



General Assembly Plenary Topic Background Guide

Topic 1: Deforestation¹

14 October 2011

A forest is “a complex ecological system in which trees are the dominant life form.” Forests develop and survive in regions with temperatures over 50 degrees Fahrenheit for at least part of the year and annual precipitation of at least 8 inches.² These conditions occur over much of the earth and vary in important ways that enable different kinds of forest ecosystems, each with different flora and fauna, to develop:

--In cool, high-latitude climates, such as Canada, Alaska, Scandinavia, Russia, and Mongolia, there are coniferous or “boreal” forests made up of pines, spruce, and larch. Boreal forests are populated by mammals such as moose, wolves, reindeer, caribou, lynx, beaver, and muskrats and in the summer are a destination for millions of migratory birds.³

--In temperate, middle- and lower-latitude climates, as well as tropical climates, there are “deciduous” forests. In the Northern Hemisphere, deciduous forests are found in the eastern United States, central Europe, and western and northeastern Asia from Turkey to China and Japan. These forests include oaks, beech, maples, hickories, birches, and aspens, as well as fruit and nut trees such as cherries, figs, olives, and chestnuts. In the Southern Hemisphere, deciduous forests are found in Chile, Australia, and New Zealand and include beech, coachwood, eucalyptus, tree ferns, and crab apples.⁴ Deciduous forests are also found in tropical climates such as India, Southeast Asia, eastern Brazil, southeastern Africa, and northern Australia. These forests, which are called “monsoon forests” due to their weather pattern of a long dry season followed by heavy rains, feature teak, acacia, and bamboo trees.⁵ Deciduous forests are homes for large mammals such as elephants, bears, deer, foxes, and wild cats, dogs, and cattle, as well as rodents such as rabbits, mice, and moles, arboreal (tree-dwelling) animals such as squirrels, monkeys, and koalas, cold-blooded vertebrates such as snakes, frogs, and turtles, and a wide variety of birds and insects.

-- In temperate, high-latitude climates such as the United Kingdom, and in mountainous regions worldwide, there are “mixed forests” with both conifers and deciduous trees.

-- In humid regions near the equator, such as Central America, the Amazon basin, West and Central Africa, Southeast Asia, and Oceania, there are “tropical rainforests” made up of broadleaf evergreens such as magnolias, mahogany, Winter’s bark, sal, rubber trees, custard apple, nutmeg, Brazil nut, and many varieties of palm, including coconut, date, wax, oil, and sugar palms. According to geographer Jeremy M.B. Smith, “to the west the rainforests are populated—or were populated until recently—by monkeys,

¹ This background guide was written by Karen Ruth Adams, faculty advisor, with contributions from David Knobel (2007). Copyright 2011 by Karen Ruth Adams.

² “Forest,” *Encyclopaedia Britannica*, available at <http://www.britannica.com/EBchecked/topic/213461/forest>

³ Glenn Patrick Juday, “Boreal Forest,” *Encyclopaedia Britannica*, available at <http://www.britannica.com/EBchecked/topic/74016/boreal-forest>

⁴ Jeremy M.B. Smith, “Temperate Forest,” *Encyclopaedia Britannica*, available at <http://www.britannica.com/EBchecked/topic/586555/temperate-forest?anchor=ref591903>

⁵ Jeremy M.B. Smith, “Tropical Rainforest,” *Encyclopaedia Britannica*, available at <http://www.britannica.com/EBchecked/topic/606576/tropical-rainforest> See also “Monsoon Forest,” *Encyclopaedia Britannica*, available at <http://www.britannica.com/EBchecked/topic/390333/monsoon-forest>

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deer, pigs, cats, elephants, and rhinoceroses, while those to the east have marsupial mammals, including opossums, cuscuses, dasyurids, tree kangaroos, and bandicoots.”⁶

According to the UN, forests cover 31% of the earth’s total land area and house 80% of earth’s biodiversity. 300 million people live in forests, and 1.6 billion people depend on forests for their livelihoods. In 2004, trade in forest products was estimated at \$327 billion.⁷

