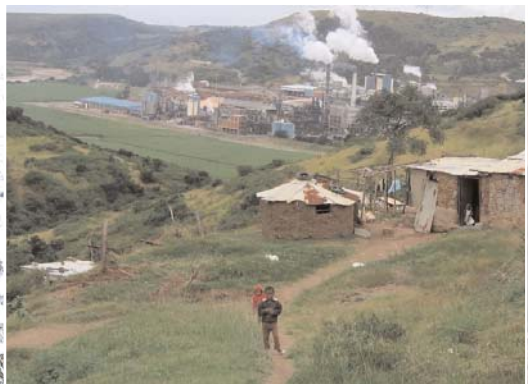
Banks, Pulp and People

A Primer on Upcoming International Pulp Projects

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urgewald – Advocacy for the Environment and Human Rights

urgewald is a German non-profit organization, whose mission is to address the underlying causes of global environmental destruction and poverty. We monitor the activities of German banks and companies abroad and educate the German public about the negative impacts of our consumption patterns on people and nature in far-away places.

urgewald works closely with affected communities and NGOs in the global South. Over the years, we have become an important contact point for anti-nuclear campaigners in Eastern Europe, indigenous people in Brazil, whose cultures are threatened by large plantation companies or farmers in India, who are being driven off their lands for big dams. We make sure that their voices are heard - in meetings with decision-makers, at shareholder meetings, in the media or through public actions.

urgewald names and calls on those in charge to put into practice the promises of sustainability that are made in annual reports and public statements. We call on international companies and banks to step back from destructive projects and to adopt binding environmental and social standards. And we engage in dialog with business representatives to help them develop responsible due diligence practices.

Over the years, pulp and paper has become one of the focal points of urgewald's work. We have tracked the source of pulp and paper products to Germany and analyzed the problems in the pulp production countries. And we have built close contacts to local movements, which are challenging the massive impacts of the pulp industry in their countries. Time and again, we have experienced that both development and commercial banks are seldom aware of the environmental and social impacts of the pulp industry in these countries, when they make investment decisions. After years of working with consumers, our forest program has therefore begun to actively reach out to financial institutions and to encourage them to recognize indigenous and local peoples' rights as well as environmental concerns, when making decisions, that will affect the future of communities and ecosystems.

In its campaigns, urgewald cooperates closely with many national and international NGOs. We are also members of BankTrack, Taiga Rescue Network and the World Rainforest Movement.

For more information on the pulp sector, visit our webpage **www.pulpmillwatch.org** or contact our office:

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Part 1

1. INTRODUCTION

Pulp mills and the industrial tree plantations that feed them have become increasingly controversial. In country after country, local people and environmental organisations are protesting against the impacts of plantations. The vast areas of mono-cultures required to feed modern pulp mills have severe impacts on biodiversity, water, land rights and livelihoods. And the mills themselves are among the most polluting of industrial facilities. Communities around the world have seen their rivers, fisheries and drinking water ruined. Protests against pulp mills are ongoing in Thailand, Indonesia, Brazil, Chile and Uruguay, to mention just a few of the countries involved.

The major actors in the pulp industry are global players. For more than a decade, the industry has been contracting in the North and expanding in the South. While production of pulp is moving South, much of the advice that governments, companies and financiers rely on comes from northern-based consulting firms. The machinery and equipment for pulp and paper machines is manufactured in the North. And the bulk of paper production is destined for Northern consumption.

This report is addressed to the financiers of pulp mills and industrial tree plantations, who are also based primarily in the North. Between 2000 and 2006, pulp and paper companies raised US$ 215.5 billion on the international capital markets.[1] While development banks only provided US$ 1.9 billion to the sector over the last decade, they are now accelerating their activities rapidly. As funding is a key barrier to entry for proposed mills, funding institutions jointly and individually hold significant power in determining which projects are ultimately realised – and responsibility for the impacts that follow.

This report examines the pulp industry's current expansion plans as well as the implications of these plans for people and the environment. It provides country case studies and information on problematic pulp projects in the pipeline and it makes recommendations to financiers regarding their future role in this sector.

Before looking at the way pulp mills are financed and the structure of the pulp industry, we start with a look at the impacts. The best way of doing this is with a visit to a modern pulp mill and associated plantations.

1.1. A VISIT TO A PULP MILL AND PULPWOOD PLANTATION

The lines of eucalyptus stretch as far as the eye can see, towering over us. The trunks are straight with hardly any branches. Inside the plantations there's an eerie silence. No birds, no animals, few signs of life. Nothing grows between the rows of trees except a few blades of grass. We drive on to a vast clearcut where machines are removing the trees mechanically and apparently effortlessly. The trees are all the same age, the same species and at such a risk of pest and disease attacks that they have to be regularly sprayed with a cocktail of chemicals.

The plantations belong to Veracel, a massive new pulp mill in the Brazilian state of Bahia, built as a joint venture between the Swedish-Finnish pulp giant Stora Enso and Brazil's Aracruz. The pulp mill started up in 2005.

The European Investment Bank, which lent a total of US$ 110 million to the Veracel project, states that the pulp mill "is expected to create significant economic benefits for the region, including employment". In fact, Veracel's pulp mill will employ only 400 people. Built at a cost of US$ 1.25 billion, jobs at Veracel's pulp mill come at US$ 3.15 million invested per job. At the same time, many thousands of livelihoods were lost when farm lands were taken over for Veracel's plantations.
We visit a village, or what's left of it. Villagers tell us that many people have moved away since the

eucalyptus arrived 18 months ago. In one commune everyone has moved away. "There are no jobs here now and no money from the eucalyptus," one of the villagers tells us. Business at the local shop is down by 80 per cent.

