A CHINA ENVIRONMENTAL HEALTH PROJECT RESEARCH BRIEF

This research brief was produced as part of the China Environment Forum's partnership with Western Kentucky University on the USAID-supported China Environmental Health Project

Interconnected Forests: Global and Domestic Impacts of China's Forestry Conservation

August 2008

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While most furniture sold in the big box stores in the United States is marked "made in China," it is highly probable that the timber originates from forests outside of China—from neighboring Myanmar and Russia to countries thousands of miles away such as Indonesia and Papua New Guinea. China is the leading wood product exporter in the world, yet its overall forest cover is increasing due to a strict timber ban that began in 1998. This ban combined with rising domestic and international demand for processed wood products, has had global impact—namely fostering inefficient and illegal timbering practices in countries supplying China.

Disastrous floods of 1998 marked a turning point for the fate of forests in China. Believed to have resulted from over-logging in the upstream regions of the Yangtze, Songhua and Nenjiang rivers, the floods powerfully convinced high-level Chinese officials of the importance of forest conservation. In response, the Chinese government initiated a series of conservation efforts aiming at restoring the country's seriously depleted forest resources. These initiatives have achieved key conservation objectives, but also have led to concerns over their impact on the quality of the country's forest and global forest resources. Combined with the strong demand from developed country markets for timber products such as furniture, conservation efforts in China are transforming the country into the global hub of timber trade. Over the past decade, China's imports of wood products have increased by 450 percent. Of every ten tropical trees traded in the world in 2004, five were destined for China.[1]

Deforestation and Its Consequences

Deforestation is not a recent phenomenon in China. Increasing population on hillside and mountainous regions has been a major driver of deforestation throughout China's history. Yet rapid industrialization and political campaigns following the establishment of the People's Republic put further pressure on the country's forest resources. Since the 1950s, 136 forest bureaus have been established in the country's northeastern and southwestern regions (some also in Xinjiang Autonomous Region and Hainan Province), regions with the richest forest reserves, to provide the industrializing economy with timber.[2] The forest bureaus, with the burdens of paying, educating, and providing health care and food subsidies for their employees, had little incentive to conserve forests. Moreover, the collectivization movement in the late 1950s deprived individuals of forest ownership rights, discouraging people from managing forests sustainably. The Great Leap Forward, with its emphasis on iron and steel production, further depleted the country's forest resources as large amounts of wood were burned in backyard furnaces.[3] Timber harvests increased from 20 million m^3 per year in the 1950s to 63 million m^3 per year in the 1990s.[4] This unsustainable harvesting has resulted in the decline of natural forests (from 98.2

million hectares (ha) in 1975 to 66.7 million in 1993) and the structural deterioration of existing forests (e.g., younger trees, changed species composition, and poor regeneration)[5]

One of the major consequences of deforestation in China is soil erosion. A 2001 estimate set land experiencing soil erosion at 75 million ha, and resulting sediments at over 2 billion tons—a serious threat to the numerous hydropower projects along the major rivers.[6] During the 1990s, eroded lands continued to increase by more than 10,000 km^2 annually, with the result that 38 percent of China's total land area is now considered "badly eroded."[7] The decline of forests also leads to the decline of biodiversity, largely due to the loss and fragmentation of natural habitats. Statistics show that at least 200 plant species have become extinct in China since the 1950s and more than 61 percent of wildlife species are suffering serious habitat losses.[8] Natural disasters such as floods are also the product of vegetation loss. The 1998 flood along the Yangtze River devastated large areas and killed 3,600 people. The economic costs were estimated to be 248 billion RMB ($30 billion).[9]

Poorly managed forests in China not only destroy ecosystem health, but can impact the health and livelihoods of vulnerable forester and rural farming communities. In China, which WHO has ranked 187 out of 191 in terms of access, the poor in rural and forested areas face considerable challenges in affording adequate healthcare. Thus, the lost of income from forestry or farming can have serious impacts on the ability of families to care for their sick or injured members.

The Natural Forest Conservation Project

In response to the 1998 disasters, the Chinese government initiated an ambitious campaign to protect the country's natural forests and to reverse the trajectory of large scale deforestation. The key part of this initiative is the Natural Forest Conservation Project (NFCP).

