactors are the contractors responsible for tendu leaf collection as fire helps promote fresh sprouting of this economically important leaf. There have been a number of commercial threats to the forests as well. These include the conversion of forests into teak plantations and the operations of charcoal contractors, who in the past had leased parts of the forest. In recent years, the state government has been granting long-term leases to industries and monopoly rights to exploit products like timber, bamboo, and coal. Big industrial houses have also been trying hard to grab fertile and good forest land under the guise of degraded and denuded forest land. Not only has all this resulted in the direct destruction of the forests, but government policies have also alienated the local people who no longer associate with the forests as they did in the past.

As underlying causes of deforestation, the author points out the acquirement of forests by the state, the absence of people's participation in forest management, the attitude of the local people, and the new social order. After attaining independence in 1947 from the British, the common people presumed that the government would do everything to correct injustices. Rather than shoulder the responsibility and collectively fight for safeguarding the traditional nistar rights, people were engrossed in securing personal monetary gains. The people remain silent and inactive while the forest, which is their main livelihood, is being cut or burnt. They wrongly feel that the forest belongs to the government, an alien element. The new social order the author mentions is the impact of an individualist and consumerist culture. The case study also provides a list of ten consequences of deforestation to the region.

Forced by a deteriorating situation, people in the area began a self-driven initiative for the conservation of their forest and resources. In the village Saigata the lead was taken by an enterprising local resident, Shri Sarvabhan Khobragade. Today the regenerated forest area of 250 hectares in the vicinity of the village is exuberant with herbage though it is not safeguarded by any boundary wall or fencing. Wildlife in the area too has shown a comeback. Many species of birds and animals including leopards are now reported here. The village has now decided to become a part of the official Joint Forestry Management Scheme (JFM) of the government initiated here in 1993.

In the village of Mendha (Lekha), the people also started their own initiative. The main strength of the village lay in awareness-building and in village institutions created to deal with various situations. What has played the key role in the change in the village are the strong community organizations and institutions like the Van Suraksha Samiti (Forest Protection Committee) which were created and have worked well. The village has also brought its forests under the official JFM scheme. This has not only formalized their position as the custodians of the forests but has also opened up the possibilities for negotiating benefits from official forest-related activities. The forest land within the boundary of the village exceeds 1,600 hectares and the health of the forest is an indication of successful community efforts.

In conclusion, the author mentions the lessons that can be taken from the Gadchiroli – Chandrapur experience as follows:

- All people or village communities, irrespective of their religion, race, community, sect, language, sex, class, province, country, whether tribal or non-tribal, rural or urban, rich or poor, educated or uneducated, cannot be similar; therefore the structure and methodology of action must be devised keeping this fact in mind;
- The most striking feature of the successes of the above-mentioned villages has been the initiative of the local people, i.e. action initiated from the inside;
- The campaign to safeguard forests cannot be seen in isolation from other processes in the village. It has to be accompanied with social, economic and political reform;

- The decision-making process itself should be based on consensus, as the decision- making process by majority inevitably leads to the division of a society into factions;
- In the representative power structure, the village community is the base of the pyramid while the conceptual world is at the apex;
- Even though the forest surrounding the village may legally be the collective property of the village, the villagers will not come forward to protect it unless they are fully assured that the forest belongs to them in actual practice and serves their best purpose;
- From the point of view of the propriety of people's participation, JFM is progressive step in the right direction, but is not an adequate measure;
- Nistar rights are an instrument for joining the people psychologically with the forest; and
- Knowledge is power, but a vast majority of people are unable to acquire it. A small section of people dominate it. Accurate knowledge and information are needed for making correct decisions.

List of Case Studies

- *Development and Resource Politics Between Japan and Indonesia in the Post-War Period* by Yoichi Kuroda, IGES/JATAN;
- *Causes of Deforestation Underlying and Forest Degradation: Case studies of Andaman Island, Uttara Kannada and Gadchiroli – Chandrapur, India* coordinated by Pankaj Sekhsaria, Kalpavriksh, India
- *Development and Resource Politics Between Japan and Indonesia in the Post-War Period* by Yoichi Kuroda, IGES/JATAN;
- *Causes of Deforestation Underlying and Forest Degradation: Case studies of Andaman Island, Uttara Kannada and Gadchiroli - Chandrapur, India* coordinated by Pankaj Sekhsaria, Kalpavriksh, India
- *Deforestation and Participatory Forest Management Policy in Nepal* by Amrit L. Joshi, Kumud Shrestha, Harihar Sigdel.
- *Politics of Dynamic Deforestation in Thailand* by the Thai Working Group on Underlying Causes of Deforestation and Forest Degradation.
- *Deforestation and Forest Degradation in Indonesian* by the Indonesian Working Group on Underlying Causes of Deforestation and Forest Degradation.

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CIS
(Commonwealth of Independent States)

Causes of forest degradation in the CIS can be traced back to changing values and aspirations, combined with a political transition that has given rise to social and regulatory confusion. There is a growing tendency for CIS populations to see economic success as the highest priority value. At the same time, the most developed countries, are increasingly using other, less developed, countries as ecological colonies. The combination of these two trends can only result in wide scale environmental degradation.

Gradually, people throughout the world are arriving at the understanding that it is impossible for everyone to reach the "American ideal" in terms of living standards. The organizers of the CIS workshop hope that, on the contrary, those in developed countries will become aware of the necessity to subscribe to the principle of "reasonable sufficiency."

The case studies undertaken by the CIS workshop have looked closely at those initiatives which will make it possible to preserve resources until a more favorable time when people have reassessed the prioritization of values. The more resources that can be conserved until that time, with the fewest possible losses, the more likely it is that people will shift to a more conservationist state of mind. It must be cautioned, however, that there are no guarantees that such a favorable transition will eventually occur.

The studies undertaken by the CIS group demonstrate that ecological problems do not have a beginning and an end. Rather, they touch upon all aspects of life. It is therefore not possible to consider every element affecting the environment. At the same time, one cannot confine oneself to a one-step analysis. It is necessary to track the whole causation chain, in order to find the problems in the chain which can be solved immediately, without losing sight of the wider context in which these particular problems occur.

The original cause of deforestation in Russia was the need for more agricultural areas to provide the growing population with food. Population growth, industrial development, construction of roads, water reservoirs, etc. required areas to be freed from tree vegetation for management purposes. This resulted in a concentration of deforestation in the densely populated region of central Europe.

As civilization developed, logging for timber began to play a greater role among the causes of deforestation. In Russia, deforestation is characteristic mainly of the southern boundary of forested areas. However, deforestation also occurs in the pre-tundra forests at the hands of reindeer-breeders, through mineral extraction, etc.

In the past, timber was mainly used to produce heat and the resulting deforested areas were used for the production of crops. These were essential activities. Because requirements for food and heat have a natural limit, it was senseless to produce food and heat in excess. Deforestation was, therefore, limited naturally.

Russian society today is unlikely to recognize ecological limitations to forest-use for the sake of humanity as a whole and for future generations if these limitations stand in the way of personal well-being. The current most important element in modern forest-use patterns in Russia is poverty, that is, insufficient consumption leading to disease and a decreased life expectancy. "Relative poverty", is a kind of povery different from near starvation, that stems from envy caused by observing the lives of wealthier people. The avarice of Russians who aim eagerly at power and wealth can be considered to be one of the most important underlying causes of deforestation in Russia.

There are also ecological and socioeconomic causes of forest loss. These are determined by the two groups of factors. The first group is specific forest vegetation conditions. The second is the economic situation of forest users (populations) in a specific region such as in an individual village.

Forest protection in Russia is complicated by the shift of the entire society to "short-term leadership". High ranking officials can easily be fired following elections. As a result, leaders are oriented towards achieving quick results, something especially hard to do in the field of forest management. Under conditions of economic and political instability, long-term forest-use strategies will constantly be sacrificed for the sake of current political

interests. The situation is made worse by the inefficient and/or corrupt use of funds intended for the regeneration of forests.

Given the political and economic situation in Russia, education and an increase in political, ecological and economic literacy among the population as a whole have a particularly important role to play in addressing forest loss.

Logging, Karelia Forest, Russia

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Summaries of Case Studies

Deforestation and Forest Degradation in the Sikhote-Alin Region, District of Krasnoarmeiskii, Primorskii Territory by Ivan Kyalunziga and Anatoly Lebedev, Bureau of Regional Public Campaigns – BROK, Vladivostok

The natural resource sector of the economy of Primorye District is dominated by two key industries — logging and mining. During the Soviet period, primerally export oriented logging and mining were particularly destructive to this territory, which is covered 90% by forests.

Since then, there have been palpable successes in environmental activities: part of the territory has been returned to the Sikhote-Alinskii Preserve, Korean pine logging has been legally banned, the Tayozhnii Refuge has been able to keep its territory and has been legally renewed, and the Sredne-Ussurskii National Park has received approval. However, practically nothing has been done to protect and support the Indigenous Udege community. The only real hope for offering better future prospects to the Udege may be found in plans to create a national park with a broad and complex ethnic program for tourism and sustainable resource use.

Forest degradation has also come about because the Iman group of the Udege has, as a compact ethnic community, been faced with constant pressures over the past 10-15 years, resulting in assimilation and the destruction of its surroundings. The Iman people's ancient culture of sustainable forest use, based upon respect for the living forest as a foundation for traditional household and land management, has been disappearing. This process, intensified by destructive resource extraction (ore and gold mining, and logging) has resulted in total ruin in the heart of the Ussuri taiga, on the former lands of the Sikhote-Alinskii Preserve.

A series of efforts by district authorities to support and restore the ethnic community in the Ostrovnoye (Sanchikheza) area did not succeed due to general economic problems and an absence of support from regional and federal authorities.

Logging has produced a highly complex network of causes of degradation. Fish disappeared from the Iman river in the years of log floating and forests and wildlife were destroyed by illegal logging, poaching and portages across the slopes. Animal migration routes have been obstructed by logging roads and, in the past seven to eight years, have been invaded with thousands of Japanese second-hand cars, driven by unemployed citizens in search of jobs and revenue.

As traditional logging enterprises (*lespromkhoz*) are failing, and as new loggers who may be harmful to native producers are kept from entering the market by government tax policies, the main danger to the forest comes from numerous small illegal businesses which are given logging licenses for any kind of logging, of any species, and, in any area.

It is remarkable that the failure of the Japanese economy and the stagnation of its main consumer market for Siberian timber has left small illegal businesses almost unharmed. Having recovered after the first economic shock, criminal groups have begun to scare and bribe heads of administrations, local forest services, militia and environmental protection officials. Conversely, traditional basic loggers have, once more, been hurt in their attempts to trade timber legally.

The most important underlying causes of forest degradation are threefold:

Legislative and Administrative Shortcomings

- Defects in legislation and government strategy, such as the policy of permitting an increase in

felling — based on obsolete methods of forest evaluation — and a lack of funding for forest research institutions;

- Bidding procedures for logging rights based on the solvency of bidders — to the detriment of environmental rationality;
- Absence of environmental impact assessments (EIAs) in the process of forest leasing (i.e. timber sales);
- Economic failure of former *lespromkhozes*, driving people to small, but illegal forms of forest-use;
- Differing regulations and sizes of water protection zones provided for under fisheries, forestry and water use legislation;
- Commercial secrecy in export operations and contract timber prices;
- Absence of an environmentally-sound, federal strategy for forest-use, and the impossibility of realizing such an approach with the current type of economic development;
- Access of small private forest users to full logging rights and the absence of any real control of their activities;
- Failure of the system to provide fire protection and fire fighting; and
- Governmental opposition to regional efforts to ban ash export from Primorye, which was adopted by the regional administration but protested by the prosecutor.

Violations of Forestry Rules

- Permanent effects of destructive logging technology in former times (primarily, the arrangement of portages across steep slopes thereby initiating rapid erosion during strong monsoon rains, the disturbance of young trees, and the lack of reforestation);
- Continuing rejection of traditional, sustainable forms of forest use considered normal for Indigenous Peoples;
- Industrial logging under the label of "salvage," "intermediate activity," "maintenance," etc.;
- Delivery of logging licenses for various tree species based on the priority of market demand to the detriment of forest sustainability;
- Purchase of illegal licenses and other documents by bribes;
- Logging without licenses - i.e. stealing timber; and
- Passing on awarded logging rights to other loggers.

Violations of Customs and Financial Rules

- Fabricated lists of timber sorting and prices in disregard to real consignments;
- Artificial reduction of contract prices from those actually paid, and, as a result, inducement to increase the amount of logging;
- Signing of fictitious contracts, providing no real payment to the exporter's account and producing no revenue for the territory; and
- Export of more timber than is provided for in the contract.

It should be noted that the Asian timber market makes a particular contribution to the process of deforestation.

In summary, when money became the dominating, if not the only, priority in resource management of the territory, the last features of a strategy based on balanced development of the taiga, which was maintained by the former Communist management, disappeared. Despite the many problems associated with a centralized financial supply for forest complexes in Soviet times, local officials, together with logging leaders, understood that plans for industrial development had to include reforestation, infrastructure and social development and fire protection – and, that along with planning, implementation was necessary.

In the current political climate, forest degradation is worsened by lowered citizen awareness of environmental problems and a lack of will on the part of companies to look for legal ways to survive or to create a new non-timber forest products (NTFP) market. At the same time, the NGO contribution to solving deforestation problems has been lessened, as local NGOs are becoming more scientific, and consequently, separated from the issues on the ground.

Possible Solutions

The case study put forward a number of suggestions to combat deforestation in the region.

Short Term and Continuing Activities:

- Organize public checkpoints on roads with the assistance of a militia commissioned by administrations and *Goskomecologia*;

- Incorporate ecological and forestry priorities into regulations governing the bidding for forest plots;
- Conduct mass media campaigns to encourage positive patterns of taiga community development rather than the destruction of the forest as a basis for local and Indigenous economic survival;
- Create an inter-institutional task force for forest protection, with the involvement of forest, hunting and environmental inspection authorities, the militia and the community; and
- Market NTFPs.

Long Term Activities:

- Attract investment to small company activities dealing with NTFP harvesting, wholesaling and processing of nuts, berries, needles, ferns, mushrooms, wines, herbs etc.;
- Encourage the creation of small timber processing factories, producing goods which are attractive to the local market such as parquet, lathes, souvenirs, etc.;
- Develop ecological, sporting, and scientific tourism;
- Create an ethnic-cultural center and community model of forest use for the Udege;
- Create legal proposals and regulations for local and regional parliaments with the goal of privileging small businesses concerned about sustainable resource use;
- Encourage and support the forest service, loggers and environmental protection staff to incorporate volunteer and obligatory certification of timber into forestry practice;
- Promote NGO candidates for local and regional legislatures through active work by the environmental NGO "Taiga" and other groups;
- Adopt legislative initiatives proposed by environmental activists together with the Association of Indigenous People and the regional Duma which grant privileges to Indigenous People in their resource use rights (derogation from regional and local taxes, priority in bidding — independent of solvency, etc.).

Above all, plans must be executable. The Udege have become disillusioned by the series of plans and programs for ethnic development, support, and privileges which have been promised but never implemented.

Although very complicated, a more important solution will be the slow creation of a model, collaborative national park administration based on the principles of the Udege community. This process is delicate and may not have a juridical basis. Legislation has, to date, created a series of artificial and nonsensical social and legal abysses between representatives of community and town. Nonetheless, cooperation must be the starting point for any activity in the taiga intended to create a new model society and to maintain environmental wealth. Such cooperation must keep in mind the priorities of the Indigenous Peoples, who are protected by international conventions but not sufficiently by Russian legislation.

Russia, mountain meadow in Krasnoyarsk region

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Forest Degradation and Deforestation in the Bryansk Region by Dr. Ludmila S. Zhirina, Oleg V. Markin, Bryansk Non-Governmental Organization "VIOLA"

The Bryansk region is 3,490 thousand hectares in size with a forested area of about 1,173 thousand hectares of which 50.8% are coniferous and deciduous-coniferous. In the sub-zone of the deciduous-fir forests, the major forest species is *Quercus robur* (oak), but also present are *Acer platanoides* (maple), *Tilia cordata* (lime-tree), *Betula pendula* (birch) and *Populus tremula* (aspen).

In the 15th to 18th centuries, natural old-growth forests extended well throughout the northern and eastern districts of the region. Nowadays, these forests have nearly all been felled and the remaining few look like small massifs. In place of the native forests are now secondary forests made up of birch and aspen (trees requiring light), which grow quickly but have a life span of not longer than 80 to 150 years. Fir and oak develop quickly under the curtains of birch and aspen, but the latter retain a prevailing position and in 100 to 150 years,

deciduous-fir forests are naturally restored in the place of birch and aspen forests.

The main factors promoting deforestation and forest degradation in the Bryansk region include: radioactive pollution of forest lands (following the Chernobyl accident), forest fires, and illegal felling.

The Chernobyl accident resulted in radioactive pollution of a large amount of forest lands in the Bryansk region and also in the degradation of the forest. Forests, playing the most important protective role in the stabilization, absorption, redistribution and purification of ecological systems from radio-nuclides, are characterized simultaneously by high sensitivity to radiation in comparison to other ecosystems. Forests are a barrier preventing secondary distribution of radio-nuclides. As a result of radiation pollution of forests, the methods of forestry have now changed. All kinds of activities are prohibited in forests with a pollution density of more than 15 ku/km2 with the exception of protected fire buffer forests.

Proposed Solutions

- Establishment of criteria for the strategic direction to take in practical activities to achieve sustainable forest management, and indicators for monitoring practical forest-related activities;
- Interaction of the state forest department with NGOs, teachers, students, scientists and other concerned people;
- Organization of conferences involving all interested parties with the purpose of identifying forest problems and possible solutions;
- Development of an education program in forestry which builds ecological consciousness and teaches practical forestry applications that complement this new way of thinking;
- Mass media should appeal to the local population by providing ecological information about forests and the consequences of illegal logging; and
- Strengthening of measures for forest fire protection.

Oak Decline in the Middle Povolzhje Region by I.A. Yakovlev, Mary State Technical University (Ioshkar-Ola)

Among the forest ecosystems that exist in the territory of the Middle Povolzhje region, one of the most valuable is the oak forest ecosystem. The oak forests of the Middle Povolzhje region cover 934,100 hectares (5% of the forested area of the region and 25% of total oak forests in Russia). More significant in a historical context and from an economic standpoint, are the seed oak forests of the Middle Povolzhje region – in the Chuvash Republic, the Republics of Tatarstan, Mordovia and Mary El, and in the Kirov, Kostroma, Nizhniy Novgorod, Ulyanovsk, Penza, and Samara areas.

Growing in the basin of Volga, the oak forests fulfill an exclusive environmental, watershed and protective role. They are located in highly populated territories with economically developed agro-industrial complexes. Common oak alone has a significant economic value, but its value goes well beyond the economic. It forms a rich and unique canopy and performs a variety of ecological functions in the forest ecosystems of the region, maintaining a maximum amount of biodiversity.

Analysis of oak forest area dynamics during the Soviet era shows a constant trend of decreasing areas of oak forests and, more alarmingly, an amplification in their decline. In only 30 years (1966-1996) the oak forests were reduced by approximately 430,000 hectares – to less than two thirds of what they once were. The most significant diminution of areas of oak forests is observed in the Republics of the forest-steppe and steppe zones, namely, the Tatarstan, Ulyanovsk and Samara areas. In the Mary El Republic the area of oak forests has decreased by 7,100 hectares (38.4 %) and by about 1 million m^3 of stock. This decrease has taken place mainly in flood-plain oak forests, as the area was stripped before being flooded to create a reservoir for the Cheboksary Hydroelectric Power Station, and in oak forests which were cut down during World War II.

The main reason for the relatively recent decline in oak forests – human activity — has its roots in the past. In studying the history of forest management of oak forests it is possible to conclude that the structure of modern oak stands does not meet the ecological requirements of the oak tree. The significant change in the quality and composition of oak wood has occurred over time since the beginning of intensive exploitation of oak forests (the first quarter of 19th century). Multiple selective cuttings have led to a deterioration of the genetic-breeding potential of oak forests and in a decrease in the size of their gene pool. The cuttings of the best trees has undermined the biological stability of oak forests as a whole.

Although rather small in size, the Middle Povolzhje region is one of the most highly populated regions of Russia. The region's economy has changed from

agrarian to agrarian-industrial, where chemical, electro-technical, power, electronic, machine-building, and other industries thrive to the detriment of the environment. In the Mary El Republic, the level of contaminants found in oak forests is 0.92 tons km^2, and 4.3 tons km^2 in the Chuvashiya Republic. Thus, it is necessary to recognize that oak forests, as natural complexes, are not isolated from pollutants but are, in fact, vulnerable to all types of pollutants. The technological and agrochemical pressures on the environment and on agricultural fields have the same negative effects on the oak forests of the region.

The response to the problem of the recent decline in oak forests has been a passive one. Foresters have since aggressively carried out sanitary cuttings of dead trees and protected the forests from defoliating insects. The situation is currently beginning to change. A mutual understanding has been reached between forestry organizations and governmental authorities of the Republics and regions regarding the disastrous state of oak forests in the region. It has since been understood that with current dying rates, a real possibility exists that the oaks will perish entirely in the absence of intervening forest management initiatives.

When considering the restoration of oak forests and growth of stable stands, forest management should consist of the creation of mixed stands of oak which include natural attendant species. Measures which promote and/or strengthen natural regeneration processes seen in forest ecosystems should be given priority. Methods and technologies which ensure the preservation of young oak and of accompanying attendant species need to be used when trees are harvested. As a rule, after the initial seed years of oak forests, there are enough self-sowing oak under the canopy.

The decline of oak forests is a complicated, complex phenomenon and a solution to the problem is possible only by combining efforts by all stakeholders: foresters, industrialists, ecologists, and government authorities.

Underlying Causes of Deforestation and Forest Degradation in Krasnoyarsk, Siberia by R.M.Babintseva, V.N.Gorbachev, A.P.Laletin, V.N.Malkevich, S.D.Titov, V.N. Sukachev Institute of Forests, SBRAS

The Krasnoyarsk region occupies a central position in the Asian part of the Russian Federation. The area extends nearly 3,000 kilometers from north to south and

Russia, Krasnoyarsh winter forest landscape

© Andrei Laletin, 1998

1,200 km from east to west. The territory is rich in biodiversity. The variety is found in the diverse characteristics of the forested area, including the natural composition, productivity, resources, and ecological functions. Forest cover makes up 76.4% of the region.

