

# Sustainable Forest Management – Progresses since Rio and Challenges for the Future

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## Introduction

The growing recognition of the crucial role which forests play in poverty alleviation and sustainable livelihoods gives forests an important place on the sustainable development agenda. Forest loss and degradation are almost constantly in the news. Rarely a week goes by without the media covering forest fires, large-scale conversion to agriculture or illegal logging. The achievement of sustainable forest management is important to reduce deforestation, to halt the loss of forest biodiversity and land and resource degradation, and to improve food security and access to safe drinking water and affordable energy.

The goal of the World Summit on Sustainable Development (WSSD) in Johannesburg was to hold a ten-year review of the 1992 UN Conference on Environment and Development (UNCED) to reinvigorate global commitment to sustainable development. In 1992, forests were a priority issue at UNCED; several legal instruments were adopted with direct bearing on the use and management of forests. Ten years later, governments agreed to and reaffirmed a wide range of concrete commitments and targets for action to achieve more effective implementation of sustainable development objectives, emphasising the five key areas for action – water and sanitation, energy, health, agricultural productivity, and biodiversity and ecosystem management, which have come to be known by the WEHAB acronym. However, forest protection has not been expressed as a key area of negotiation; this shows that forests, in contrast to the Rio Conference 1992, no longer played an urgent role at the World Summit in Johannesburg.

Apart from the commitments concerning the protection and managing of forests as pointed out in the Plan of Implementation<sup>1</sup> adopted at WSSD, some advances in forest policies were evident as far as the creation of voluntary partnerships between governments and non-governmental institutions in the field of forest protection and the more integrated treatment of environmental, social, and economic aspects of forest conservation are concerned. So far, the Johannesburg Summit may have had far-reaching effects in reinvigorating the dialogue between the various stakeholders in forest issues, but it did not instill confidence that it has strengthened the political will to address the long-standing and deep divisions that have plagued the

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<sup>1</sup> Report of the World Summit on Sustainable Development, A/CONF. 199/20, Chapter I (Resolutions adopted by the Summit), No. 2, para. 45.

international forest policy debate for nearly a decade. Whether countries will resolve their differences on key issues remains an open question.

However, regarding the global dimensions of the very diverse forest services, the issue of forests represents a major challenge to international cooperation. Therefore it is necessary to review current trends and practices to determine what works, what can be done differently, and how additional resources can be mobilized to stop further deforestation and forest degradation.

## I. Global Forest Trends – Recent Developments

Forests belong to the most important ecosystems of the world. Due to their diverse and important economic, social and environmental services, both natural and planted forests and trees represent an indispensable element of the well-being of the planet and for human living conditions.

### 1. Status of Forest Cover

Recent information on the state and change of forest cover, provided by the Global Forest Resources Assessment 2000 of the Food and Agriculture Organization of the United Nations (FAO), show that forests covered 3.87 million hectares or approximately one third of the global terrestrial surface in the year 2000<sup>2</sup>. The proportion of total land area under forest varies significantly by region and country. About half the land area of Europe and South America is covered by forest, but only one-fourth of Africa's and one-sixth of Asia's land is forested.

With regard to the dynamics of forest destruction, almost half of the current world's forests have been affected by human activities, artificially created by either afforestation or reforestation or by use and forest management. Forest areas have remained largely unchanged in size in the temperate and northern latitudes, but have significantly declined in the tropics. According to FAO data, between the decade 1990-2000, the extent of the world's forests decreased by 94 million hectares or more than two per cent of total forests – an area the size of Germany and France together<sup>3</sup>. Against a considerable global deforestation rate of about 14.6 million ha per year (with a high deforestation rate of about 14.2 million ha only in the tropics), there was a gain of an increasing forest area, about 5.2 million ha per year, due to afforestation measures and a successful plantation establishment<sup>4</sup>.

<sup>2</sup> FAO, *State of the World's Forests 2001*, Rome 2001, 33. This global forest cover figure is higher than the forest cover estimates made by the previous two forest resources assessments in 1990 (3,51 billion ha) and 1995 (3,45 billion ha). But it only reflects changes in the definition of forest and the incorporation of updated inventory data; it does not, however, indicate a real increase in forest area worldwide. See also <[www.fao.org/forestry/fo/fra/index.jsp](http://www.fao.org/forestry/fo/fra/index.jsp)>.

<sup>3</sup> FAO, *supra* note 2, 46.

Although the analysis of the FAO estimates that the global rate of net forest loss has slowed to 9.4 million hectares per year (compared to – 11.3 million in the 1990–1995 period and – 13.0 million ha in 1980–1990), the threat to global forests remains serious. The world's natural forests continued to be converted to other land at roughly comparable high levels over the past 20 years<sup>5</sup>.

## 2. Causes of Forest Degradation

The dimension and manifestation as well as the direct and underlying causes for the ongoing process of deforestation are manifold, and they differ greatly from region to region, just as forests perform highly diverse economic, ecological, and social functions. To a large extent, the ongoing decline of the world's forests is due to increasing population and economic growth, mainly in developing countries. The poverty level in these countries, combined with the population explosion, has direct impacts on deforestation. This leads to overdependence on fuelwood as a source of energy and income. Since 1960, the world population has almost more than doubled from 3 billion to today's 6 billion; in the early 1990s, it was estimated that a total area of about 4.7 billion hectares was used for agriculture world-wide, while a hundred years ago no more than 2.5 billion hectares were used for this purpose. The tendency to re-dedicate natural forests increasingly to agriculture used to be common in Europe in former centuries, and it has been rapidly spreading in tropical regions since the middle of the 20<sup>th</sup> century<sup>6</sup>.

In contrast to high deforestation rates in many developing countries of the tropical and subtropical zone, forest areas in Europe, North America, and the former USSR are expanding, but they are suffering from changes in forest conditions<sup>7</sup>. Thus, not only tropical forests but also forest areas of the temperate and northern zones are increasingly moving into the focus of public attention. In many industrial countries a significant percentage of trees are recorded to show over 25% defoliation, although the causes and significance of these figures are not fully clear. One central factor is air pollution, particularly in Central and Eastern Europe, where forests are under increasing stress from sulphur dioxide, nitrous oxides, ammonia, ozone, and acid rain. Forest quality has meanwhile reached alarming proportions in the former Soviet Union, particularly in Siberia. Regions with a well-developed infrastructure have been substantially overharvested<sup>8</sup>.

<sup>4</sup> Almost 62 % of forest plantations are located in Asian regions, particularly in China, India, and Indonesia, see FAO, *supra* note 2, 41.