Administered by the NFCP Management Center under the State Forestry Administration (SFA), the project covered 18 provinces and autonomous regions, which contained the upstream regions of major rivers including the Yellow and Yangtze rivers. Conservation of state forest regions and the conversion of state-owned timber enterprises to implementers of NFCP were the priorities.[10] The project was divided into two phases: During the first phase (1998-2000), the main objective was to check the deterioration of existing natural forest resources. An area of 125.42 million ha of natural forests was identified and divided into areas for no logging, controlled logging, and forest plantations. By 2000, the harvest quota of natural forests was reduced by 12.36 million m^3 from the 1997 baseline. Meanwhile, 730,000 surplus labors and 270,000 laid-off employees in forest regions were absorbed and re-employed by afforestation activities and other alternative projects.[11] In the second phase (2001-2010), the project focused on protecting ecological and public welfare forests, developing transitional projects, cultivating forest resources, increasing wood supply capacity through forest plantations, and developing the economies of forest regions. By 2010, the goals are to:

• Shift timber production from logging of natural forests to the management and utilization of plantations;
• Convert 6 million ha of marginal farmland to forestland and regenerate 39 million ha of forest

plantations and natural forests in degraded forested areas to raise forest cover to 19 percent of the total land area; and,
• Enlarge wildlife-habitat protection areas to cover to 8 percent of the nation's total area.[12]

In reaching these goals China hopes to—in the words of Lu Wenming of the Chinese Academy of Forestry—alleviate "conflicts among population, economy, resources and environment."[13]

To achieve these ambitious goals, the government adopted several policy instruments, including:

Logging ban and resettlement of forest dwellers. Forestlands are categorized as nature preserves or commercial forests based on their location and characteristics. Logging is essentially banned in the preserves. Commercial forests are restricted to productive growing areas. The logging ban left over a million foresters jobless. Under the NFCP, the government retrains these people for other jobs. Workers who resettle by themselves receive a one-time settlement allowance that is three times their annual salary.[14]

C*onversion of farmlands to forestlands (tuigeng huanlin)*. Formally initiated in 2001, the conversion project subsidized farmers with food (2.55 tons of grain/year/ha for the upper reaches of the Yangtze River and 1.5 tons in the upper and middle reaches of the Yellow River) as an exchange for marginal (slope) farmland to be converted back into forest. The duration of the subsidies ranges from 5 to 8 years depending on the crop. In addition, a one-time cash subsidy was also provided to cover the purchase of seeds and other miscellaneous items. The total subsidy is estimated to have reached 10 billion Yuan per year, which ranks the program as the most expensive environmental program in the country.[15]

Share in private ownership. The NFCP also allows the government to sign contracts with local people to manage state-owned natural forests. Under such contracts, local people have the right to manage and use the forestland for growing non-timber products, such as mushrooms and ferns. The contracts also ensure that local people have economic benefits if they manage the forests effectively. In newly forested areas, the policy also grants tree ownership to the people who plant the trees.[16]

Though ambitious and comprehensive, scientists have also identified weaknesses in NFCP. One of them is the absence of land ownership reform that unifies the ownership of forestland with its use. Scientists argue that current separation of ownership (by the state) and use (by the farmers) will lead to a "tragedy of commons."[17] Another shortcoming is the so-called "broad-brush" approach adopted by NFCP, which lacks participation from the people in the affected areas. It has also been pointed out that NFCP puts too much emphasis on protection (as embodied in logging bans) while neglecting the role of ecological management.[18] Of course, these criticisms have also been disputed.

Protection Domestically Creates Pressures Globally

The Natural Forest Conservation Program has been largely successful. There was a dramatic drop in timber harvests from China's natural forests, from 32 million m^3 in 1997 to 14 million m^3

in 2000, an over 50 percent decrease in just three years.[19] The overall timber harvest in China also dropped continuously from 1998 to 2002 (by 16 percent) and has just picked up since 2003.[20]

These changes occurred at a time when China's demand for timber is increasing significantly, with its double-digit economic growth in the past two decades. As the world's manufacturing hub, China has become the leading producer of furniture, floorboards and various paper products. Meanwhile, rapid urbanization also creates huge demand for timber products used in housing and infrastructure construction.[21] According to FAO, China's link to timber is a list of superlatives, in that China is the:

• World's second largest consumer of wood products;
• Second largest importer of wood products;
• Largest producer of wood-based panels, paper and paperboard;
• Largest exporter of plywood; and,
• Second largest exporter of furniture.[22]