Annual allowable cuts for the region is 51.6 million m^3 including 8.7 million m^3 of coniferous forests. However, this limit has never been reached and, currently, the harvest volume is steadily decreasing. For example, in 1996 it was 9 million m^3, i.e., 17% of the annual allowable cut.

There are many causes of deforestation and forest degradation, which are interconnected and cannot always be clearly traced. The major underlying causes can be sorted into three large groups:

Geographic Causes

Natural conditions of the Krasnoyarsk region are favorable to forest vegetation and, therefore, the region has always been considered to be abundant in forests. There have been practically no limitations for the forest industry and clear cuts on large territories have been performed widely. The result of these actions is that in the central and southern regions, most of the forest resources are currently depleted.

Historic Causes

The October revolution in 1917 and the two world wars (1918-1922 and 1941-1945) diverted both the government and the people from searching for solutions to forest problems.

Socioeconomic Causes

Post-war reconstruction of the national economy, which focused largely on the military, required huge amounts of timber, supplied mainly by Siberia.

The socioeconomic, underlying causes also include violations of Indigenous Peoples' rights and access to forest use. Reconnaissance and transport utilization of unstable forests on frozen soils (permafrost) have caused irreparable losses to the ecology of the northern areas. The main consequence is that Indigenous Peoples have lost their culture of traditional forest use, with little hope left for its restoration.

The Krasnoyarsk region has thus been converted from a forest-abundant region into a forest-sufficient one. In light of this, the main objective of forest management is not reforestation, as it is in the forest-deficient districts of the European part of the Russian Federation, but preservation of the present forest-potential including the many species of organisms, natural communities and landscapes. There is a clear need for a new strategy for forest management.

The majority of forested countries have adopted the concept of sustainable forest management (SFM) as a new forest use strategy. The strategy envisages an ecosystem approach to forest management that ensures the sustainability of forest ecosystems and resources. Sustainability is connected with the ecologically and economically grounded limits of the removal of trees and other resources from forests.

Since there is no established mechanism for implementation of the SFM criteria and indicators, its development is one of the most urgent objectives for forest science and management.

The authors propose the following solution with respect to forests planned for leasing:

A management plan was launched for the area leased by the Predivinsk forest industry enterprise from the Bolshaya Murta forestry enterprise. The U.S. Federal Forest Service and the regional ecological movement, "Friends of the Siberian Forests," supported the development of the management plan, in which the principles of SFM were considered. Drainage basins of individual rivers were taken as models for planning a drainage basin approach. Theoretically, these planned basins can be considered similar to natural ecological systems.

The contemporary approach to a SFM strategy envisages the use of Geographical Information Systems (GIS) which allows, among other things, the elaboration of optimal activities for different inventory blocks and to the choice of ecologically responsible technology for SFM. In addition, GIS makes it possible to map the distribution of various activities over a concrete forest area, such as primary yield methods, natural regeneration successes, and others, facilitating the planning and realization of different activities.

On the whole, the development of economic elements of a SFM strategy in a country with an increasingly unstable economy is exceedingly difficult. The task is made more difficult by the fact that there are no data on the present volumes of non-wood resources within the resource information base, as forest inventory enterprises have not been performing such work in the last few years. The second, but no less significant and complicated challenge, is the search for ways to resolve the social problems of forest villages, in which forest industry enterprises serve as "village-forming" entities.

The implementation of sustainable forest management does not seem realistic if these problems are not resolved.

List of Case Studies and In-Depth Studies

Country Case Studies

- *Deforestation and Forest Degradation in the Sikhote-Alin Region, District of Krasnoarmeiskii, Primorskii Territory*, by Ivan Kyalunziga and Anatoly Lebedev, Bureau of Regional Public Campaigns – BROK, Vladivostok.
- *Underlying Causes of Forest Loss in the Georgia Republic* by Alexander Urushadze, Ministry of Economy, Georgia Republic.
- *Forest Degradation and Deforestation in the Bryansk Region* by Dr. Ludmila S. Zhirina, Oleg V. Markin, Bryansk Non-Governmental Organization "VIOLA."
- *Oak Decline in the Middle Povolzhje Region* by I.A. Yakovlev, Mary State Technical University (Ioshkar-Ola).
- *Underlying Causes of Deforestation and Forest Degradation in Krasnoyarsk, Siberia* by R.M.Babintseva, V.N.Gorbachev, A.P.Laletin, V.N.Malkevich, S.D.Titov, V.N. Sukachev Institute of Forests, Siberian Branch of the Russian Academy of Sciences (SBRAS).

In-Depth Studies

- "Influence of Insects on Siberian Forests," Vladimir Soldatov, The State Forest Protection Enterprise, Krasnoyarsk Regional Forest Service, Central Siberia.
- "Poverty and Life Styles," Dmitry Vladyshevskii, Krasnoyarsk Technical University, Central Siberia.

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Europe

The European Regional Workshop on Addressing Underlying Causes of Deforestation and Forest Degradation was held in Bonn, Germany, between 28 and 30 October, 1998. Participants included a range of NGOs, government officials, academic researchers and forestry consultants. The two-day meeting considered six case studies, three in-depth studies, and a synthesis report, all prepared especially for the meeting, and drew on these insights to help them form their conclusions.

European forests are not in a healthy state. The forests have been reduced to about a third of their original extent and old growth forests have been hugely depleted. What forests remain have been heavily modified and simplified. Two-thirds of the continent's trees suffer some degree of defoliation from airborne pollution

Generalizing about forests in Europe is very difficult. Factors leading to forest loss in one context may have the opposite effect in another context. Local and national problem-solving approaches were thus emphasized, whereas relatively little emphasis was given to international solutions, which many considered were likely to be too blunt to be adequately adjusted to local needs.

Forests are much more than just stands of trees. They are complex ecosystems with integral associations of flora and fauna and long-term resident human communities, and, they perform a wide variety of functions. Loss of any one of these elements or functions should be treated as forest loss.

For the purposes of the Intergovernmental Forum on Forests (IFF), the IPF's broad definition of underlying causes of forest loss should be accepted rather than the more limited approach adopted by CIFOR, so as not to give undue emphasis to economic factors.

Land and forest tenure regimes have had a powerful influence over the way forests have been managed and destroyed. Community ownership — as an intermediate form of ownership between state ownership and private ownership — holds potential benefits for many parts of Europe but should not be imposed at the expense of central regulations. An institutional-enabling framework consisting of adequate policies and legislation is required to ensure effective community forest management, including resources and structures for effective community participation in decision-making.

Forest policies have tended to give priority to production, giving second place to protection policies and third place to social policies. Forests have suffered from the "wake theory" of forest management. National forest policies need to be reformed to give equal weight to social, environmental and economic values.

Powerful interest groups dominate policy-making. More open, transparent, and participatory forms of government are required to counter these interests. Guidelines for decision-making processes should be developed to guide the evolution of accountable public institutions dealing with the private sector.

Forest services may need reforms and retraining to effect these new approaches. In transition countries, in particular, institutional capacity needs to be strengthened to cope with new pressures on forests from market forces and tenure reforms.

The short-termism of politicians poses an obstacle to the inclusion of environmental concerns in forest-related decisions. The materialistic aspirations of society reinforce this tendency. Solutions include: greater public education, especially about the underlying causes of forest loss; improved media treatment of the issue; greater independence for forest research; and, electoral reforms.

Markets have very diverse impacts on forests, sometimes beneficial, sometimes destructive. Rising consumer demand is, however, placing an unsustainable burden on forests and needs to be lessened if forest loss is to be curbed. Solutions include: the removal of perverse subsidies; the imposition of "ecotaxes;" stricter regulations, including restrictions or tariff barriers to trade in destructively produced goods; and, green accounting (incorporating externalities into costs). Some of these solutions will require changes in international law (trade agreements). Voluntary regulation and consumer choice should be encouraged but should not be relied on to effect major transformations in consumption and trade.

European measures to counter air pollution have been ineffective as, overall, they have failed to address the underlying causes of emissions. Policy and legislative reforms are required to reform transport policies (to reduce NO_x), clean up industrial emissions (to reduce SO_2) and promote organic farming (to reduce nitrates). Transition countries will require additional economic assistance to effect these changes.

Through aid, trade, and foreign investment, western Europe is a major force contributing to forest loss in the rest of the world, including in eastern Europe. Aid to developing countries is causing forest loss both directly and indirectly by failing to address underlying causes in recipient countries or even by exacerbating them. Reforms in aid programs are needed. Aid projects should seek to be more beneficiary-driven. More attention needs to be given to social issues and vulnerable sectors, especially women and Indigenous Peoples. Aid should become more programmatic and less project-focused. Strategic impact assessments should be required. There should be more sharing of "best practice" experience among donors. Donor coordination needs to be enhanced.

Most of these proposed actions can be undertaken at the local, national and, for a few, at the regional level. The meeting carefully reviewed the IPF's action proposals and highlighted some that could be especially important in addressing underlying causes. By themselves, however, the proposed actions are inadequate.

In particular, intergovernmental negotiations on forests have, to date, failed to address a number of key issues:

- more effective measures are needed to change the balance of power over forests;
- measures are needed to reduce consumption;
- aid programs need to be reformed; and
- reforms in international law are needed to permit the regulation of trade and investment on environmental and social grounds.

There are no signs that these issues are being considered by those advocating a convention on forests. It seems that the key issues that need to be addressed at the international level are considered to lie outside the present scope of the Intergovernmental Forum on Forests.

Summaries of Case Studies

The european case studies were commissioned to cover the following regions: Western Europe, The Baltic States, Central Europe, Eastern Europe, and Southern Europe.

Examining the Underlying Causes of Woodland Loss from Road-Building: a Case Study of the Newbury Bypass, United Kingdom, by Georgina Green

The UK is one of the least forested countries of Europe. While forests were once the predominant vegetation, natural woodland now covers only 2.5% of the surface area of the country, with plantations, mainly of non-native species covering an additional 7.5% (2.5 million hectares). In the 50 years since the end of World War II, the country lost 45% of its remaining ancient and semi-natural woodlands. Current policy now aims to reverse this trend. Ownership is mixed with 35% state-ownership, 20% by public voluntary bodies, 20% by farmers and 35% by other private owners. All forestry operations are subject to government regulation and control.

The case study focuses on the recent destruction of biologically significant woodlands to make way for a road bypass around the town of Newbury in central-southern England. Although the effected woodlands had previously been recognized as part of County Wildlife Sites and Sites of Special Scientific Interest (SSSI), and despite national and European laws aimed at promoting wildlife conservation, these defenses proved inadequate to protect the woodlands. The case study helps explain why, nationally, some 300 SSSI are destroyed or damaged every year.

The road-building project became a national and international controversy and was hotly contested through public hearings, legal challenges, press campaigns, parliamentary and extra-parliamentary lobbying and direct actions to frustrate construction. In the process, the anatomy of the social and economic forces within England for and against road-building were clearly exposed.

Using a diagnostic framework to help shape this analysis, a number of underlying causes of forest loss are highlighted. The relatively weak legislation protecting sites of biological importance and the rare designation of woodlands as protected areas are noted.

This weak legislation is an expression of the effective power of landowners and the land-owning lobby and the priority that government policy accords to economic development, which both combine to limit the will and authority of government conservation bodies.

Government transport policy over the past 18 years of Conservative Party rule has been dominated by facilitating the construction of roads and the development of road transport and, simultaneously, allowing progressive erosion of rail services and other means of public transport. Rising public demand for transport has thus found few alternatives to road travel. Public preference for car use has also been encouraged by fiscal systems that front-load costs on car ownership rather than car use. The government's policy was driven by a powerful road and car-building lobby. It aimed to meet an ever-increasing demand for transport, which is related to an over-riding commitment to the promotion of global trade and the consolidation of industries, increasing the living standards of the population, and town planning.

The materialistic values in society, combined with the short-term nature of political power in an electoral democracy has also encouraged politicians to put arguments about job creation and rising living standards above concerns about the environment and health. On the other hand, the existence of an unelected chamber of parliament exacerbates the problem of who is in power and is characterized by those with powerful connections influencing decision-making processes to suit their personal or group interests. This can be seen in the blocking of legislation that would have given better protection to important sites for nature conservation.

Despite the generally materialistic values in society, the problems of traffic congestion and pollution that many people were facing in their daily lives, and the failure of the government's road-building policy to solve these problems, led more and more people to question the continued destruction of the countryside for an ultimately flawed and unsustainable goal. Whilst the local community in and around Newbury was deeply divided over the desirability of the bypass (which was ultimately built), national public opinion, together with mounting expert opinion and incontrovertible evidence on the ground, led to a switch in emphasis in the UK transport policy, which is now beginning to explore alternatives to the car. In general, however, the widespread priority given to economic interests in all spheres of life remains. A notable aspect of the study is its demonstration of the complete irrelevance on the part of the national Forestry Commission to the process of forest loss.

Mushrooms, Lubeck public forest. Northern Germany

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Underlying Causes of Deforestation and Forest Degradation in Estonia: A Local Level Case Study in Polva County by Rein Ahas, Friends of the Earth - Estonia

Tree cover still extends over about half of Estonia, a small country of two million hectares. No less than 96.4% of this area is managed as forest land of which 45.6% remains under state ownership. Over 90% of these forests are made up of pine, spruce, and birch trees. The country is in the process of a major social and political upheaval as a result of the restoration of independence and the ending of Soviet rule.

The forest product industries are major players in the national economy and account for 17.5% of exports by value. As the country struggles to achieve a positive balance of payments, and is promoting new industries, tourism and exploitation of oil shale, there is strong pressure from government planners to industrialize the forestry sector. This pressure is especially strong as farming is not considered economical in relation to the global economy.

Forest policy in Estonia has been built upon the original German school of scientific forestry which favors clean, ordered forests, the clearing out of all dead wood and the burning of organic matter, with a preference for introduced species.

In previous eras as well, forest loss in Estonia has been linked to times of rapid industrial and political change in the country. During the 18th century, many forests were cleared for ship-building and in the 19th century, were used to derive fuel-wood for industrialized vodka distillation. After World War I, land reforms led to extensive forest clearing for agriculture and at the beginning of the Soviet era, a large amount of forest was felled to provide housing for the poor. However, forest cover increased substantially during the later Soviet era, as small farms were discouraged and agriculture was collectivized.

The recent and rapid transition to a capitalist democracy has brought many changes. Institutional and legal reforms to the forest sector, while recognized as necessary, have not kept pace with actual changes in forest management, land ownership and entrepreneurial activities. The case study focuses attention on Polva County in eastern Estonia where timber felling has hugely increased in recent years and illegal logging is becoming a serious problem. Harvesting levels increased nationally by 37% between 1996 and 1997.

Underlying this unsustainable pressure on forests, lie a number of factors including new export markets for pulpwood, saw logs and processed timbers, new national markets for wood products in the building industry, and the increasing local use of wood fuel due to the withdrawal of subsidies on other fuels. A major cause of forest loss results from the fact that forests are in the process of being reallocated to private ownership under the still ongoing land reform, which typically results in small forest lots of 2-10 hectares. The state forestry administration has not been able to keep up with the huge increase in legal documentation which accompanies this process of restitution — much less adequately oversee forest management.

The change in regimes and the transition to a free market economy have increased pressure on forests in a number of ways. Rural poverty has increased, especially among unemployed people laid off from disbanded collective farms. At the same time, rising consumerist values have also increased the felt need for cash incomes. "*Forestry has become a way of surviving in the countryside and for collecting start up capital*," notes the author, and has become a seasonal form of generating a cash-income during winter months when farms are less active. Some people have been acquiring forest lands for short-term profit-seeking, clearing the land of timber and then selling it again as farming land.

A growing problem has been the increase in illegal logging, especially on lands with indistinguishable or absentee owners, which has been facilitated by extensive corruption and rent-seeking behavior by government officials who use their positions to run illegal businesses. The problem has been further fomented by criminal gangs practicing tax deception, bribery and intimidating tactics, including the use of guns. The new breed of politicians, who are mainly interested in garnering a populist vote and profiteering from personal business opportunities, show little concern for environmental objectives and have very short time horizons. The forest sector also faces a growing threat from very large Scandinavian companies which seek access to Estonian forests as a reserve to see them through hard times and as a springboard for gaining access to Russian forests further east.

A number of solutions are identified in the case study paper to counter these destructive forces including: raising public awareness; enhanced legislation; providing greater protection to other forest values; strengthened institutional enforcement capacity; and revised taxation and subsidy systems.

Forest Policy in Austria: Policy Making by the Sector for the Sector by Michael Pregernig and Gerhard Weiss, University of Vienna

Forests gradually spread to cover almost the whole of the mountainous country of Austria with the withdrawal of ice 13,000 years ago. Neolithic farmers began clearing forests in lowland arable areas from about 6000 BC but it was not until the Middle Ages that highlands began to be cleared and that alpine pastures were established which raised the tree line. Today, 47% (3.9 million hectares) of the country is covered with trees. Of this amount, about 3% is old growth forest, 22% semi-natural, 40% "moderately altered," 27% "altered," and 8% artificial (plantations). Conifers, the naturally dominant species in the mountainous areas, have also replaced broad-leaved species in lowland areas and constitute 70% of the tree cover.

In prehistoric times, forests were used by communities but in the Middle Ages forests were arrogated by the Crown with the assertion of the feudal political order and given to aristocrats as fiefdoms. Accessible forests were heavily exploited to service emerging mining industries and saltworks. With the revolution of 1848, however, forest property rights were clearly defined, giving ownership partly to the state — partly to

aristocrats, farmers, local co-operatives, villages and towns. The forest law of 1852 enforced the preservation of all forest land and sustainable timber production.

The present pattern of forest ownership strongly influences forest policy. Only 1% of the 214,000 forest owners hold areas of more than 200 hectares and 65% of owners hold lots of less than 5 hectares, with 80% of forests being in private hands and 20% owned by the state.

Forestry is not a major sector of the national economy, contributing only about 3.8% of GDP. In terms of exports the sector is more significant with forest products comprising 10% by value, second only to tourism, as a source of foreign exchange. A unique aspect of Austria is its corporatist political order, which strives for consensus-based, decision-making among statutory interest organizations established by public law and with obligatory membership. Based on notions of social partnership, shared values and mutually compatible goals, the interest groups, represented through their "Chambers," strive to find political compromises acceptable to all and often review and amend draft legislation before it reaches parliament.

Within this structure, the interests of forest-owners are represented by the Agriculture Chamber, which is lobbied by large, well-established voluntary associations of forest-owners. Environmentalists' concerns have no such formal representation among the policy-making elite.

Forest clearance is not a serious problem in Austria and is rarely allowed, except outside of urban areas. Forest degradation, conversely, is a matter of considerable public concern. Although fears in the 1980s of widespread forest *die-back* from industrial pollution proved to be exaggerated, foliage and tree-crown damage from pollutants, notably sulfur and nitrogen oxides, is widespread. The enactment of quite strict anti-pollution legislation has reduced national sulfur emissions by some 75% but overall levels have not been reduced by much. Today, 93% of sulfur pollutants come across Austria's borders especially from Eastern Europe. Even with financial aid, it will be some time before abatement measures can be introduced in these areas. Increasing vehicle use also causes high levels of nitrogen oxide pollution. In the context of a strong national policy that promotes economic growth and an economy that is presently struggling to meet these objectives, the Ministry of Economic Affairs has vetoed stronger national legislation on air pollution.

Overgrazing and bark-peeling by deer populations, kept artificially high with imported feed, are another major cause of forest degradation. Proposals to reduce deer populations have been strongly resisted by sport hunters, who are organized into a powerful lobby and many of whom are also forest owners. Hunting is a very popular, prestigious sport in Austria and general public sympathy for deer, with their "Bambi" image, translates into a strong sentiment against measures to reduce deer numbers. Environmentalists have been nervous to challenge these public perceptions.

Forest management objectives prioritize timber production and favor extensive even-age stands of monocultures, especially conifers. Conservationists argue that the results are increased pest damage, biodiversity loss and a reduction in soil quality. The same emphasis on forest production and the cozy relations between foresters and forest owners also

Monoculture foresty. Germany

explain why protected forests, essential for stabilizing hillsides from landslides and avalanches, are poorly maintained despite government subsidies. Forestry officials are reluctant to upset their social partners, the forest owners.

In addition to the way the political economy of forest management militates against policies that prioritize forest protection, ecological functions and biodiversity values, the authors single out in their case study paper several other factors as underlying causes of forest degradation, including the way new research findings are not translated into revised forestry practices because of institutional rivalry between the forest administration and forest research institutes. Finally, the authors discuss a number of possible measures to promote better forest management. They assess the expected impacts and chances of implementation of actions such as stricter regulations, enhanced social awareness of the importance of forests, closer engagement by environmentalists in the corporatist decision-making process, ecotaxes, forest certification, financial incentives and a more participatory style of politics to erode present-day clientelism.

The Underlying Causes of Forest Degradation in Hungary, with a Special Emphasis on the Privatization of Forest Areas by Ivan Gyulai, CEEWEB/Ecological Institute for Sustainable Development

Hungary once enjoyed forest cover over some 85% of its territory, an area that was progressively reduced, due principally to clearance for agriculture, to 12% by the 1930s. Since World War II, natural forest cover has continued to decline and existing forests continue to be degraded, although the total area under tree cover has increased and now covers some 19% of the surface area of the country. Hungary presents a paradox, where reforestation can be seen as an underlying cause of forest loss.

Natural forest degradation results from a large number of factors. Major underlying causes include agricultural intensification in the lowlands, serviced by intensive water management regimes, which has resulted in lower water tables creating difficult growing conditions for native tree species. Air pollution, especially from industries and transboundary sources, has also proven especially damaging to native species. Among the direct causes of forest degradation, the author highlights the impact of production-oriented forest management systems, which give little priority to biodiversity or ecological values and which have also degraded forests. Mechanization of land preparation and harvesting has damaged soils and reduced biological diversity, and has also reduced employment by substituting more labor-intensive and nature-friendly management techniques with machines. Species and genetic diversity has been reduced in the selection of seedlings for replanting, with an evident shift in favor of non-native species.