Deforestation refers both to the thinning of trees in a forest and to the destruction of a whole forest. Deforestation can be temporary, as after a forest fire, or permanent, as the result of human efforts to harvest wood or clear land for crops, grazing, mining, homes, roads, and industries. According to conservation ecologist Stuart L. Pimm, “The Earth’s croplands, which cover about 15 million square km (5.8 million square miles), are mostly deforested land.” Of these, most “were once temperate forests or subtropical forests including forests in eastern North America, western Europe, and eastern China.” Another 2 million square km of forests in North America and Europe have been cleared for grazing, as have 5 to 9 million square km of tropical forests. According to Pimm, “almost half the world is made up of ‘drylands’ – areas too dry to support large numbers of trees.” Such areas are also used for grazing.⁸

In many regions of the world, there have been cycles of deforestation and reforestation by humans. For example, “about half of eastern North America” was deforested between the beginning of European colonialism in the 1600s and the 1870s. Since 1870, “the region’s forest cover has increased, though most the trees are relatively young.”⁹

According to the UN, since 1990, reforestation has occurred in several parts of the world, especially post-communist countries in Europe and developing countries in east Asia and the Caribbean. China, India, and Viet Nam alone have “expanded their forest area by a total of nearly 4 million hectares annually in the last five years.” Despite these gains, the overall percentage of the earth’s surface covered by forests fell from 32% in 1990 to 31% in 2010. The regions with the highest rates of deforestation are Sub-Saharan Africa, where forested land fell from 31% of all land in 1990 to 28% in 2010, and Latin America, where forests fell from 52% of all land in 1990 to 48% in 2010. In addition, since 2000, Australia has experienced large losses due to severe drought and fires.¹⁰

According to the UN, this is an “alarmingly high” rate of deforestation.¹¹ What can the General Assembly do to encourage member states to stop deforestation in their own countries and worldwide?

History and Current Events

According to the UN, deforestation is a cause for concern for three reasons. First, as noted above, forests provide homes and livelihoods to millions of people. When forests are cleared to harvest wood or plant crops, graze animals, mine, or develop roads and buildings, the people who live in the area must move and find new ways to

⁶ Smith, “Tropical Rainforest.” See also Harold E. Moore, Jr. and Natalie W. Uhl, “Palm,” *Encyclopaedia Britannica*, available at <http://www.britannica.com/EBchecked/topic/440038/palm>

⁷ United Nations, “International Year of Forests, 2011: Celebrating Forests for People,” available at <http://www.un.org/en/events/iyof2011/>

⁸ Stuart L. Pimm, “Deforestation,” *Encyclopaedia Britannica*, available at <http://www.britannica.com/EBchecked/topic/155854/deforestation>

⁹ Pimm, “Deforestation.”

¹⁰ United Nations, *Millennium Development Goals Report* 2010, pp. 52-53, available at <http://www.un.org/millenniumgoals/reports.shtml>

¹¹ United Nations, *Millennium Development Goals Report* 2010, p. 52.

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support themselves. In Brazil, the Philippines, and other countries, people who have refused to move have been compelled to do so by force. As a result, there are many violent conflicts related to deforestation.¹²

Second, deforestation imperils Earth's biodiversity. As forests disappear, it is harder not only for their human occupants to survive but also for the many animals and plants that live within them. Biodiversity loss is of particular concern because most of contemporary deforestation is occurring in tropical rainforests, most of which are "primary forests" that have never before been cut.¹³ In the world's tropical rainforests, new species of trees, plants, animals, birds, and insects are "found every year."¹⁴ Some of these species have been found to have important nutritional and medicinal qualities. Moreover, according to the World Health Organization, "People depend on biodiversity in their daily lives, in ways that are not always apparent or appreciated. Human health ultimately depends upon ecosystem products and services (such as availability of fresh water, food and fuel sources)."¹⁵ According to scientists, "tropical forests such as the Amazon have the greatest concentrations of animal and plant species of any terrestrial ecosystem. Perhaps two-thirds of Earth's species live only in these forests. As deforestation proceeds, it has the potential to cause the extinction of increasing numbers of these species."¹⁶