<sup>5</sup> FAO, *supra* note 2, 45 et seq.

<sup>6</sup> Hartenstein, Liesel/Schmidt, Ralf, *Planet ohne Wälder? Plädoyer für eine neue Waldpolitik*, Bonn 1996, 34 et seq.

<sup>7</sup> See United Nations Economic Commission for Europe (UN-ECE)/FAO, *Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand (industrialized temperate/boreal countries): Contribution to the Global Forest Resources Assessment 2000*.

<sup>8</sup> Worldbank, *Russia – Forest Policy during Transition*, Washington D.C. 1997, 2; Shvidenko, Anatoly/Nilsson, Sten, *Are the Russian Forests Disappearing?*, *Unasylva* 188, 1997, 57, 61.

### 3. Forest Goods and Services: Carbon Sinks and Hot Spots of Biological Diversity

Forests provide environmental goods and services. They serve as reservoirs by storing carbon in biomass and soils. These so-called net carbon sinks help to minimize the release of greenhouse gases. But the world's forests are not only absorbing carbon (forests contain just over half of the carbon residing in terrestrial vegetation and soil), they are also releasing it by about the same amount through deforestation measures and thereby are influencing atmospheric CO<sub>2</sub>-concentrations and modifying surface temperatures. It is estimated that in the 1980s net carbon emissions resulting from land use change, especially from deforestation, have accounted for one-fourth of all anthropogenic carbon emissions<sup>9</sup>. Many details of how carbon emissions from sources and removals by sinks from forestry activities can be calculated or verified remain unclear and still have to be clarified – even if the Kyoto Protocol of the Climate Change Convention contains provisions for developed countries to take into account afforestation, reforestation, and deforestation and other agreed land use, land-use change, and forestry activities (LULUCF) in meeting their commitments of reducing greenhouse gas emissions between 2008 and 2012<sup>10</sup>. As an important component of the global carbon cycle, forests may suffer within the next decades under the predicted global warming, with significant and long-lasting consequences for the distribution and composition of forests and the biological diversity<sup>11</sup>.

Forest biological diversity is threatened by deterioration and loss of forest ecosystems under the impact of humans, with an hitherto unknown rate of extinction of species. It is estimated that tropical forests provide habitat to about 50-90 % of all known plant and animal species<sup>12</sup>. Biodiversity "hot spots" are found in mountains, notably in the tropical eastern Andes and the Atlantic forests of Brazil. Therefore, protecting biological diversity is an essential factor in maintaining forest function. During the past decade, the interest in the conservation of forests, particularly for biological diversity, has increased considerably. The findings of the FAO indicated that meanwhile about 12 % of the world's forests can be classified as protected areas like nature reserves or national parks<sup>13</sup>.

<sup>9</sup> FAO, *supra* note 2, 61.

<sup>10</sup> Schlamadinger, Bernhard/Marland, Gregg, Land Use & Global Climate Change – Forests, Land Management, and the Kyoto Protocol, Pew Center on Global Climate Change, 2000.

<sup>11</sup> FAO, *supra* note 2, 73.

<sup>12</sup> Botkin, Daniel/Talbot, Lee, Biological Diversity and Forests, in: Sharma, Narendra (Ed.), Managing the World's Forests, 1992, 47, 56.

<sup>13</sup> FAO, *supra* note 2, 54: in North and Central America 20 % of the forests are under protected area status, followed by South America with 19 %.

#### 4. Production and Consumption of Forest Products

The functions of forests are not only limited to the conservation of biological diversity and the mitigation of climate change; the production of roundwood for industrial purposes or for woodfuel also is an important economic factor in many countries.

The overall pattern of production and consumption of wood products vary between developed and developing countries: In developed countries, where 23 % of the global population live, industrial roundwood is consumed at almost three times the rate of the developing countries; developing countries, on the other hand, produce and consume ten times as much firewood as the industrialized nations<sup>14</sup>. The consumption of wood is steadily increasing world-wide: Within 30 years, the global production of total roundwood grew from 2.2 billion m<sup>3</sup> in 1965 to 3.33 billion m<sup>3</sup> in 1999<sup>15</sup>. More than half of the total amount of timber logged is consumed for fuelwood and charcoal. Since 1970, there has been a substantial increase in fuelwood consumption by 60 %. In the future, fuelwood, charcoal and wood energy will remain important as a traditional source of energy in developing countries; demand is expected to increase at a rate of about 1.1 % per year until 2010<sup>16</sup>. The demand for industrial wood is predicted to grow substantially at an annual rate of about 1.7 % between 1996 to 2010<sup>17</sup>.

Although developed countries will continue to dominate the market in absolute terms, developing countries will take an increasing share in this growth. Very likely, the next decades will be characterized by shifts in the supply and demand of tropical timber. The demand from developing countries will increase because of high population rates and improved living standards; in some developing countries tropical forests are expected to reach their capacity or even exceed it in the near future. The Philippines and Thailand are even moving from being net exporters to being net importers of tropical wood products. Of special interest in this context is China's increasing consumption and lack of adequate forest resources; today, China ranks second in the consumption of forest products by value in the world<sup>18</sup>.

Despite the expected increase in tropical timber consumption, today, tropical production represents only a relatively small proportion of overall global production (15 % of world industrial roundwood production)<sup>19</sup> and export rates: tropical timber exports represent only a fairly small share of world's roundwood production (2 %); 4.4 % of the tropical wood production enters international trade<sup>20</sup>.

<sup>14</sup> FAO, Yearbook of Forest Products 1998, Rome 2000, 14 et seq.

<sup>15</sup> FAO, *supra* note 2, 13.

<sup>16</sup> FAO, Provisional Outlook for Global Forest Products – Consumption, Production and Trade to 2010, Rome 1997, 30.

<sup>17</sup> FAO, Global Forest Products – Consumption, Production, Trade and Prices: Global Forest Products Model Projections to 2010, Working Paper: GFPAS/WP/01, 1999, 42; see also FAO, State of the World's Forests 1999, Rome 1999, 48.

<sup>18</sup> FAO, *supra* note 2, 14.

<sup>19</sup> Ibid.

## 5. Trade in Forest Products and Trade Restrictions

Trade liberalization through the global reduction or elimination of tariffs or other non-tariff barriers with important impacts on importers and exporters has intensified the global trade in all product categories. Trade patterns in forest products have also been changing, largely as a result of increased trade among developing countries, especially in the Asian region<sup>21</sup>. While trade liberalization is progressing at the global level, some countries are making increasing use of export restrictions and harvesting bans. To protect or conserve diminishing national forests, total or partial bans on logging in natural forests are being used by several countries in the Asian region, like China and the Philippines. Export restrictions or very high export taxes, like in Indonesia or Malaysia, are often imposed to protect the domestic timber industry<sup>22</sup> with partially counterproductive effects, as increasing rates of illegal timber trade or smuggle<sup>23</sup>. The increasing use of export restrictions as well as harvesting bans, is supposed to be a reflection of many countries' growing frustration with a lack of concrete actions and global agreements<sup>24</sup>.