To facilitate harvests, the forest structure has been simplified to create even-aged stands suitable for clear-cutting — the preferred method of harvest. Official policy has led to rising populations of game, which have also interfered with natural regeneration. Forests are increasingly fragmented by developing infrastructure, notably road-building, to allow forest management and timber harvesting.

The case study paper focuses on the additional underlying causes of forest degradation resulting from the political transition from communism to capitalism. Under state-sponsored land reform, large areas of the national territory have become privately owned, as land has been made available to those who had been discriminated against by the previous regime, and by giving out vouchers (redeemable at public auctions) to others considered worthy. Some 40% of the country's forests have thus passed into private hands, mostly as very small lots averaging 1.3 hectares. Lack of clarity on how these areas will be managed and who exactly now owns what, means that about half this area, 20% of the country's forests, are now unmanaged. Forest governance has been overwhelmed by this process of privatization. By creating an open-access situation, the vulnerability of these forests to illegal harvesting and other forms of theft has significantly increased. The absence of management in inaccessible areas may, however, provide a respite to native species. Even in areas where new ownership is clear, forest quality is increasingly at risk as the current forest owners have little capital, little knowledge of forest management, little concern for ecological values and have acquired forests for their speculative potential or out of short-term profit motives. Many owners are absentee landlords. An increase in the planting of non-native species in these areas is already discernible.

In the presentation and discussion of the paper, the author noted that market and financial pressures were the principle underlying causes of forest loss in Hungary today. In the context of a huge foreign debt, a serious national economic crisis and political and institutional

instability, people were giving priority to short-term personal economic considerations, not long term environmental security. New markets and the new consumerist values were intensifying this pressure. Even non-timber forest product use, particularly by gypsies, which was once more or less sustainable and oriented towards supplying local markets, is now directed to supplying foreign markets and is thus becoming unsustainable. The neglect of the long-term is also evidenced by the fact that the reforestation fund has not been utilized. In sum, the author notes that in Hungary today, "*people want a wealthy society and not a healthy society*."

Sustainable Development of Forestry in Romania by Ion Barbu, ICAS Forestry Research

Forests once covered around three-quarters of Romania's surface area. Tree cover has now been reduced, mainly by clearing for agriculture, to some 27% (6.3 million hectares), made up of about 2% coniferous plantations and 25% natural forests and managed woodlands. Half this area is currently classified as protected forests. Tree cover has especially been reduced in the plains (7%) but remains more extensive in the hills and mountains, where soils are less attractive to agriculture and the important function of forests in stabilizing soils and hydrological cycles is emphasized by official policy. Forest conservation in the water-catchments of hydro-electric plants is also stressed.

Romania has lost some five million hectares of its forests in the last few centuries, three million of which were lost between 1829-1922 and of which about half were lost due to privatization at the end of World War I. Further details of the causes of this loss are not given. Currently, the state retains control of about half of the country's forested areas and the rest are under private ownership, although subject to the same regulations as state forests in regards to forest management. There exists a controversy at present about the wisdom of further privatization, which is being called for by local populations, politicians and the local administration, as part of the economic transition to a free market system. Some privatization has already occurred which has contributed to a decline in production.

Direct pressure on forests today comes from extended droughts, industrial pollution, excessive pesticide use, over-grazing, and damage by excess concentrations of game. Coniferous species have been increasingly planted at the expense of beech and oak over the last 60 years and now constitute 30% of the tree cover. Recently, the government adopted a revised target of having 27% of forests under conifers (down from the previous government target of 40% by 2010). The policy of simplifying forests for production purposes has made forests increasingly vulnerable to damage by pests, wind, and snow.

The case study provides a good deal of information about Romanian forest types, policy and management systems but does not provide a cross-sectoral analysis of Romanian forestry or elaborate on the underlying causes of forest degradation and loss.

Forests and People in the Iberian Peninsula.by Paulo Canaveira, Ana Maria Almeida, Joao Sousa Teixeira, R. Oliveira, Ministry of Agriculture, Portugal

The Iberian Peninsula, once predominantly covered with oak and mixed broadleaf forests, Mediterranean pine forests and riparian forests, has been inhabited for at least 5,000 years. Clear signs of extensive deforestation in Portugal date back to 3000 BC with the spread of farming and pastures. By 2000 BC, most of the coastal oak forests had been cleared for agriculture and over the next 3,000 years pressure on forests gradually moved up the hillsides into the hinterland, due to the extensive use of fire to clear land for farms and pastures. This process continued during the era of Arab occupation, while at the same time managed woodlands of oak species (*montados*) were established. By the early Middle Ages, the last old growth forest of the country was removed. Pressure on woodlands to provide timber for ship-building was sustained from the late 13th century onwards as Portugal emerged as a major global maritime power. At the same time, large areas of the hinterland were arrogated by the crown as hunting reserves.

Modern forestry methods only began to be introduced to the country in 1865 with the original goals of checking the loss of remaining broadleaf forests, expanding the areas under *montados* and establishing plantations of maritime pine. Tree cover expanded, notably because farmers found the cultivation of cork oaks more profitable than wheat due to the overseas markets for cork. However, in the 1930s, forest loss intensified as a result of a national policy to promote wheat production, which led to clearing of woodlands and the overexploitation of land with serious consequences for

the soils. In the 1950s, the dictatorship tried to reverse this policy with an imposed program of reforestation on communal lands. The process was resisted by local communities which objected to the expropriation of their lands, the loss of pastures and the repressive behavior of forestry officials. Incendiary practices became a growing problem and by the time the democracy was restored in 1975, the forestry service was seriously discredited. That year witnessed extensive fires especially in communal areas. A land reform initiated in 1976 restored communal lands to the villages and began to break up the properties of large landowners. During the 1980s, the forestry service, along with World Bank support, pursued policies of reforestation mainly with pine and *Eucalyptus* species, but, again, met local resistance. However, since joining the European Community (EC) in 1986, a new forestry approach has been adopted which prioritizes the restoration of mixed woodlands and closer collaboration with private forest owners.

The case study provides a detailed account of the process of forest decline in the district of Mertola in southeast Portugal, an arid area which today has 15% tree cover mainly in the form of *montados*. The district has a typically skewed pattern of land ownership. Large private land-holdings, which dominate the more fertile southern lowlands, are almost devoid of tree cover. In the north, more land is held communally by villages, which have intensive agricultural plots around each village surrounded by extensive *montados* and brushwood areas used for fuel wood, bee-keeping, minor forest products use and grazing. Since the 1850s, rising populations, partly resulting from people being attracted to mines, placed these *montados* under increasing pressure. This was exacerbated during the years of the "wheat campaign," when tree cover was reduced to 8.5% of the district area. The 1976 land reform led to a further brief burst of over-intensive farming and forest clearance as farmers adopted chemical fertilizers and built up their herds. However, since the population peaked in the 1950s, it has declined by 70% as people have progressively moved to the cities.

Local NGOs used the courts effectively to block the planting of *Eucalyptus* in the 1980s. Much of the district has now been designated as the Guadiana River Natural Park where mixed forests are again being promoted, but natural forest regeneration is, paradoxically, being hampered by an EC regulation (Reg. No. 2080EEC) aimed at promoting the re-establishment of forest cover. To qualify for the subsidy, farmers are clearing abandoned fields undergoing natural forest regeneration and replanting with introduced seedlings. To redress these problems, the authors advocate local environmental education; more effective national and regional land use planning; and revised European Union (EU) policies which are better adjusted to local needs. The case study authors highlight the importance of rural NGOs and a new national policy which promotes multiple forest use, biodiversity values and socially sensitive planning.

Nationally, the main challenge facing Portugal's forests comes from wildfires. Fire risk has been increased by: the simplification of landscapes; the spread of tree monocultures (plantations); the decline of rural populations and the consequent lack of human use of understory vegetation; and the purposeful setting of fires by villagers to extend pastures and to protest against imposed land-use changes and plantations. Increasingly, fires are also being set by land speculators trying to cash in on a housing boom. To address this challenge, the government has accepted that there is a problem posed by oversimplification of forests and has adopted a policy of diversifying landscapes and species in planted forests, building forest roads to allow ready-access by fire-fighters, judicious clearing of scrub while trying not to affect biodiversity, and educating the public.

List of Case Studies and In-Depth Studies

Country Case Studies

- *Examining the Underlying Causes of Woodland Loss from Road-Building: A Case Study of the Newbury Bypass, UK* by Georgina Green,
- *Forests and Forestry in Jokkmokk Municipality: A Case Study Contributing to the Discussion of Underlying Causes Leading to Deforestation and Forest Degradation of the World's Forests* by Karin Lindahl,
- *Underlying Causes of Deforestation and Forest Degradation in Estonia: A Local Level Case Study in Polva County* by Rein Ahas, Friends of the Earth Estonia.
- *Forest Policy in Austria: Policy Making by the Sector for the Sector* by Michael Pregernig and Gerhard Weiss, University of Vienna, Austria.
- *The Underlying Causes of Forest Degradation in Hungary, with a Special Emphasis on the Privatization of Forest Areas* by Ivan Gyulai, CEEWEB/Ecological Institute for Sustainable Development, Hungary.

- *Sustainable Development of Forestry in Romania* by Ion Barbu, ICAS Forestry Research, Romania.
- *Forests and People in the Iberian Peninsula* by Paulo Canaveira, Ana Maria Almeida, Joao Sousa Teixeira, R. Oliveira, Ministry of Agriculture, Portugal

The impact of European societies on forests has not been limited to Europe. As a major colonial force and a center of industrialization and world trade, Western Europe has had, and continues to have, a profound impact on forests all over the world. At first, the organizers were unsure how to deal with this aspect, as the case study approach — looking out from local forest situations — was not likely to elucidate these connections. Conversely, a comprehensive examination of Western Europe's impacts on the world's forests is a mammoth subject far too ambitious for this process to address adequately. For the purpose of this consultation, the organizers thus opted for a compromise. The three in-depth studies do not pretend to do more than *illustrate* the kinds of connections between European aid and trade and forest loss and *summarize* some of the main problems and solutions that have been identified in other more detailed studies.

In-Depth Studies

- *Trade as an Underlying Cause of Forest Loss and Degradation* by Nigel Dudley.
- *Breaking the Iron Triangle: The Influence of the Private Sector in Forest Policy* by Simon Counsell, Rainforest Foundation, UK.
- *European Aid and Forests* by Tim Rice.

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Indigenous Peoples Organizations

Dozens of Indigenous delegates from around the world attended the Indigenous Workshop on Addressing the Underlying Causes of Deforestation and Forest Degradation, which took place in Quito, Equador between January 8 and 10, 1999. Also in attendance were representitives of the Ministry of the Environment of Ecuador. During the first part of the workshop, Marcial Arias gave a general introduction on Indigenous participation in international processes, from the "Indigenous viewpoint." Ricardo Carrere of Global Secretariat explained the procedures for the discussion of underlying causes of deforestation and forest degradation.

The most significant aspects of the underlying causes of deforestation and forest degradation that were highlighted in the workshop are listed below.

The following regions were represented in the case studies prepared for presentation at the workshop:

- Asia (Thailand)
- Africa (Rwanda and Nigeria)
- Northern Europe (Sami)
- Amazon Basin (Coordinating Body of Indigenous Communities of the Amazon Basin (COICA))
- Southern Cone (Chile)

Summary of Case Studies

Deforestation and Forest Degradation in Thailand, Prasert Trakansuphakon

Causes of Deforestation and Degradation

Legal Logging before 1989

Initially, the cause of deforestation in Thailand was the selective logging by Thai companies of teak in the North, principally followed by the removal and use of fallen trees, and logging by foreign companies.

In 1961, more than 50% of Thailand, an area of 27.36 million hectares was covered by forests. In 1993, this had decreased to just 13.6 million hectares. During these years, the heaviest activity occurred between 1974 and 1988, when 2.2 million hectares of forest were cleared.

Changes in agriculture in the communities changed the amount of wood needed. Three kinds of crops were introduced when the Northern Thai communities began to make their homes on the lower parts of the slopes. The ensuing inability to establish wetland rice fields, resulted in the need to plant crops that consume smaller amounts of water. Tobacco, sugar cane, and peanuts were thus planted, two of which require extensive processing before they can be sold. The need to humidify and dry tobacco and to boil sugar cane resulted in a demand for more wood than ever before. This was easily obtained from the forests that had been left degraded by logging companies — and completed the process of denuding the land.

Military Activities — Border Provinces

Military activities on the Laotian border, during the years of communist insurgency, included the removal of fallen trees on the outskirts of highland villages to ensure that the insurgents could not hide there. The extent to which these actions affected the rate of deforestation in the Northern provinces can be seen by the fact that between 1974 and 1977, during the height of the war in the border areas, the rate of deforestation in Thailand was significantly worse in Chiang Mai and Nan, the border provinces. In fact, in just three years, 744,000 hectares of forests were felled and cleared.

Development Projects

The third factor that should be considered as a direct cause of deforestation is alternative agriculture encouraged in the highlands when opium was being eradicated as a crop in Thailand. In the case of the area of Chomthong, this was the main cause.

Population Growth

Population growth is a factor that contributed to the accelerated rate of deforestation in Thailand in the past. Migration was most significant from neighboring countries and included both refugees and migratory tribes. Within the country, in the highlands of Eastern Thailand, people from Isaan were forced to leave their lands because the large-scale construction of dams built on tributaries of Thailand's four major rivers, flooded vast areas of land forcing them to resettle elsewhere.

Underlying Causes of Deforestation

Changes in Agriculture – Development Projects

The most serious of the seven underlying causes of deforestation that were identified in the workshop is the continuous effect of development projects implemented in the north of Thailand over the last 30 years. These projects, implemented by bilateral donors such as the United Nations and joint government groups, have concentrated on eliminating opium and on reducing crop rotation.

The Increased Value of Land

Once the benefits of cash payment for crops became apparent, the value of the land that could produce plants in the cold climate of the highland slopes began to gradually increase. Land came to be seen not any longer as a means of subsistence, but as a valuable possession.

Conceptual Change in Production Goals

To understand the scope of the changes in agricultural patterns in the highlands as the result of these development projects, it is necessary to take a look at the previous system. For the Hmong and Karen peoples, the focus of agriculture was self-sufficiency – producing a variety of crops to ensure that the community would be fed, and then engaging in commerce only with the surplus. This economic system was changed by development projects, which supported marketing the entire harvest of one or two crops and using money to buy necessary food.

Royal Forestry Department Policies/Corruption

The combined impact of official forest policies for wooded areas and the corruption within the Thai bureaucracy permitted controversial polices to be used against the instructions of the Royal Forestry Department (RFD). For example, primary forest is often cleared for reforestation programs and as soon as the resulting trees can be sold, local officials pocket the profits.

Policy Contradictions

Logging concessions were often granted to companies within forest reserves. Once the land was degraded to the extent that only agriculture was possible, the government often gave the land to the communities it had displaced by dam construction projects.

Illegal Logging

The high level of illegal logging supported by corrupt government officials is incredibly difficult to combat at the district level. For example, when the villagers manage to have the culprits arrested, the case is silenced and perpetrators are quickly released.

Road and Dam Construction

Irrigation channels and dams built at high levels have had a detrimental effect on forest cover, as they were often built to permit sowing on a large scale — changing traditional water use systems in the villages to one of increased water use, and in turn, changing the riverbed in the area of the villages.

Proposed Solutions:

- Decentralize and devolve power to local communities to allow them to make their own decisions regarding resource management and utilization;
- Plan for the restoration of traditional farming methods, encouraging traditional knowledge about resource management and utilization;
- Promote the transfer of Indigenous knowledge to all levels: among Indigenous Peoples and the public in general. Local land management programs should be included in school curricula;
- Control illegal deforestation through the adoption of legal control measures; and
- Control export of wood products.

Forest Degradation in the Forests of Congo Crete Nile by Benon Mugarura

Background

The forests of Congo Crete Nile (CCN) are an integral part of the African archipelago highlands, extending for several thousand kilometers. These forests lie at an altitude of 1,500 to 3,000 meters, with varying ecoclimatic conditions. The mountainous forests include a great variety of areas, which are spatially organized on the basis of diverse factors. The summer and winter seasons alternate with rainy periods, which influence the ordered distribution of vegetation. These conditions were particularly favorable for differentiation, and this partly explains the diversity that can be currently observed.

Preservation of the specific ecoclimatic conditions and of the forests is the reason for the high degree of endemic fauna, especially birds (260 species), higher order mammals (50 species), and butterflies. Today, four countries share responsibility for preserving the ecosystem: Congo, Uganda, Burundi, and Rwanda. The natural ecosystem of Congo Crete Nile reflects the diversity of the topographic and climatic conditions.

Population growth has impacted forests negatively in Rwanda as communities have exploited the forests for wood, water, game, and mineral resources. Subsistence farming has led to significant financial shortfalls. Some examples illustrate the impact of population on the forests:

In 1958, the forests of Nyungwe covered 114,125 hectares. In 1979, 21 years later, they covered only 97,138 – a 15% decrease. The volcano forests (national park) covered 34,000 hectares in 1958; in 1973 these covered only 16,500 — a decrease of 49% in 15 years. This is a result of agricultural colonization and the promotion of the industrial cultivation of pyrethrum by projects.

Causes of and Direct Participants in Forest Degradation: Agriculture and Farming

Through research conducted on new farming lands, it has been concluded that a family of five uses approximately 50 to 60 acres of land, contrary to what the FAO of the United Nations describes as a farm family's economically viable minimum base for crops: 80 to 94 acres, with an average of 15 acres per resident.

The clearings in natural forests and buffer zones are generally caused by the population as follows:

- The absence of laws governing agriculture;
- The decrease in productivity because of inappropriate land use and the decrease in manure caused by a decline in livestock as a result of the war; and
- Overuse of the land and fires which have left clearings in the forests, facilitating the local population's increased penetration into the forests.

Underlying Causes of Deforestation

The natural forests that have been preserved by various Congo Crete Nile ecosystem reserves are disappearing. By 1967, many bilateral and multilateral forest projects were underway. These reserves have been a tourist attraction of undoubted scientific importance. If nothing is done immediately to maintain reforestation in the buffer zone to reverse the trend of forest loss, the progressive destruction of the forests will continue and inevitably have a role in climate change.

Possible Solutions

Taking into account the different causes mentioned, some solutions can be formulated to help update the existing action plan:

1. The preservation of the natural forests and ecosystems can contribute to the nation's economic development. This may indirectly increase further conservation efforts (water regulation, etc.), managed use of sustainable sites, and the preservation of biodiversity.
- Developing academic research programs on forest conservation through international institutions would provide compensation in the form of the opportunity to train Rwandan researchers.
- Extending ecological diagnostics throughout the CCN forest as part of a basic evaluation of the biological heritage; developing management tools; and ensuring the sustainability of natural ecosystems.

2. The multiple resources of these forests were sustained as a result of sequential use and adaptation by traditional techniques, which are an integral part of the heritage of conservation.
3. Regarding forest development, it seems clear that changes need to be made in the exploitation of wood resources.
4. The need for conservation policy tools should be considered:

- The reserves of integral zones should be areas sufficiently large enough to maintain the species' genetic polymorphism.
- The zone should be clearly delimited in hydrographic system fields to facilitate oversight.

Relationship Between the Forests and Reindeer: Problems and Possible Solutions Herds by Olof Johanson

Conflict over Land Rights

Sapmi, the land of the Sami, was gradually settled by Sweden, Norway, Finland, and part of Russia during the last half of the millennium. There are 228,000 reindeer in Sweden today (1997-98). The number of reindeer fluctuates naturally each year but is ultimately controlled by the regional authorities of each Scandinavian country in all Sami communities. This limit is based on the land's capability of supporting reindeer in the communities. A family making a living on reindeer breeding alone needs some 400 to 600 reindeer.

The Samis' right to allow reindeer to graze on state or private lands is not recognized in Sweden. Swedish policy on grazing continues to rest upon the Reindeer Breeding Act and focuses on Sami community areas. Paragraph 3 of Sweden's Reindeer Breeding Act

acknowledges that the reindeer herds perhaps move year-round to herding areas and, that during the winter, between October and April, to winter breeding grounds.

For decades, the Samis' right, based on custom and usage, to breed reindeer on private lands in winter, has been a challenge — chiefly because private lands are managed by their owners and forest associations. The owners of the lands claim that the reindeer damage their pine plantings by scraping their antlers on the small trees. In fact, elk cause the most damage.

These conflicts have culminated in lawsuits against the Sami communities by the forest owners. Lacking legal documents which would support the time-honored use of land to graze reindeer, the Sami are losing their cases in court and will probably not only lose large sums of money but continue to lose their breeding rights.

Measures to permit reindeer breeding, taking forest management practices into account, should consider the:

- Extent and pattern of forest clearing; and
- Establishment of commercial standards.

Current legislation does not guarantee the Samis' right to their traditional practice of winter breeding and the only alternatives for the Sami communities are the Swedish Forest Stewardship Council (FSC) reindeer breeding standards, which are the result of a national process.The FSC reindeer breeding forest certification permits breeding on traditional Sami land but consultation between private landowners and Sami communities is mandatory. The availability of old lichen-covered trees in the forests should be considered. There are policy requirements that are of direct interest to reindeer breeding, but it can be said, that natural conservation requirements are favorable for reindeer breeding.

Some of the private owners have developed procedures for accepting reindeer breeding on their lands if they receive indemnification for damage caused to the young forests by the reindeer. The Tassasen Sami community has thus asked the government to create a "reindeer damage fund" financed by the state. Some members of parliament favor creating that fund, but the government has not yet responded. Unfortunately, some private owners are not prepared to accept reindeer breeding on their land.

Underlying Causes of Deforestation

- Division of Indigenous territories by national borders, which has affected traditional land use, particularly for animal breeding (deer). The stability of the forests is altered when humans change the rules of nature's game;
- Access to and ownership of land is the major conflict in Sweden between private owners and the government itself. Control of the land is in private hands and logging is indiscriminate. Therefore, the Indigenous peoples are requesting certification of woods with FSC participation. In this case, an underlying cause is the lack of knowledge of the lands, territories, and natural resources that benefit the Indigenous Peoples; and
- State policies denying the Indigenous Peoples their rights.