The villagers show us their cemetery, or what's left of it. Veracel has planted eucalyptus right up to the cemetery, and even taken some of the cemetery land. The cemetery is completely walled in by eucalyptus. To find it, we have to drive between the rows of eucalyptus.

Villagers tell us about the river, or what's left of it. The river near the village is drying up. It is polluted by chemicals from the plantations. Plantation workers clean their tractors in the river which further pollutes the water. Fish and cattle have died as a result.
In common with all the pulp mills we've ever visited, the Veracel pulp mill stinks. José Marinho Damaceno is a small cattle farmer who lives on the Jequitinhonha River, just opposite Veracel's effluent discharge. He complains of headaches and irritated eyes. He describes the smell as rotten cabbage. When the smell is too bad, he has to leave his farm. Damaceno wants to leave Veracel for good, but first he has to sell his land.[2]

In April 2004, about 2,000 families from Brazil's Landless Workers' Movement (MST – Movimento dos Trabalhadores Rurais Sem Terra) occupied 25 hectares of land and cut down four hectares of Veracel's eucalyptus trees. "Nobody eats eucalyptus," they shouted as they occupied the land and started planting corn, manioc and beans.

Veracel is typical of new developments in the pulp industry. It is extremely large scale – at 900,000 tonnes a year, it's the world's largest single-line bleached eucalyptus pulp mill. The project is extremely capital intensive. Financing came from tax-funded banks in the North (the European Investment Bank and the Nordic Investment Bank). Subsidies came from the Brazilian state. Machinery for the pulp mill came from Europe and Scandinavia. The pulp produced at Veracel is almost entirely for export.

1.2. FINANCING IS PART OF THE PROBLEM

The bigger the pulp mill, the bigger the plantations required to feed it. The bigger the plantations, the bigger the impact on local communities and their environments. But the scale of modern pulp mills is not only driven by the pulp industry's demands for efficiency and profits. It is partly driven by the peculiarities of global finance.

Much of the funding for the expansion of pulp capacity worldwide comes from syndicated loans, bonds or equity offerings. In order to raise capital, companies need a credit rating, need to be listed on a stock exchange and need an issue size of at least US$ 100 million, all of which tends to limit access to international capital markets to the larger players. Large companies can secure financing in the international capital markets and it is easier to get funding for a massive mill than it is to get funding for a smaller project – an incentive to build larger mills than are actually needed.

Companies and financiers tend to favour export-oriented pulp operations because this reduces the risks of a devaluation of the country's currency. As export earnings are in dollars, local currency devaluation can even boost an exporting company's profits – costs are in the local currency, earnings are in dollars.
However, the pulp industry is not particularly good at making money. Even pulp producers with very low production costs do not provide high returns to their shareholders. According to Pricewaterhouse Coopers, the pulp and paper industry's return on capital employed is "well below the 10% target considered necessary to ensure long term success". In 2005, according to PwC, the average return on capital employed by the top 100 pulp and paper companies was 4.5 per cent.[3] Investments in the pulp sector seem to have more to do with the fact that investors look to diversify their investment portfolios, both geographically and across industrial sectors.

1. Spek, Machteld (2006) "Financing pulp mills: an appraisal of risk assess ment and safeguard procedures", Centre for International Forestry Research (CIFOR), Bogor, Indonesia. page viii.
2. "Brazil: Veracel's deceitful practices", World Rainforest Movement Bulletin no. 115, February 2007. http://www.wrm.org.uy/bulletin/115/Brazil_2.html
3. "Global Forest, Paper and Packaging Industry Survey: 2006 Edition – Survey of 2005 results", PricewaterhouseCoopers. http://www.pwc.com/extweb/pwcpublications.nsf/docid/755C7C899 E2F7B47802571B8003A4328

2. THE IMPACTS OF INDUSTRIAL TREE PLANTATIONS AND PULP MILLS

The Veracel pulp mill, in common with almost all of today's new pulp mills, is dependent on a large area of industrial tree plantations for its supply of raw material. Advice for the pulp mill and plantations (as well as an environmental impact assessment) came from Pöyry, the world's largest forestry consulting firm. A landscape and ecosystem covering 1,000 square kilometres has been simplified, industrialised and is now focussed on production for the pulp mill. Small-scale local businesses have gone. Local needs are ignored.

The sole purpose of industrial tree plantations is to provide large volumes of small-diameter logs as quickly and as cheaply as possible. The most important purpose of industrial tree plantations worldwide is to provide raw material for the pulp and paper industry (other plantations supply wood for panel products and reconstituted boards, some supply charcoal, and some sawn logs).

In a 2003 report, the Centre for International Forest Research (CIFOR) defined industrial tree plantations as intensively managed commercial plantations consisting of single species producing industrial round wood at high growth rates and harvested on short rotations (less than 20 years). These plantations may be owned by companies or may be a large number of contract farming plantations owned by smallholders.

CIFOR estimates that there are some ten million hectares of fast-wood plantations worldwide, an area that is increasing by about one million hectares a year. However, this figure excludes pine plantations in New Zealand, southern US, Brazil, Chile, Australia, Spain, South Africa and Uruguay on the grounds that these plantations have a long rotation (more than 20 years). This type of plantation covers between 20 and 30 million hectares of land world-wide.

