

The impact of research on policy and practice in Indonesia's pulp and paper sector

Key fact:

CIFOR-led research investigating the pulp and paper sector in Indonesia has contributed to policy reform, the acceleration of plantation development, and the saving of more than 100,000 hectares of the world's most environmentally important tropical rainforest, with hundreds of millions of dollars in attendant benefits.

Summary:

Research led by CIFOR revealed the poor monitoring and weak regulatory environment which allowed Indonesian pulp and paper companies to expand capacities at their mills and to continue harvesting fibre from natural forests at a pace that far exceeded plans to establish plantation fibre supplies. The study was the first to establish quantitative evidence of the effects of the disparity between mill growth and sustainable fibre supplies.



CIFOR's policy-oriented research has been credited by key NGOs involved in advocacy, the Ministry of Forestry, and the corporations themselves with driving improvements in the sector, including increasing conservation set-asides and accelerating plantation development. From 2009, a Ministerial Decree on the 'acceleration of plantation development and pulp and paper industry raw material supply' was adopted, which requires specific improvements in fibre sourcing practices by 2014. As a result of these initiatives, 76,000 to 212,000 hectares (ha) of natural forest will have been saved by 2013.

Facts & figures¹

- ❖ The capacity of pulp mills in Indonesia expanded rapidly during the 1990s, increasing from 1 million tonnes a year in 1990 to 5.9 million tonnes a year by 2001 (Barr, 2001).
- ❖ Mills consumed 835,000 ha of forest by 2001 (Barr, 2001), and is likely to have grown to more than 1.7 million ha by 2011 without CIFOR's policy-oriented research.
- ❖ The contributions of research and advocacy to the acceleration of plantation development have averted an estimated 4.1 to 9.9 million cubic meters (m³) of annual wood consumption from natural forest areas. As a result, between 32,000 and 76,000 ha of natural forest areas will not be cleared by 2013.
- ❖ In addition, increased conservation set-asides saved between 21,000 and 102,000 ha of forest by 2008.
- ❖ Increased awareness of fibre supply issues has successfully blocked the establishment of a major new pulp mill, preventing 1.5 to 4.4 million m³ of wood from being consumed from natural forest and avoiding a further 11,000-34,000 ha of natural forest clearance between 2009 and 2011.

CIFOR's research on pulp industry expansion and fibre supply

When the Center for International Forestry Research (CIFOR) began a global study into the underlying causes of deforestation in 1993, it did not have to look far beyond its own host country of Indonesia. The archipelago nation suffers annual losses of about 2 million hectares, one of the highest rates in the world, despite being one of nature's great biodiversity hotspots. While CIFOR's research initially focused on the role of smallholder farming, they soon realised that a much more significant culprit was the pulp and paper industry.



Two million hectares of forest are lost in Indonesia every year (CIFOR)

Through their research, CIFOR experts noticed a discrepancy in the data: dominant corporations such as Asia Pulp & Paper (APP) and Asia Pacific Resources International Limited Holdings (APRIL) were supposed to be developing tree plantations to feed their pulp mills, but mill capacity was bounding ahead of plantation growth. The industry was clearly relying on other sources for fibre. Researchers undertook a case study into the political economy of the sector to discover what was driving this apparent paradox.

In a report titled '*Profits on Paper: the Political Economy of Fiber, Finance, and Debt in Indonesia's Pulp and Paper Industries*' (Barr, 2000), CIFOR documented how Indonesian pulp and paper producers came to rely so heavily on wood harvested from natural forests. It was revealed that pulp producers were expanding their mills at a much faster pace than the establishment of plantations. Despite claims that operations were entirely sustainable, incentives to use natural fibre were strong: forest timber royalties were underpriced while subsidies from the country's so-called 'Reforestation Fund' were being used to drive mill expansion. State banks held interest rates low, and a lack of awareness allowed companies to keep their less diligent investors in the dark. A weak regulatory environment meant that regulations intended to safeguard sensitive natural forest areas were routinely ignored.



Indonesian pulp mills must source fibre entirely from plantations by 2014 (CIFOR)

The study was the first to establish quantitative evidence of the effects of the disparity between mill growth and sustainable fibre supplies. The research led to outreach in the *Asian Wall Street Journal* and the *International Herald Tribune* and presentations at 28 different seminars and conferences. CIFOR aimed the work at government policymakers and investment institutions. In addition, the study was widely disseminated among civil society groups such as World Wide Fund for Nature (WWF) and Friends of the Earth (FoE), recognising their important roles in advocating for improved accountability and governance.

Immediately after the report's appearance, the two companies that dominate the Indonesian pulp industry came under heavy international scrutiny. FoE, WWF, Greenpeace and others warned international buyers about the environmental implications of Indonesian pulp, causing APP to lose more than 50 per cent of its paper imports to the EU. In response, APP began to engage with certain NGOs, and expanded conservation set-asides. APRIL too faced new opposition led by WWF, particularly against its logging in the Tesso Nilo area, home to the world's highest recorded terrestrial biodiversity. APRIL ultimately pulled out of the area and supported the

establishment of a 38,000 hectare National Park in 2004. The same year another corporation, United Fiber System Ltd. (UFS), attempted to secure financing for a 600,000 ton pulp mill in South Kalimantan. A CIFOR analysis of the project (Jurgens *et al.*, 2005) documenting the mill's likely reliance on natural forest fibre influenced the World Bank Group to withhold financing; and the project was ultimately blocked following a campaign by a consortium of 65 NGOs from 19 countries.