Proposed Solutions for Forest Conservation

- Protection of deer breeding and legalization of the Indigenous lands; as the basic problem here is that Indigenous Peoples do not have a written document guaranteeing their ownership of the lands;
- Legislative changes to recognize traditional lands and the rights of the Indigenous Peoples; and
- Find positive methods of sustainable development without changing the goals of conservation.

Underlying Causes of Deforestation and Forest Degradation in the Province of Paztaza by CONFENIAE-COICA

Ecuador's biological wealth, especially in the province of Pastaza which is 88% covered by forest, is in danger. These dangers stem not only from deforestation, but also from economic models based on unusual deforestation practices, such as extensive stockbreeding and farming. These include the monoculture of exotic species such as African palm, coffee, cacao, and Quito orange, along with the indiscriminate settlement of those territories by individuals who have no respect for the traditional knowledge of real sustainable development.

The causes of forest degradation also have extreme negative impacts on the preservation of the region's biodiversity and genetic resources. This is a region where six Indigenous Peoples live: the Quichua, Huaorani, Záparo, Shuar, Achuar, and Shiwiar. These peoples have a close relationship with the forest and its resources, since they are dependent on the forests' resources for game, fish, medicinal plants, and food, and use them, for example, for handicrafts, construction, and

ceremonies. The remaining 25% of their activities consists of production involving diversified farming and animal breeding.

The underlying causes of the loss of the tropical forests and biodiversity are generally impacted by factors originating outside the forests, often due to the role played by the local populations, e.g., small farmers, large corporations, and the state itself. Other factors include the uncertainty of land possession, inappropriate land allocation, non-forest uses for immediate return such as extensive farming and stockbreeding, indiscriminate fishing and hunting, waste of raw materials, inappropriate utilization and management of the natural forests, insufficient reforestation, or simply the lack of coordination policies and insufficient capacity on the part of the entity in charge of forests decision-making.

Other causes that should be mentioned are: state activities such as petroleum exploitation, mining, and road building; private sector agricultural, stockbreeding, and mining activities; and pressures resulting from population factors, such as overuse of resources, uncontrolled settlement of areas with poor soil, uncontrolled human settlements, poverty, rural underemployment, and migration.

Given all of these problems, the Indigenous Peoples and the organizations representing them have historically encouraged solutions that are often ignored by government authorities — concrete solutions born of the daily lives of those peoples, based on centuries-old knowledge. The Organization of Indigenous Peoples of Pastaza (OPIP) has proposed some specific actions to confront deforestation:

Greenpeace & South/Central American Indian blockade of timber importer Frischeis, Austria

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- taking an inventory and systematizing the forest resources that exist in the Indigenous territories;
- encouraging territorial organization, zoning, and environmental planning for appropriate mid-term and long-term use of resources; and
- implementing plans for diversified production and management of non-timber yielding resources, such as agriculture, fish farming, handicrafts, forest wildlife management, small animal breeding, management of extractive resources, reforestation, wood products, ecotourism programs, and others.

It is also important to have specific action plans to prepare for and strengthen sustainable management of resources. In this context it is recommended to:

- develop and implement diversified production systems for forest agriculture and sheep herding;
- support initiatives for Amazonian resource germplasm production centers;
- develop sustainable forest production
- diversify and consolidate production in accordance with agro-climatic conditions;
- carry out research and technology transfer programs using participatory work methods;
- implement preferential lines of credit for small producers in areas that do not threaten the forests and their biodiversity; and
- design mechanisms to resolve conflicts among companies, small producers, and Indigenous populations.

Underlying Causes

- Absence of clear environmental policies to control natural resource extractive activities, in this case, by petroleum and mining companies.
- Absence of clear conservation polices in protected areas. In the specific case of Amazonia, the protected areas are divided into petroleum company blocks and franchised for hydrocarbon exploitation. Conservation legislation is considered secondary to a special mining and hydrocarbon law.
- Absence of recognition that the Indigenous territories must also be preserved in their own right.
- Absence of clear policies regarding recognition of the Indigenous territories.

- Migration of people who come from other places because of the absence of a clear policy of equitable distribution of wealth and allocation of land holding in non-forest sectors.
- Lack of sources of employment in the cities.
- International conflicts over unmarked borders, resulting in wars with direct consequences for the stability of the forests (planting land mines).
- Illicit activities carried out by outside agents in Indigenous territories.
- The inclusion of Amazonia in the respective countries' economic development. Currently, with the signing of the Peace Accord between Ecuador and Peru, the governments are considering the implementation of large scale development plans without considering the participation of Indigenous Peoples.

As long as there is no clear policy for the Amazon basin and its people, colonization, and therefore deforestation, will continue to exist.

Underlying Causes of Deforestation and Degradation of the Native Forest in the Mapuche Territory of Chile by Aucan Huilcaman

The study encompasses the temperate native forests in the interior of the Mapuche territory, which includes regions VII, IX, and X of Chile. The territory hosts the majority of Chile's Mapuche population, extending to and bordering Argentina. Cultural life revolves around the native forest, with its araucaria, raulí, coigue, lenga, oak, and evergreens.

These unique species are currently being invaded by exotic species as a result of the military government's economic policies and the uncontrolled presence of transnational capital which is used by a forest consortia to generate capital at the expense of the native forest.

Throughout the past, four forces have determined the fate of the Mapuches' lands and forests: the European settlers, the Chilean settlers, the Chilean state, and the Mapuches themselves. The Mapuches have been hardest hit from these forces, especially with the European settlers whose actions were behind many of the underlying causes leading to deforestation and degradation of the native forests.

The Mapuches have based their lives for many centuries on the area's ecological systems. As a matter of principle, they perform these activities in complete harmony with the ecosystems by stockbreeding, gathering basic foods provided by the araucaria forest, and by spiritual and religious ceremonies centered on the forest.

The principal cause of deforestation is the replacement of the native forest with extensive plantings of radiata pine and eucalyptus, encouraged, through Executive Order 701, by the military junta that gained power in 1973. Although the original intent was to create new forests in deforested zones, in practice some 30% of the native forests covering the coastal mountain range were eliminated. This occurred from 1978 to 1987 in Region VIII with the logging and replacement of forests by radiata pine. Up to 1992, at least 150,000 hectares of native forests had been replaced by exotic species. To complete the cycle of destruction of the native forest, various policies were employed, such as the practice of planting exotic trees on highly productive farming soil by various enterprises.

Protected areas have also had a major impact on forest degradation. Policies in regards to these areas reveal discrimination against the Mapuche culture by the state. These policies have eliminated any possibility of Mapuche participation in strategies to maintain and appropriate use of the biodiversity in the Mapuche territory's forests. Another underlying cause is the activity of tourist companies, which use the protected areas to promote tourism and which have exerted pressure at different levels to secure their interests.

In addition, the systematic destruction of Mapuche land, as a result of the Chilean state policy that forced annexation of Mapuche territory and a dominating presence of European settlers that remain in the country, are underlying causes. These settlers established themselves in the Mapuche territory, including their forests, under an alliance between the state and a nascent financial group whose forest-destroying activities were fully backed by the Chilean government.

Deforestation has taken many different shapes. Among the most notable were the forest fires, the planting of wheat and cereals, the excessive number of laws whose purpose was to reduce the Mapuche communities and to usurp their lands only to be handed over to foreign settlers. The settlers accumulated land under the aegis of, and in close alliance with, the state while breaking Mapuche communities that tried to resist the occupation of their territory. In addition, racial discrimination by the state has been shown through the many implemented policies which devalue Mapuche knowledge; through multilateral economic agreements such as the North American Free Trade Agreement

(NAFTA) and MERCOSUR; and through economic policies reflective of globalization, which encourage the removal of natural resources, especially from native forests and protected areas. The Mapuche are also still subject to old Chilean laws which were enacted in times when there was an open policy of usurping Mapuche lands and forests.

Additional Presentation: Underlying Causes of Deforestation and Forest Degradation in the Forests of Totonicapán, Guatemala

The forests of Totonicapán have been preserved and maintained mainly because of the close relationship that exists between the Mayans and their natural surroundings. Efforts are made to preserve the forests because it ensures supply and accessibility to water, which is a vital resource for the communities.

Underlying Causes of Deforestation

Deforestation began with the conquest and invasion of the Indigenous Peoples' territories, which directly or indirectly lead to the following underlying causes now associated with forest loss:

- Denial of the Indigenous Peoples' basic rights. Although there have been constitutional reforms, these do not guarantee improvement of the Indigenous Communities' socioeconomic conditions;
- Absence of secure land tenure systems for Indigenous Communities;
- Imposition of monoculture where traditional Mayan crops were once grown;
- Absence of economic alternatives. This is critical because of the lack of sources of employment that places a great deal of pressure on the forests, destroying not only timber-yielding resources but all biodiversity; and
- Population growth — also an underlying cause of deforestation because of the pressure that it places on the forests.

Additional Underlying Causes Identified in Countries Represented at the Workshop

Costa Rica

- Absence of legal recognition of Indigenous Peoples by the part of the Government of Costa Rica;
- Only the state has the power to delimit Indigenous territories;
- Tourism in the Indigenous territories;
- Marketing of wood; and
- Lack of awareness of the Indigenous contributions to national development.

New Zealand

- Incentives for agriculture sponsored by government programs;
- Unemployment and economic dependency;
- Land settlement; and
- Continuous discrimination against Indigenous Peoples.

Russia

- Industrialization of the countryside;
- Loss of cultural identity on the part of the Indigenous Peoples;
- Absence of funds to care for the forests and territories;
- Absence of basic services for Indigenous Peoples; and
- Absence of markets for Indigenous Peoples' traditional products.

Nigeria

- Lack of a solid forest management plan as regards commercialization of forest products, and a related lack of interest in the preservation of forests; and
- Government granted permission to exploit natural resources in the Indigenous territories, failing to recognize the Indigenous Peoples' ability to use their territories rationally.

French Guyana

- Population growth;
- Irregular economic development;
- Gold mining and indiscriminate hunting of animals;
- Aerospace installations;
- Agricultural mega-projects, such as rice cultivation; and
- Failure to grant Indigenous Peoples legal standing for management of the forests.

Suriname

- Concessions of land, which originally belonged to the Indigenous Peoples and the Maroons, to the wood industry;
- Absence of mechanisms for consulting with Indigenous Peoples about the risks engendered by the inappropriate use of resources;
- Absence of harsh penalties for companies that cause deforestation; and
- Absence of a clear government policy regarding legalization of Indigenous territories.

Indonesia

- Absence of the right of the Indigenous Peoples to self-determination;
- Absence of government development plans for the Indigenous Peoples; and
- Concealment of indiscriminate logging by the government.

Mexico

- Insecure land tenure systems, with many Indigenous territories not officially delimited;
- Absence of basic services in the Indigenous communities, allowing the forest industry the opportunity to penetrate communities with offers to improve basic infrastructure (which only holds true until they remove all of the wood);
- The granting of concessions on the part of the government without the consent of Indigenous Peoples;
- Electricity-generating, mega-project construction;
- Imposition of monocultures; and
- Internal armed conflict.

Peru

- Indiscriminate exploitation of land for farming;
- Mining on a large scale without impact prevention;
- Privatization of land;
- Loss of traditional knowledge derived from Indigenous Peoples and their cultures;
- Misuse and mishandling of medicinal plants; and
- Absence of environmental education.

Colombia

- Illegal crops and internal armed conflict;
- High rate of poverty resulting in migration to forest areas;
- Mining and petroleum exploitation without environmental impact assessment / prevention;
- Imposition of development plans without consulting Indigenous Peoples; and
- Absence of incentives to strengthen the Indigenous Peoples' traditional practices.

El Salvador

- Marginalization of the Indigenous Peoples by the government;
- Government policy of eliminating Indigenous Organizations;
- Poverty; and
- The government's lack of concern regarding indiscriminate logging, which results in wood industries penetrating forest territories.

List of Case Studies and Additional Presentation

Case Studies

- *Deforestation and Forest Degradation in Thailand*, Prasert Trakansuphakon.
- *Forest Degradation in the Forests of Congo Crete Nile* by Benon Mugarura.
- Sami Case Study: Forests and Reindeer Herds: *Problems and Possible Solutions* by Olof Johanson.
- *Underlying Causes of Deforestation and Forest Degradation in the Province of Paztaza* by the Confederation of the Nationalities Indigenous to the Amazon of Ecuador-Coordinating Body of Indigenous Communities of the Amazon Basin (CONFENIAE-COICA).
- *Underlying Causes of Deforestation and Degradation of the Native Forest in the Mapuche Territory of Chile* by Aucan Huilcaman.

The following matrix was prepared by workshop participants to illustrate the underlying causes identified at various levels and the solutions proposed to address them.

Level	Underlying Cause	Actor	Recommendations	Actions
International	Weakness and ambiguity of international and national legislation regarding recognition of the Indigenous territories. Political, socioeconomic, and/or cultural colonialism imposed through economic polices promoted by the developed countries and their transnational companies. Inappropriate development plan and model imposed. View of the forests as a source of money and foreign currency, and excessive consumption of forest products. Regional and international accords and agreements that encourage international commerce, jeopardizing natural resources. Gradual loss and destruction of Indigenous spirituality, world view, identity, and knowledge. Foreign debt pressures. Development loans and international assistance that encourage unsustainable development. Persistent racial discrimination vis-à-vis Indigenous knowledge on natural resource management. State policies that encourage the use of land and other concessions for logging and mining companies and the absence of territorial planning. Changes in local attitudes toward land and territory when the state takes possession. Economic pressure to increase production of goods for export and pastureland for livestock. Colonization policies vis-à-vis Indigenous territories. Militarization of Indigenous territories. Inappropriate technology.	United Nations Organization of American States World Bank IDB GEF [Global Environmental Facility] IMF [International Monetary Fund]	Demand that governments ratify and enforce international standards for conservation, utilization, and management of natural resources. Encourage traditional practices of utilization and management of natural resources. Propose legislation for conservation and sustainable use of natural resources based on Indigenous knowledge. Coordinate with public and private institutions to implement conservation programs. Fight for recognition of territorial rights. Reinforce traditional knowledge. Publicize and comply with existing laws. Publicize the laws at all levels, especially at the local level. Direct access of organizations to international cooperation and aidagencies.	Give priority to developing legislation for the protection of natural resources and the environment. Publicity and heightened public awareness. Environmental education by UNESCO. Coordination with local, regional, national, and international organizations to protect the environment. Restrict agrochemicals and monoculture. Strengthen international cooperation. Encourage the recovery and exchange of traditional knowledge.

Level	Underlying Cause	Actor	Recommendations	Actions
International	Government greed and corruption and organized crime which destroy the forests. Deliberate government pauperization and impoverishment of the Indigenous Peoples. Inequitable distribution or possession of land and settlement patterns. Inappropriate and insufficient environmental and cultural education. Structural adjustment programs. Population growth and migration. International policies imposed on the states in the South.			
Regional	Regional economic blocks that impose their economic interests (NAFTA, MERCOSUR, etc.) Forced resettlement.	Regional organizations O. A. S.		
National	Absence of laws for full legal recognition of the rights, land use, and territories of the Indigenous Peoples. Encouragement of an unsustainable agricultural model that includes the use of chemical products, monoculture, the introduction of new species, and intensive land use. Governments' refusal to enforce international standards and laws for the protection, conservation, utilization, and management of the environment and its natural resources. Rational logging. Monoculture. New plantings. Internal colonialism. Absence of legal certainty vis-à-vis land tenure. Foreign debt. Weak laws.	Governments Organizations NGOs Councils Churches Legislators		

Level	Underlying Cause	Actor	Recommendations	Actions
National	Development policies which encourage the concentration of vast expanses of land in the hands of a few. Globalization policies. The states' lack of acknowledgement regarding the many cultures and nationalities that comprise a country. Irrational use of agrochemicals.			
Local	Loss of territories and land, and control of natural resources, by the Indigenous Communities. Discrimination. Creating division among the communities by outside agents Failure to plan for land use Use of agrochemicals. Destruction of the Indigenous identity.	Municipalities, local governments, weak organization of the Indigenous Peoples. Grassroots organizations The community Schools, professional associations, unions, campesino organizations, women, youths, and political parties.		

Additional Presentation

- *The Forests of Totonicapán in Guatemala.*

List of Participants

- Bawariat, Pius, Intelectual Talimbar, Indonesia
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- Vásquez, Edwin, AIDESEP, Peru
- Viteri, Cesar, Red Latinoamerica de Bosques, Ecuador
- Zapeta, Rufino CICAFOC, Guatemala

Latin America

The Latin American Workshop on Underlying Causes (UC) of Deforestation and Forest Degradation was held in Santiago, Chile between October 8-10, 1998. Thirty-two participants were present, representing eleven countries of different regions of South America, Central America and the Caribbean.

The workshop was based on the preparation of five case studies elaborated upon by a representative of an NGO and a representative of the local community affected by the particular case of deforestation. An advisory committee selected the studies in April 1998, after an invitation to present case study profiles had been distributed through electronic networks in the region. These studies were distributed one month before the workshop to workshop participants and an electronic discussion was generated. Six in-depth studies were also presented during the workshop.

The Latin American workshop was inaugurated in the FAO building in Santiago. Rosario Ortiz, Regional Focal Point for Latin America, Tomás Lopez R, Regional Representative of the FAO, Miguel Stutzin, President of CODEFF – the local co-organizer of the workshop — and Professor David Barkin of the University Autonoma Metropolitana de Mexico made presentations.

The workshop was divided into two phases – an underlying cause identification and establishment of priorities / hierarchies-phase, and a solutions phase — carried out in three different working groups. Before this latter phase started, David Barkin gave an insightful presentation. The definitions of objectives, actions, responsible actors, indicators, and timing were clarified and formed the basis for recommendations to the IFF.

Main International and National Underlying Causes of Deforestation and Forest Degradation Identified by the Latin American Workshop

The Latin American workshop synthesis of the main international and national underlying causes of forest loss are listed below. The current globalization trend is the framework in which all ambits of influence (economic, social, cultural and political) and levels of causalities are inscribed. Ignorance or inadequate understanding of the forests' full benefits and functions, the under-valuation of forests as an ecosystem, the different philosophical conceptions in the Man-Society-Nature relationship on which Occidental societies base their standard of life, and the demand of goods through unsustainable production patterns all permeate the underlying causes of various levels of forest loss.

International level

Economic Boundaries:

- Development model
- International capital mobility
- State debts that obligate countries to rapidly generate currency
- GATT- WTO domination of the international economy
- Unsustainable production and consumption patterns linked with standards of living and the necessity of goods
- Non-recognition of the traditional knowledge of Indigenous, black, and peasant communities

Cultural Boundaries:

- Non-consensus on the definition of forests
- Waste culture
- Global / homogeneous *versus* local / heterogeneous

National Level

Economic Boundaries:

- Re-orientation of production towards exportation
- Inequitable patterns of land distribution or land or agrarian counter-reform
- Perverse incentives

Policy Boundaries:

- National and sectoral policies that involve deforestation and forest degradation
- Lack of clear forest policies in relation to the conservation and management of sustainable forests
- Specific policies to promote the expansion of the forest industry

- Weak and centralized regulatory systems
- Non-participation of social organizations, Indigenous Peoples, black, and peasant communities in policy design and implementation

Social boundary:

- Non-recognition of the territorial rights and traditional knowledge of Indigenous Peoples

Cultural boundaries:

- Different ways of representing nature
- Consumption models
- Mining (a colonial approach to extraction)

Workshop and Case Study Recommendations

The workshop identified a number of objectives, at the international, national, and local community levels, and set out proposals for actions to achieve these objectives.

International Level

At the international level, objectives are:

1. To avoid any development project that leads to forest destruction.
   Proposals for action:
   - Raise awareness of the values of forests to Indigenous and traditional communities among donor institutions and countries; and
   - Raise awareness in society as a whole as to the environmental services provided by forests.
2. To support local projects for sustainable management and self-sufficiency.
   Proposals for action:
   - Promote diversification;
   - Modify consumption patterns;
   - Add value to forests and accompanying services;
   - Explicitly define maximum appropriation; and
   - Establish an "internal law" of forest management.
3. To support the non-payment of external debt.
   Proposals for action:
   - Create consensus among Latin American countries on non-payment of external debt; and
   - Analyze specific impacts of external debt on forests and agree on measures to avoid them.
4. To guarantee that the proposed macro-economic reforms be preceded by a detailed social and environmental impact assessment.
   Proposals for action:
   - Exert pressure through civil society to apply environmental regulations; and
   - Promote decentralized regulation systems.
5. To regulate transnational corporations' (TNC) activities.
   Proposals for action:
   - Create TNC monitoring systems among civil societies;
   - Reinforce the state's institutional capability to effectively monitor environmental and social impacts of development projects; and
   - Create a mechanism to guarantee that the countries from which the TNCs originate assume responsibility for their actions abroad.
6. To agree on multilateral agreements to reduce world paper consumption.
   Proposal for action:
   - Raise awareness of the impact of the increases foreseen in paper consumption through public campaigns; and
   - Link consumption with the supply derived from sustainable forest ecosystems.

Ricardo Carrere participates in analyzing the chain of causality in the Latin American workshop.

National level

At the national level, the workshop put forward the following objectives:

1. To strengthen and redefine state functions.
   Proposal for action:
   - Incorporate environment and human development into economic growth proposals in the search for alternatives for development;

- Tax TNCs (similar to the Tobin Tax), and improve the tribute systems applied to national producers that use natural resources, in order to augment in-coming state rents; and
- Promote regulatory and control systems over forests.