Increasingly, industrial tree plantations are being established in the global South to feed massive new pulp mills. Wherever they have been established, pulpwood plantations have created serious problems for local communities. "As swatches of exotic trees invade native woodlands, grasslands, farmlands and pastures, the results in country after country, have been impoverishment, environmental degradation, and rural strife," write Ricardo Carrere and Larry Lohmann in their book Pulping the South.

Industrial tree plantations are a threat to bio-diversity. E.O. Wilson, a Harvard biologist and Pulitzer Prize winner, estimates that pine plantations in the south of the US contain 90 to 95 percent fewer species than the forest that preceded it. He compares the effects of tree farms on biological diversity to "building a line of Wal-Marts".

Plantations are a threat to water resources because fast growing trees require large amounts of water. The pulp industry has led to increased rates of deforestation because native forests are logged to supply wood to pulp mills and because forests are cleared to make way for plantations.

Industrial tree plantations increase rural poverty. The fact that plantations require large areas of land causes problems for local communities because the land is crucial to their livelihoods. Whether it is community forest, farmland or part of villagers' rotational agricultural system, such land is often described as "degraded" by forestry experts and plantation proponents. When the land is converted to tree plantations, however, local livelihoods are destroyed.

The jobs provided by the industry are few and those provided are dangerous. Plantations are often established several years before the associated pulp mill starts up, which means that rural communities are displaced and people are forced to move away from the area to look for work. Then, thousands of people move into the area to work on building the pulp mill, only to become unemployed once the construction is finished. Pulp mills are heavily mechanised and provide few jobs. In any case, the jobs usually do not go to people from the local area.

After the plantations have taken away villagers' land and impaired their livelihoods, the pulp mill starts up. At this point, villagers still living in the area discover that pulp mills pollute the air and the water in their rivers.
The following sections look at some of these problems in more detail.

2.1. WATER SUCKING MONOCULTURES

Eucalyptus and other fast-growing trees consume vast amounts of water. When Advance Agro started planting eucalyptus in eastern Thailand, for example, villagers found that the plantations affected their rice fields. "When the company came and started planting eucalyptus near the rice fields, the water began to dry up and people found they couldn't grow rice," explains Suwan Kaewchan, a member of the Administrative Council in Laemkow-chan village. "One by one they began to sell their land and leave. They went to work as hired labour in other areas or with the company."
Thailand is not an isolated case. After his 1999 trip to Uruguay, US researcher Thomas F. Geary reports: "I saw a time series of aerial photographs of land planted with eucalypts in Uruguay. Some places within the plantation area were originally too wet to plant. A few years later these wet areas were dry enough to plant and nearby ponds had dried out, but those farther away had not."

Communities in Las Flores in Western Uruguay found that the water level in their wells dropped by up to 60 per cent after their villages were surrounded by eucalyptus plantations. Local crops such as watermelons and peanuts dried up. "At first the plantations were far away, but little by little they kept moving closer," Alfredo Bazzini told the US-based NGO CorpWatch. "When they reached to just a few meters out of town, the water ran out and the land died." Families that lived off the land were forced to move away. Las Flores is now known as Pueblo Seco, or "Dry Town".

A series of scientific studies from South Africa show reduced water flows as a result of eucalyptus plantations. One study showed that stream flow dried up completely nine years after eucalyptus was established. The streams only recovered five years after the eucalyptus was clearcut. Villagers in KwaZulu Natal province in South Africa list "diminished water" as one of the key problems caused by industrial tree plantations. "Where there are a lot of plantations there is a lot less water", a villager explained at an NGO meeting in November 2005. As a result, "farming production is very limited".

South Africa has passed laws controlling the establishment of new areas of plantations because of the impact of the plantations on the water table.

South Africa: Streams dry out following plantation establishment

2.2. PLANTATIONS INCREASE DEFORESTATION

Plantation proponents argue that industrial tree plantations take the pressure off logging natural forests. But the reality is that plantations are often a cause of forest destruction.

Some countries, such as Brazil, have large areas of plantations and high rates of deforestation. Often the causes of deforestation – such as conversion to soy or oil palm plantations, or the flooding of forest for large-scale hydropower dams – have nothing to do with supplies of timber. Timber from native forests is in any case destined for a different market to that from fast-growing industrial tree plantations – for furniture or construction, for example. In its 2003 report on "Fastwood" plantations, CIFOR notes that "there is little evidence to suggest that fast wood plantations have taken pressure off natural forests elsewhere".[4]

In the south of the US, vast areas of forests have been cleared and replaced with loblolly pine plantations. Journalist Ted Williams describes the process: "Before planting their superseedlings, the companies clearcut and bulldoze the site to get rid of all native trees, shrubs, vines, ferns, mosses, fungi, grasses, sedges, and wildflowers. Woody debris is burned off. Then they plant loblolly. As the pines mature, they are thinned and pruned. Native trees that return from roots or seeds are cut or killed with herbicides. Frequently the plantation is bombed with fertilizer pellets. Then, 15 to 20 years after they were planted, the pines are clearcut, and the process begins anew."[5]

Thailand's Advance Agro is owned by Soon Hua Seng. The company is notorious for clearing forest to make way for its plantations. In 1990, 156 employees of Suan Kitti, a Soon Hua Seng subsidiary, were arrested for illegally logging a forest area in order to establish eucalyptus plantations. After the scandal, Soon Hua Seng hired a Finnish public relations company, Presko, and changed the name of the subsidiary setting up the pulp mill from Suan Kitti to Advance Agro.