The third reason the UN is alarmed by continuing deforestation is that forests absorb carbon dioxide and other greenhouse gas (GHG) emissions from humans and livestock.¹⁷ Since the beginning of the Industrial Revolution in Europe in the 1700s, carbon emissions have grown, and forests have been cleared. As a result, the earth has experienced a "greenhouse effect" that has increased temperatures, made weather patterns more severe, and raised sea levels. According to the hundreds of scientists involved in the UN-sponsored Intergovernmental Panel on Climate Change (IPCC), "fossil fuel combustion (plus a smaller contribution from cement manufacture) is responsible for more than 75% of human-caused CO₂ emissions. Land use change (primarily deforestation) is responsible for the remainder."¹⁸

In its most recent (2007) report, the IPCC documented the effects climate change has already had worldwide, including:

- warming lakes and rivers, which reduces water quality and increases the likelihood of floods
- reducing growing seasons in dry climates, such as the Sahelian region of Africa
- changing ranges of plant and animal species, which affects agricultural production¹⁹

¹² Elizabeth A. Crittenden, "Amazon Deforestation and Brazil Land Problems," Inventory of Conflict & Environment (ICE), The Mandala Projects, American University, available at <http://www1.american.edu/ted/ice/brazmigr.htm>

¹³ United Nations, *Millennium Development Goals Report 2011*, pp. 48-49, available at <http://www.un.org/millenniumgoals/reports.shtml> See also Pimm, "Deforestation."

¹⁴ Smith, "Tropical Rainforest." See also Harold E. Moore, Jr. and Natalie W. Uhl, "Palm," *Encyclopaedia Britannica*, available at <http://www.britannica.com/EBchecked/topic/440038/palm>

¹⁵ World Health Organization, "Biodiversity," <http://www.who.int/globalchange/ecosystems/biodiversity/en/index.html>

¹⁶ Pimm, "Deforestation."

¹⁷ United Nations, *Millennium Development Goals Report 2011*, pp. 48-49.

¹⁸ Intergovernmental Panel on Climate Change (IPCC), "Frequently Asked Questions," *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 2007, p. 115, available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-faqs.pdf>

¹⁹ IPCC, "Summary for Policy Makers," *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 2007, pp. 8-10, available at

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In addition, the IPCC discussed the likely future impacts of climate change, including:

- increased glacial melting and run-off in high latitudes, which will reduce the availability of drinking water in parts of the world inhabited by one-sixth of the world's population
- increased incidence of drought and spread of desertification
- frequent heavy precipitation events, causing floods
- extinction of plant and animal species, with effects on human food supply
- rising sea levels, causing coastal erosion and necessitating resettlement of urban populations.

According to the IPCC, all of the countries and regions of the world will be affected by climate change, both directly by the changes listed above and indirectly by the disruptions in other parts of the world. But "[p]oor communities can be especially vulnerable, in particular those concentrated in high-risk areas. They tend to have more limited adaptive capacities, and are more dependent on climate-sensitive resources such as local water and food supplies."²⁰

Deforestation and climate change interact in a deadly cycle in which, on the one hand, warmer temperatures make fires more likely and, on the other hand, fires contribute to further deforestation. In recent decades, large forests have burned in Russia, China, Alaska, and Australia.²¹ In 2009, fires that began in Greek forests spread to 14 towns near Athens, burning "more than 30,000 acres of forest, farming fields, and olive groves," and necessitating the evacuation of more than 20,000 people.²²

Soil erosion and high winds are additional effects of deforestation. Like fires, they contribute to further deforestation via landslides, mudslides, flooding, and desertification. According to geographer Stuart Pimm, "About 400,000 square km ... of tropical deforested land exists in the form of steep mountain hillsides. The combination of steep slopes, high rainfall, and the lack of tree roots to bind the soil can lead to disastrous landslides that destroy fields, homes, and human lives."²³

Why Are Tropical Forests Being Deforested at Such High Rates?

According to Pimm, "Worldwide, humid forests once covered an area of about 18 million square km... Of this, about 10 million square km... remained in the early 21st century. Given the current annual rates of deforestation, most of these forests will be cleared within the century. Indeed, in some places, such as West Africa and the coastal humid forests of Brazil, very little forest remains today."²⁴

Why are tropical forests being cleared at such high rates? According to Pimm, there are five answers to this question. First, forests in cool and temperate climates "are easier to deforest and occupy" than those in humid regions, which have already been "targeted" by humans.²⁵ Second, internationally there is high demand for wood for buildings, furniture, and paper. Many tropical deciduous forests (monsoon forests) and rainforests are cleared by commercial logging companies that sell the wood on international markets. Third, there is also high and growing

http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg2_report_impacts_adaptation_and_vulnerability.htm/

²⁰ IPCC, "Summary for Policy Makers," *Climate Change 2007: Impacts, Adaptation and Vulnerability*, pp. 11-12.