2. To strengthen the participation by civil society and ethnic movements in forest management.
   Proposals for action:
   - Ensure participation of Indigenous Peoples and local communities in policy negotiations;
   - Create pressure from civil society to apply environmental regulations;
   - Promote initiatives to adapt and harmonize environmental legislation with other sectoral legislation (mining, land, energy, etc); and
   - Encourage participatory forest management research.
3. To address the inequitable distribution of land.
   Proposals for action:
   - Promote conflict resolution mechanisms in cases of land overlap;
   - Solidify the security and regulation processes of land property to clearly define the land ownership and/or forest resource use rights; and
   - Search for mechanisms to improve land access and/or forests' areas-use by small scale owners.
4. Guarantee Indigenous Peoples' and local communities' territorial rights.
   Proposals for action:
   - Recognize Indigenous and traditional communities' territorial rights; and
   - Ratify and apply the international treaties which recognize these rights (e.g., Convention 169, OIT).
5. Recognize Indigenous Peoples' and traditional communities' traditional forest knowledge.
   Proposals for action :
   - Assign an appropriate value to traditional forest knowledge; and
   - Incorporate traditional knowledge into the national regulatory system of natural resources.
6. To promote the design of community-formulated plans.
   Proposals for action:
   - Support mechanisms for community empowerment;
   - Restrict and/or audit transnational corporate action plans;
   - Analyze mechanisms to compensate communities for environmental services; and
   - Promote forest certification processes which respect social rights of communities.
7. To prevent patents on the DNA of living organisms.
   Proposal for action:
   - Renegotiate multilateral agreements (TRIPS).
8. To design and implement effective instruments for forest conservation.
   Proposals for action:
   - Promote research on forest management plans that consider forests as ecosystems and respect their biodiversity;
   - Identify and remove perverse incentives in different economic sectors;
   - Change the curriculum of the education systems for foresters;
   - Establish methodologies and holistic forest-valuation systems; and
   - Internalize environmental costs.
9. To promote alternative development policies based on local communities' needs.
   (see the following community level proposals for action)

Community Level

The workshop made the following specific local communities recommendations, related to inequitable distribution of land:

1. To strengthen the dynamics and processes of territorial and environmental appropriation, and defend and control Indigenous, black People and peasant communities.
   Proposals for action:
   - Create land legalization (collective titling, co-operatives, associations);
   - Mobilize the community to control and defend the territory;
   - Harmonize traditional practices and uses within the protected areas; and
   - Participate and co-management plans in protected areas.
2. To consolidate the local, regional and national organizations of Indigenous, black peoples' and peasants' communities.
   Proposals for action:
   - Empower leaders on peoples' rights;

- Exchange experience among organizations and communities in order to plan common activities;
- Create an inter-ethnic mechanism of regional/national/international coordination; and
- Build capacity of communities' leaders in environmental management.

3. To open up spaces in international negotiation processes for black and peasant communities: Proposals for action:
   - Organize an international campaign on black peoples'/peasants' community rights related to forests;
   - Create space for Afro-American leaders in the Underlying Causes Indigenous Peoples Organizations workshop (Quito, January 1999);
   - Enlarge the space for Afro-American leaders and peasants in the Global Workshop (Costa Rica, January 1999) and report on the presentations made in peasants' and black peoples' workshop; and
   - Guarantee participation of black peoples' and peasant communities in the IFF-3 meeting.
4. To improve quality of life and economic income of Indigenous, black, and peasant communities: Proposals for action:
   - Promote sustainable production alternatives;
   - Price products fairly;
   - Guarantee markets;
   - Open commercialization channels; and
   - Implement ethno-development plans in collective territories.

Summaries of Case Studies

Deforestation and Forest Degradation in the Region of the Black Communities of the Colombian Pacific by Hernán Cortés Arboleda, Black Communities Process and Eduardo Restrepo, Colombian Anthropology Institute

The Colombian Pacific region has been identified as having "the highest biodiversity concentration per unit area in the world," with 400 tree species and 800 vertebrates per hectare. This is greater than the known Amazonian biodiversity — with 2,000 plant species and 100 bird species being endemic. The main type of forest is tropical rainforest. Forests of this region can be homogenous and heterogeneous in their species composition. This region is characterized by an annual deforestation rate of 154,000 hectares. By the middle of the 1990's only 43% of the original estimated regional forest cover was left. Five million hectares have been deforested in the last four decades.

Ninety percent of the Pacific region's population are black people. They are descendants of African slaves brought over in the 17th century by the Europeans. The remaining 10% are mainly Indigenous, white and Mestizo. The Pacific black communities have developed culturally complex systems and practices, suitable for life in the pacific jungles. Practices such as hunting, fishing, shifting cultivation, gathering of fruits and animal products with ritual or food purposes are all elements of a flexible and multi-faceted system which allow adaptation to different aspects of the environment.

In the beginning of the 1990's, 60% of the country's timber consumption had its origin in the pacific native forests. Among the direct causes of deforestation and forest were forest exploitation, mining, agro-industry, subsistence agriculture and cattle ranching by new settlers. In the case study, the authors give a detailed description of the historical activities of the different industries (timber, oil palm, mining, tannin extraction, shrimps, and palmetto heart), the type of capital, the owners, the state's role, and the area deforested or degraded by each type of industry.

The predominance of an "extractive" economic model and unsustainable production and consumption patterns are the major underlying causes of forest loss in the Pacific region, according to the authors' analysis. Immediate profit has been the objective of every industry operating in the region without consideration of the environmental or social effects of its activities. The state forest and mining policies have supported this extractive model through the different concessions given to industries for ancestral territories in black people's communities[3]. The state control mechanisms are totally ineffective. Corruption and budgetary scarcity are intrinsic characteristics of regional forest offices.

[3] A recent law (70) issued in 1993 by the Colombian Government (giving back these territories to Afro-American communities as a collective property) is a first step towards finding solutions.

The current development model and the integration of the Pacific in the world economy via adjustment programs and the free trade have generated a new wave of forest destruction and are one of the underlying causes highlighted by the authors. The state, the new settlers and the external elite either consider nature to be an obstacle to "progress" or as a pool of resources to be exploited. This capitalist view of nature is opposed to the beliefs of the black communities who have an organic view of nature.

In the conclusion to their case study, the authors offer a strategy to end domination of nature by the current, extractive economic model. This strategy is based on the recognition of the territorial rights of the black people's communities and the collective titling of their ancestral territories as is stipulated in a recent Colombian law.

Social Exclusion and Development Domination: The Underlying Causes of Deforestation and Forest Degradation in Guyana by Marcus Colchester, Forest Peoples Program, and Virgil Ferreira, Amerindian Peoples Association

Guyana, a small country on the northern coast of South America, which gained independence from the British in 1966, is one of the most forested countries of the tropics. Over three-quarters of the national territory of 21.5 million hectares is covered by some kind of forest of which some 14 million hectares are considered fit for logging. Some 90% of the population live along the narrow, cultivated coastal strip, meaning that the interior of the country is even more sparsely populated. The dominant population there are the Amerindians, descendants of the country's original inhabitants and who now number some 60,000 people. Although rates of deforestation in Guyana are not high compared to other parts of the Americas and are limited to the coastal forests near settlements, the degradation of other forests of the interior is starting to become a real problem.

Guyana is experiencing a rapid degradation of its forests due to poorly regulated logging. Already, the majority of the country's accessible forests have been handed out as concessions mainly to foreign logging companies. While deforestation is not yet extensive, significant loss is being caused by fuel wood gathering, charcoal burning, mining, road building and, to an unknown extent, forest fires. There are concerns that cross border migration along a newly opened road from Brazil could initiate forest loss by migrant farmers but this is currently not a problem.

A complex web of historical and contemporary social and economic forces underlies these problems. The historical and continuing domination of the economy by trade interests and transnational corporations has resulted in a society divided by race and class. Amerindians and ex-plantation workers have suffered social exclusion, while an unaccountable, corrupt and manipulative political elite has established itself in power. Lack of transparency and the absence of strong civil institutions have allowed decisions to be made in regards to natural resources that favor these transnational corporations and political elite at the expense of the excluded social sectors and the environment.

During the years of one party rule, the economy was chronically mismanaged resulting in a massive debt burden and a growing dependency on foreign aid. Aid agency prescriptions to redress the balance of payments crisis through structural adjustment and a liberalization of the economy have encouraged an astoundingly rapid escalation in logging and mining. These activities are resulting in widespread deforestation and forest degradation. Although the government and the aid agencies have taken some measures to strengthen the state regulatory institutions that control logging and, to a lesser extent, mining, these have been too little, too late. Only since the mid-1990s have the IMF and the World Bank begun to give much attention to the need to build up the capacity of the government and to develop new environmental standards. Even so, the aid agencies have continued to be reluctant to confront the entrenched problem of social exclusion. Only intense advocacy by NGOs has obliged, for example, the British Department for International Development to push for changes in forest policy to favor Amerindian interests. The government's reluctance to recognize Amerindian land rights remains a major obstacle to progressive reforms.

One of the recommendations given by the author is that the debt burden of Guyana must be further relieved and proposed macroeconomics reforms must be preceded by a comprehensive social and environmental impact assessment.

Deforestation in the Yvytyrusu Mountains, Paraguay by Francisco Nuñez, Yvytyrusu Hill Dwellers Association (APCY) and Jose Ibarra, Fundation Alter-Vida

Paraguay has had the highest deforestation rate of South America between the years of 1981 and 1990. The

Yvytyrusu Mountains in the Guaira Department is covered with subtropical humid forests characteristic of the eastern region of Paraguay. These mountains are inhabited by small-scale farmers with territories that vary from three to ten hectares and by medium and large landowners whose properties oscillate between 60 to 1,000 hectares.

The main national underlying causes identified as forces behind deforestation in the Yvytyrusu mountains are state development policies related to colonization and the Paraguayan agrarian reform processes promoted in the 1960s during the Gral. Stroessner dictatorship period. The international organizations (IMF, World Bank, AID, IDB, and Progress Alliance strategies) helped different governments of Latin America with financial and technical assistance to support agrarian reform programs. This agrarian reform was a temporary solution to resolve the peasants' land needs. In the beginning of the colonization programs, the distant and rocky forest lands of Yvytyrusu were inhabited by Indigenous Peoples. The lands were converted to agrarian use near the mountains in the areas of colonization, to balance the concentration of land which had been inequitably distributed within the Guaira Department. During the 1960s, 4.2% of the land was used for agriculture with only 1.6 hectares of that land being used by the peasant population. Even today, 90% of peasants do not have definite property titles.

The transformation of forestlands for different agricultural uses has been promoted by the prevailing concept that forest cover was classified as unproductive land. The policy imposed was to encourage transformation of this land into agricultural land. Credits for small-scale farmers that could have promoted the sustainable use of forests and its conservation, or for any productive alternative have never been seen in Yvytyrusu.

Since 1990, when the Yvytyrusu National Park nature reserve was declared, 200 small scale farmers belonging to eight different communities of the Yvytyrusu Mountains formed an Association of Cerro Yvytyrusu dwellers (A.P.C.Y.) in order to defend their rights in the face of possible displacement with the creation of the Park.

As international underlying causes of deforestation and forest degradation, the case study authors identify international markets for agricultural products, particularly the demand for and the high prices of cotton and soy products. The promotion of the country agro-export model coincides with the highest deforestation rates in Paraguay. Direct links with the deforestation rates of the Yvytyrusu area still need to be established, however. Historically, Yvytyrusu forests were incorporated into the international timber market through the export of timber from six Paraguayan tree species. With the MercoSur Treaty, to which Paraguay is a signatory, it is hoped that the remaining forests will not be destroyed by an increase in demand. Among the possible solutions to the underlying causes, the authors' stress the importance of promoting community development, democratization, sustainable production and formulation of public policy based on land-use management.

The Ecological Reserve and Protected Forest of Mache-Chindul, Esmeraldas Province in Ecuador by Antolin Tapuyo, Chachi Community Leader of Mache-Chindul and Domingo Paredes, Fundacion Natura

The ecological reserve and protected forest of Mache–Chindul consists of 120,000 hectares and is located in the Esmeraldas Province in northwest Ecuador. This territory is part of the Choco biographical region characterized by a unique level of endemic species and a high level of biodiversity. The tropical rainforests and the mangroves that cover this province are threatened with extinction. Ecuador timber consumption is 9.7 million cubic meters annually and 8.5 million of this total is derived from native forests. The northwest of the country, particularly Esmeralda Province, provides 1.7 million cubic meters of the timber consumed.

In 1967, the province had approximately 1.06 million hectares of forests and by 1993, this amount had been reduced to 800,000 hectares. With an annual rate of timber exploitation amounting to 500,000 m^3, it is foreseen that the province's forests will be extinct by 2005.

The area of Mache–Chindul is inhabited by three Chachi Indigenous Communities (San Salvador, Balzar and Chorerra Grande) and by more than 30 dispersed colonies. The Chachi's communities are dependent on timber extraction to finance the education of their children in the nearest cities and to cover their debts. The construction of roads (the planned Marginal-Pacific road), the shrimp factories in the southwest of the reserve, the conversion of forest land into cattle ranching and agricultural use, the exploitation of forests by the Chachi, new colonist settlers and commercial enterprises

are all among the direct causes of deforestation and forest degradation according to the authors of the case study.

The authors identify development styles and strategies as being underlying causes of deforestation and forest degradation. The authors' quote Baez, the dean of the Economic Faculty of the Catholic University of Ecuador, "Ecuador and the rest of the emergent economies have no possibility of financing their development while paying the imperial tribute called the external debt, which, in the case of Ecuador, is 50% of the state budget." Indeed, the strategy to generate currency for paying debts is based on agro-mining export, a reduction of state intervention, and, elimination of tariff barriers and fiscal austerity — in sum — the neo–liberal economic model. The focus on this strategy and the complete neglect of nature has generated a social situation in Ecuador characterized by poverty, marginalism and precarious living conditions. These issues are subordinate to the global market economy.

According to the case study, the Chachi community has also identified the following as underlying causes of deforestation: patterns of consumption in western societies, low prices of Chachi products in the international economy, and the pressure exerted by international organizations such as the World Bank and IMF on the national economy. The Chachi find that all the conditions linked to debt payment violate fundamental norms of peaceful cohabitation and solidarity among peoples.

Finally, the authors identify all the objectives, motivations, incentives, contradictions and strategies of different actors in the deforestation process and recommend short, medium, and long-term solutions to tackle the main underlying causes.

In-Depth Studies

The Role of Industry: the Aracruz Case Study by Rosa Roldán, Environment Project IBASE

Aracruz Cellulose is the world's biggest pulp industry of short fiber. Aracruz Cellulose possesses 203,000 hectares of lands of which 132,000 hectares consists of. *Eucalyptus*. Large parts of these lands, belonged, traditionally, to the Tupinikim and Guarani Indigenous Communities as proven by an official governmental study. Since 1967, Aracruz has purchased these lands indirectly, through intermediaries. The state has subsidized private timber enterprises through programs of incentives and tax reductions which promote monocultures of exotic species, and with infrastructure policies. The money to support these subsidies and incentives has come from international banks and other financial institutions, such as the IMF, as part of a general strategy to support large export-oriented enterprises. Aracruz exports 95% of its pulp production and has been benefiting from the growing hunger for paper in countries from the North.

Between 1975 and 1983, the Tupinikim and Guarani recuperated 4,492 hectares of land and between 1993 and 1998 they recuperated another 2,571 hectares. Although they have a constitutional right to much more land, the Brazilian government is in no hurry as it has been benefiting from the economic returns of Aracruz Cellulose.

Aracruz Cellulose presents itself as a sustainable forest management enterprise with a sensitivity to social issues. It claims that for each 2.4 hectares of eucalyptus it grows, it preserves one hectare of native forest. It also argues that it provides employment to the local people. In 1990, 7,000 were indeed employed. Today, however, Aracruz has more or less only 2,500 employees.

Macro-Economic Factors and Sectoral Policies which Influence Deforestation and Forest Degradation, by Nicolo Gligo, CEPAL

If we analyze development approaches and models that have evolved and prevailed in Latin America, we conclude rapidly that they have been destructive to natural resources. Even if current international conditions do not permit us to change the model of economic growth and the consequential development approaches, we can at least slow down or mitigate some trends that deteriorate our ecosystems.

At the national level, we have to differentiate between explicit and implicit environmental strategies and policies. We have been primarily concerned in Latin America with explicit strategies and policies, which tend to be reactive. These policies, formulated by ministries of environment and national commissions of the environment, are created to deal with emergency problems. The environmental institutions which generate these policies are forgotten institutions due to the fact that there is no political will from other governmental institutions to incorporate environment issues into their agendas and to work with

environmental agencies in a pro-active manner. The forest departments found in these environmental institutions are neglected even more by the dominant powers. Historically, reactive policies have been demonstrated as being inefficient.

"Implicit" environmental policies determine the real fate of forest ecosystems. These policies are environmental policies, so to speak, as they have direct effects on the environment. They are found in other sectors of the economy. Colonization, infrastructure development, energy policy, and timber and pulp production policy are perfect examples of implicit environmental policies in every country of Latin America. All these policies are *negative* policies in regards to the environment.

At the international level, there are several other underlying causes that affect the conservation and sustainable use of Latin American forest ecosystems. Current globalization has strengthened the role of TNCs (transnational corporations) — allowing them to have complete control over there activities rather than be controlled by the societies they invade. In addition, science and technology have fallen into the process of globalization and are, as a consequence, more concerned with developing potentially harmful agricultural production technologies than with understanding forests as a whole in their ecosystems and their accompanying benefits.

The new valuation of forest ecosystems as biodiversity reservoirs and carbon sinks may increase bargaining power at international and national negotiations over the fate of forests. Citizen participation is crucial for exerting international influence with regards to the budding change in how forests are valued.

Central America: The Case of Forest Fires by Alberto Salas, IUCN-ORMA

In Central America, 1.5 million hectares were affected by forest fires during the summer of 1998. This is the equivalent to four years of deforestation in the seven countries of the region.

The economic losses of timber and non-timber products, biodiversity, water, soils, ecotourism, and landscape, and, the emissions of CO_2 caused by forest fires has been calculated by the author to be a total of US$5.3 billion. Without including CO_2 costs, the economic loss is approximately US$489 million. The indirect impacts on air and land transport and public health were also evaluated but were not included in the cost calculations by the case study because of the lack of reliable statistics.

The author lists the following as the causes of the forest fires in Central America: a) institutional and political causes, including an inadequate system of detection, organizational weakness, an inadequate legal framework, lack of coordination, lack of capacity and equipment, and incoherent sectoral policies; b) agricultural causes, including land-use changes, industrial crops, extensive cattle ranching and subsistence agriculture; and c) forests causes, including the lack of sustainable forest management and the lack of regulation and control.

The Maya Biosphere Reserve in Peten, Guatemala: Community Forest Concessions by Marcedonio Cortave, ACOFOP

The forests of Peten (Guatemala), Chiapas (Mexico) and Belize form together what is called, "The Maya Jungle," which is the biggest tropical rainforest north of the Amazon. In Peten, a northern department of Guatemala, the tropical rainforest is protected by the Maya Biosphere Reserve (20,000 km^2), which is the biggest forest reserve in Central America. The direct causes of deforestation and forest degradation in Peten are timber exploitation, cattle ranching, shifting cultivation, mining, and forest fires. The author also identifies the actors of each of these causes and their motives. The main underlying causes of deforestation and forest degradation are: inequitable distribution of land and rural migration.

Since 1992, the peasant communities affected by the creation of the Maya Biosphere Reserve has formed an association representing 16 communities and two cooperatives called ACOFOP. Its main objective is to promote social and economic development and improvement of their life quality through their participation in forest conservation and sustainable use practices. The government has recently given communities forest concessions inside the Maya Biosphere Reserve. This means that the ACOFOP communities will have the right to use the forest area for 25 years.

During the Central American forests fires in the summer of 1998, the community forest concessions were least affected. The reasons for this are summarized by one of the community concession members: "Because we love our forests, we take care of it. We eat from the forests,

we support the studies of our children from them, who will take care of the house of another?"

Deforestation and Forest Degradation in the Cuban Forests in Colonial and Neo-colonial History and the Reversal of this Unsustainable Illness with the Cuban Revolution by Adalberto Merrero et al., Cuban Research Forest Institute

Today the Cuban archipelago is covered by forests in 21% of its territory (2.41 million hectares). The mangrove ecosystems cover 70% of the Cuban coasts and represent 26% of the total forest cover of the archipelago. Deforestation and forest degradation started in Cuba with the arrival of the Europeans five centuries ago at which time 80% to 90% of the territory was covered by forests. The main direct causes of the Cuban forest loss, according to the authors, occurred before the Cuban revolution (1959) and were the sugar industry and other agro-industries, cattle ranching, and mining. The authors also highlight hurricanes and cyclones, contamination by residual waters from the sugar, pork and cattle industry, construction of infrastructure for tourism and agriculture, forest fires and progressive water salinization as direct causes.

Underlying causes are identified as European colonization, North American neo-colonization, corrupt government policies, legislation that was never implemented, and unsustainable production and consumption patterns. The amount of forest cover directly preceding the Cuban Revolution was 13.4% of the total Cuban territory.

Silviculture development has been one of the objectives of the Cuban Revolution. The reforestation programs in different areas of the country have allowed the forest area to increase from 13.4% to 21.6%.

List of Case Studies and In-depth Studies

Country Case Studies

- *Southern Chilean Native Forests and the Mapuches* by Rodrigo Catalan, Centro de Educación y Tecnología and Ruperto Ramos, Indigenous Community Juan Queupán.
- *Deforestation, Forest Degradation in the Region of the Black People Communities of the Colombian Pacific* by Hernán Cortés Arboleda, Black Communities Process, and Eduardo Restrepo, Colombian Anthropology Institute.
- *Social Exclusion and Development Domination: The Underlying Causes of Deforestation and Forest Degradation in Guyana* by Marcus Colchester, Forest Peoples Program, and Virgil Ferreira, Amerindian Peoples Association.
- *Deforestation in the Yvytyrusu Mountains, Paraguay* by Francisco Nuñez, Yvytyrusu Hill Dwellers Association (APCY) and Jose Ibarra, Fundation Alter-Vida.
- *The Ecological Reserve and Protected Forest of Mache-Chindul, Esmeraldas Province in Ecuador* by Antolin Tapuyo, Chachi Community Leader of Mache-Chindul and Domingo Paredes, Fundacion Natura.