The loss of export markets due to environmental concerns was a clear threat to the industry, and Indonesia's Ministry of Forestry reacted in 2003 with a decree requiring that plantations be fully developed by 2009, a ruling interpreted by the government and industry alike to mean that all pulp mills needed to source their fibre entirely from plantations after that year. More directly, according to their consultant's report (AMEC, 2001) APP "commissioned an independent review of the 10-year wood supply plans" as a result of "the impact of assertions" by "macro economic studies carried out by the Centre for International Forest[ry] Research on the state of the Indonesian pulp and paper industry." This, in turn, initiated a process of planning for accelerated plantation development. The official decree deadline has since been extended to 2014, but these combined influences already had an effect: between 2001 and 2007, growth in planting accelerated in APP and APRIL's concessions from 4.7 per cent to over 20 per cent per year.

CIFOR's policy-oriented research has been credited by the NGOs involved in advocacy, the Ministry of Forestry, and the corporations themselves with driving improvements in the sector. Its report provided the data to back up awareness, advocacy and ministerial decision-making. A retrospective impact assessment (Raitzer, 2008) estimated that the research's contribution to subsequent changes will save some 76,000 to 212,000 ha of natural forest from destruction by 2013. The assessment evaluated the resultant benefits of carbon sequestration, biodiversity value, and ecosystem services, and determined that their present value ranges from US\$19 to US\$583 million.



Fibre plantations are being established across Indonesia (CIFOR)

Although the changes caused the internalisation of external costs by Indonesia's pulp and paper sector, the shift towards more sustainable fibre supplies is in the long term interest of the sector and the nation. Companies are now establishing plantations in some of Indonesia's 8 million hectares of unproductive grasslands, much of it overrun with invasive weeds such as kunai grass. With short rotation times and a ready supply of labour, these areas of the archipelago are near-ideal locations for fibre plantations, and should keep the sector competitive even without subsidies or environmental exploitation. At the same time, however, Indonesia's pulp and paper industry is currently planning a major new round of capacity expansion projects, suggesting that the industry's fibre demand could grow substantially, placing renewed pressures on the country's forests.

Additional case study information

Costs and benefits:²

The non-market benefits of averted natural forest clearance attributable to CIFOR's research were valued through a specially developed economic surplus framework. These benefits, which principally result from reduced carbon emissions, could range from US\$19 million to US\$583 million depending on assumptions used, with a mean estimate of US\$133 million. In the context of less than half a million dollars of direct research costs, this represents an exceptional return on investment.

DFID contribution to research:

- DFID provided core funding for CIFOR's Programme on the Underlying Causes of Deforestation and, more recently, CIFOR's Programme on Forests and Governance.
- During 1998-2003, a portion of these funds were used to support the research, publication, and dissemination of Christopher Barr's 'Profits on Paper' study and broader analysis of structural adjustment in Indonesia's forestry sector.
- In 2004-2006, DFID funded CIFOR's analysis of the planned UFS pulp mill project in South Kalimantan by Emile Jurgens, Christopher Barr, and Christian Cossalter; and a global study on pulp mill finance and safeguard procedures, prepared by financial analyst Machteld Spek.

Research milestones:

- 1993 CIFOR launches 'Underlying Causes of Deforestation' which undertakes case studies of the drivers of deforestation in 13 countries.
- 1997-98 Onset of the Asian financial crisis sharply redefines the context for CIFOR's research on the underlying causes of deforestation in Indonesia. In less than six months, the Rupiah loses over 70 per cent of its value, inflation doubles, and millions of people are thrust into poverty.
- January 1998 Government of Indonesia signs a US\$43 billion loan agreement with IMF and commits to structural adjustment program, including forestry sector policy reforms.
- May 1998 Paradox identified by CIFOR's head of Plantations Programme: Indonesia's pulp mills are expanding faster than plantations.
- October 1998 Christopher Barr hired by CIFOR to analyse the realised and anticipated effects of structural adjustment on Indonesia's forestry sector. Barr's research also analyses two important sources of pressure on the country's forests that the World Bank and IMF had not explicitly assessed: the rapid expansion of Indonesia's pulp and paper industry, and the large amounts of corporate debt associated with the nation's forestry conglomerates.
- 1999 DFID study '*Addicted to rent: corporate and spatial distribution of forest resources in Indonesia*' (Brown, 1999) published.
- 2000 CIFOR, DFID, academics and civil society groups form an Indonesian Working Group on Forest Finance (IWGFF) to influence the Donor Forum on Forests.
- December 2000 'Profits on Paper' (Barr, 2001) released with review on the Bloomberg Newswire.
- October 2001 '*Banking on Sustainability: Structural Adjustment and Forestry Reform in Post Suharto Indonesia*' published by CIFOR and WWF (Barr, 2001).
- 2005 Brief on the planned UFS pulp mill project for South Kalimantan, Indonesia published (Jurgens et al., 2005).
- 2006 Global study on pulp mill finance and safeguard procedures published (Spek, 2006).
- 2000 onwards Research findings disseminated via a variety of policy fora, financial news media, seminars and conferences.

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Links:

CIFOR: www.cifor.cgiar.org

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¹ Unless indicated otherwise, facts and figures sources from: Raitzer, D.A., (2008) *Assessing the impact of CIFOR's influence on policy and practice in the Indonesian pulp and paper sector*. Impact Assessment Paper. CIFOR: Bogor, Indonesia

² Raitzer, D.A., (2008) *Assessing the impact of CIFOR's influence on policy and practice in the Indonesian pulp and paper sector*. Impact Assessment Paper. CIFOR: Bogor, Indonesia



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