



Forestry in China

Could growing more trees help China offset its growing emissions of greenhouse gases?

It's a question that both scientists and policymakers are seriously examining as China moves ahead with one of the world's largest reforestation programs – and seeks strategies for reducing its impact on the global climate. According to the Sixth National Forest Survey, the total of China's living forest stocks is around 13.62 billion cubic meters, and annual incremental volume added is 500 million cubic meters.

Ultimately, the ability of China's efforts to contribute to national and global mitigation efforts could depend on further policy reforms that have to encourage long-term forest stewardship, both at home and abroad.

FORESTS AS CARBON SINKS

The concept of using trees as “sponges” that can remove carbon dioxide from the atmosphere has been around for decades. Indeed, forests are one of the planet's major carbon storage “sinks,” and climate negotiators have long discussed how nations might curb climate change by rewarding people for planting new trees or preserving existing forests.

China is a potentially giant testing ground for such ideas. In recent years, it has launched an unprecedented effort to restore forests ravaged by decades

of population growth, logging and poor management. And those efforts have paid off: Since 1981, China has planted more than 40 billion trees, helping more than double forest cover from 8.6% in the 1950s to over 18.0% in 2005. According to the State Forestry Administration, China's forests now cover 175 million hectares—an area the size of Alaska.ⁱ

While 50 years ago, China's declining forests were a major contributor of carbon dioxide to the atmosphere due to clearing, now they are a growing carbon storehouse.ⁱⁱ In 2000, for instance, scientists estimate that China's expanding forests stored enough carbon to offset 21.0% of its emissions from burning fossil fuels.ⁱⁱⁱ The deputy head of China's State Forestry Administration recently estimated that more than 5 billion tons of CO₂ emissions were saved over the past 25 years via programs to replant trees, manage existing forests and to avoid deforestation.^{iv}

These gains are in large part due to policy measures enacted in the 1990s and 2000s. China's current forested area of 175 million hectares represents an increase in forest cover from 13.9% in the early 1990s to 18.2% in 2005.^v And Chinese officials are seeking to expand upon these successes. In his September 2009 speech to the United Nations, Chinese President Hu Jintao announced China's goal of increasing forested area by 40 million hectares (over 2005 levels) by 2020; and forest cover is expected to reach 26.0% of total land cover by 2050.^{vi,vii}

Key Points

- Since 1981, China has planted more than 40 billion trees, doubling forest cover. China's forests now cover 175 million hectares – an area the size of Alaska.
- Currently China is pumping more than \$80 billion into its forestry programs.
- New targets aim for 26% forest cover by 2050, and 40 million new hectares (over 2005 levels) by 2020.

KEY FORESTRY PROJECTS

To sustain the reforestation trend, China is pumping more than \$80 billion into “Six Key Forestry Programs” (SKFPs). China launched the first program, the Natural Forest Protection Program (NFPP), in 1998 following devastating floods linked to deforestation. The five others soon followed. These six programs are implemented through 14 forestry administrative regulations, 31 forestry sectoral rules, and over 300 local regulations at the local level. By 2005, there were 2,349 nature reserves across China.

The programs have paid for urban tree planting, the development of fast-growing timber plantations, and efforts to roll back deserts and take highly erodible lands out of agricultural production. According to the government, the SKFPs have led to 30 million hectares of new forest, logging bans and tighter conservation regulations on more than 90 million hectares of sensitive natural forests (mostly in northeastern China), and the aerial seeding of 3.26 million hectares of degraded land. All in all, the Six Key Forestry Programs are expected to have created 76 million hectares of new forest (including 53 million hectares of commercial forest), and protected reserves covering 16.1% of China’s land area.^{viii}

At the same time, China is rewriting its land ownership and taxation rules in an effort to give private landowners greater incentives for long-term stewardship. In the province of Fujian, for instance, officials in 2003 began privatizing the 80 percent of forestland that had been held collectively. Other provinces have since embarked on similar efforts. In June 2008, the central government also extended land-use lease rights from 35 years to 70 years in an effort to foster

long-term planning. The government has also reduced national and local land taxes to encourage investment.^{ix}

CHALLENGES

There are a number of obstacles to achieving these goals. Coordination between the national and local governments is often poor, leading to wasted resources. And demand for wood products in China has been outpacing supply. This has led both to increased pressure on domestic wood sources, and also growing efforts to find wood in other countries – sometimes leading to unsustainable logging to feed the Chinese market. China now imports 36 percent of its logs, for instance, and wood imports increased by 28 percent annually over the last ten years. So while China could end up expanding its own forests, it could contribute to deforestation—and increased emissions—elsewhere.^x

Nonetheless, achievements in reforestation and forestry management count among China’s environmental success stories. Chinese officials hope that steps taken under the Six Key Forestry Programs will help both achieve environmental goals – such as greater carbon sequestration – and provide a stable source of wood and fiber for its economy. The stakes are high: China is already the world’s largest exporter of wood products, and the second largest importer (after the United States).^{xi} If the gains achieved in recent decades are sustained, China’s forests will play an increasingly important role in offsetting its carbon dioxide emissions.

This fact sheet is a product of ChinaFAQs, a joint project of the World Resources Institute and experts from leading American universities, think tanks and government laboratories. Find out more about the ChinaFAQs Project at: <http://www.ChinaFAQs.org/>.

Notes

ⁱ Xinhua News Agency (3/20/09), “Developments in China’s forestry sector”; State Forestry Administration, “China’s Efforts and Achievements in Mitigating Climate Change on Forest Sector,” www.sfmchina.cn/english/industries03.asp?proid=3204&id=178.

ⁱⁱ In 1998, China’s forests were estimated to be absorbing about 20 billion tons of carbon per year; the carbon sink was estimated to be roughly equal to that created by U.S. forests, even though U.S. forestlands are larger. See: Fang, J et al. Changes in Forest Biomass Carbon Storage in China Between 1949 and 1998. *Science* 292, 2001.

ⁱⁱⁱ Canadell, JG & M. Raupach. Managing Forests for Climate Change Mitigation. *Science* 320, June 2008, pp. 1456-7.

^{iv} Xinhua News Agency (12/10/09) “China’s forests cut over 5 billion tons of CO2 emission in 25 years: official,” www.ccchina.gov.cn/en/NewsInfo.asp?NewsId=21229.

^v State Forestry Administration, “China’s Efforts and Achievements in Mitigating Climate Change on Forest Sector,” <http://www.sfmchina.cn/english/industries03.asp?proid=3204&id=178>.

^{vi} Testimony of Taiya Smith, Carnegie Endowment for International Peace, to Senate Committee on Energy and Natural Resources, “International Climate Change Policy.” November 17th, 2009.

^{vii} Xinhua News Agency (3/20/09), “Developments in China’s Forestry Sector”.

^{viii} Wang, G. China’s Forestry Sector and the Opportunities for Canada. *Foreign Policy For Canada’s Tomorrow*, No. 6, September 2009. See: <http://www.canadianinternationalcouncil.org/publicatio/foreignpol/thedevelopmentofchinasforestrysectorandtheopportun>.

^{ix} Wang, G., “China’s Forestry Sector,” 2009.

^x *Ibid.*

^{xi} *Ibid.*

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