Unilateral trade restrictions in developed countries, like import restrictions on unsustainably harvested timber, receive widespread attention and reflect the growing interest for environmental issues in societies with higher incomes, thereby trying to influence the environmental policy of foreign countries. Due to a growing awareness of the global dimensions for tropical deforestation, calls for limiting or banning tropical timber imports by non-governmental organizations and consumers have arisen in many industrialized countries with strong environmental lobbies since the early 1990s. These calls rely on the presumption that export trade has contributed significantly to forest degradation in the tropics. Boycotts of tropical timber with possible negative effects on market access of (tropical) timber are controversial because of their potential discriminatory effect and for constituting a non-tariff barrier to trade. There is considerable debate as to whether these unilateral controls under the guise of environmental protection are compatible with WTO/GATT rules<sup>25</sup>.

Related to the issue of trade is that of the marked-based certification of forest products<sup>26</sup>, whereby forest owners who have implemented sound forest management practices seek market leverage for their products. The forest certification movement has taken off rapidly through multi-stakeholder initiatives, largely in

<sup>20</sup> Schutz und Bewirtschaftung der Tropenwälder – 6. Tropenwaldbericht der Bundesregierung, Bundestagsdrucksache 14/1340, 25.6.1999, 6.

<sup>21</sup> FAO, *supra* note 2, 15 et seq.

<sup>22</sup> See for further trade restrictions in international timber trade Bourke, I.J./Leitch, Jeanette, Trade Restrictions and the Impact on International Trade in Forest Products, FAO, Rome 1998, 12.

<sup>23</sup> Callister, Debra J., *Illegal Tropical Timber Trade: Asia-Pacific*, Cambridge 1992, 10, 58.

<sup>24</sup> FAO, *supra* note 2, 16.

<sup>25</sup> See further Schulte zu Sodingen, Beate, *Der völkerrechtliche Schutz der Wälder*, Berlin, Heidelberg 2002, 377 et seq.

<sup>26</sup> Upton, Christopher/Bass, Stephen, *The Forest Certification Handbook*, London 1995; Elliott, Chris, *Forest Certification: Analysis from a Policy Network Perspective*, Lausanne 1999.

Western Europe<sup>27</sup> and North America. The two main international approaches are those of the Forest Stewardship Council (FSC) and the International Standardization Organization (ISO). But there are also regional certification initiatives, including those of the African Timber Organization (ATO) or the Pan-European Forest Certification (PEFC). The World Bank/WWF Alliance for Forest Conservation and Sustainable Use has set a target of 200 million hectares to be certified by 2005, evenly divided between tropical and temperate/boreal forests<sup>28</sup>. Although certification has been promoted as a way to encourage sustainable forest practices, among the main exporters of tropical timber interest in certification and labeling issues is still low: it is notable that only 12 % of forests independently certified to meet the criteria of FSC (which has certified over 30 million ha world-wide in 56 countries<sup>29</sup>) are situated in tropical regions, where deforestation is most acute. In this respect, it is still uncertain whether certification will significantly contribute to improve forest management in developing countries with highest rates of deforestation. These countries remain concerned over certification/eco-labelling fearing such labelling could be used as non-tariff trade barriers to block their products from entering the markets of developed nations.

Despite the fact that certification will, intentionally or not, act as a non-tariff barrier to trade and discriminate against those who are unable or unwilling to certify their forests<sup>30</sup>, interest in certification continues to grow and may provide substantial benefits for sustainable forest management. The instruments of timber labelling and market-oriented forest certification will play an important complementary role in the ongoing international policy dialogue on forests, together with regulation, incentives and other instruments.

## II. The International Dialogue on Sustainable Forest Management and Initiatives on the Global, Regional, and National Level

The increasing international awareness of forest-related issues has led to a number of instruments concerning the management and protection of forests. Globally, there is weak governance in the forest sector with numerous international and regional conventions addressing forest-related issues<sup>31</sup> on a thematic or special in-

<sup>27</sup> Rametsteiner, Ewald *et al.*, Sustainable Forest Management Certification – Frame Conditions, System Designs and Impact Assessment, EU Research Project FAIR CT95-766, Vienna 2000.

<sup>28</sup> See <[www.forest-alliance.org](http://www.forest-alliance.org)>.

<sup>29</sup> As of January 2003; web site at: <[www.fscoax.org](http://www.fscoax.org)>.

<sup>30</sup> Schulte zu Sodingen, *supra* note 25, 446 *et seq.*

<sup>31</sup> See Downes, David R., Global Forest Policy and Selected International Instruments: A Preliminary Review, in: Tarasofsky, Richard (Ed.), *Assessing the International Forest Regime*, Gland 1999, 63 *et seq.*; Grayson, A.J./Maynard, W.B. (Eds.), *The World's Forests – Rio + 5: International Initiatives Towards Sustainable Management*, Oxford 1997, 15 *et seq.*; Humphreys, David, *Forest Politics – The Evolution of International Cooperation*, London 1996, 31 *et seq.*

terest basis such as forest role in mitigating climate change, timber as a commodity of international trade, or forests as habitat of plants and animals of particular biodiversity interest. What is still missing is a specific international legal framework to deal with forests in their entirety.

## 1. Forests at the Rio Conference 1992

At the 1992 Rio Conference the forest issue was among the most controversial, polarizing developing and developed countries. Intense negotiations among governments resulted in several legal instruments with direct bearing on the use and management of forests. Although a legally binding agreement on forests was not secured, Chapter 11 (Combating deforestation) of Agenda 21 recognizes the cross-sectoral nature of forests as well as their socio-economic benefits and environmental services, thereby actually representing the most detailed instrument of global forest protection<sup>32</sup>. By another soft-law instrument, the so-called "Forest Principles"<sup>33</sup>, an international commitment was made to work toward the sustainable management, conservation, and development of all types of forests. It defines a world-wide basis for the management and conservation not only of tropical forests but also of forests in the temperate and boreal zone. In addition to these principles, UNCED agreed on the terms of three conventions – the Framework Convention on Climate Change, the Convention on Biological Diversity, and the Convention to Combat Desertification – which are relevant to, but not exclusively concerned with forests and forestry<sup>34</sup>.