²¹ Juday, "Boreal Forest." United Nations, *Millennium Development Goals Report 2010*, pp. 52-53.

²² Anthee Carassava, "Thousands Flee Athens Fires," *New York Times*, 23 August 2009, available at <http://www.nytimes.com/2009/08/24/world/europe/24greece.html>

²³ Pimm, "Deforestation."

²⁴ Pimm, "Deforestation."

²⁵ Pimm, "Deforestation."

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international demand for meat. As a result, cattle ranches have spread into areas that were once forested. Fourth, companies often cut down the diverse, native trees in primary forests to plant “economically valuable” trees such as rubber trees and oil palms, as well as crops for which there is high international demand, such as soy, corn, coffee, and cocoa. Fifth, local people often practice “slash-and-burn agriculture,” in which “small-scale farmers clear forests by burning them and then grow their crops in the soils fertilized by the ashes. Typically, the land produces for only a few years and then must be abandoned and new patches of forest burned.”²⁶

Sociologists and political scientists also note a sixth answer to this question. Although developed countries were initially the biggest contributors to forest loss, as their trade and development levels increased, they shifted environmentally-degrading activities to less-developed countries. As a result, although developed countries use most of the world’s natural resources, they experience less environmental degradation. This is referred to as “unequal ecological exchange.”²⁷ Today, emerging developed countries such as China are engaging in the same practice by stabilizing their forests but continuing to purchase food, wood, minerals, and other forest products from other countries.²⁸ In general, developed countries have strict environmental regulations and the capability to enforce them. By contrast, less-developed countries have loose environmental regulations and little enforcement capacity. In recent years, developed country regulations have included incentives to use ethanol (derived from corn) for fuel instead of petroleum. Although this may have reduced carbon emissions, it has increased deforestation.²⁹

Places of Particular Concern

As a result of all of these factors, the Amazon rainforest, which is the “largest remaining block of humid tropical forest” in the world, is being cleared very quickly. About 2/3 of the Amazon rainforest is in Brazil,³⁰ which is the world’s largest producer of ethanol, as well as a major producer of soy, beef, leather, and wood products.³¹ The Amazon river and rainforest are also found in Peru, Colombia, Ecuador, Bolivia, and Venezuela.³² According to BBC News, “Since 1970, more than 600,000 sq kilometres ... of Amazon rainforest -- an area larger than France - is said to have been destroyed.”³³

In Southeast Asia, deforestation has become a major issue in large part because of China’s demand for forest products. After massive flooding was blamed on deforestation in 1998, China implemented a logging ban that was largely successful in mainland China but exacerbated the problem in the rest of Southeast Asia, which sold timber to China when its domestic supply fell.³⁴ The ban effectively outsourced China’s deforestation problem to

²⁶ Pimm, “Deforestation.”

²⁷ Andrew Jorgenson, “Unequal Ecological Exchange and Environmental Degradation: A Theoretical Proposition and Cross-National Study of Deforestation, 1990–2000,” *Rural Sociology* 71(4), 2006, pp. 685–712.

²⁸ Graeme Lang and Cathy Hiu Wan Chan, “China’s impact on forests in Southeast Asia,” *Journal of Contemporary Asia*, Vol. 36 No. 2 (2006).

²⁹ Arthur Neslen, “European biofuels target condemned by leading US scientists,” *Guardian*, 7 October 2011, available at <http://www.guardian.co.uk/environment/2011/oct/07/european-biofuels-target-us-scientists?INTCMP=SRCH>

³⁰ Pimm, “Deforestation.”

³¹ Alexei Barrionuevo, “President Luiz Inácio Lula da Silva trumpets Brazil’s potential in agriculture,” *International Herald Tribune*, 23 September 2007.