In-Depth Studies

- *Extent and Causes of Deforestation and Forest Degradation in Bolivia* by Pablo Pacheco, Center for International Forestry Research (CIFOR), Research Center for Labor and Agrarian Development (CEDLA) and Workshop of Initiatives in Rural Studies and Agrarian Reform (TIERRA).
- *The Role of Industry: the Aracruz Case Study* by Rosa Roldán, Environment Project IBASE, Brazil.
- *Macro-factors and Sectoral Policies which Influence Deforestation and Forest Degradation* by Nicolo Gligo, CEPAL, Chile.
- *Central America: The case of Forest Fires* by Alberto Salas, UICN-ORMA, Costa Rica.
- *The Maya Biosphere Reserve in Peten, Guatemala: Community Forest Concessions* by Marcedonio Cortave ACOFOP, Guatemala.
- *Deforestation and Forest Degradation in the Cuban Forests in Colonial and Neo-colonial History and the Reversal of this Unsustainable Illness with the Cuban Revolution* by Adalberto Merrero et al., Forest Research Institute of the Ministry of Agriculture of Cuba Republic.

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North America

The North American Workshop to Address the Underlying Causes of Deforestation and Forest Degradation was co-hosted by the Biodiversity Action Network (BIONET, USA) and Taiga Rescue Network North America (Canada). The group included 22 representatives of NGOs, community-based organizations and Indigenous Peoples; three academics; one scientist; six government and intergovernmental organization representatives; six representatives of labor and industry.

The diversity of situations illustrated by the case studies and the other presentations made at the workshop were matched only by the contributions made by the participants through their statements and interventions. The myriad perspectives, factors, and pressures underlying deforestation and forest degradation in North America became clear. As complex and sensitive as the issues were, this multi-dimensional group reached consensus on several proposals with concrete solutions to address those underlying causes. Although disagreements occurred, the participants were respectful of each others' views, and focused on making use of the opportunity to provide input to the Intergovernmental Forum on Forests (IFF). The workshop did illustrate several things.

Certain similarities exist, despite the ecological, economic, and societal variances within the region. For example, the lack of recognition of the multiple values of forest ecosystems (e.g., their biodiversity, recreation, spiritual, aesthetic, and other non-timber values) was found to be at the heart of deforestation and forest degradation in all three countries. Similarly, common approaches toward counteracting the different underlying causes focused on the importance of building awareness of the links between individual human behavior and its long-term and sometimes irreversible effects on our forests and the insistence on the need for equal participation by all stakeholders in decision-making processes.

A common understanding was reached, despite the heterogeneity of the stakeholders involved and the diversity of the case studies. This type of multi-stakeholder, bottom-up, dialogue is thus not only plausible, but also a desirable alternative to the more traditional policy forums in which major international policy decisions are usually made. This unique combination of a diverse group of stakeholders and the presentation of real on-the-ground experiences has limitless potential to inspire the inter-governmental policy-making process and take it into the next century.

Although this initiative originated as a contribution to the IFF's work program, the organizers of the North American process made a commitment to promote and build upon the conclusions reached at both the regional and the international levels. They encourage the use of the conclusions as tools for work not only in the international policy-making arena, but also in local, national, and regional efforts to curb deforestation and forest degradation.

On the first day of the workshop, short opening remarks regarding the background to this initiative and how BIONET came to be the regional focal point for an initiative contributing to the Intergovernmental Forum on Forests (IFF) work program were made. With underlying causes on the agenda for substantive discussion at the third session of the IFF in May 1999, participants were reminded that the North American and the other regional and IPO workshops were scheduled to take advantage of the opportunity to bring concrete recommendations to address underlying causes to the intergovernmental table, through a multi-stakeholder process inspired by on-the-ground case studies.

After the presentation of the case studies and other additional presentations, participants separated into three working groups. Each group identified the major underlying causes of deforestation and forest degradation in one of the three countries of North America and ranked them in importance. The groups were intentionally heterogeneous in order to facilitate the exchange of perspectives from participants coming from different countries.

Major Underlying Causes Identified by Country

Mexico

The Mexico working group identified as significant issues:

- the lack of empowerment of affected communities in general and Indigenous women in particular;
- the effects of drug trafficking and forest fires;
- corruption, impunity, and the inadequate enforcement of existing laws; and
- the dominance of industrial interests in forest management policies

All of the above were classified as factors that ensue from the fundamental flaws in the current economic development model which encourages large-scale, investment-intensive infrastructure. These flaws are manifested in the way that forest ecosystems are valued and lead to high demand and unsustainable consumption levels of timber products.

Population growth was seen by some participants as an underlying cause in Mexico, however, consensus was not reached on this item.

Canada

Discussion in the Canada working group focused on the differences between the ways in which forests are valued and treated according to particular interests -- e.g., timber output versus conservation. Issues of land tenure, taxes / tariffs, consumption (mostly by the U.S.), cultural differences, institutional capacity, and public participation were addressed. The group identified the following major underlying causes in Canada:

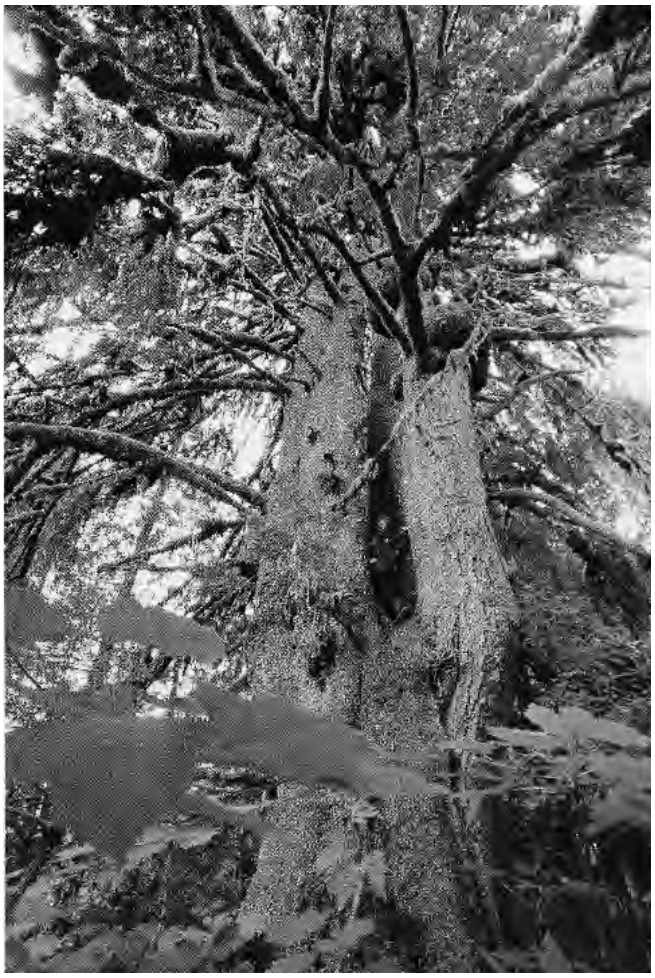
- lack of recognition of multiple values;
- institutional fragmentation; and
- an economy largely based on the extraction and use of natural resources.

United States of America

This group identified issues ranging from "human nature" to differing definitions of "forests," and addressed free markets, the desire for individual security, and the relationship between economic forces and individual action as all leading to deforestation and forest degradation. An important point was made about the political and legal differences that exist between public and private lands. The major underlying causes identified were:

- Inadequate institutional capacity to provide technical and financial support and assistance to small private forest landowners;
- Lack of investment in monitoring and research;
- Patchwork systems of laws and responsibilities;
- Under-valuation of forests and the goods and services they provide;
- Lack of recognition of the economic diversity of forests;
- Perverse incentives;
- Pressures exerted by trade and globalization; and
- Certain aspects of human behavior, such as the competitive nature of humans and greed.

A much sought after giant: Sitka spruce in Ecstall Valley, BC, Canada



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Thematic Areas Discussion and Proposed Solutions

On the second day, based on the plenary presentation of the results of the previous day's working groups, the group again broke into three groups, this time based on broad thematic areas. The purpose was to concentrate discussion on a few underlying causes in order to arrive at specific, action-oriented solutions to address those underlying causes. The different underlying causes previously identified were clustered into three categories in plenary and formed the basis for the discussions in the working groups on the second day. These were:

- **The Economic Development Model**, which included issues of consumption and demand, values, incentives, perspectives, trade, and competition;
- **The Nature of Human Relationships and Social Organization**. This group discussed issues of law, policy, ethics, corruption, autonomy, and communication between stakeholders; and
- **Science and Information**, which addressed the lack of adequate information to combat deforestation and forest degradation and the failure to apply existing knowledge. It should be noted that some felt that adequate information exists and that only its application was lacking.

Working Group 1: "The Economic Development Model"

An important observation made by this group was that there are significant sub-regional differences between Mexico, the United States, and Canada which necessitate setting different objectives. For the United States and Canada, a moratorium on old-growth cutting was strongly supported by some participants as a way to halt unsustainable consumption, but consensus was never reached as to whether this was a realistic, or even a desirable, objective.

Similarities were noted between the situation of Indigenous Peoples in Mexico and Canada, especially with regard to their control over natural resources. Specific recommendations proposed for the three stated goals of reducing consumption, increasing autonomy and local control over natural resources, and establishing the appropriate legal framework to regulate large investment were as follows:

Reduction of Consumption

- Aim for reduction of consumption at the global level -- as opposed to focusing on "developed" countries alone;
- Increase education and awareness about the impacts of current levels of consumption and demand, e.g., by creating a model curriculum to be integrated into school programs;
- Implement a world-wide aggressive recycling program;
- Establish government policies consistent with consumption reduction, using financial incentives for conservation. For example, taxing undesirable forms of consumption and providing tax credits for the reduction of current levels of consumption; and
- Promote forest management plans with community involvement, such as by establishing a pilot project demonstrating how a community can live sustainably (although it should be noted that there are significant legal international trade barriers that would need to be overcome in order for this to be demonstrated).

Increase Autonomy of Affected People

- Create standards that measure well-being beyond GDP;
- Create standards that judge whether we have reduced options of future generations; and
- Increase technology transfer for waste disposal and recycling.

Create a Legal Framework to Regulate the Environmental Effects of Big Investment and Multilateral Institutions

- Oppose the Multilateral Agreement on Investment;
- Increase local control over multinational investment, e.g., by establishing local control and veto power over development activities;
- Strengthen environmental standards in multilateral agreements;
- Engage in debt for nature swaps for forests; and
- Make more use of national environmental trust funds.

Working Group 2: "The Nature of Human Relationships and Social Organization"

The group identified the issue of communication among stakeholders as the one item that drew together the diverse topics of land tenure, democracy, the role of government, and corruption. The following specific actions were proposed, but the group emphasized that these could only be carried out assuming three significant conditions were met: proper funding made available, lack of corruption, and free and full access to all available information pertinent to forest management and decision-making:

Review Local and/or National Legislation and Implementation Relating to Forestry

- Taking a holistic approach to address issues of human equity, forest protection, including wildlife protection, and management; and
- Specifically recognize the role of First Nations / Indigenous governments.

Publicly Review Forest Management Plans

- Address, for example, environmental impacts, fiscal issues, and non-timber values.

Enforce and Implement Mechanisms for Existing Regulations

- Governments should be recommended to ratify and comply with relevant local, state, national, and international laws, regulations, and treaties.

Working Group 3: "Science and Information"

Discussions in this group revolved around information concerns, the whole forest ecosystem, and multiple values. The group recommended the following specific actions:

Practice Integrated and Balanced Use of Science and Traditional Knowledge

- In all forest activities, use the best available — of reasonably attainable — information, including science, traditional ecological knowledge, spiritual values, etc. to identify uses, trends, values;
- Take measures to build capacity to generate and / or gather the information needed; and
- Apply the Precautionary Principle.

Ask/frame Questions in a Way that is Conducive to Finding Complete and Useful Answers

- Ensure that local, traditional, and Indigenous communities and forest practitioners are integrally involved in developing issues and questions to be addressed;
- Through an open participatory process at the initial stages of projects, select carefully who collects information, including cultural information; and
- Ensure peer and public review of scientific information, highlighting disagreement in scientific information, conclusions, and interpretations.

Ensure Access to Information

- Review differences between Mexico, Canada, and the United States, with regards to the right to information;
- Identify points in the UN Convention on Access to Information that need to be implemented;

Pacific salmon waiting to be picked up by an eagle, BC, Canada

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- Ensure public review and access to information prior to final decisions; disseminate information widely to, for example, libraries, churches, the internet, etc.; and
- Ensure decision-makers have complete access to information that is both relevant and formulated in a way that they can understand.

Summaries of Case Studies and In-Depth Papers

Deforestation in the Meseta Purepecha, Michoacan by Cecilia Zaragoza Hernandez and presented by Eusebio Hernandez Rojas, Union Nacional de Organizaciones Regionales Campesinas Autonomas (UNORCA)

In Mexico, forestry has characteristically been a highly destructive activity. Paradoxically, the communities and "ejidos" who currently live in the worst poverty and marginal conditions are at the same time the owners of the majority of the country's forest resources. At the national level, there are 48.6 million hectares of forest, but 370,000 hectares are lost each year because of:

- Population growth and survival needs;
- Expansion of the agricultural frontier and redistribution of agricultural land; and
- Laws and policies favoring tree felling: the Green Revolution, wood cutting programs, agrarian law reform and support policies to cattle raisers.

In 1998 alone, 531,000 hectares have been lost because of fires. On the Purepecha Plateau in Michoacan, and more specifically in the municipality of Paracho, the area examined in the case study, regional ecological deterioration has occurred. It is not an isolated case, but a constant process of degradation of social and political conditions: policies and public programs, basic needs of the inhabitants and their attempts to meet those needs. Moreover, rates of damage to natural ecosystems are increasing.

This study has helped in the analysis of the existing forest resources in the region, their degradation, the causes of their degradation, and illustrates the damaging consequences for two neighboring regions. It discusses policy proposals and participation of the region's inhabitants using a specific case of deforestation to suggest specific actions.

The Proliferation of Chip Mills in the Southeastern United States by Douglas Sloane, Southeast Forest Project

Today, the proliferation of chip mills presents a growing threat to forest sustainability in south-eastern United States which is now a patchwork of recovering ecosystems that are among the most critically endangered in North America. The proliferation of chip mills and increased logging to supply them is driven by excessive consumption and an intensely competitive forest product market which are damaging already weakened south-eastern ecosystems. In response to the growth in logging in the past decade and the increased demand for wood fiber in the south, and in light of the predicted increases in global consumption and southern production over the coming decades, the federal government, in concert with state governments, should undertake a regional assessment of the impact of chip mills and adopt a moratorium on permitting new chip mills until appropriate responses are in place. Individual communities and local governments should carefully scrutinize the potential impacts of new chip mills to determine their full impacts and sustainability. Chip mills should not be permitted unless it can be shown that they will not be unsustainable and that they will not detract from non-timber values desired by communities affected by them.

Commercial Forestry Operations in North West Québec: Ecological Questions and Cultural Concerns by Alan Penn, Cree Regional Authority, and Geoff Quaile, Grand Council of the Crees

In the last 30 years, commercial forestry operations in Québec (Canada) have extended northwards into the drainage basins flowing into James and Hudson Bay, the homeland ("Eeyou Istchee") of a group of Cree aboriginal communities. Commercial forestry, now affecting an area of roughly 100,000 km^2, is generating significant land use conflicts as the forestry frontier moves northwards. Approximately 500 km^2 of land are clear-cut each year. Evolving forestry practices have raised a number of questions about forest management objectives and about the relationships between commercial harvesting and forest ecology. As a society seeking to maintain a hunting economy within a forest setting, the Cree have a direct interest both in the issues of forest ecology and commercial harvest practices. This case study examines a number of topics in forest management and forest ecology from the vantage point of the Cree communities in Northern Québec.

The setting is the boreal forest ecosystem, the target of both the pulp manufacturing and sawmill industries of the region. The primary commercial species is black spruce, with smaller volumes of larch, jack pine and balsam fir. Deciduous (hardwood) species occupy a few per cent of the cover, and are concentrated along water courses and the southern slopes of hills. The terrain is complex and typical of the Canadian Shield; widespread lakes and wetlands, and the clays and muskegs of pro-glacial lake systems, are major physical constraints on forestry operations. Four Cree communities – Mistissini, Oujébougoumou, Waswanipi, and Waskaganish (combined population of ca. 6,000) are located within the forest zone defined as commercial.

The boreal forest ecosystem, despite its geographical spread, is not well understood. The dominant black spruce cover has a dominating influence on soils, temperature and water regimes, and the transport both of nutrients and trace metals. Soil organic matter and below-ground biomass constitute major carbon reservoirs. Growth rates are slow and the forest, newly opened to logging, is typically 125 to 200 years old. A lack of site-specific information on the interrelationships between soils, water regimes and biogeochemical cycles makes it difficult to assess forest composition and growth in relation to site characteristics. Indices of biodiversity and their interpretation, the role of "old growth," and the processes involved in regeneration after disturbance have received limited attention. The rapid penetration of commercial logging into such a system has raised concerns that, in this northern zone, the forest is in practice being treated as a stock rather than as a renewable resource.

Forest tenure has evolved considerably during the period of 1965-1995. The original forestry concessions were replaced in the early 1970's with a system of annual cutting rights granted by a government department (Lands and Forests), also responsible for regeneration on clear-cut land. Wood harvesting rights were guaranteed in the licenses issued to the operators of the different mills in the region. Timber harvesting rights through most of the case study area were issued in a short period (1973-1977), apparently with limited information on the resource being allocated. A problem of over-allocation was evident and subsequent forest management decisions have been strongly influenced by the difficulties involved in accommodating the principle of sustained yield in the context of severe competition for a primary resource substantially more limited than originally believed.

Within a decade, the system of government-administered annual harvesting rights, and the accompanying silvicultural responsibilities were abandoned in favor of timber management agreements (known as CAAFs): Licensed pulp and saw mills are granted long-term access to a defined area of land. Annual allowable cuts (AACs) are determined by the government on the basis of a standard forest growth model using existing information on the forest stock. The new regime replaced administrative discretion with detailed, prescriptive rules for habitat protection and for silviculture. The authorized harvests by companies are a function of approved silvicultural activities which are used to revise upwards the permitted AAC. It is argued in this paper that this is a system which lacks checks and balances through which forestry operations are adapted to acquire experience both about the forest stock and regeneration mechanisms. There appears to be a built-in asymmetry which tends to encourage over, rather than under-exploitation, of commercial species. There are no parks or reserves in the case study area, and the prescriptive rules mean that the companies can show, in general, very little discretion in forest and habitat management.

Despite the language of the legislation governing forestry, there are several indications that the northern extremity of the commercial forest is being harvested as a stock rather than a renewable resource. In recent years, significant additions have been made to the CAAFs from northern "forest reserves." There is considerable doubt as to the capacity of these additional areas to support commercial operations as they are now planned. Against this background, and in view of the time scales involved in forest regeneration, we draw attention to the uncertain future evolution of forest composition after harvesting in the context of regional climate change, atmospheric deposition of sulfur and nitrogen, and nutrient export in the course of forestry operations.

We offer several conclusions. The first is that in the face of the apparent uncertainties in the response of the forest to commercial harvesting, it is not at all clear what "sustainable forest management" will mean in practice. We believe that it is important not to confuse the essentially economic concept of stabilizing the rate of production of a natural resource (whether stock or renewable) with the larger ecological issues involved in multiple-purpose forestry. In this case, current forest management practices do little to accommodate the needs of the Cree as users of the forest. There is here a

problem of equity, in that the Cree are also largely excluded from economic participation in the forestry sector. Problems of non-sustainable forestry (in both the ecological and economic sense) are compounded when there are sharply defined problems of equity and participation. Commercial forestry operations in such a region require carefully thought-out mechanisms for adaptive management and learning from experience, which includes the possibility of recognizing and learning from management or errors in allocations. The present regime offers little scope for such adaptation and we argue in the case study for a thorough re-appraisal of the kind of information generated in the course of forestry operations – in the fields of both forest ecology and community, social, and cultural development.

The Social Construction of Deforestation in Mexico: A Case Study of the 1998 Fires in the Chimalapas Rainforest by David Barkin, Universidad Autonoma Metropolitana, Unidad Xochimilco and Miguel Angel García, Madereras del Pueblo del Sureste, A.C.,

The Chimalapas rainforest, located in the heart of the Ithmus of Tehuantepec in southern México has significant geopolitical importance. It is considered to be one of the regions with the greatest biodiversity in Mesoamerica. It has been the property of Indigenous communities from time immemorial and has recently been the object of rising tensions as a result of outside pressures from a variety of powerful groups that seek to appropriate it for their own benefit. Today, these tensions often degenerate into armed attacks against the local population, which has been forced to defend itself. One of the most recent problems affecting the region and its communities was the forest fires during the first half of 1998 which were of greater severity than previously seen and a major cause of deforestation.

The Chimalapas is a unique region for both its biological and social features. To defend its biodiversity, the local communities have been reasserting themselves as well-informed stakeholders, increasingly capable of undertaking the management of natural and social resources in the region as part of a regional sustainable development program. The program offers an important example for many other communities throughout Mexico who are attempting to develop their own alternatives for local sustainable management. At present, the Indigenous groups in Chimalapas face a concerted attack by forces from outside the region, who are trying to restructure the area as part of a broader program of industrial development compatible with the process of international economic integration.

The analysis of the social conflicts that were present before the terrible fires of 1998 wreaked their damage reveals the nature of the underlying causes of deforestation. To reverse this process, it would be essential to recognize the ability of the local communities to implement a program of participatory management for the region, to ensure their own basic needs are met and to diversify their production, as well as, to conserve and enrich the biodiversity in the area. They have demonstrated their commitment and ability to provide a satisfactory standard of living for themselves.

There is now a broad recognition of this collective capacity within the government and society. The intensification of the attacks by powerful political groups attempting to usurp these resources is a display of the efforts being made to limit the ability of the first nations in the region to implement their own management program. The terrible consequences of the conflict during 1998 are a reflection of the desperation of the outside groups and of the significant efforts made by the grassroots groups for themselves and for the country as a whole.