In Indonesia, vast areas of forest have been cleared to make way for industrial tree plantations, particularly in Sumatra, where Asia Pulp and Paper (APP) and Asia Pacific Resources International Holdings (APRIL) built their enormous pulp mills. The pulp mills were designed to use raw material from forests and to gradually switch to wood from plantations. APP's Indah Kiat pulp mill missed a series of deadlines to use only raw material from plantations. The company still does not have enough plantations to feed its mill. The result has been massive deforestation. "We estimate that around 450,000 hectares of natural forests have been cleared over the past five years to supply APP's pulp mill in Riau," says Nazir Foead, WWF-Indonesia's Director of Policy and Corporate Engagement. None of this has prevented APP from raising finance to expand its pulp operations. In March 2007, APP announced that it intends to increase its annual pulp production capacity in Sumatra by 800,000 tonnes.

By the end of 2001, there were approximately 1.4 million hectares of industrial tree plantations in Indonesia. Of this area, according to CIFOR, approximately half was established on land that was previously forested. CIFOR recommends that no more forest should be converted to tree plantations because the economic costs are greater than the benefits. According to CIFOR's calculations of the total economic value of logged over forests, (including timber, fuel wood, non-timber forest products, soil and water conservation and flood protection) the conversion of 1.4 million hectares of logged over forest to industrial tree plantations, results in a total loss to the country of at least US$ 3 billion.[6]

In Chile, between 1978 and 1987, 31 per cent of the forests in the coastal region were converted to plantations. During the 1970s, Brazilian pulp company Aracruz cleared about 50,000 hectares of Atlantic rainforest and replaced it with eucalyptus monocultures in the state of Espirito Santo. Pairs of tractors with a chain tied between them drove through the forest, destroying everything in their path. Animals were crushed by falling trees or machinery. Aracruz has also been fined by IBAMA, Brazil's environmental protection agency, for clearing and planting in protected areas.

Plantations have not only had a serious impact on forests. In South Africa, for example, industrial tree plantations have replaced species rich grasslands, which rural communities previously used as pasture for cattle. The problem is exacerbated in South Africa by the fact that exotic trees (eucalyptus, acacia and pine) have become weeds and have spread outside the plantations.

Old growth rainforest in Tasmania has been cleared to establish eucalyptus plantations.

South Africa's Water Affairs and Forestry Minister, Buyelwa Sonjica, acknowledges the problem of invasive tree species: "The problem is that alien invasive trees tend to go to the very areas that responsible forestry industry avoids – riparian areas, steep slopes, wetlands and other areas where the impacts are more severe." The South African NGO coalition Timberwatch estimates that an area as large as the established plantations has been invaded by exotic tree species.

2.3. JOBS CREATED ARE FEW AND DANGEROUS

Work in plantations is increasingly mechanised, meaning that plantation operations employ few people. Those jobs that are provided are dangerous. According to the UN International Labour Organisation, "The worst safety and health situation is usually found in forestry."

In a 2001 report for ILO, Peter Poschen and Mattias Lövgren note that "Forestry work is also beset by serious health problems. Few workers reach normal retirement age." Accidents with chain saws are frequent. Workers are at risk of being crushed by falling trees. Others suffer spinal injuries from moving eucalyptus trunks. Particularly at risk are people employed to apply chemicals to the plantations.

Companies are increasingly contracting out labour in their plantations. Poschen and Lövgren report that "The safety and health situation is most problematic among contractors."

When jobs are contracted out, workers often lose the few benefits they had. Since 1980, almost all timber harvesting in Chile has been carried out by contractors. A 1998 survey of forest workers in Chile found that two-thirds of workers saw a reduction in pay and benefits and half lost out on pensions when their jobs were contracted out.

During the 1990s, South Africa saw a rapid expansion of the number of contracted labourers in silviculture, harvesting and transport. The wages of manual workers employed by contractors in South Africa are between US$ 50-75 a month compared to US$ 75-100 or more for those employed by companies. Company workers are entitled to pensions and medical benefits. Outsourced workers receive neither.[7]

Mondi is one of the largest private land-owners in South Africa. According to the company's figures Mondi employs a total of 2,375 people. It has about 450,000 hectares of plantations, which works out at only one job for every 200 hectares of plantations. The situation in plantation areas is even worse than these figures imply, because the total number of people employed includes jobs in Mondi's offices and mills.
Recent figures from the Agricultural Census in Uruguay indicate that plantations generate fewer jobs than extensive cattle-ranching. Weyerhaeuser owns 128,000 hectares of land in Uruguay, of which 71,000 hectares are plantations. According to the company's own information, Weyerhaeuser directly employs only 130 people. That works out at only one job per 555 hectares of plantations.

World Rainforest Movement (WRM) has documented the "near-slavery" conditions for workers in plantations in Uruguay. Employers fail to provide water, housing or bathroom facilities. One former contractor told WRM that he used to be in charge of eight people hired to apply herbicides and pesticides. They were given no training, safety equipment or any means of protection. "Everything that was used to apply the agrochemicals was then washed in the streams, when there were still streams," he said. "If somebody passed out in the middle of the field, they would be taken to the hospital, but then they would be right back the next day, because they had to keep working."