³² “Amazon River,” Encyclopaedia Britannica, available at <http://www.britannica.com/EBchecked/topic/18722/Amazon-River>

³³ BBC News, “Rainforest gets protected status,” 4 December 2006, available at <http://news.bbc.co.uk/2/hi/science/nature/6205802.stm>

³⁴ Lang and Chan, “China’s Impact,” p. 2.

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the rest of Southeast Asia including Burma, Cambodia, and Papua New Guinea. Because of the 1998 ban, prices for wood products rose in China, and in 1999, China loosened import restrictions on wood products. Now China imports most of its timber and wood pulp from Indonesia, a country that contains 10% of the Earth's remaining tropical forest and has experienced large-scale deforestation for decades.³⁵ This is a good example of unequal ecological exchange and also illustrates the adverse effects of a logging ban. A logging ban in one area may be heralded as a success, but in the competitive market for timber goods, the supply will eventually reach the demand.

Much of the deforestation in Africa is the result of slash-and-burn agriculture, also known as "shifting cultivation." This worked in the past, when farmers could leave fields for 10 years or more and return to them later when their fertility had been restored. But demographics and market forces have made this method unsustainable.³⁶ African forests have also been cleared for timber, mining, and commercial agriculture. As in other regions, massive flooding has been attributed to deforestation.³⁷ Forests provide stability to the ground and help prevent soil erosion. When forests are removed, mudslides and flooding increase.

Stopping and Reversing Deforestation

Since 1990, many countries have embarked on efforts to stop and reverse deforestation. Among the solutions they have tried are setting aside primary forests in protected areas and engaging in reforestation. These efforts have been assisted in various ways by other countries and by international organizations and corporations.

Protected areas are places like national parks, national forests, and tracts of land reserved for indigenous people that are protected from deforestation by national legislation. Some areas that are set aside are primary forests that have never (or at least not in human memory) been logged or burned. According to the UN, the establishment of protected areas is a "positive trend." Between 1990 and 2010, protected areas increased by 94 million hectares. 13% of forests worldwide are now in protected areas.³⁸

In 2006, the governor of the northern Para state of Brazil decreed the protection of a part of the Amazon that is larger than England. Because the area is contiguous with protected areas in the neighboring countries of Guyana, Surinam, and French Guiana, it will enable many important species to survive.³⁹ According to conservationists, protected areas have significantly reduced deforestation, which has been estimated to be as much as 20 times higher outside reserves than inside. Enforcement is difficult, however. Illegal logging still takes place and can be very hard to police.⁴⁰ In addition, human rights activist worry that protected areas may be an excuse to evict people from their traditional lands.⁴¹

Reforestation, or the planting of new trees, is another widely-used strategy. Reforestation has two main purposes. The first is to grow trees for timber, furniture, and paper. Areas that are reforested for this purpose are known as industrial plantations. The second purpose of reforestation is to reestablish human and animal habitats and

³⁵ Lang and Chan, "China's Impact," p. 2.

³⁶ Amy Ickowitz, "Shifting Cultivation and Deforestation in Tropical Africa: Critical Reflections," *Development and Change* Vol. 37, No. 3 (2006), pp. 599–626.

³⁷ "Uganda: Deforestation exacerbates flooding," *New Vision*, 17 September 2007.

³⁸ United Nations, *Millennium Development Goals Report* 2011, p. 49.

³⁹ BBC News, "Rainforest gets protected status."

⁴⁰ D. Nepstad, "Inhibition of Amazon deforestation and fire by parks and indigenous lands," *Conservation Biology* Volume 20, No. 1 (2006), pp. 65–73.

⁴¹ John Vidal, "Leading NGOs lobby for guidelines to protect 'land grab' victims," *Guardian*, 14 October 2011, available at <http://www.guardian.co.uk/global-development/2011/oct/14/ngos-lobby-protect-land-grab-victims?INTCMP=SRCH>

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livelihoods, supply wood for fuel, and preserve the soil and water of a region. Areas that are reforested for this purpose are known as non-industrial plantations. According to the UN Food and Agricultural Organization (FAO):

In many countries, particularly in the developing world, the end purpose of the plantations is not clearly defined at the outset. In some of these cases, valuable tree resources are established which coincidentally match future needs. However, in others the lack of planning may result in plantations which have little commercial value and a low potential for local use.⁴²