To be sure, a large part of this demand is driven by the markets of developed countries such as the United States and Japan. China is a major exporter of timber products, including wooden furniture, woodchips and paper, with most destined for G8 markets. In 2003 alone, China exported $3 billion worth of wood-based products to the United States, the majority of which was wooden furniture.[23]

The strong domestic and global demand for timber products made in China, in combination with China's effort to conserve its precious natural forest resources has resulted in huge pressure on the forests outside China. During 1993-2005, China's timber imports more than tripled. World Wildlife Fund also projects that China's demand for timber, paper and pulp will increase by 33 percent during 2005-2010.[24] Within these imports, about 50 percent is estimated to be illegally logged.[25] Statistics collected by Greenpeace show that in 2004, 76 to 80 percent of logging in Indonesia and over 90 percent of logging in Papua New Guinea were illegal. Both countries are major tropical log suppliers for China.[26] A Global Witness report revealed that 98 percent of timber exports from Burma to China are illegal.[27] Moreover, the timber trade between China and Russia, which supplies 43 percent of China's timber imports, has also caused concerns. Logging activities in Russia are under little government oversight, and there is virtually no control at the border. Even with legal logging activities in Russia, the practices are problematic, with heavy loss (40-60 percent) of timber during logging, unsustainable extraction that leads to forest degradation, and poor harvesting practices that exacerbate fire conditions.[28] These trends, if left unchecked, could seriously threaten the world forest resources, which not only serve as centers of biodiversity, but also provide livelihood for many indigenous people. Moreover, the increasingly salient problem of global climate change further accentuates the importance of global forests as carbon sinks.

China's Response and International Initiatives

In response to global concern, China has committed to combat illegal logging by signing a series

of regional and global agreements—such as signing the Santiago Declaration, which includes a comprehensive set of criteria and indicators for forest conservation and sustainable management. The Chinese government is also party to the International Tropical Timber Agreement, an agreement negotiated under the United Nations Conference on Trade and Development, which promotes timber trade and the improved management of forests. The East Asia Forest Law Enforcement and Governance Agreement, a World Bank initiative aimed at addressing a number of threats to the region's forests, is another regional effort in which China participates. However, as Elizabeth Economy has pointed out, "China does not have any implementing regulations or mechanisms in place" to tackle the illegal timber import problem.[29] While the government acts slowly, the NGO community both inside and outside China is moving faster to address the country's thirst for wood. As mentioned above, groups like Greenpeace and Global Witness have exposed the role of China in illegal timber trade in Asia, trying to push the country to take more action against the import of illegally logged timber. Conservation groups such as WWF are trying other approaches including the expansion of commercial plantations in Russia to replace some of the timber exported to China. The Nature Conservancy is also running a project in cooperation with Chinese authorities to track cross-border timber trade between China and Russia with a barcode system.[30]

In March 2006, Forest Stewardship Council (FSC) office in China launched its FSC National Initiative with the support of China's State Forest Administration (SFA), the Chinese Academy of Forestry (CAF), WWF-China and other organizations. Accredited by FSC in June 2007, the initiative joins the 45 other FSC National Initiatives around the world in the promotion of responsible forest management. The FSC National Initiative in China is developing a set of Chinese national standards that can be recognized internationally by FSC. Moreover, as of January 2008, more than 370 Chinese timber processing companies had received FSC Chain of Custody certificates, and the number is increasing quickly. Today China has seven Forest Management Units, covering more than 550,000 hectares certified according to FSC standards.[31] In 2005, China's forest coverage was 175,000,000 ha, which means the FSC certified areas account for 0.3% of the total forested area.

