

## THE DEVELOPMENT OF INTERNATIONAL AGREEMENTS COVERING THE WORLD'S FORESTS

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### Summary

Prior to 1990, no general international agreement on forestry existed or was thought necessary. During the 1980s, however, there was a paradigm shift in some countries in the way forests were seen: a shift away from productivist and toward protectionist values. Commensurately, two key problems—deforestation in the tropics and forest decline in temperate latitudes—increased public concern about the fate of the world's forests. It was hoped that a binding Convention on Forests would be adopted at UNCED in Rio in 1992. However, different perceptions of the nature of forestry problems among countries crystallized into a sharp North-South disagreement and prevented conclusion. UNCED approved a Convention on Biological Diversity, a Framework Convention on

Climate Change, and a Convention on Desertification, but only a nonlegally binding agreement on forestry matters.

The European nations have been active in the Helsinki Process in elaborating a set of principles, criteria, and indicators that apply to European forests, which have been adopted by the countries affected. Thus there is no binding global agreement on forests but a network of partially overlapping regional and topical agreements that cover most of the issues needing concerted action. There are gaps, however, and the sum total of the existing agreements tends to be preservationist in nature while the declared aim of UNCED was to achieve sustained development.

## 1. Introduction: Forests in an International Context

It is generally agreed in international fora that forests must be treated legally as lying within national boundaries and national jurisdiction. Provided that policies and actions applied to national forests do not contravene international agreements, each country has a sovereign right to manage its own forests. This principle was reaffirmed in the negotiations about forest agreements held during the 1990s.

### 1.1. Global Impact of Local Action

However, actions taken in national forests can have global or regional consequences. For example, the tropical forests are a major repository of the world's biodiversity. Their elimination would greatly impoverish the planet and might put at risk future treatment of human illnesses. The forests generally are a significant store of atmospheric carbon. The world has an interest in seeing that they remain a net contributor to carbon sequestration. The 1998 fires in Indonesia and the Roraima province of Brazil liberated more carbon into the atmosphere than all vehicular traffic in all of 1998. The smoke plume from the Indonesian fires affected the health of 70 million people in other countries and may have contributed to one fatal air crash.

### 1.2. Differing National Perceptions of Forests

As of 1998 there was no general international agreement on forests. One of the reasons for this has been the inability to achieve a consensus among nations about the role and use of forests. Countries had their own priorities but could not achieve a general consensus on a global set of priorities. It is, perhaps, natural to expect that the political and social ambience of each country will be reflected in its interaction with its own forests, because forests are administered nationally. This indeed seems to be so.

Income (US\$ <i>per capita</i> )	Population	Agriculture	Forestry values	Impact on forest
< 300	rural and mobile	extensive	food, grazing	limited
300–2000	rural but	slash and burn,	food security,	increased

	settled	permanent	grazing, fuel wood	deforestation
2000–10 000	rural-urbanized	intensification, concentration	industrial production	decreased deforestation, increased plantation establishment
10 000+	urbanized	highly mechanized	recreation, biodiversity conservation	forest protection

Table 1. Income-dependent interaction with land resources and the consequences for forest management

The differing national attitude toward forests can be simplified as shown in Table 1. The categories in the table combine a chrono-sequence approach (to a large extent the vertical axis represents the past forest history of developed nations) with a cross-cultural view (the current status of many less developed countries can be accommodated in the table). It would follow that in approaching an international agreement, countries at different stages in Table 1 would seek to protect and enhance different aspects of their interaction with forests.

One way of summarizing the different stances that different countries have actually taken in negotiations is given in Table 2. This approach, based on GDP and per capita forest resources, shows that groups of countries have expectations about their own forests which, when carried into the international arena, do indeed lead to divergent views about global priorities. Countries with high incomes and high forest cover per capita have tended to stress sustainable development of forest resources—in other words the continued use of forests but with environmental restrictions. Wealthy countries with low forest cover have tended to stress the environmental benefits of forests. Poorer countries with substantial forest areas favor using the forest for economic development, while poor counties with low forest resources tend to stress the food security and subsistence aspects of forests.

		Per capita forest cover	
		<i>Low</i>	<i>High</i>
Per capita income	High	Environmental sustainability (e.g., UK, The Netherlands, Japan, Denmark)	Sustainable development (e.g., Canada, US, Australia, Finland, Sweden)
	Low	Subsistence (e.g., India, China, Kenya, Somalia)	Economic development (e.g., Gabon, Indonesia, Russia, Papua New Guinea, Brazil)

Table 2. Perceived areas of priority concern about forests

## 2. Growing Perception of Global Problems

Between the end of the World War II and the 1980s, many treatable problems associated with existing forests were identified (for example, insect attack, decline due to nutrient exhaustion). Where supply was inadequate to meet demand, large amounts of capital were consumed in establishing new forests. Aid programs to developing countries sought to maintain a permanent forest estate and to establish industrial plantations. There was no consensus that a crisis existed in forestry, however, and little demand for an international agreement. During the 1980s, that perception changed, and by 1990 there was a widespread public view that a series of global problems existed which demanded international action.