According to the FAO, about 50% of the forest plantations in Asia and more than 90% of forest plantations in North, Central, and South America are for industrial purposes. “Although accounting for only 5% of global forest cover, forest plantations were estimated in the year 2000 to supply about 35% of global roundwood, with anticipated increase to 44% by 2020. In some countries forest plantation production already contributes the majority of industrial wood supply.”⁴³

One of the challenges of reforestation is that the fast-growing trees that are often planted, such as eucalyptus and pine, are rarely native to the area.⁴⁴ In countries such as China, where there is high demand for wood for buildings, furniture, and paper, it may make sense to establish plantations of wood species that would otherwise be imported. But, at the same time, there may be detrimental long term effects from this in terms of changes to local ecosystems. Among the detrimental effects can be a lack of “fit” between the forest products local people have traditionally used and what is now grown in the area. Another problem is that plantations are often made up of a single species, so they do not have the diversity and therefore the positive ecological effects of a forest.

Reforestation and afforestation (tree planting where there was not previously a forest) have been accomplished in different ways in different countries. China has achieved extensive afforestation with its “Green Wall of China” program in which the government has planted millions of trees to stop the advance of the Gobi Desert.⁴⁵ In addition, 1981 the Chinese legislature passed a resolution stating that each Chinese citizen over the age of 11 has a duty to plant three to five trees at his or her own expense per year.⁴⁶

In Kenya, a professor of veterinary anatomy, Dr. Wangari Maathai, began a tree-planting revolution in her country and throughout Africa by paying poor women to plant trees “to fight erosion and create firewood for fuel and jobs for women.”⁴⁷

In recent years, the European Union has paid farmers to convert farmland to forest.⁴⁸ This is one of the reasons that EU members are “on track” to meet the carbon emission targets they agreed to in the Kyoto Protocol, which aims to reduce worldwide carbon emissions.⁴⁹

⁴² UN Food and Agricultural Organization (FAO), “Global data on forest plantations resources,” available at <http://www.fao.org/DOCREP/004/Y2316E/y2316e0b.htm>

⁴³ FAO, “Global data on forest plantations resources.”

⁴⁴ Pimm, “Deforestation.”

⁴⁵ BBC News, “China’s Great Green Wall,” 3 March 2011, available at http://news.bbc.co.uk/2/hi/world/monitoring/media_reports/1199218.stm

⁴⁶ Liang Chao, “China now tops in most ‘human-planted’ trees on Earth,” *China Daily*, 12 March 2004, available at http://www.chinadaily.com.cn/english/doc/2004-03/12/content_313964.htm

⁴⁷ Jeffrey Gettleman, “Wangari Maathai, Nobel Peace Prize Laureate, Dies at 71,” *New York Times*, 26 September 2011, available at <http://www.nytimes.com/2011/09/27/world/africa/wangari-maathai-nobel-peace-prize-laureate-dies-at-71.html?pagewanted=all>

⁴⁸ G.J. Lawson, *et al.*, “Incentives for Tree Planting on Farms in the European Union – is Agroforestry supported?,” Project SAFE (Silvoarable Agroforestry for Europe), First Annual Report, August 2001-July 2002, available at http://www1.montpellier.inra.fr/safe/english/results/annual_report.php

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International assistance for protected areas comes from many sources. Many developed countries, international organizations (such as the EU and World Bank), and corporations give financial aid to less-developed countries to help them purchase land to set aside or reforest land. In addition, in recent years countries that have ratified the Kyoto Protocol have established a system in which “carbon credits” can be bought and sold. Countries that have forests get credits for each square km or hectare they have, and they can sell these credits to other countries that emit more carbon than they have forests to offset. The purchase of carbon credits from forested developing countries is another reason that EU countries are on track to meet their Kyoto commitments.⁵⁰ Today individuals and corporations can also purchase carbon credits. This encourages forested countries to maintain and increase the size of their forests.⁵¹