In Brazil, a recent study by the Brazilian NGO FASE analysed the jobs provided by Aracruz. Since the 1980s, employment at Aracruz has fallen and many jobs have been sub-contracted. In 2002, Aracruz opened a new US$600 million pulp line, which created only 173 new jobs. Planting coffee on small land holdings provides more than 100 times as many jobs per hectare as Aracruz's eucalyptus plantations, according to the FASE study.

2.4. PLANTATIONS INCREASE RURAL POVERTY

A villager in Indonesia sums up the problems with industrial tree plantations in this way: "Loggers

used to come, log the forest and then go away. The plantation companies come, clear what's left of the forest, plant their trees and stay."

After a logging company has left the forest, villagers still have the possibility of rebuilding their livelihoods. The forest can regenerate, timber and non-timber forest products can still be collected and swidden fields can be cleared. None of this is possible once an industrial tree plantation occupies villagers' land.
In Laos, forests and common land are an important part of rural communities' livelihood systems. Even heavily disturbed forests provide a range of goods, including resin, firewood, grasses for roofs, mushrooms, insects and frogs. Many villagers use common lands and forested areas to graze their cattle. It is often the poorest villagers, those with the least land, who are most dependent on forests for their livelihoods.

After a decade-long project supporting the development of industrial tree plantations in Laos, the Asian Development Bank (ADB) concluded that the project had increased poverty. The ADB-funded project gave loans to companies and farmers to plant eucalyptus trees. According to a report produced by the ADB's operations evaluation department, the project "failed to improve the socioeconomic conditions of intended beneficiaries, as people were driven further into poverty by having to repay loans that financed failed plantations." Bank reports describe how under the project "healthy forest" was converted to tree plantations, strips of forest around streams lakes, ponds and rice paddies were destroyed and planted with eucalyptus, nesting or fruit bearing trees were removed, and trees or plants which provided non-timber forest products for villagers were destroyed.


CEPEDES

Brazil: Communities surrounded by eucalyptus monocultures

A loan for a second plantation project in Laos was approved by the ADB's board in February 2006, but cancelled one year later, in part because NGOs and researchers had documented and exposed the problems caused for local communities by the plantations established under the first loan.
Recently, in Vietnam, researchers at CIFOR attempted to answer the following two research questions: how forests help to alleviate poverty; and whether the plans in Vietnam for large scale tree planting are consistent with the government's goal of eliminating poverty. They concluded that their questions could not be answered, because "there has not yet been any primary empirical research directed specifically at answering these questions". Yet millions of dollars of aid money continues to pour into Vietnam aimed at increasing the area of industrial tree plantations, in the name of poverty alleviation.

Plantation proponents argue that they are providing jobs in rural areas and therefore, through the payment of salaries, relieving poverty. However, in 2004, researchers for the International Institution for Environment and Development (IIED) carried out a study in South Africa looking at the role of forest contractors in relieving poverty. The study concluded that "jobs provided by forestry contracting are not able to lift the vast majority of forestry workers, mainly women, out of chronic poverty, or prevent them from falling further into poverty."

Further, the researchers found, "Incomes are insecure and inadequate, there are no financial safety nets in the form of health insurance or pensions, and workers are exposed to risk of permanent injury that could further impair their ability to secure a livelihood in the future."[8]

2.5. PULP, ENERGY AND CLIMATE

Pulp production is energy intensive. Globally the pulp and paper industry is the fifth largest industrial consumer of energy, accounting for four per cent of

electricity use by industry. The pulp industry is keen to promote the impression that it consumes large amounts of renewable energy. The Confederation of European Paper Industries (CEPI) argues, for example that the paper industry is "Europe's biggest industrial user and producer of renewable energy". But the pulp industry remains a large consumer of conventional energy, a fact demonstrated by looking at Finland – a major producer of pulp and paper. The Finnish pulp and paper industry remains heavily dependent on coal. In 2005, when a strike brought the pulp and paper industry in Finland to a halt, the amount of coal burned in Finland fell to very low levels.[9]
UPM (Finland) and Stora Enso (Sweden-Finland) are both major customers and shareholders in Pohjolan Voima, a Finnish power company. Pohjolan Voima owns 57 per cent of Teollisuuden Voima, which is currently building Finland's fifth nuclear power plant.

In Europe, the use of wood as biofuel has begun to compete with pulp and therefore increased the cost of wood. The CEPI is lobbying for intervention at the EU level, by pointing out that European policies promoting renewable energy sources are "putting pressure on the availability of the pulp and paper industry's main raw material." At the same time, the pulp industry in the North is looking at the possibility of converting pulp mills to biorefineries, to produce biofuels. But whether pulp mills are used to produce pulp or biofuel, the globalised structure of the industry remains the same. It is twice as cheap to grow wood in Brazil as in Sweden. Increasing the demand for wood in the North (whether for biofuels or for pulp) will drive the expansion of industrial tree plantations in the South.

Industrial logging and plantation establishment inevitably release large amounts of carbon held in forest biomass and soils. Plantation establishment on peat soils, as is happening today in Indonesia for pulpwood and oil palm, is responsible for more than a billion tonnes of CO_2 emissions annually, making Indonesia the world's third largest greenhouse gas emitter, after the USA and China.