List of Case Studies and Presentations

Case Studies

- *Deforestation in the Meseta Purepecha, Michoacan* by Cecilia Zaragosa Hernandez, UNORCA (presented by Eusebio Hernandez Rojas).
- *Deforestation in Alaska's Coastal Rainforest: Causes and Solutions* by Rick Steiner, University of Alaska.
- *Underlying Causes of Deforestation and Forest Degradation in the Southeastern United States* by Doug Sloane, The Southeast Forest Project.
- *Boreal Forest Management in Northern Quebec: Ecological and Cultural Issues*, Authors: Alan Penn, Cree Regional Authority, and Geoff Quaile, Grand Council of the Crees.
- *Deforestation and Social Conflict in the Chimalapas Rainforest*, David Barkin, Universidad Autonoma Metropolitana/Unidad Xochimilco and Miguel Angel Garcia, Maderas del Pueblo del Sureste.

Additional Presentations

- Underlying Causes of Deforestation and Forest Degradation in the Boreal Forest Natural Region of Alberta, Canada, Richard Thomas, Independent.
- Biodiversity Conservation in Canada's Model Forest Network, Mike Waldram, Manitoba Model Forest.

Poster Presentations

- Deforestation and Forest Degradation in British Columbia, Canada: Potential Solutions, Paul Mitchell-Banks, Central Coast Consulting.
- Community Involvement in Natural Resource Management in Toplitepec, Guerrero – Mexico, Rogelio Alquisiras Burgos, UNORCA.
- Global Forest Watch – Canada, Gaile Whelan-Enns, Consultant.
- Communities and Forest Management in Canada and the United States, Claudia D'Andrea, Working Group on Community Involvement in Forest Management.
- Incorporating Biodiversity Conservation in Forest Operations, Caroline Caza Leon, Wildlife Habitat, Canada.
- Underlying Causes of the Increased Hardwood Utilization in the Boreal Forest of the Three Western Provinces of Alberta, Saskatchewan and Manitoba, Don Sullivan, Taiga Rescue Network North America.

Additional Submissions Received

- *The Underlying Causes of Deforestation: A Case Study in Northern Idaho, USA* (working draft) by William J. Snape III and Katherine M. Carlton, Defenders of Wildlife.
- *Forest Restoration and Conservation: Challenges and Opportunities Based on a Systematic Study of the Demand for Forest Products* by Jaime Navia, Grupo Interdisciplinario de Tecnología Rural Apropriada.
- *Searching for the Underlying Causes of Deforestation* (working draft) by Doug MacCleery, United States Forest Service.
- *Forests Forever: Response to Chip Mill Issues in the South* by Ross E. (Pete) Thompson, Pulp & Paperworkers' Resource Council (PPRC).
- *North American Demand and Consumption in a Global Context* by Janet Abramovitz, World Watch Institute.

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Wannock River, BC, Canada, at ancient Oweekeno village

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Oceania

The Oceania Regional Workshop on Addressing the Underlying Causes of Deforestation and Forest Degradation was held in conjunction with the South Pacific Heads of Forestry meeting on 28 and 29 September in Fiji. Representatives from 15 South Pacific nations were in attendance, including heads of forestry, non-government organizations and other institutions.

The key focus of the workshop was to identify issues, define objectives and actions, and then determine responsibilities for carrying out the actions to address the underlying causes of deforestation and forest degradation.

The workshop was officially opened by Mr Peniasi Kunatuba, Permanent Secretary to the Minister for Agriculture, Fisheries and Forests, Fiji. He underscored the fact that the growing global market meant that economic pressures from outside the region were influencing our ability to manage our natural resources. He hoped that other regions of the world would learn from the Oceania workshop and thanked the governments of Australia and New Zealand for their financial contribution to the workshop.

Issues, Objectives and Actions

As result of a series of small working groups, the workshop came forward with the following (non-inclusive) thematic key set of issues, objectives, and suggested actions associated with addressing underlying causes.

Lack of Stakeholder Resources and Involvement

Objective: To establish full and adequate stakeholder involvement.

Suggested Actions:

- Provide proper, on-going mechanisms to facilitate full and inclusive participation in natural resource management and policy; and
- Improve access to information and share these effectively with all partners.

Poorly Directed Foreign Assistance Programs

Objective: Encourage better stakeholder access to international financial institutions and issues.

Suggested Actions:

- Involve all stakeholders in the development, planning and implementation of foreign assistance programs; and
- Use Forest Stewardship Council (FSC) criteria to assess all aid loans / grants and assistance in forests with full consultation and transparency.

International and Domestic Trade Pressures

Objectives: Encourage consumer education and promote FSC criteria in key timber products markets (e.g., Japan). Encourage participation in and community awareness of the effect of globalization on timber trade in the region.

Suggested Actions:

- Strengthen extension services and directly involve landowners in monitoring activities;
- Increase awareness at the global market level in order to rationalize the consumption of timber and timber products and to increase demand for sustainably produced timber; and
- Liaison by national authorities with the South Pacific Forum to raise the issue of liberalization of timber trade in Pacific Island economies.

Domestic Financial Pressures

Objective: To create alternative models for development that address peoples' needs and aspirations, develop effective programs of poverty alleviation, create alternative means of income generation that does not involve deforestation and forest degradation, and utilize forest resources in a sustainable way for the benefit of future generations.

Suggested Actions:

- Create development funds for poverty alleviation programs through non-governmental and community-based organizations; and

- Develop reserves and sanctuaries for ecotourism and other economic alternatives to logging.

Unsustainable Population Growth

Objective: To address population growth issues and ensure equitable resource distribution.

Suggested Actions:

- Establish education programs explaining the connection between population increase, land use, and resource issues.

Lack of Recognition of Cultural Values and Land Tenure Systems

Objective: To respect, encourage, recognize and preserve all aspects of Indigenous cultures and explore methods of sustainable forest management, appropriate to the land tenure system of each country.

Suggested Actions:

- Integrate the principles of the UN Draft Declaration on the Rights of Indigenous Peoples in programs on forestry, land use, and economic development;
- Establish mechanisms and institutions to enable full and effective participation by Indigenous Peoples in decision-making at local, national, and regional levels; and
- Ensure all legal and contractual documents are translated and well understood by all parties.

Inappropriate Development Policies and Practices

Objective: To develop agricultural systems which acknowledge and appropriately integrate both production and non-market values and uses of forests.

Suggested Actions:

- Identify and implement positive economic incentives to encourage and facilitate appropriate regimes of forest and remnant vegetation management (e.g., through taxes, local rates, stewardship payments);
- Develop and implement appropriate/acceptable farming systems and agro-forestry;
- Conduct inventories to determine areas of high biodiversity; and
- Coordinate all national and provincial development plans through a central agency.

Inadequate Valuation of Forests

Objective: To raise awareness amongst stakeholders of the total value of forests in both the short and the long-term, including economic, social, and ecological elements.

Suggested Actions:

- Undertake quantitative and qualitative valuation and assessment of forest values (timber, the watershed, the gene pool); and
- Incorporate forestry awareness programs at all levels of education.

Inadequate Policies and Capacity to Manage Resources

Objective: To review and formulate appropriate natural resource-use policy and legislation in addition to strengthening human resource capacity to enable the proper implementation of such policy.

Suggested Actions:

- Evaluate current management and socioeconomic policies with the view of identifying those which are inappropriate to natural resource management;
- Develop and implement national, provincial and local government development plans; and
- Review infrastructure development strategies to avoid problems of deforestation.

Summaries of Discussion Papers

Underlying Causes of Deforestation and Forest Degradation and Policy Implications for Australia by Dr. Stephen Dovers, Dr. Jann Williams and Prof. Tony Norton, CRES, Australian National University

Underlying causes of deforestation and degradation of Australia's biologically significant forest estate differ from elsewhere. Inadequate management, weak institutions, reluctance to engage in responsible industry policy, and a lack of regulatory control are major barriers to improved policy and management. Unlike many other countries that are afflicted by poverty, fast-growing populations, poorly-developed institutions, landlessness and debt, Australia has the resources and capability – if not the will – to manage its forests sustainably. The current and substantial Regional Forest Agreement (RFA) process has made significant steps forward, but

only covers one-tenth of the continent's forests and has a number of limitations. Major challenges in future include: extension of forest policy across all forest types and tenures; cessation of land clearance for agriculture; monitoring and enforcement of emerging management prescriptions; strategic management of the plantation estate; more supportive and interventionist industry policy; and more effective and ongoing stakeholder participation. As well as a measure of political fortitude and good will by stakeholders, these measures require development of statute law and institutions to allow adaptive, persistent and inclusive approaches to policy and management. In terms of the transferability of the Australian experience, there are valuable lessons, both positive and cautionary, in elements of the RFA process, but the entire model should be viewed as characteristic to the Australian ecological, historical, economic, and political context.

Kaitiakitanga: the Reclamation of the Domain of Tane Mahuta. A look at the Deforestation of Aotearoa (New Zealand) and an Argument for Structuring an Idealized Future by Sandy Gauntlett, Maori Research Unit, Auckland University

The process of deforestation of Aotearoa is a process that has seen the stripping of New Zealand's Indigenous forests, and their replacement with large tracts of monocultural plantation forestry and huge areas of pastoral farmland. That this process was largely completed by the beginning of the 20th century is recorded as historical fact. The colonizing process of Aotearoa was swift and aggressive. Native forests were cleared at an alarming rate in order to make room for agricultural holdings. Not only did the native trees being cut provide a cheap source of building materials for the hordes of invading settlers, but huge tracts of land were simply burnt off in order to provide pasture land. The Maori concern is that unless the wrongs of the past are recognized and righted, there will be no inheritance for our children, except the message that their parents were yet another generation to close their eyes to the realities of the world they lived in. We feel hurt because the Maori (essence) has been hurt and we are connected to the Maori. Part of our urgency in trying to get Pakeha to see colonization as a living (as opposed to historical) evil is that we believe the process continues with the transition to the transnational corporation as a central actor in the global economy. For the Maori, one of the major impacts of the call for regional and global trade agreements is that the government has increased the drive for full and final settlement of outstanding treaty issues, in order to ensure that there is no legal impediment to free trade. The New Zealand environmental movement has not been forthcoming in its recognition of the Maori as Tangata Whenua of Aotearoa, and have presented papers at conferences on various issues, including forestry, that have omitted any reference to the Maori.

Before co-management can work as a concept, the government needs to ensure the Maori that the domain of Tane is recognized as a unique and vibrant ecosystem, deserving its own ministry. Social studies curricula need to include cultural and environmental studies at all levels which fosters respect for these areas in the students. If we do not pass on to our children the importance of nature, our grandchildren will blame us for its loss.

Paths in the Jungle: Landowners, Deforestation and Forest Degradation in the Solomon Islands by Tarcisius Tara Kabutaulaka, ANU

This paper discusses the role of landowners in the Solomon Island's logging industry. In particular, it explores how landowners influence deforestation and forest degradation. It examines landowners' interactions with other stakeholders in the logging industry, and how that influences deforestation and forest degradation. The focus on landowners is salient in a country such as the Solomon Islands where about 87% of land is customarily owned. This is not to suggest that the impact of state policies, regulations and laws, corporate powers and international institutions are insignificant. Rather, their influences could be best understood by looking at how landowners react, manipulate and use them to produce particular outcomes.

Unlike common assumptions that landowners are passive victims of logging, it is argued here that they are active participants who influence forestry outcomes. Furthermore, the concept of a landowner is not homogenous. Rather, it is one which embodies diverse views and interests that are often manifested in local level politics, land disputes and the inequitable and unequal distribution of the benefits stemming from logging. Landowners sometimes play a multiplicity of roles that confuse and weaken the state's ability to implement policies and enforce regulations. This contributes to factors such as deforestation and forest degradation. The paper also argues that beyond the rhetoric of empowering landowners, the real problem lies in improving their capacity to exercise that power. Currently, landowners do not have adequate access to services such as legal representation and information

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about international market prices for logs, and lack the basic organizational structure needed to facilitate negotiations with logging companies. Consequently, changes in state policies, regulations and laws alone can not guarantee improved landowner benefits and sustainable management.

Deforestation and Forest Degradation in the Kingdom of Tonga by Denis Wolff, Tonga Community Development Trust

The Kingdom of Tonga has experienced significant deforestation and forest degradation. Two primary causes for this are identified. The first is population change — most importantly, the rapid and substantial increase in population during the past century, with its associated impacts of increased and intensified land use, and decreasing availability of land. The second is economic change — most importantly, the monetarization of Tonga's economy, with its associated impacts of increased need for disposable income, commercialization of agriculture to meet this need, and the resulting increase and intensification of land use. The overall impact has been a decline in Tonga's tree and forest resources.

A number of contributing factors and / or obstacles are identified. These include land tenure, agricultural and forestry policy, changes in agricultural methods and practices, changes in dwelling patterns such as increased urbanization, changes in human attitudes, the rapid pace of change, and contradictions between relevant sectors and applicable policy. Each of these factors is considered and its impact assessed. Suggestions were then made for possible solutions that would reduce or eliminate the negative impact that these factors have had on Tonga's tree and forest resources.

The conclusion reached is that, while the problem is substantial, and although some of the inter-related causes, factors, and obstacles do not lend themselves to a solution, there is still room for improvement within the remaining balance. A joint partnership of land users and government is called for. It is proposed that an appropriate starting point for this initiative would be a comprehensive program which would both promote awareness of the key issues and their impacts, and provide training in practical methods to address the identified problems.

List of Discussion Papers

- *Forest Loss in Papua New Guinea* by Brian Brunton, Greenpeace Pacific.
- *Underlying causes of Deforestation and Forest Degradation and Policy Implications for Australia* by Dr. Stephen Dovers, Dr. Jann Williams and Prof. Tony Norton, CRES, Australian National University.
- *Kaitiakitanga: the Reclamation of the Domain of Tane Mahuta. A look at the Deforestation of Aotearoa and an Argument for Structuring an Idealized Future* by Sandy Gauntlett, Maori Research Unit, Auckland University.
- *Paths in the Jungle: Landowners, Deforestation and Forest Degradation in the Solomon Islands by Tarcisius* by Tara Kabutaulaka, ANU.
- *Deforestation and Forest Degradation in the Kingdom of Tonga* by Denis Wolff, Tonga Community Development Trust.

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Annex I
Selected Acronyms

Selected Acronyms

CAS	Country Assistance Strategies
CBD	Convention on Biological Diversity
CEDAW	Convention to Eliminate Discrimination Against Women
CICAFOC	Coordinadora Indigena-Campesina de Agroforesteria Comunitaria
CIFOR	Center for International Forestry Research
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
ECOSOC	United Nations Economic and Social Council
FAO	United Nations Food and Agricultural Organization
GEF	Global Environment Facility
GATT	General Agreement on Tariffs and Trade
IFF	Intergovernmental Forum on Forests
IFI	International financial institutions
ILO	International Labor Organization
IMF	International Monetary Fund
IPF	Intergovernmental Panel on Forests
IPO	Indigenous Peoples Organization
IUCN	International Union for the Conservation of Nature and Natural Resources- The World Conservation Union
ITFF	Inter-agency Task Force on Forests
ITTO	International Tropical Timber Organization
MAI	Multilateral Agreement on Investment
MDB	Multilateral development bank
NGO	Non-governmental organization
NTFP	Non-timber forest product
ODA	Overseas Development Assistance
OECD	Organization for Economic Cooperation and Development
OECD/DAC	OECD Development Assistance Committee
SAP	Structural Adjustment Policy
SFM	Sustainable forest management
TNC	Transnational Corporation
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Education, Social and Cultural Organisation
UNGASS	UN General Assembly Special Session
WRM	World Rainforest Movement
WTO	World Trade Organisation

Annex II. Full set of Recommendations Adopted by the Global Workshop to Address the Underlying Causes of Deforestation and Forest Degradation

Trade and Consumption

Issue: Changing Unsustainable Consumption and Production Patterns

Objective: Change unsustainable patterns of consumption and production of both forest products and other products that impact forests and to steer trade to an economically, environmentally and socially sustainable path.

Actions

1. Increase education and awareness (both formal and informal) about the full life-cycle and impacts of production, consumption and trade of forest products and those other products that impact forests, by:

- devoting resources to education and awareness-building;
- incorporating education and awareness-building into curricula and conducting research on changing patterns;
- identifying initiatives and lifestyles that reduce consumption and its impacts;
- developing a consumers´ guide and developing consumers´ networks;
- expanding training for environmental education; and
- improving consumer information with labeling.

Actors: Governments, industry, academic institutions, NGOs, consumer´s organizations.

2. Develop, implement and enforce integrated and holistic national policies to change consumption and production patterns, with full transparency and civil participation, by:

- incorporating the concept of ecosystem services;
- elaborating the work program on consumption and production of the UN Commission on Sustainable Development in the field of forest products and other products which impact upon forests;
- collecting information and reporting to the IFF on innovative government policies aimed at changing consumption, production and trade of all products that affect forests.

Actors: IFF, CBD, governments, NGOs.

3. Shift penalties and incentives (subsidies, taxes, sector promotion, etc.) from promoting unsustainable consumption and production patterns to promoting sustainable consumption and production patterns and trade. Actors: governments, bilateral and multilateral donors.
4. Develop concrete policies to address over-consumption of imported goods (luxuries and weapons, etc.), as a macro-economic policy to address trade imbalances. Actors: Governments, multilateral development banks, the IMF.
5. Reduce advertising that promotes unsustainable lifestyles and consumption, and reduce paper consumption of the advertising industry by 75%. Actors: Business, government, NGOs in partnership.
6. Improve data collection and dissemination on the production, consumption and trade in forest products and products that impact forests, *inter alia* by strengthening independent initiatives (such as Global Forest Watch) to monitor the status of forests and pressure on forests. Actors: FAO, governments, NGOs, academia.

Issue: Voluntary Regulation

Objective: Promote Sustainable Forest Management (SFM) through independent third party certification of timber and other products.

Actions

1. Support independent third-party certification schemes of forest products, which have adequate multi-stakeholder involvement at the sub-national, national and international level, by:

- providing incentives, and
- raising awareness and the demand for certified products.

Actors: Governments, NGOs, industry.

2. Develop and implement certification schemes of non-forest products (such as forest product substitutes, agricultural products, oil and minerals).

Actors: Industry, government and all producers of non-forest products that impact forests.

Issue: The Imbalance of International Trade and Sustainable Development Regimes

Objective: Change the fundamental philosophy and framework of international trade agreements (WTO, GATT, MAI) so that they promote rather than inhibit sustainable development objectives and eliminate the supremacy of trade agreements over other agreements. Increase the legal enforceability of human rights' and environmental agreements at national and international levels and to balance vested interests (governments and industry) with the interests of other parts of civil society in international negotiations, especially those on trade.

Actions

1. Recommend that the February 1999 UNCTAD/ITTO meeting discuss the relationship between the international trade regime and environmental and human rights' conventions. **Actors:** Governments, NGOs.
2. Include a discussion on the imbalance between trade and sustainable development regimes in the agenda of IFF3 and IFF4 and organize an intersessional on this specific issue between IFF3 and IFF4. **Actors:** IFF.
3. Not to establish an International Negotiating Commission on a legally binding instrument on forests until progress has been made to redress the imbalance between trade and other international agreements. **Actors:** IFF.
4. Establish a dialogue between NGOs, industry and other stakeholders on the need to address the imbalance between trade and sustainable development regimes, *inter alia* by:

- establishing national fora, which involve government, trade, environment and forestry officials, industry, Indigenous Peoples, NGOs and community-based organizations;
- supporting the establishment of these fora in developing countries and helping to build government capacity in countries to address these issues in international trade negotations.
- starting national information campaigns on international trade regimes and their environmental and social implications.

Actors: Donor and recipient governments (economic and environmental ministries), NGOs, industry and other stakeholders.

5. Interpret Article XX of GATT to allow individual countries to ban or limit the export of unsustainably harvested forest products. **Actors:** WTO.
6. Oppose the MAI as it poses a major threat to forests. **Actors:** IFF participants.
7. Open up the government decision-making processes on attitudes towards forests at the national and local level to the public. **Actors:** Governments.
8. To enforce the target 2000 of the ITTA and apply it to all forest products. The ITTA renegotiation in 2000 should include all timbers, involve all sectors of society and establish a revised voting structure. **Actors:** ITTA-member states and NGOs.

9. Ratify ILO Conventions 87, 98, 105, 110 and 169, and to support the current Draft Declaration on the Rights of Indigenous Peoples, as well as the establishment of the Permanent Forum on Indigenous Peoples. **Actors:** IFF participant countries.
10. Prohibit trade in illegally produced forest products, assist developing countries to control such trade and build up the capacity to monitor and expose illegal trade. **Actors:** IFF participant countries, donors, NGOs.
11. Eliminate the incremental costs criterion as used by the Global Environment Facility. **Actors:** GEF participants, NGOs.
12. Improve the enforceability of the Convention on Biological Diversity and develop its dispute settlement process. **Actors:** CBD-members states.
13. Allow all NGOs with ECOSOC status to have access to trade negotiations. **Actors:** WTO, EU, regional trade agreements.
14. Include NGOs and Indigenous Peoples on government delegations in trade negotiations. **Actors:** Governments.
15. Publish and disseminate international trade negotiation preparatory and final documents. **Actors:** WTO.

Improving Indigenous Peoples, local communities, and other stakeholder involvement in general, and solving inequities in land tenure in particular.

Issue: Lack of acknowledgment of rights of individual and collective rights of Indigenous Peoples' and local communities, including women, to access, use and manage natural resources, lands and territories. Emphasis on decision-making, access, participation and control at all levels.

Objectives: Ensure that individual and collective rights, social existence, traditional knowledge, spirituality and land tenure of Indigenous Peoples and local communities, including women, are recognized, protected and guaranteed through the process of national, regional and international legislations and conventions. Achieving this will require adequate government funding, local research, and education.