One of the limitations of carbon credits is illustrated by the United Kingdom. Just to offset carbon emissions from cars, British forests would have to cover $\frac{3}{4}$ of the country’s land area. Although British forests have doubled over the past 60 years, there is little room left for them to expand.⁵² Thus British lifestyles continue to depend on unequal ecological exchange. This example demonstrates that, to address climate change, all countries must work to maintain and expand their forests, *and* all countries must reduce their carbon emissions. Historically, developed countries have been the largest emitters of carbon dioxide and other greenhouse gases (GHGs). In 2000, the US was responsible for 20 percent of all emissions, and the 25 member states of the European Union were responsible for 14 percent. China’s emissions have grown over the past decade, as it has developed and used more electricity and gained more cars. In 2000, China contributed 15 percent of GHGs. The other top-five emitters were Russia and India, each with 6 percent of the world total. Just 25 (13%) of the UN’s 192 member states accounted for 83% of worldwide emissions.⁵³

Previous Committee Work on This Topic

Deforestation became a major international political issue in 1992, when Agenda 21 was adopted by 179 UN member states at the United Nations Conference on Environment and Development. Because it was held in Rio de Janeiro, Brazil, the conference is often referred to as the Rio Conference or Earth Summit. With regard to forests, the primary objective of Agenda 21 was “To strengthen forest-related national institutions, to enhance the scope and effectiveness of activities related to the management, conservation and sustainable development of forests, and to effectively ensure the sustainable utilization and production of forests’ goods and services in both the developed and the developing countries.”⁵⁴

The 1992 Rio Conference is also where the UN Framework Convention on Climate Change (UNFCCC), which first addressed carbon emissions, was drafted. The Kyoto Protocol (2005) is a related treaty in which certain developed countries have pledged to reduce their carbon emissions by certain amounts by December 2012. After

⁴⁹ EU Observer, “EU-15 mostly on track to meet Kyoto targets,” 17 October 2008, available at <http://euobserver.com/9/26955>

⁵⁰ EU Observer, “EU-15 mostly on track to meet Kyoto targets.”

⁵¹ Duncan Clark, “A complete guide to carbon offsetting,” *Guardian*, 16 September 2011, available at <http://www.guardian.co.uk/environment/2011/sep/16/carbon-offset-projects-carbon-emissions?INTCMP=SRCH>

⁵² Alison Benjamin, “Europe’s trees absorbing more carbon, study finds,” *Guardian*, 29 November 2007, available at <http://www.guardian.co.uk/environment/2007/nov/29/carbonemissions.climatechange>

⁵³ Kevin A. Baumert, et al., “Navigating the Numbers: Greenhouse Gas Data and International Climate Policy,” World Resources Institute, 2005, p. 10, available at http://pdf.wri.org/navigating_numbers.pdf

⁵⁴ UNEP, “Agenda 21,” <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=52&ArticleID=59>

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that, the Kyoto Protocol must be renewed or renegotiated.⁵⁵ With each year that passes, the sense of urgency increases, yet little progress has been made at the UNFCCC review conferences in Copenhagen (2009)⁵⁶ and Cancun (2010),⁵⁷ where world leaders tried to hammer out a new, binding treaty that would apply to both developed and developing countries.

In December, 1992, the General Assembly (GA) established the Commission on Sustainable Development to monitor implementation of Agenda 21. In addition, the GA has held two Rio follow-up summits in 1995 and 2002. In June 2012, the Rio + 20 Conference will be hosted by Brazil. The conference will have two themes: (1) “green economy in the context of sustainable development and poverty eradication” and (2) “institutional framework for sustainable development.”⁵⁸

In October, 2000, the UN Economic and Social Council (ECOSOC) adopted Resolution 2000/35, which created the United Nations Forum on Forests (UNFF). The objective of UNFF is “... the management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment to this end.” Every UN member state is a member of UNFF, which holds annual meetings to encourage and coordinate sustainable and equitable forest management.⁵⁹

The GA has declared 2011 to be the International Year of Forests. The theme of the year is “Celebrating Forests for People.”⁶⁰

Conclusion

How can the GA encourage UN member states to stop and reverse deforestation, instead of just moving it from one country to another? As you write your position paper on this topic, consider the following questions:

- Does your country have forests? If so, what kind of forests does it have? If not, why not?
- What is the role of forest products in your country’s economy (exports, imports, manufacturing) and your people’s lives and livelihoods?
- To what extent is deforestation occurring in your country and/or in neighboring countries?
- Has deforestation in your country or region had any of the effects discussed above (migration and poverty, political conflicts, biodiversity loss, fires, floods, etc.)?
- To what extent is your country experiencing or likely to experience the effects of climate change? What is it doing to contribute -- or limit its contribution -- to the greenhouse effect?
- What measures has your country taken to stop deforestation within its borders and/or in other countries?
- What can the GA do to address deforestation while at the same time considering the economic and other needs of member states?