## **2.1. Perception of Tropical Forestry Problems**

Dense tropical or subtropical forest once covered much of sub-Saharan West Africa, much of Northern Brazil, and most islands and peninsulas in Southeast Asia. The twentieth century has seen a massive negative change in the extent of these forests. It is estimated, for example, that only 5% of Nigeria's original forest now remains. The period of most intense deforestation coincided with the post-colonial phase in the latter half of the twentieth century. This period combined national attempts to maintain the structure and size of the colonial administration, coupled with shrinking GDP as a result of ruptured trading links, unwise national policies, and a rapidly increasing population. Aid policy pre-1980 centered on attempting to maintain and enhance the existing institutional structures. The response to loss of existing forests was sometimes in the form of encouragement for new plantations. Thus in Africa there were significant plantation schemes utilizing exotic pines and eucalyptus in Zambia and in Malawi, and large programs with eucalyptus plantations in India. These schemes were financed by national budgets, bilateral aid, or World Bank loans.

About 1980, it became apparent in many countries that the remains of the colonial Forest Services were being reduced to the role of spectators in the process of deforestation because of limited or unavailable resources. Resources to maintain or increase plantations were equally lacking. In 1987, the Tropical Forestry Action Plan (TFAP) was launched as a joint initiative by FAO, UNDP, and the World Bank. TFAP proceeded via a series of national analyses, which aimed to diagnose the most pressing problems and prescribe solutions. Although TFAP activities yielded valuable insights, they did not bring about improvements at the speed required by the growing political concern. The activities tended to prescribe a reinforcing of the existing structure, with an inherent capital requirement that exceeded donors' willingness to pay or the recipient's ability to support. Additionally, they tended to reinforce the technocratic nature of much forest administration, without fully considering whether such a solution would be adequate to redress the perceived problems.

Meanwhile, concerns about the loss of tropical forest began to be influenced by growing information about the likelihood of climate change and the risks inherent in the loss of biodiversity. Skillful presentation of television images of forest fires and of logging created an exaggerated impression of the imminence of the total loss of the Amazon forest. Political concern so outpaced the slow rate of progress that various extreme solutions, such as the internationalization of the Amazon, crept to the edge of the intergovernmental agenda. Opinion polls show that the population of Europe remains

most concerned about forest management in the tropics with a clear majority believing that the situation is unsatisfactory.

## 2.2. Perception of Temperate Latitude Problems

Until the mid-1980s, the situation in the temperate latitudes was perceived as being much more stable. In most countries, the last period of intensive deforestation was in distant historical time. It is estimated for example that only 15% of Britain was covered in forest when the Romans landed in the early years of the present era. Although the early stages of the Industrial Revolution, in the eighteenth century, led to a further reduction to only 5% forest cover, the twentieth century saw an increase in forest cover again as large-scale plantations were established on land that had once been covered in forest. Following heavy exploitation in World Wars I and II, the forests of Europe entered a recovery phase. Thus, not only is there now slightly greater forest area in Europe, but the growing stock has increased dramatically to the point where, on average, annual growth in the forest exceeds annual harvest from the forest by almost 50%. In North America, widespread deforestation of the New England States was rapidly reversed by natural processes once the small-scale, less profitable agriculture of New England was exterminated by the large mechanized farms of the Midwest states.

In the mid-1980s, isolated examples of tree deaths and more widespread evidence of foliage loss and discoloration caused an upsurge in the concern about the health and survival of Europe's forests. Once again the politicized discussion ran far ahead of the facts. Extreme claims were made by otherwise reputable academics that all of Europe's forests would die before the end of the millennium. The causes of forest decline (*Waldsterben*) were thought to be pollution effects from sulphur dioxide, low-level ozone, and various nitrogen compounds arising from industrial activity and the burning of fossil fuels. Some proportion of the pollutants arose within the affected national territory, but a proportion could be proven to have originated elsewhere. The mechanism by which these pollutants acted was unclear. Some argued for a direct effect on foliage, while others argued that the effect was by acidification of the soil. The phenomenon led to intense research activity, which *inter alia* greatly increased understanding of the ecology of temperate forests, intensive monitoring of forest conditions across the temperate latitudes, and remedial fertilization (with dolomitic limestone) of certain forests in Europe. To coordinate activity, governments joined the International Cooperative Program on Assessment and Monitoring of Air Effects on Forests (ICP Forests). Nearly US\$500 000 were contributed to the running of this program by 42 countries and the EC between 1990 and 1997. In this example of a general agreement on forests, a program of intensive of forest condition has been carried out annually.

It is now, however, generally conceded that the risk of widespread death is less than thought earlier. There have been areas where trees have died, usually at higher altitudes on poor soils and often close to concentrated pollutant sources. Frequently, deaths were in species and in provenances of species that were known to be unsuited to the sites where they had been planted. Thus, off-site spruce plantations (*Picea abies*) and low-altitude provenances of spruce moved to higher altitude were affected. However, the spruce was often replaced by other tree species (e.g., *Sorbus aucuparia*). Thus, in a

sense it would be wrong to say that the forest died. More correctly, the species changed. At lower altitudes and on better soils the evidence now shows that from the 1950s onward there has been a progressive acceleration of tree growth in the temperate latitudes. It seems reasonable to infer that the same polluting agents that lead to isolated deaths of trees at higher altitudes (carbon dioxide, nitrogenous compounds) also lead to trees growing on better soils at lower altitudes.

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### **Biographical Sketch**

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