China and its trade partners in timber products have yet to develop a clear scheme of responsibility sharing in the protection of forests in Asia and around the world. As the Greenpeace report *Sharing the Blame* has advocated, while China needs to "demonstrate political determination and resources in fighting illegal logging and forest destruction, which are associated with its wood trade…the sheer level of consumption of wood products in North America, Europe, Japan and other developed countries must also be dramatically reduced."[32]

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[1] Greenpeace. (2006) *Sharing the Blame: Global Consumption and China's Role in Ancient Forest Destruction*, 1-2

[2] Yin, Runsheng et la. (2005) "China's Ecological Rehabilitation: The Unprecedented Efforts and Dramatic Impacts of Reforestation and Slope Protection in Western China," *China Environment Series 7*, Woodrow Wilson International Center for Scholars, 18

[3] Ibid.
[4] Zhang, Peichang et la. (2000) "China's Forest Policy for the 21st Century," *Science*, 288(5474), 2135-2136
[5] Yin, Runsheng et la. (2005) "China's Ecological Rehabilitation: The Unprecedented Efforts and Dramatic Impacts of Reforestation and Slope Protection in Western China," *China Environment Series 7*, Woodrow Wilson International Center for Scholars, 19
[6] Ibid.
[7] Zhang, Peichang et la. (2000) "China's Forest Policy for the 21st Century," *Science*, 288(5474), 2135-2136
[8] Ibid.
[9] Lang, Graeme. (2002) "Deforestation, Floods and State Reactions in China and Thailand" (Working Paper No. 21). City University of Hongkong: Southeast Asia Research Center, 5
[10] Zhang, Peichang et la. (2000) "China's Forest Policy for the 21st Century," *Science*, 288(5474), 2135-2136
[11] Lu, Wenming (1999) "Recent Changes of Forest Policy in China and Its Influences on the Forest Sector," paper hosted at Institute for Global Environmental Strategies. [Online]Available at: www.iges.or.jp/en/fc/phase1/ir99/4-10-lu.pdf
[12] Zhang, Peichang et la. (2000) "China's Forest Policy for the 21st Century," *Science*, 288(5474), 2135-2136
[13] Ibid.
[14] Ibid.
[15] Yin, Runsheng et la. (2005) "China's Ecological Rehabilitation: The Unprecedented Efforts and Dramatic Impacts of Reforestation and Slope Protection in Western China," *China Environment Series 7*, Woodrow Wilson International Center for Scholars, 23
[16] Zhang, Peichang et la. (2000) "China's Forest Policy for the 21st Century," *Science*, 288(5474), 2135-2136
[17] Xu, Ming, Ye Qi and Peng Gong. "China's New Forest Policy," *Science*, 289(5487), 2049-2050
[18] Ibid.
[19] Zhang, Peichang et la. (2000) "China's Forest Policy for the 21st Century," *Science*, 288(5474), 2135-2136
[20] Greenpeace. (2006) *Sharing the Blame: Global Consumption and China's Role in Ancient Forest Destruction*, 16
[21] Economy, Elizabeth, Jennifer Turner and Fengshi Wu. (2008) "China's Growing Ecological Footprint: Global Threat or Opportunity for Collaboration?" in *The United States, Russia, and China: Confronting Global Terrisom and Security Challenges in the 21st Century* edited by Paul J. Bolt, Su Changhe and Sharyl Cross, Praegy Security International, 76
[22] FAO. (2005) *Yearbook of Forest Products 2003*
[23] Global Witness. (2005) *A Choice for China: Ending the Destruction of Burma's Northern Frontier Forests*, 20
[24] Economy, Elizabeth, Jennifer Turner and Fengshi Wu. (2008) "China's Growing Ecological Footprint: Global Threat or Opportunity for Collaboration?" in *The United States, Russia, and China: Confronting Global Terrisom and Security Challenges in the 21st Century* edited by Paul J. Bolt, Su Changhe and Sharyl Cross, Praegy Security International, 75
[25] Ibid.
[26] Greenpeace. (2006) *Sharing the Blame: Global Consumption and China's Role in Ancient Forest Destruction*, 4
[27] Global Witness. (2005) *A Choice for China: Ending the Destruction of Burma's Northern Frontier Forests*, 20
[28] Economy, Elizabeth, Jennifer Turner and Fengshi Wu. (2008) "China's Growing Ecological Footprint: Global Threat or Opportunity for Collaboration?" in *The United States, Russia, and China: Confronting Global Terrisom and Security Challenges in the 21st Century* edited by Paul J. Bolt, Su Changhe and Sharyl Cross, Praegy Security International, 78
[29] Ibid.
[30] Ibid.,80
[31] Karmann, Marion. (2008, forthcoming). "FSC—Because Forests and People Matter." *China Environment Series* 10.
[32] Greenpeace. (2006) *Sharing the Blame: Global Consumption and China's Role in Ancient Forest Destruction*, 4