In addition to the production of paper, a significant source of greenhouse gases is related to the disposal of paper. Most paper is eventually dumped in landfills, where it emits methane when it decomposes. More greenhouse emissions occur during the transportation of woodchips and pulp – both of which are increasingly produced on the other side of the world from the paper mills that end up converting them to paper products.

In comparison, the production of recycled paper releases much less carbon dioxide than the production of paper from virgin fibre. According to a recent study by the Institute for Energy and Environmental Research in Heidelberg, Germany, "The total primary energy demand of paper production from timber is about two-and-a-half times as high as in the production of recycled paper."


Inge Altemeier

Pollution from upstream pulp mills has caused serious skin irritations

2.6. PULP MILLS CREATE POLLUTION

Pulp mills are one of the most polluting of industrial processes. Health risks from pulp mill pollution include cancer, lung diseases, reproductive and hormone problems, heart disease, immune system damage and skin diseases.
Pollution from APP's Indah Kiat pulp mill in Sumatra has killed the fish in the Siak River, destroying the livelihood of people living along the river. Medical professor Trabani Rab has been monitoring the impacts of Indah Kiat's mill on villagers' health for several years. German film-makers Inge Altemeier and Reinhard Hornung travelled with him for their 2000 film, "The dirty business of white paper". In

two days travelling along the River Siak, he diagnosed more than 500 cases of serious skin diseases.

While consultants and financiers of Indah Kiat defend the company by pointing to company records of emissions from its factories, the smell, the pollution, the poisoned river and the dead fish remain. Communities downstream continue to suffer from headaches, itching and incurable skin diseases.

In Chile, Celulosa Arauco y Constitución's (CELCO) Valdivia pulp mill is notorious for killing hundreds of black-necked swans as a result of pollution from the mill. Before the pulp mill was built, the Cruces River wetlands were home to about 6,000 black-necked swans. "They should have never built the plant there in the first place," commented Neil McCubbin, a former pulp and paper engineer turned consultant, at a pulp industry conference in Brazil in May 2006. CELCO denies that it is responsible for killing the black-necked swans, and rather than installing a closed loop system or preventing pollution completely by closing down the mill, the company is planning to build a pipeline to the sea. Fisherfolk living in the village of Mehuín are protesting against the pipeline proposal because of concerns regarding the impact on fisheries.

Pollution is not only an issue for communities living near pulp mills in the South. As Dr. Warwick Raverty of the Commonwealth Scientific and Research Organisation (CSIRO) in Australia pointed out at a public lecture in March 2007, there is no such thing as a chemical pulp mill that does not smell. The most advanced pulp mill in the world is probably the Stendal mill in Germany. This mill developed odour problems in its second year of operation. According to Raverty, who was speaking in a personal capacity, this was probably because after a year's operation the thousands of plastic pipe and pump seals at the pulp mill became saturated with odour, so that the smell is now emitted to the atmosphere.

In Finland in 2003, 7,500 cubic metres of black liquor leaked out of UPM's Kaukas pulp mill in Lappeenranta and into Lake Saimaa. Within a few days, the black liquor had spread far into the lake and half of the fish biomass was wiped out within a three-kilometre radius from the pulp mill.

The pulp industry has developed alternative technologies which could significantly reduce the pollution from pulp mills. For example, total chlorine free (TCF) production removes all use of chlorine from the production process. The industry also talks about a goal of "closed loop" pulp production, where chemicals and waste are recycled and re-used as part of the production process. These technologies have been available for well over a decade. However, instead of converting existing pulp mills and building new pulp mills using TCF and closed loop technology, the pulp industry and its proponents have launched a publicity campaign in favour of elemental chlorine free (ECF) production.

Workers applying chemicals to clear land for plantations in Swaziland

4. CIFOR comments that New Zealand is often cited as an example of a country where plantations appear to be taking pressure off native forests. CIFOR points out that this is a recent phenomenon and that it was not market forces but government legislation which stopped logging in native forests.
5. Williams, Ted (2000) "False Forests", Mother Jones magazine, 1 June 2000.
6. Maturana, Julia (2005) "Economic Costs and Benefits of Allocating Forest Land for Industrial Tree Plantation Development in Indonesia", Centre for International Forestry Research (CIFOR), Bogor, Indonesia, page 21. http://www.cifor.cgiar.org/publications/pdf_files/WPapers/WP30Maturana.pdf
7. Poschen, Peter and Mattias Lövgren (2001) "Globalization and sustainabi lity: The forestry and wood industries on the mover", International Labour Organization, Geneva, page 65.
8. Clarke, Jeanette and Moenieba Isaacs (2004) "What role for forestry in reducing poverty in South Africa? Case studies of contractors in the fore stry sector", International Institution for Environment and Development (IIED), London, UK, page 4.
9. "Paper mill dispute slashes coal burn", Platts Coal Trader International, 20 May 2005, page 2.

3. STRUCTURAL PROBLEMS OF THE PULP INDUSTRY

By reducing the debate to ECF versus TCF, the industry has succeeded in deflecting discussion from looking at other potential raw materials and overhauling the way pulp and paper is produced. That the industry has failed to incorporate closed loop technologies, even in the most modern mills currently being built in the South, is an indication of how resistant it is to change. Of course, if the financing of pulp mills were conditional on adopting the least polluting technologies, the plans for expansion of the industry would have to incorporate TCF and closed loop technologies.