Actions

1. All governments that participate in the IFF should commit themselves to ratify and promote participation in the ILO 169. **Actors:** Governments, IFF, Indigenous Peoples and local communities.
2. Establish a working group in all countries on the topic of forests with Indigenous Peoples, local communities, and other stakeholders. **Actors:** Governments, ministries, civil society and industry.
3. Ensure participation of Indigenous Peoples and local communities at the negotiation table at the national and international level. **Actors:** Indigenous Peoples and local communities, ministries, industry, and international organizations.
4. Collection and systematization of Indigenous and local community knowledge on sustainable natural resource management (pending adequate legal protection of such knowledge). **Actors:** NGOs, universities, ministries, Indigenous Peoples and local communities.
5. Increase and strengthen government support for Indigenous Peoples and local communities in SFM. **Actors:** ministries, Indigenous Peoples and local communities organizations.
6. Strengthen and establish technical assistance centers for Indigenous Peoples and local communities to develop databases of projects and legal information on forest legislation and the rights of Indigenous Peoples and local communities, inventories of experiences and successful technologies, international and national marketing. **Actors:** Governments, NGOs, scientific community, Indigenous Peoples and local communities.
7. Promote appropriate legislation on environmental resources (protected areas, forests, oil and minerals) that guarantees the rights of Indigenous Peoples and local communities. **Actors:** parliaments, relevant ministries, Indigenous Peoples and local communities, environmental organizations, women's groups and other elements of civil society.
8. Conduct independent evaluations of potential social, cultural and environmental impacts before any economic activity in forests, and make them public in local languages,. **Actors:** Government, Indigenous Peoples and local communities, corporations.

9. Establish negotiation processes with local populations before any economic activity in forests. **Actors:** Government, Indigenous Peoples´ organizations.
10. Design mechanisms within the CBD, FCCC and CCD to ensure distribution of benefits derived from forests to those that protect them. **Actors:** CBD, UNFCCC, and CCD Parties.
11. Define, compile, and systematize existing information about successful experiences of Indigenous Peoples and local communities in the sustainable management of natural resources. **Actors:** NGOs, universities, IPOs, CBOs and ministries.
12. Ratify and implement CEDAW within all countries.
13. Create and develop an information database on women's traditional knowledge on forest use, administered by Indigenous and local community women (on the condition that legislation protecting rights to that knowledge is developed and ensured).
14. Incorporate forest related policies, programs and projects on gender in decision-making related to forests.
15. Develop linkages between environmental conventions, ILO 169 and CEDAW.
16. Develop stronger networking among women's groups at the local, national, regional and international levels.
17. Promote capacity building and information sharing about legislation on Indigenous Peoples, the environment and women´s knowledge on forest use and management.
18. Promote participation of women in local, national, regional and global events related to forests.
19. Direct more funding and give increased priority to training and for enabling the distribution of information.

Actors*(12 - 19)*: Government, UN agencies and international agencies, women's groups, Indigenous Peoples and local communities, other interest groups, funding agencies (including international ones), national finance departments.

20. Promote the approval of environmental, oil and mining legislation that guarantees the rights of Indigenous Peoples and local communities. **Actors:** Parliaments and ministries (environment, energy and mining), Indigenous Peoples Organizations and Community-Based Organizations, environmental and women's organizations and other groups within civil society.

Issues: Lack of transparency and accountability and the inappropriate and increasing power of government bodies and corporations in land tenure including corruption, militarism, dictatorship, and the inability of Indigenous Peoples and local communities to access information on, influence, support, or oppose development plans or projects.

Objectives: Open, transparent, accountable, participatory, local decision making processes in land planning, use and tenure including recognition of the existing and / or historical land ownership by Indigenous Peoples and local communities, collectively or individually. This will include putting a stop to funding the destruction of natural and indigenous forests and establishing viable alternatives to market led industrial models, ensuring compliance with international conventions and treaties.

Actions

1. Identify high priority land use issues and implement open and transparent processes with Indigenous Peoples, local communities and other interest groups. **Actors:** Governments, Indigenous Peoples, local communities and stakeholders.
2. Recognize the difference in power between groups, develop specific structures for building capacity and authority of marginalized groups (through technical and financial support). **Actors:** Governments, Indigenous Peoples, local communities and stakeholders.
3. Review and redress outstanding land and territory ownership / tenure claims consistent with Indigenous rights and sustainable forest management. **Actors:** Governments, Indigenous Peoples, local communities and stakeholders.
4. Devolve decision-making to local players, Indigenous Peoples and other interest groups. **Actors:** Governments, Indigenous Peoples, local communities and stakeholders.

5. The UN should develop a "forest keeping" mechanism by supporting civil society´s forest investment, monitoring and accountability networks that monitor and ensure compliance with international treaties and conventions pertinent to sustainable forest management. **Actors:** UN, civil society.
6. The IFF should ask for seats at the negotiating table of the WTO for consumer groups, Indigenous Peoples, local communities, and NGOs. **Actors:** IFF, WTO.
7. Develop publicly accountable mechanisms for scrutinising and monitoring large-scale (forest) industry (both investment proposals and ongoing operations). Government should lead with civil society involvement to ensure transparency, free information flow and legitimacy. Compliance with national and international regulations should be a requirement, and regulation and legislation, where inadequate, should be revised. **Actors:** United Nations agencies, government, civil society representatives.
8. Review and encourage existing and "hot" potential alternatives to industrial forestry. Increase support for alternatives which promote sustainable local economies and livelihoods, for example through fuel substitutes (solar, kerosine and biomass-based substitutes etc), fibre substitutes (recycled, straw, hemp, kenaf, textiles), and non-timber forest products. **Actors:** Funding agencies, alternative technology companies, alternative industries.
9. Increase local and transboundary consumer awareness and behavior by promoting alternatives, for example through 3rd party independent eco-labelling, market, tax, and subsidy incentives, and by having UN agencies, governments, and corporations commit to buying viable alternative products. Also commit to auditing wood and paper usage for the purpose of eliminating egrerious sources and adapt accepted Criteria & Indicators. **Actors:** Civil groups, government UN, corporations, auditors.
10. IFF should promote development and agreement on core global Criteria & Indicators and install these as the basis for internationally enforceable World Trade Organisation rules. **Actors:** IFF.
11. Banks (MDBs and Private) should adopt policies which forbid investment or subsidies in corporations which unsustainably exploit natural forests. Assessment processes must include key civil society groups (especially Indigenous Peoples and local communities). **Actors:** WB, MDBs, Banks, civil society.
12. Support effective law enforcement to detect and punish corruption. **Actors:** Government.
13. Eliminate militarism from governance and within economic and social policy making. **Actors:** Governments and corporations.
14. Decentralize forest governance to the control of Indigenous Peoples and local communities. **Actors:** Governments and corporations.
15. Empower Indigenous Peoples and local communities to build and strengthen lobbying capacity and to develop joint lobbying processes amongst Indigenous Peoples, local communities and appropriate interest groups. **Actors:** Government, NGOs, Indigenous Peoples and local communities.

Issues: Legal instruments at all levels have weak and ambiguous concepts related to Indigenous Peoples and local communities, weaknesses in ensuring open and clean governance, and in ensuring open access for Indigenous Peoples and local communities, and are not adequately enforced.

Objectives: The development of clear legal instruments requiring consistency on Indigenous Peoples and local communities, open, transparent and clean governance, and adequate enforcement at all levels through the development of appropriate government funding, capacity building and empowerment of Indigenous Peoples and local communities for the purposes of monitoring and enforcement.

Actions

1. Establish independent review panel(s) consisting of Indigenous Peoples, local communities, interest groups and governments to review and monitor legal instruments at all levels. **Actors:** Indigenous Peoples, local communities, interest groups, and government.
2. Require separate and dedicated funding for environmental and forest related law enforcement. **Actors:** Government.
3. Require training in law enforcement for all policy makers within government agencies as well as for interest groups at all levels. **Actors:** Government, law enforcement agencies, interest groups.

4. Establish and strengthen links and constructive dialogue between interest groups and government on law enforcement matters. **Actors:** Interest groups, government.
5. Enact and strengthen legislation requiring open access to the policy makers. **Actors:** Government.

Resolving investment policies / aid policies and financial flows

Issues: The development model, inappropriate development strategies, structural adjustment programs (SAPs) and the erosion of government capacity.

Objectives: The social and environmental costs, non-market benefits, and cultural dimensions need to be taken into consideration when assessing the long-term sustainability of economic development. This concept of sustainable development needs to be given more weight. Structural Adjustment Programs (SAPs) need to incorporate social and environmental accountability. A deeper review and analysis of their impacts is needed and negative impacts need to be mitigated. Transparency in decision-making regarding SAPs is needed as part of a broader discussion of policies and proposed changes.

Actions

1. Insist that Bretton Woods institutions allow observers from civil society to participate in biennial review meetings. **Actors:** Bretton Woods institutions, civil society.
2. Encourage the G8, in particular the USA and Japan, to put pressure on Multi-lateral Development Banks (MDBs), in particular the Asian Development Bank (AsDB), to ensure principles of social and environmental sustainability are implemented. **Actors:** G8, MDBs.
3. Development agencies and NGOs should encourage national governments to include civil society in participatory processes in order to better direct development assistance programs. **Actors:** Development agencies, NGOs, national governments, civil society.
4. National and international funders should secure long-term support for a global coalition of NGOs that will ensure their role in decision-making processes, such as the Club of Paris, G8, and the consultative groups. **Actors:** Funders, NGOs, Club of Paris, G8, consultative groups.
5. Establish a Public Commission to review operation of the IMF on order to increase its transparency. **Actors:** IMF, NGOs, CBOs, IPOs, ITFF, inter-governmental organizations.
6. Finance and Planning ministries together with the World Bank / IMF should establish national level independent consultation mechanisms with civil society to improve the transparency of decision-making with respect to SAPs. **Actors:** Finance and Planning ministries, World Bank, IMF, civil society.
7. Establish a dialogue between ITFF and the IMF to ensure the long-term sustainability of IMF interventions, such as SAPs, ensuring that environmental and social goals have the same importance as economic goals. **Actors**: ITFF, IMF.

Issue: Debt servicing and debt creation

Objective: The capacity to manage natural resources should not be adversely affected by debt servicing. New lending should be structured according to a more realistic ability of countries to service their debts based on a sustainable development strategy, and should include conditionalities, which aim to achieve environmentally and socially sustainable forest management.

Actions

1. Restructure, and where appropriate, write-off debts. Countries, which implement ecologically and socially sustainable forest management, should be rewarded by measures that reduce their debt service. Resources that are freed up in this manner should be ear-marked for sustainable forest management. **Actors:** Lending institutions, governments.

2. Explore alternative mechanisms to reduce debt service or forgive debt that contributes to forest loss. **Actors:** Researchers, IMF, Paris Group, donors & recipients.
3. The GEF and international NGOs, amongst other donors, in cooperation with former beneficiaries should review the experiences of debt-for-nature swaps, to evaluate their effectiveness, and explore their future potential. **Actors:** GEF, international NGOs, other donors, beneficiaries.

Issue: Perverse Incentives and Subsidies

Objectives: To eliminate subsidies and incentives for forest commodities that adversely impact on forests. Subsidies and incentives on the commodities level should be redirected to the ecosystem level. Evaluate non-forest sector policies in terms of their impact on environmental and social sustainability, and aim to minimize such impacts.

Actions

1. Encourage the ITFF to identify and measure at both the global and national level the impact of perverse subsidies and incentives in the forest and non-forest sectors, particularly agriculture, mining, and hydro-power, that affect forest ecosystems. **Actors:** ITFF, all levels of government, donors, researchers, affected communities, international organizations.
2. Implement capacity building programs for communities as a mechanism to increase the marketing of independent third-party certified forest products. **Actors:** Donors, national government agencies, communities.

Issue: Private Capital Flows

Objective: The private sector should internalize what are currently externalities in their operations. Sanctions should be imposed on companies that do not conform to requirements for sustainable forest management. Non-forest sector private capital investments should be evaluated in terms of their impact on sustainable forest management and conditions imposed to ensure sustainable development. Emphasis should be placed on alternative development options that address, among others, the lack of access by communities to financial resources for investment.

Actions

1. Provide favorable conditions or preferential treatment to investments which support socially and environmentally sustainable management. **Actors:** Lending institutions.
2. Establish independent and participatory mechanisms to monitor and control private investment plans and activities. **Actors:** Academia, judiciary, civil society.
3. Fund programs by government departments, such as Finance and Environment to strengthen their capacity to effectively monitor and regulate environmental and social impacts of private investments. **Actors:** Donors, government departments.
4. Create a mechanism that guarantees full accountability by transnational corporations for all their actions in all countries. **Actors:** International organizations, WTO, OECD, in cooperation with national governments, judiciary, NGOs.
5. Ensure adherence to regional standards (criteria and indicators) of sustainable forest management, which are currently being developed, by all countries. **Actors:** Regional organizations, trade unions, NGOs, private sector.
6. Create an international association of environmentally and socially responsible investors to establish a clearinghouse mechanism that enables institutional investors to support community-based development for sustainable forest management. **Actors:** International donors, financial institutions, institutional investors, private sector, potential recipients.
7. OECD country export credit agencies should develop and enforce high standards of social and environmental sustainability of investments that they guarantee. The appropriate criteria for social and environmental sustainability should be developed with multi-stakeholder involvement. **Actors:** OECD governments, export credit guarantee agencies, private sector, NGOs.

Issues: Governance and Corruption, Institutions, Policy Implementation and Regulation

Objective: Reinforce forest sector governance, institutions, and instruments at different levels.

Actions

1. The UN CSD should establish an international forest organization. **Actors:** UN CSD, IFF.
2. The IFF should establish codes of conduct for private and forest enterprises. **Actors:** IFF, civil society, private and state sector.
3. OECD Development Assistance Committee (DAC) (with the assistance of NGOs, CBOs, and IPOs) should develop terms of engagement for donor and other funding institutions. **Actors:** OECD/DAC, civil society, donors, recipients.
4. Encourage the UN to organize, agree and conduct international agreements. **Actor:** UN.
5. National governments are urged to fully incorporate principles from Agenda 21 in national laws in consultation with all stakeholders. **Actors:** National governments, civil society.
6. National governments should decentralize forest management and benefit-sharing decisions. **Actors:** National governments.
7. National governments should grant cabinet status to forest ministers. **Actors:** National governments.
8. National governments should separate the regulatory from the enterprise functions within the forest department. **Actors:** National governments.
9. National governments in consultation with all stakeholders, should establish forest trust funds for sectoral development. **Actors:** national governments, donors, civil society.
10. Call on governments to strengthen frameworks and protocols for cross-sectoral coherence in policy development and implementation. **Actors:** National governments, civil society (NGOs, CBOs, private sector).
11. National governments, where appropriate supported by donors, are asked to invest in the institutional strengthening of forest departments. **Actors:** National governments, donors.
12. Invest in capacity building programs for civil society. **Actors:** Donors, recipients, civil society

Issues: Local Communities and Indigenous Peoples, Access, Land Tenure and User Rights

Vision and objectives: Forest are considered to be fundamental to the lives of the communities living in and around it, and an element to promote human development, taking into account the biodiversity and cultural aspects. From a holistic point of view forests are not treated as an outside object but as an integral part of human being, which is not just a definitional issue. The autonomy to tend the land and sustainably use forest resources by Indigenous Peoples and other marginalised groups dependent on forests should be recognized. Policies that favor local management of community forests should be strengthened and promoted, based on the principle of respect for the knowledge and experience of communities. Participatory methods should used when working with communities in the management of forest resources.

Actions

1. Stimulate and support community micro-enterprises to utilize the full potential of natural resources through sustainable management plans. **Actors:** NGOs, communities, government, international cooperation.
2. Implement agreements with universities to develop research that improves the production based on the cultural practices of communities. **Actors:** Communities, universities.
3. Formulate policies, which directly enable community-managed projects and initiatives. **Actors:** International cooperation agencies, governments.
4. Assist in building the capacity of communities to understand and interact with IFIs. **Actors:** NGOs, UNDP, government agencies, communities.
5. Create and strengthen a platform for negotiations between the communities and IFIs to eliminate inconsistencies among their policies. **Actors:** Communities, NGOs, IFIs, national and regional organizations, other stakeholders.

6. Promote the exchange of experiences in the use of participatory methods at the international level. **Actors:** NGOs, regional organizations (e.g., OAS).
7. Refrain from granting or extending concessions in areas where Indigenous communities live unless explicit approval has been obtained. **Actors:** Governments, communities.

Valuation of Forest Goods and Services

Issue: Lack of recognition of cultural values of forests

Objectives: Stop the destruction of spiritual and cultural values and the cosmovision of Indigenous Peoples and traditional communities; recover and transmit ancestral knowledge related to spirituality and the cosmovision of Indigenous Peoples and other traditional communities.

Actions

1. Denounce all forms of destruction of traditional and indigenous forest values.
2. Disseminate information and create awareness.
3. Research and recover the elements of traditional values and cosmovision.
4. Compile the results of research on traditional knowledge systems integrating traditional and academic methodology.
5. Promote learning and effective use of Indigenous languages.

Actors: Members of communities, community organizations, NGOs, governments, academic organizations, UNESCO, communication media, progressive political and religious leaders, FAO, elders of traditional communities, donors.

Issue: Lack of recognition of land tenure rights, especially community and collective rights;

Objective: Develop legislation to secure collective and community rights, including land tenure and collective and community property rights.

Actions

1. Study deficiencies of legislation in each country and promote changes in legislation towards legislating on collective and community property and land tenure. **Actors:** Community organizations, NGOs, academia, donor institutions.
2. Create public awareness on the need to regulate the collective use of forests and their resources.
3. Promote participation of Indigenous and traditional community representatives, including peasant, traditional black and other traditional communities, in national parliaments
4. Lobby parliament members on the need for laws to regulate the collective use of forests and their resources.
5. Elaborate concrete legislation proposals and present these proposals to parliaments.

Actors: Community organizations, NGOs, social movement leaders and politicians, communication media.

Issues: Undervaluation of community forestry and non timber forest products. Over-valuation of timber as the main forest product.

Objective: Recover and transmit traditional knowledge of non-timber forest products. Collectively study orally transmitted knowledge systems which, according to the traditional concept of knowledge, are used but not owned by present generations, assuring that the knowledge thus compiled, is returned to forest communities.

Actions

1. Establish community level fora and other mechanisms, including mass media, to educate foresters and politicians and inform decision-makers, citizens and mass media on forest ecosystem management, including traditional forest related knowledge.

2. Establish a research programme on traditional forest-related knowledge directed by communities themselves and disseminate the results, taking into account the ongoing discussions on intellectual property rights in relation to the processes of the CBD.

Actors: Local, regional, national authorities, local community leaders, academia, mass media, donors.

Objective: Find ways to ensure that benefits derived from full valuation of non-timber forest products are gained by local people.

Actions

1. Conduct research to identify non-timber forest products, with full participation of local communities in cooperation with academic institutions, goverments and NGOs.
2. Study all possibilities to add value to non-timber forest products within local communities.
3. Apply methods and techniques for the sustainable production of non-timber forest products.
4. Create and establish modes of cooperation in local communities for the commercialization of their products at local, regional, national and international levels.

Actors: Members of the communities, community organizations, NGOs, academic institutions, governments, donors, commercial organizations which show solidarity with interests of local communities.

Objective: Find ways to incorporate the real value of timber

Actions

1. Adapt the economic value of timber to integrate the social and environmental values related to forest ecosystems and use this in decision-making processes, particularly in the design of legislation and policy instruments for the conservation of forest ecosystems. **Actors:** academia, governments, legislators, NGOs.
2. Establish a mechanism to enforce national legislation related to forests, developing a range of incentives and strengthening civil society. **Actors:** Governments, donors, IGOs, NGOs.

Issues: Failure to value the forest as an ecosystem; lack of recognition of multiple functions of forests, and lack of capacity to manage forests.

Objectives: Ensure that natural forests are valued as fully functional ecosystems. The perpetuation of the ecological integrity of all remaining stands of primary forests. Acknowledge the restoration potential of all forests. Develop an equitable valuation system for non-timber goods and ecological functions. Ensure that the FAO definitions of forests, deforestation, afforestation and degradation of forests are changed to include more than just tree cover. Review and consolidate national systems of protected areas and ensure they are compatible with the social and economic reality and needs of local communities.

Actions

1. Change the FAO definition of forests and forest related concepts (deforestation, afforestation, reforestation, plantations) to include the ecosystem approach as defined in the CBD and introduce definitions for different types of forests. **Actors:** ITFF.
2. Develop an international research program to assess forest values, goods and services. This programme should work at different levels. Information should be disseminated to communities, NGOs, schools, forest sector, governments, and bring all levels together to integrate this information into management and decision making. Criteria for choosing the coordinating institute should include independence, global mandate, interdisciplinary knowledge, encompass an advisory board, scientific capacity, and capacity to link different sectors of knowledge. **Actors:** Scientific community, NGOs, governments.
3. Ensure that all forest values are taken into account in all decision-making processes which affect forests and that they are incorporated by the forestry sector. **Actors:** Governments, NGOs, forest departments.
4. Ensure that strategic Environmental Impact Assessments are mandatory for all projects in or near natural forests. **Actors:** Governments.

5. Develop an international network of ecologically representative and viable protected areas. **Actors:** Governments, NGOs.
6. Establish national forest plans via a totally participatory process including all stakeholders and the following essential elements: protected areas, extractive reserves, community forest projects, restoration projects and the development and implementation of criteria and indicators for sustainable forest management. **Actors:** Governments, NGOs.
7. Provide alternatives for local communities which are compatible with protected area policies. **Actors:** Governments.
8. Develop international principles and criteria for sustainable forest management, including economic, ecological, social and cultural values. **Actors:** IFF.

Objective: Revise current legislation on natural resources with respect to the total value of forest ecosystems.

Actions

1. Compare and analyse the effectiveness of national legislation for improvements.
2. Consider the inclusion of different forms of traditional forest related knowledge into legislation.
3. Exchange experience on revised legislation.

Actors: Governments, international community, NGOs, legislators, community leaders.

Objective: Revise legislation in other sectors related to natural resources (i.e. agriculture, mining) to ensure that they do not impact negatively upon forest ecosystems.

Actions

1. Evaluate the impact of sectoral policy on the conservation of forest ecosystems. **Actors:** academia, government, NGOs.
2. Require Environmental Impact Assessment for every activity and project (domestic or overseas) affecting forests, before implementation. **Actors:** academia, NGOs, private sector, governments, legislators.
3. Repeal perverse policy instruments that artificially enhance the economic attractiveness of land uses that lead to the destruction of forests. **Actors:** Governments.

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