These international environmental agreements have underlined the importance of sustainable forest management practices. So far, UNCED served to catalyse debate and action on forests. But what are the progresses made meanwhile?

## 2. UNCED Follow-Up

Rio brought greater international attention than ever before to the issue of sustainable use and protection of forests. Since UNCED, discussion and agreements on the international and regional level to define sustainable forestry have intensified. Forests are among subjects of many programs, which were initiated at, or were later offshoots of, UNCED<sup>35</sup>. This process is called the International Forest

<sup>32</sup> Tarasofsky, Richard, *The International Forests Regime – Legal and Policy Issues*, Gland 1995, 24 et seq.; Hönerbach, Frank, *Verhandlung einer Waldkonvention*, WZB – Social Science Research Center Berlin, FS II 96-404, 1996, 59 et seq.

<sup>33</sup> Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests, printed in: ILM 31 (1992), 881 et seq.; see further: Desai, Bharat, *Towards Sustainable Forest Management: Need for a Forest Convention?*, in: *Background Paper Topic 37 (Technical Programme) of the 11<sup>th</sup> World Forest Congress in Antalya*, Oct. 1997, 7 et seq.

<sup>34</sup> See FAO, *supra* note 2, 106 et seq.



Policy Dialogue. There have also been a number of international fora that placed forests at the forefront of environmental discussions, including the Intergovernmental Panel on Forests, IPF (1995-1997), the International Forum on Forests, IFF (1997-2000), and the current United Nations Forum on Forests (UNFF). An informal, high level Interagency Task Force on Forests (ITFF) was set up in 1995 to coordinate the inputs of international organizations to the forest policy process<sup>36</sup>.

### A. International processes and conventions

Many years of negotiation of a common global approach to forest issues have generated in several proposals for action. There was not only progress in implementing the three UNCED-conventions mentioned above<sup>37</sup>; in order to advance beyond the agreements contained in the "Forest Principles" and Chapter 11, the intergovernmental debate and discussion continued under the IPF, which completed its work in 1997. The IPF developed some 150 negotiated proposals for action on issues relating to sustainable forest management<sup>38</sup>.

Various matters, however, were left pending, including financial assistance and trade-related matters, and the question whether to begin negotiations on a legal instrument to protect the world's forests. The different positions of states, NGOs, and the private forest sector towards a global forest protection concept have been partly changed considerably over the last ten years. At the Rio Conference in 1992, the goal of industrialized nations, which was to start negotiations on a legally binding forest convention, or at least to agree on a convention mandate<sup>39</sup>, could not be accomplished because of the irreconcilable differences between developed and developing countries<sup>40</sup>. While the results of the Rio Conference were largely influenced by the North-South conflict, five years later, at the UN General Assembly at its special session in 1997 (UNGASS), reviewing progress made in implementing Agenda 21, neither the industrialized nations nor the developing countries formed any homogenous group. Instead, the participating nations formed coalitions which shifted with every single issue so as to promote the interests of a particular nation or state group<sup>41</sup>.

<sup>35</sup> Grayson, A.J. (Ed.), *The World's Forests: International Initiatives since Rio*, Oxford 1995, 31 et seq.; Schulte zu Sodingen, *supra* note 25, 235 et seq.

<sup>36</sup> Grayson/Maynard, *supra* note 31, 28.

<sup>37</sup> See *supra* note 34.

<sup>38</sup> Report of the Ad Hoc Intergovernmental Panel on Forests on its fourth session (E/CN.17/1997/12), 20.3.1997.

<sup>39</sup> Canada has been and continues to be a strong advocate of the need for an international agreement on the sustainable management of forests, preferably in the form of a legally binding convention. In 1998, the Costa Rica-Canada Initiative (CRCI) was undertaken to provide an opportunity for international forest experts to exchange views on the relative merits of legally binding options including an international forest convention; see CRCI, Final Report, No. 46, <<http://www.nrcan.gc.ca/cfs/crci>>.

<sup>40</sup> Humphreys, *supra* note 31, 98; Sa, Anthony de, *The Prospects for an International Environmental Agreement on Forests*, in: *International Environmental Affairs* 1998, 18, 25.

Therefore, UNGASS decided to continue the intergovernmental policy dialogue on forests through the establishment of the IFF under the aegis of the Commission on Sustainable Development (CSD)<sup>42</sup>. IFF has elaborated approximately 120 proposals for action on a range of topics<sup>43</sup>. Although the IPF/IFF proposals for action are not legally binding, participants of these processes are under a political obligation to implement the agreed proposals; each country is expected to conduct a systematic national assessment of the IPF/IFF proposals for action and to plan for their implementation.

In its final report, IFF has put forth a proposal for an international arrangement on forests, including the establishment of the UNFF by the UN Economic and Social Council (ECOSOC)<sup>44</sup>. UNFF is now the focus of global efforts to promote sustainable forest management. UNFF shall promote the implementation of internationally agreed action on forests at the national, regional, and global levels, and carry out principle functions, based on the Rio Declaration, the Forest Principles, Chapter 11 of Agenda 21, and the outcomes of the IPF und IFF-processes<sup>45</sup>, in a manner consistent with and complementary to existing international legally-binding instruments relevant to forests<sup>46</sup>. By 2005, UNFF will consider recommending the parameters of a mandate for developing a legal framework on all types of forests<sup>47</sup>. It will also take steps to devise approaches towards appropriate financial and technology transfer support to enable implementation of sustainable forest management.

UNFF process is still at an early stage of conceptual development rather than at the stage of implementation. The future success or failure of the UNFF depends on whether the Forum will be able to continue and strengthen not only the exchange of information, but also to force concrete actions to address forest problems on the ground. Finally, it will be important for the international environmental discussion to find a solution for the still unresolved question whether to begin negotiations on a global forest convention<sup>48</sup>.

<sup>41</sup> Schneider, Thomas, Der internationale forstpolitische Dialog 5 Jahre nach Rio, in: AFZ/Der Wald 6/1998, 314.

<sup>42</sup> ECOSOC-Resolution 1997/65, 25.7.1997: Establishment of an ad hoc open-ended Intergovernmental Forum on Forests. See further <<http://www.un.org/esa/sustdev/iff.htm>>.

<sup>43</sup> See for the topics of the IPF and IFF proposals for action: FAO, *supra* note 2, 105.

<sup>44</sup> See ECOSOC-Resolution E/2000/35, contained in E/2000/INF/2/Add.3, 18.10.2000, Report on the fourth session of the Intergovernmental Forum on Forests; see also Report of the Intergovernmental Forum on Forests on its fourth session (E/CN.17/2000/14), 20.3.2000.