The structure of the pulp industry has many built-in problems, of which financiers should be aware. This chapter deals with the issues of overproduction, overconsumption and the pulp industry's dependence on subsidies.

3.1. OVERPRODUCTION

The price of pulp on the world market is cyclical. When the price of pulp is high, companies invest in new pulp mills. Eventually this results in a glut of pulp on the market and the price crashes. It takes several years to build a pulp mill, so even after the price has crashed, new pulp mills already under construction continue to come on-line. The price of pulp drops further. At this point, the industry stops investing and leading players look to take over other companies to increase their market share and control over prices. Companies also seek to vertically integrate operations (a company which sells pulp from one of its mills to its own paper mills can produce paper more cheaply and is thus less affected by a downturn in the global pulp price).

Pulp prices have increased since a low point in 2005. However, the pulp industry is currently expanding faster than the rate at which demand is increasing. "Pulp capacity growth in 2007 will be more than 4%, significantly outpacing demand. The resulting decline in operating rates will pull down prices," according to the industry journal Pulp and Paper International.

Between 2006 and 2008, 4.5 million tonnes a year of new pulp capacity is expected to start operations in South America alone. The vast majority of this pulp is intended to be sold to China. But Pulp and Paper International notes that "Growth of Chinese imports of bleached hardwood kraft (BHK) in the 2006 to 2008 period will be less than half of the growth in bleached eucalyptus kraft (BEK) production in South America alone." If China buys less than half of the pulp produced in South America's new mills, the industry must find new markets, store pulp or reduce production by temporarily closing down mills. As a result, South American producers are increasing sales promotion in Europe and North America. South American pulp sales people are already visiting small paper mills in the USA, to persuade them to buy imported eucalyptus pulp instead of maple, aspen and mixed hardwood pulps that they currently use.

But the reality is that at some point pulp production will outstrip demand. At this point pulp prices will fall. This is nothing new. In 1992, in a "Survey of Pulp and Paper", the Financial Times wrote that "The main challenge facing the world's pulp industry is a familiar one – a massive imbalance of supply and demand."

3.2. OVERCONSUMPTION

In 1961, total world consumption of paper stood at 78 million tonnes. Forestry consulting firm Pöyry estimates that world demand for paper and paper-board will increase from 365 million tons in 2005 to 494 million tons by 2020 – an average growth rate of 2 per cent a year. But Pöyry's figures are part of a self-fulfilling prophecy – it is in the company's interest to boost predictions of future paper consumption. The more paper we appear to "need", the more pulp and paper mills "need" to be built and the more work there will be for consulting firms like Pöyry.

Meanwhile companies are constantly looking for new ways of using paper, for milk cartons, food packaging, kitchen towels, cardboard furniture, coffee cups, direct marketing, advertising and so on. The overproduction has more to do with the

needs of companies to continue expanding and to maximise profits than with meeting a "market demand". Alternatives to massive paper consumption already exist. To name just one of many: Electronic data storage and communication can reduce paper use (provided that emails and files are not printed). Estonia has become a world leader in this regard with a paperless government and the whole country utilizing e-voting and internet banking.

Figures of global paper consumption hide the fact that the vast majority of paper consumption takes place in North America, Western Europe and Japan. In 2005, the average per capita consumption in the North was 172.38 kilogrammes while in the South it was 23.55 kilogrammes.[10] In the USA, average per capita consumption was 297.5 kilogrammes. Pulp and paper industry proponents often argue that paper is needed for education. Because literacy is crucial to development, paper use should be increased, they say. Yet while the average person in Vietnam uses about five per cent as much paper as the average person in the USA, literacy rates in the two countries are similar. Paper consumption, above a certain minimum, has little or nothing to do with literacy rates. While Vietnam's pulp and paper industry is expanding rapidly, most of the expansion is to produce packaging paper for exported goods, not to produce reading materials. About one-half of all paper produced worldwide is for packaging.

The countries where new pulp capacity is being built are not countries with a high demand for paper products. Brazil's average per capita consumption in 2005 was 39 kilogrammes. In Uruguay the figure was 36 kilogrammes. As Ricardo Carrere of the World Rainforest Movement points out, there is no shortage of paper in Uruguay. The new pulp capacity being produced in Uruguay is for export.

The expansion of industrial tree plantations in the global South is a form of new colonialism. Vast areas of land are being taken over to provide the raw material for paper. The benefits of this new colonialism go predominantly to consumers in the North, where the paper industry is constantly creating new demands for its products. The impacts, however, are felt by rural communities in the South.

3.3. DEPENDENCE ON SUBSIDIES

Despite the structural problems of overconsumption and overcapacity of the pulp industry, plantations and new pulp mills are heavily subsidised. These subsidies come from Northern governments in the form of "development aid" as well as from Southern governments in the form of cheap land, cheap labour, tax relief and, if necessary, the willingness to send in the police or military to resolve land disputes.