⁵⁵ UN Framework Convention on Climate Change (FCCC), “Kyoto Protocol,” http://unfccc.int/kyoto_protocol/items/2830.php

⁵⁶ John M. Broder, “Many Goals Remain Unmet in 5 Nations’ Climate Deal,” *New York Times*, 18 December 2009, available at www.nytimes.com/2009/12/19/science/earth/19climate.html

⁵⁷ Juliet Eilperin and William Booth, “Cancun Agreements put 193 nations on track to deal with climate change,” *Washington Post*, 11 December 2010, available at <http://www.washingtonpost.com/wp-dyn/content/article/2010/12/11/AR2010121102308.html>

⁵⁸ United Nations, “Rio + 20: United Nations Conference on Sustainable Development,” available at <http://www.uncsd2012.org/rio20/>

⁵⁹ United Nations Forum on Forests, “About UNFF,” <http://www.un.org/esa/forests/about.html>

⁶⁰ United Nations, “International Year of Forests, 2011.”

Recommended Reading

Amnesty International. Website. Available at <http://www.amnesty.org/>

Amnesty International (AI) is a non-governmental organization concerned with human rights abuses. To determine whether your country is considered by AI to have carried out or to have been the site of human rights abuses related to deforestation, go to the site and search on the key word, “deforestation.” You may also find it helpful to conduct a similar search at Human Rights Watch, <http://www.hrw.org/>

Ban, Ki-moon. “Report of the Secretary-General: Assessment of progress made on the implementation of the U.N. non-legally binding instrument on all types of forests and towards the achievement of the four global objectives on forests.” E/CN.18/2011/2. 15 November 2010. Available at <http://daccess-ods.un.org/TMP/5016940.83213806.html> and <http://www.wrm.org.uy/deforestation/UNreport.html>

This recent report by the UN Secretary General statement provides a broad and up-to-date look at the problem of deforestation and the goals the UN is pursuing to address it. The report also discusses the situation in particular countries.

“Biogeographic Region: The distribution boundaries of flora and fauna.” *Encyclopaedia Britannica*. Available at <http://www.britannica.com/EBchecked/topic/65890/biogeographic-region/70681/The-distribution-boundaries-of-flora-and-fauna?anchor=toc70681>

This page discusses and provides a map of the major floral regions of the world. On the *Encyclopaedia Britannica* page for your country, you can read about its climate, flora, and fauna.

United Nations Development Programme (UNDP). “Millennium Development Goals: Tracking Country Progress.” Available at <http://www.undp.org/mdg/countries.shtml>

On this site, you can read country reports on the Millennium Development Goals. Stopping deforestation is part of Goal 7.

United Nations Environment Programme (UNEP). “Billion Tree Campaign.” <http://www.unep.org/billiontreecampaign/FactsFigures/index.asp>.

This website discussed one of UN’s many programs to stop deforestation. The UNEP also has a good site on protected areas, <http://www.unep.org/indigenous/Protected-Areas/index.asp>

United Nations Forum on Forests. “About UNFF.” <http://www.un.org/esa/forests/about.html>. Accessed 29 September 2007.

This site provides access to a number of useful documents, including voluntary country reports, posted at <http://www.un.org/esa/forests/reports.html>

United Nations Framework Convention on Climate Change. “Essential Background: The Convention and the Protocol.” Website. Available at http://unfccc.int/essential_background/items/2877.php

This website provides access to background information and the texts of the FCCC and Kyoto Protocol, as well as lists of participating states

World Wildlife Fund (WWF). “Selection of terrestrial ecoregions.” Available at http://wwf.panda.org/about_our_earth/ecoregions/about/habitat_types/selecting_terrestrial_ecoregions/

This is another good place to learn about your country’s climate and forests.

For next time: two additional NGOs to discuss/review: Forest Ethics, <http://www.forestethics.org/> and Greenpeace <http://www.greenpeace.org/international/en/news/features/Sweet-success-for-Kit-Kat-campaign/>