<sup>45</sup> These proposals are the basis for the UNFF Multi-Year Programme of Work and the Plan of Action, adopted at UNFF1, see Report on the organizational and first sessions (12 and 16 February and 11-22 June 2001), E/2001/42/Rev.1, E/CN.18/2001/3/Rev.1. For further information see <[www.un.org/esa/forests/documents-unff.html](http://www.un.org/esa/forests/documents-unff.html)>.

<sup>46</sup> E/2001/42/Rev.1, E/CN.18/2001/3/Rev.1, para. 1.

<sup>47</sup> E/2001/42/Rev.1, E/CN.18/2001/3/Rev.1, para. 3 c (i).

<sup>48</sup> At the second session of the UNFF in March 2002 delegates agreed that an ad hoc expert group under consideration with a view to recommending the parameters of a legal framework on all types of forests shall provide scientific and technical advice to the UNFF; unfortunately, delegates could not reach consensus on when this group should initiate its work, with developing countries that it do so

As part of the new International Arrangement on Forests (IFA) "to promote the management, conservation and sustainable development of all types of forests and to strengthen long-term commitment to this end"<sup>49</sup>, the Collaborative Partnership on Forests (CPF), established in 2001, is intended to support the work of the UNFF<sup>50</sup>. UNFF debates will eventually stimulate national policies and trigger action by the CPF member organizations. Some countries, indeed, stake their hopes on the CPF, which they see as the most significant result of the international forest policy dialogue<sup>51</sup>.

Besides the IPF/IFF- and UNFF-processes, in 1994 the International Tropical Timber Agreement<sup>52</sup> came into force, containing the Year 2000 Objective of the International Tropical Timber Organization (ITTO): This means that all ITTO members countries committed themselves to achieve trade in tropical timber from sustainably managed forests by the year 2000. Many countries have not yet fully achieved this objective, but there are also significant improvements towards sustainable forest management for timber production.

## B. Regional and national initiatives

Apart from the global debate on forest issues, several regional forest-related legal agreements have also been elaborated after the UN Conference in 1992, some of them have not yet entered into force<sup>53</sup>. Regional agreements, however, often tend to support the national economies of the countries involved and reaffirm the sovereign right of countries over their forest resources, allowing countries flexibility to manage their natural resources pursuant to their own environmental and development goals and policies. Although some regional treaties address specific environmental issues, they alone will not be sufficient to reach the goals of conservation and sustainable use of forests without the cooperation of the international community.

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immediately after UNFF-4, and other developed countries preferring it to start immediately after UNFF-3, see Earth Negotiations Bulletin, Vol. 13 No. 94, 18.3.2002, 10.

<sup>49</sup> E/2001/42/Rev.1, E/CN.18/2001/3/Rev.1, para. 1.

<sup>50</sup> The CPF is comprised of thirteen international forest-related conventions, organisations, and institutions, like the FAO, UNEP, UNDP, The World Bank and the Global Environment Facility, and the secretariats of the three Rio Conventions.

<sup>51</sup> Earth Negotiations Bulletin, Vol. 13 No. 83, 25.6.2001.

<sup>52</sup> ILM 33 (1994), 1014 et seq.; see also Kasimbazi, Emmanuel, Sustainable Development in International Tropical Timber Agreements, in: Journal of Energy & Natural Resources Law 1996, Vol. II, 137 et seq., 150; Humphreys, *supra* note 31, 105 et seq.

<sup>53</sup> See, for example, the Regional Convention for the Management and Conservation of the Forest Natural Ecosystems of the Development of Forest Plantations, 29.10.1993, printed in: Burhenne, Wolfgang E. (Ed.), International Environmental Law, London 1999 993:80; or the Yaoundé-Declaration of the Summit of Central African Heads of State on the Conservation and Sustainable Management of Tropical Forests, 17.3.1999, printed in: ILM 38 (1999), 783 et seq. See further Aguilar, G./González M., Regional Legal Arrangements for Forests, in: Tarasofsky, *supra* note 31, 111 et seq.

The UNCED follow-up dialogue on the regional and national level relating to forests mainly aimed at casting the concept of sustainable development into a more concrete shape by formulating guidelines, criteria and indicators for the management, conservation, and sustainable development of all types of forests. Criteria and indicators have been developed as benchmarks to measure and report progress towards sustainable forest management. Currently, more than 150 countries are members of nine ecoregional processes on criteria and indicators (C&I)<sup>54</sup>, undertaken by governments and other institutions, NGOs and the private sector, which are covering about 85 % of the world-wide forest area<sup>55</sup>. All criteria and indicator processes are conceptually similar in objective and approach, with only little differences in their structure and content. Various international institutions, including FAO, UNEP and ITTO, have collaborated with these criteria and indicators processes and initiatives, helping to promote compatibility among them<sup>56</sup>. The mutual recognition of the main processes is one necessary step towards a common global approach to assess sustainable forest management in the future.

On the national level, new policies in many countries have been made to increase dialogue with various citizen groups that are affected by decisions concerning forests. Nearly half of all countries have implemented a national forest programme or a comprehensive forest process, that is consistent with a country's socio-economic, cultural, political and environmental conditions, and that can be used as a suitable framework for the implementation of the internationally agreed IPF/IFF-proposals for action<sup>57</sup>. In developing countries, mainly in Latin American and African countries, financing national programmes has become a critical issue because of declining external financial assistance for the forestry sector<sup>58</sup>.

To sum up, the existing forest-related strategies since Rio include a number of concepts and regulations with a potentially significant contribution to the sustainable development approach with its three dimensions of ecological, economic and social acceptability. In addition, the multitude of global and regional initiatives with cross-sectoral linkages to technical, social and economic aspects give guidance to policy-makers for actions in support of sustainable management, conservation and development of forests. Nevertheless, regarding the various benefits of forests on the one hand and the regional and global dimensions of the ongoing forest destruction on the other hand, the different existing instruments are not adequate to

<sup>54</sup> Additional information at FAO, *State of the World's Forests 1997*, Rome 1997, 116 et seq.; Schulte zu Sodingen, *supra* note 25, 262 et seq.

<sup>55</sup> FAO, *supra* note 2, 158 et seq.

<sup>56</sup> Intergovernmental Seminar on Criteria and Indicators for Sustainable Forest Management (ISCI), Background Report 1: Achievements in the Development of Criteria and Indicators for Sustainable Forest Management, Helsinki 1996, 53 et seq.; see also Grayson/Maynard, *supra* note 31, 75.

<sup>57</sup> FAO, *Status and progress in the implementation of national forest programmes*, 2000. Several countries submitted voluntary national reports to the UNFF second session; see, for example, the German national report at <[http://www.un.org/esa/forests/pdf/National\\_Reports/UNFF2/Report\\_2002\\_Germany.pdf](http://www.un.org/esa/forests/pdf/National_Reports/UNFF2/Report_2002_Germany.pdf)>.

<sup>58</sup> FAO, *supra* note 2, 115.

regulate the complexity of all forest sector issues, and they are not a sufficient alternative to an holistic international legal instrument for the protection of all kinds of forests<sup>59</sup>.

### III. World Summit on Sustainable Development – Key Outcomes in Forest Policy

The Summit in Johannesburg reaffirmed sustainable development as a central element of the international agenda and gave new impetus to global action to fight poverty and protect the environment. As a main result, the understanding of sustainable development was broadened and strengthened by action-oriented initiatives, particularly the important linkages between poverty, the environment and the use of natural resources. At the WSSD, two outcome documents were adopted: the Johannesburg Declaration on Sustainable Development<sup>60</sup>, which outlines the commitment of international heads of governments to sustainable development, and the Plan of Implementation<sup>61</sup>, a framework for action to implement Agenda 21, adopted by UNCED in 1992. In addition, a number of so-called Type-II partnerships – which need only be agreed upon by those directly involved who commit themselves to taking the process forward and making it a success – were proposed and became an integral part of the summit<sup>62</sup>.

Although forests were not set high on the political agenda, they were not forgotten. The Plan of Implementation as the most important document produced at the Johannesburg Summit dedicated its Article 45 to forests<sup>63</sup>; the climate change, desertification and biodiversity sections of the Plan of Implementation also make cross-reference to the role of forests. In Article 45, which reflects the outcome of the UNFF-II Ministerial Declaration and Message to the WSSD<sup>64</sup>, the sustainable management of forests is acknowledged as being essential to achieving sustainable development by endorsing it as a priority on the international political agenda. Sustainable forest management is regarded as a critical means to eradicate poverty, significantly to reduce deforestation, to halt the loss of forest biodiversity and land and resource degradation, and to improve food security and access to safe drinking water and affordable energy<sup>65</sup>. Looking at the commitments concerning the protection and managing of forests<sup>66</sup>, countries shall accelerate the implementation of the

<sup>59</sup> See further for the necessity of a global forest convention, 410 et seq.

<sup>60</sup> Report of the World Summit on Sustainable Development, A/CONF. 199/20, Chapter I (Resolutions adopted by the Summit), No. 1.

<sup>61</sup> Report of the World Summit on Sustainable Development, A/CONF. 199/20, Chapter I (Resolutions adopted by the Summit), No. 2.

<sup>62</sup> List of voluntary Type "II"-partnerships at <[www.johannesburgsummit.org](http://www.johannesburgsummit.org)>.

<sup>63</sup> See Plan of Implementation, *supra* note 61, para. 45.

<sup>64</sup> A/Conf.199/PC/8, 19.03.2002; see also Earth Negotiations Bulletin, Vol. 13 No. 94, 18.03.2002, Summary of the Second Session of the UNFF, 4-15 march 2002, 10 et seq.

<sup>65</sup> See *supra* note 63.

IPF/IFF-proposals for action and intensify efforts on reporting to the UNFF, to contribute to an assessment of progress in 2005. Other actions include, *inter alia*,

- domestic forest law enforcement and the fight against illegal international trade in forest products, including forest biological resources;
- immediate action to promote and facilitate the means to achieve sustainable timber harvesting;
- strengthening of partnerships and international cooperation to facilitate the provision of financial resources, the transfer and development of environmentally sound technologies;
- forest law enforcement;
- supporting indigenous and community-based forest management systems to ensure their full and effective participation in sustainable forest management;
- implementation of the action-oriented work programme of the Convention on Biological Diversity on all types of forest biological diversity.

Furthermore, the countries are called upon to support the UNFF<sup>67</sup> and the Collaborative Partnership on Forests (CPF)<sup>68</sup> as the only intergovernmental institutions that facilitate and coordinate the implementation of sustainable forest management.

In addition to concrete commitments, many partnerships were launched in Johannesburg by governments, NGOs and businesses to tackle specific projects. The Plan of Implementation emphasises the achievement of sustainable forest management through voluntary commitment partnerships between interested governments and stakeholders, including the private sector, indigenous and local communities and non-governmental organizations<sup>69</sup>. Over 220 partnerships with US\$ 235 million in resources were identified in advance of the Summit and around 60 partnerships were announced during the summit. Of these, some partnerships relate directly to forests, as for example the Congo Basin Forest Partnership (CBFP)<sup>70</sup>, launched in Johannesburg by the United States and supported by the government of France, Germany, the United Kingdom, Belgium, the European Commission and other partners. The CBFP will promote sustainable natural resource management for economic development, poverty alleviation and improved governance to the people in the Congo Basin dependent upon these natural resources for their livelihood<sup>71</sup>.

<sup>66</sup> Ibid., para. 45 (a)-(i).

<sup>67</sup> See p. 404 et seq.

<sup>68</sup> See p. 405.

<sup>69</sup> See Plan of Implementation, *supra* note 61, para. 45.

<sup>70</sup> Other partnerships are: The Asia Forest Partnership, proposed by the governments of Japan and Indonesia and supported by the Center for International Forestry Research (CIFOR) and The Nature Conservancy; and the Regional Model Forest Centre for Latin America and the Caribbean, proposed by the International Model Forest Network (Canada).

<sup>71</sup> The Congo Basin contains the world's 2<sup>nd</sup> largest block of intact interconnect tropical forest (see FAO [FN 2], 34). This region has significant forest problems with governance, illegal logging, and infrastructure. Protection of wildlife and biodiversity have also been identified as key problems in this region.

Another example for a partnership in the field of forest protection is an initiative of the governments of Indonesia and the United States of America to integrate key aspects of sustainable forest management principles into forest management and to ensure that Indonesian producers can be assured of market access for sustainably managed and produced forest products (Public-Private Partnership for Sustainable Forest Management). Direct funding for the facilitation of this arrangement will be secured from the US government, from private sector business in the USA market, and from Indonesian forest producers<sup>72</sup>.

The model of private-public cooperation may encourage more widely spread initiatives at responsible and sustainable forest resource development and management. On the other hand, by the means of voluntary partnerships, multinationals are not ensuring that they are fully accountable for their actions. Because of the failure to secure corporate accountability, voluntary partnerships are only one method to improve living conditions in developing regions and to increase progress toward sustainability. Therefore, WSSD's voluntary multi-stakeholder partnerships in the field of forest protection should not inhibit a legally-binding political agreement, which is, in the end, essential if sustainable forest development issues are to be dealt with effectively.

The Johannesburg Summit provided an opportunity to enhance the position of forests on the international agenda. WSSD indicated the urgency that the international community and national governments show even greater resolve to move the forest agenda forward to get results. Thus, the Johannesburg Conference may have far-reaching effects in reinvigorating the dialogue between the various stakeholders in forest issues and therefore could offer fruitful opportunities for effective cooperation, strategies and action. As a progress of the WSSD in forest issues, the Plan of Implementation specifies what policy targets countries should pursue, when to achieve them, and to whom and when to report the results. Another improvement of its Article 45 is that it commits organizations to mobilize resources and address the needs of developing countries<sup>73</sup>. What is still missing is a clear mandate and the accountability for implementing the proposals for action of the IPF/IFF-process. What is more, the international arrangement provides no financial assistance, and has no right to hold the countries accountable. For effective forest policies in the post-Johannesburg decade, UNFF must give up its role as a forum for information exchange<sup>74</sup>; a clear guidance by the UNFF could catalyze substantive action by the CPF member organizations and states to address forest problems on the ground, also making progress toward solving the long-standing differences between the North and the South.

<sup>72</sup> Further information at <[www.johannesburgsummit.org](http://www.johannesburgsummit.org)>.

<sup>73</sup> See Plan of Implementation, *supra* note 61, para. 45 (d)-(e).

<sup>74</sup> Earth Negotiations Bulletin, Vol. 13 No. 94, 18.03.2002, Summary of the Second Session of the UNFF, 4-15 March 2002, 14. The third session of the UNFF will be held on 26 May-6 June 2003 at the United Nations in Geneva, Switzerland.

## IV. Trends and Challenges in Forest Policies for the Future

Regarding the global dimensions of forest degradation, the issue of forests represents a major challenge to international cooperation. Since UNCED, notable progress has been made in managing forests, not only to promote their economic viability, but also to safeguard and enhance their environmental, social and cultural benefits<sup>75</sup>. However, while the route to sustainable forest management is not as rapid as some might wish, heightened political commitment and sustained financial support will be essential to conserve forests and to continue the progress to sustainable forest management.

The international dialogue has been extremely helpful in clarifying the complexities surrounding global forestry, but the present situation calls for world-wide and well-coordinated action to preserve the global forest resources. New initiatives must confront some of the root causes of deforestation, such as the direct relationship between high levels of poverty and areas that suffer the greatest rates of deforestation, such as the tropical forests<sup>76</sup>. The potential for synergy and the avoidance of overlapping or even counterproductive policies and procedures can only be explored through a careful analysis of existing international legally and non-legally binding instruments and institutions affecting forests, like the Forest Resources Assessment by the FAO<sup>77</sup>, and through close cooperation between these different processes.

Regardless of which international instrument will eventually be selected to protect the world's forests, the following prerequisites may contribute to a successful progress in negotiating global forest issues:

- Because of the distributional interests of multi-stakeholders in the global forest debate<sup>78</sup>, such as forestry industries, consumers, local communities, private property owners and indigenous peoples, interlinkages with trade and agricultural politics as well as with minority people's rights are essential.
- Cooperation and policy and programme coordination between relevant international and regional organizations, institutions and instruments should be enhanced further. The success of the CPF is therefore of crucial importance.
- Current efforts to develop guidelines, criteria and indicators of sustainable forest management have to be supported.
- Further development of participatory national forest programmes aiming at the integration of all relevant actors and institutions is necessary.
- People's willingness to protect forest resources is related to their economic value. Satisfactory economic returns on products based on forest resources, and a fair

<sup>75</sup> FAO, *supra* note 2, 103 et seq.

<sup>76</sup> See p. 398.

<sup>77</sup> FAO, *supra* note 2, 58 et seq.

<sup>78</sup> A multi-stakeholder dialogue is part of the regular UNFF sessions; it provides an opportunity for dialogue between States members of the UNFF and representatives of major groups as identified in Chapter 23 of Agenda 21; see also the Multi-Stakeholder Dialogue Discussion Facilitation Papers of UNFF2 at <<http://www.un.org/esa/forests/participation-msd-papers.html>>.



and equitable sharing of revenues, are necessary to preserve forests from unsustainable conversion to other forms of land use.

– Regarding the growing economic factors there is also a huge need to engage with international processes in the WTO<sup>79</sup> and to promote sustainable forest development by financial assistance of the World Bank and other developing banks<sup>80</sup>.

## V. The Forest Convention Debate

Manifold local specificities of forest management in different climate zones, in developing or developed countries, might disallow a single global solution for erasing forest degradation in the world.

However, to avoid fragmentation of forest issues among many initiatives, and to achieve effective governance of a common forest agenda with clarification of rights, obligations and national reporting requirements, a legally-binding global forest convention would fulfill various forest-related commitments under a holistic framework<sup>81</sup>. The issues of global forest conservation would benefit from a permanent international platform which would serve not only to continue but also to strengthen cooperation in forest matters. Moreover, an international convention would elevate forest concerns to a higher rank within the UN system. Besides, more institutional or technical capacities could be mobilized and the international dialogue on innovative funding mechanisms within the forestry sector would continue<sup>82</sup>.

Another advantage of a legally binding convention as opposed to legally non-binding options of sustainable forest management is that it could ensure the effective coordination at all levels of policy, planning and implementation amongst all sectors that impact on forests, and improve accountability by establishing a national reporting system to measure the progress towards sustainable forest manage-

<sup>79</sup> Further information at Barbier, Edward, Impact of the Uruguay Round on International Trade in Forest Products, FAO, Rome 1996; Bourke/Leitch, *supra* note 22, 11 et seq.

<sup>80</sup> See Schulte zu Sodingen, *supra* note 25, 213 et seq.; Seymour, Frances/Dubash, Navroz, The Right Conditions: The World Bank, Structural Adjustment, and Forest Policy Reform, World Resources Institute, Washington D.C. 2000; World Bank, A Review of the World Bank's 1991 Forest Strategy and Its Implementation, Vols. I and II, 2000.

<sup>81</sup> For concepts see Alexandrowicz, George W., International Legal Instruments and Institutional Arrangements: A Discussion Paper, in: Canadian Council on International Law (Ed.), Global Forests and International Environmental Law, London 1996, 315, 321; Brunnée, Jutta, A Conceptual Framework for an International Forests Convention: Customary Law and Emerging Principles, *ibid.*, 41, 48; Humphreys, *supra* note 31, Annex A (Possible Main Elements of an Instrument (Convention, Agreement, Protocol, Charter) for the Conservation and Development for the World's Forests), and Annex D (Draft Text for a Convention for the Conservation and Wise Use of Forests); Glück, Peter *et al.*, Options for Strengthening the International Legal Regime for Forests, European Forest Institute, Joensuu 1997, 29 et seq.

<sup>82</sup> For possible elements and functions of a future international arrangement and mechanism in the field of forest protection see E/CN.17/IFF/2000/3, 23.11.1999, Annex I; available at <<http://www.un.org/esa/sustdev/docsiff4.htm>>.

ment and towards the implementation of national forest programmes. Nevertheless, the effectiveness of such an undertaking would depend on the extent to which it is supportive and synergistically related to other relevant instruments. A new forest convention would necessarily need to be complementary to and harmonized with existing legal agreements, notably those covering biological diversity conservation, climate change and carbon sinks, and protection against desertification.

Many attempts have been made to establish consensus on an international instrument on forests, thus leading to the question of a proper legal framework<sup>83</sup>. As mentioned above, until 2005, UNFF shall consider the parameters for a mandate for developing a legal framework on all types of forests, with a view to making a recommendation to ECOSOC and the UN General Assembly<sup>84</sup>. In this context, the option to regulate forest related issues not in a legally-binding forest convention, but in a protocol to the Biodiversity Convention (CBD), although not concerned with forests per se, has often been suggested<sup>85</sup>. The CBD is a framework convention that may be complemented by protocols to further develop the international law applying to forests<sup>86</sup>. Indeed, with regard to the acceleration of the decline of global forests, the negotiation of a protocol to the CBD would avoid both the effort and the cost of elaborating a separate forest convention, including the establishment of another secretariat. A protocol could build on internationally-agreed objectives and a basic institutional framework of the Biodiversity Convention. However, the CBD has only the potential to cover particular aspects of sustainable forest management. The CBD does not necessarily reflect for instance the role of forests in preserving climate or the issue of international timber trade<sup>87</sup>. A protocol to the CBD could therefore not cover all the factors that require international forest regulation.

The same would apply to a protocol to the Framework Convention on Climate Change. It would primarily be concerned with the ecological role of forests as a carbon sink. It might be effective in regulating biomass and carbon issues, but it

<sup>83</sup> See "International Arrangements and Mechanisms to Promote the Management, Conservation and Sustainable Development of All Types of Forests", E/CN.17/IFF/2000/4, 23.11.1999. Not only a legally binding instrument, but also an intergovernmental forum for policy deliberations, a coordinating mechanism, and a programme for forest policy implementation are discussed in this paper.

<sup>84</sup> At the second session of the UNFF in March 2002 delegates agreed that an "ad hoc expert group on consideration with a view to recommending the parameters of a legal framework on all types of forests" shall provide scientific and technical advice to the UNFF; unfortunately, delegates could not reach consensus on when this group should initiate its work, with developing countries that it do so immediately after UNFF-4, and other developed countries preferring it to start immediately after UNFF-3, see Earth Negotiations Bulletin, Vol. 13 No. 94, 18.3.2002, 10.

<sup>85</sup> As by Byron, Neil, The Advantages and Disadvantages of a Legally-binding Global Forests Convention, EFI (European Forest Institute) News 1/97, 7; Abramovitz, Janet, Taking a Stand: Cultivation, a New Relationship with the World's Forests, in: Worldwatch Paper 140, 1998, 63; de Sa, *supra* note 40, 18.

<sup>86</sup> See Art. 28 Biodiversity Convention.

<sup>87</sup> Tarlock, A. Dan, Exclusive Sovereignty Versus Sustainable Development of a Shared Resource: The Dilemma of Latin American Rainforest Management, in: Texas International Law Journal 1997, 37, 54.

would not cover many other regional and global forest services in different climate regions<sup>88</sup>.

Following the model of the UN Convention to Combat Desertification<sup>89</sup>, one option for a legally binding forest convention would be a framework or constitutive instrument with special annexes, outlining how the agreement is to be implemented by national and regional action programmes. The principal purpose of this mechanism would be to take into account the diverse underlying causes of forest destruction in different developed and developing regions of the world. Furthermore, it would recognize that the ongoing forest destruction is first and foremost based on local and regional factors, and that there are still no effective regional instruments to combat the depletion of forests<sup>90</sup>. Indeed, to facilitate effective implementation of such a forest convention, it would be necessary to formulate strong obligations in the text of the convention itself.

Efforts to draft an international legal instrument on forests, which will inevitably affect the sovereign rights of states, will almost certainly trigger strong resistance, especially from the side of developing countries. It is one of the major disadvantages of international discussions on forest issues that the question of whether forests belong to the category of "common heritage of mankind", such as parts of Antarctica, the deep-sea bed or outer space, or at least to the level of "common concerns of mankind", like the conservation of biological diversity, is not yet resolved<sup>91</sup>. Depending on the outcome of that debate it will have to be determined whether or not forests should be regulated by a global instrument. The international debate remains heavily burdened by this concern of sovereignty. In the area of conflict between sovereign rights over natural resources and global requirements for protecting the environment, support for a global forest convention will depend on a sufficient political will and a clear guidance for such a legally binding treaty; the central question in this context is whether sovereign states will voluntarily decide to cooperate in the management of regional and global forest problems.

Additionally, public awareness, mainly in the tropical countries, has to be raised for the necessity and urgency of taking immediate and concrete steps towards the sustainable use of the world's forests, as they provide not only economic, but also a range of social and environmental benefits and therefore are serving as a basis for human life in the future. Thus, any move towards a legally binding convention will necessitate a high level of consensus among states on the question of sovereignty and – closely related – of possible financial compensation.

<sup>88</sup> Glück *et al.*, *supra* note 81, 65.

<sup>89</sup> Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa, as of 14.10.1994, in force since 26.12.1996, printed in: ILM 33 (1994), 1328.

<sup>90</sup> See Schulte zu Sodingen, *supra* note 25, 501.

<sup>91</sup> Tarlock, *supra* note 87, 37, 43; Odendahl, Kerstin, Die Umweltpflichtigkeit der Souveränität: Reichweite und Schranken territorialer Souveränitätsrechte über die Umwelt und die Notwendigkeit eines veränderten Verständnisses staatlicher Souveränität, Berlin 1998, 265 et seq.