Thai economist Pasuk Phongpaichit notes that, "Economic theory tells us it's all right to subsidize education because it benefits the whole society. But while eucalyptus and pulp and paper industries earn profits for some, they cause problems for society. Therefore, economic theory tells us, they should be taxed. But instead the government does the opposite. This is a matter of influence and power."[11]

Before the first bulldozer arrives to start clearing for plantations on the pulp mill construction site, consulting firms have won millions of dollars-worth of contracts promoting and establishing industrial tree plantations as well as studying and designing the pulp mill. In Uruguay, for example, industrial tree plantations were promoted in a series of aid projects starting in 1951 with a UN Food and Agriculture Organisation/World Bank mission. In the mid-1980s, the Japanese International Cooperation


CEDHA

People blockading the bridge between Uruguay and Argentina in protest against the IFC credit to the Botnia pulp mill

Agency funded a feasibility study of building a chemical pulp mill in Uruguay. Uruguay's National Forestry Plan of 1988 is based on a JICA study on establishing tree plantations in Uruguay. This was followed by a World Bank forestry loan to Uruguay with which the government set up a series of subsidies to the plantations industry, including tax exemptions, partial refund of plantation costs, long-term soft loans, reduced duty on machinery and vehicle imports, construction of roads and bridges and equal benefits for foreign investors. WRM calculates that by 2000, the Uruguayan state had given away more than US$ 400 million in direct and indirect subsidies to the plantation industry.[12]

The Botnia mill in Uruguay is a prime example for the lavish subsidies that are handed out to the industry. The pulp mill is in a specially created tax-free zone. Before the pulp mill project started, the Uruguayan government signed an agreement with the Government of Finland, which is, in effect, an agreement with Botnia. Under the agreement, the Uruguayan government is forced to pay compensation to Botnia for any losses, caused by, among other things, riots. Earlier this year, the government sent in police and military to protect the construction site against possible disruption by demonstrations.

A large part of the financing for Botnia's pulp mill comes from public institutions, including:
- the International Finance Corporation (US$ 170 million in loans);
- the Multilateral Investment Guarantee Agency (US$ 350 million guarantee);
- Finland's export credit agency, Finnvera (US$ 330 million in reinsurance and buyer credit guarantee);
- the Nordic Investment Bank (US$ 70 million).

In addition, Finnfund, a Finnish state-owned "development finance company", has given three loans to Botnia's plantation subsidiary Forestal Oriental to help establish eucalyptus monocultures to feed the mill.

In Indonesia, the massive development of industrial tree plantations and the pulp industry was also catalysed by the World Bank. In 1984, the World Bank funded a report titled "Strengthening the structure of the Indonesian pulp and paper sector".

Four years later, the Asian Development Bank funded a project to identify sites for the development of the pulp industry in Indonesia. Finnish forestry consulting firm Pöyry carried out both contracts. Pöyry went on to win contracts for several of the pulp mills subsequently built in Sumatra.

The Indonesian government, in common with many governments in the South, has handed over large tracts of forestland to plantation companies, often for very low rents. In many cases, these forests are the customary territories of indigenous peoples. When communities in Indonesia have protested at the loss of their lands, the state has often sent in armed police or the military – another form of subsidy to the pulp and paper industry.

The fact that pulp mills in Sumatra have relied for years on timber that is illegally logged can also be viewed as a subsidy to the pulp industry. Another subsidy from the Indonesian state came in 2001, when APP defaulted on its US$ 13.9 billion debt. The state took on more than US$ 1 billion of APP's debt through the Indonesian Bank Restructuring Agency.
The pulp and paper industry's dependence on such-massive subsidies is a clear indication of the low profitability of the industry. It also means high financial risks for investors and financiers if subsidies are revoked or decreased.

urgewald

Demonstration against German ECA support for pulp mills in Indonesia

10. Figures of paper consumption per capita come from World Resource Institute's Earth Trends website: http://earthtrends.wri.org.
11. Pasuk Pongpaichit (1995) Presentation at Seminar on Community Rights and Environmental Conservation: The Case of the Paper Pulp Industry, Chulalongkorn University, Bangkok, 27 April 1995, cited in Carrere, Ricardo and Larry Lohmann (1996) "Pulping the South: Industrial Tree Plantations and the World Paper Economy", World Rainforest Movement and Zed Books, London, UK, page 103.
12. "Uruguay: The absurd injustice of promoting tree plantations", World Rainforest Movement, Bulletin 68, March 2003. http://www.wrm.org.uy/bulletin/68/Uruguay.html

4. "LOW-FACT" FINANCING OF PULP MILLS

Given all the problems associated with the pulp sector, we might think that investors and financial institutions would be wary of financing pulp and paper projects or associated companies or at least, that they would conduct extremely careful due diligence before doing so. Far from it, according to a report by CIFOR released in 2006. The report, "Financing Pulp Mills: An Appraisal of Risk Assessment and Safeguard Procedures", analyses 67 pulp mill projects financed between 1995 and 2004. The report's author, Masya Spek concludes that inadequate research into proposed pulp projects "may lead to a new wave of ill-advised projects, setting up investors, forest-dependent communities and the environment for a precipitous fall." CIFOR's Chris Barr describes the problem as "the low-fact financing of pulp mills".

The lack of due diligence in pulp mill financing is particularly glaring regarding the supply of raw materials. CIFOR compares financing of the pulp industry to financing of the oil industry. Oil companies are valued according to their proven oil reserves. It is one of the first things that potential financiers look at. For pulp companies, however, banks seem unconcerned about their access to raw materials. They simply assume that there are ample supplies of raw materials for this sector. Availability, cost and even the legality of the wood are often not considered.

There are two main types of financing to pulp mills: public and commercial finance. CIFOR notes that most new pulp mills involve some form of government or multilateral support, while pulp capacity expansions tend to be financed through commercial financing (loans, bonds or equity issues). This section looks at each of these in turn.

4.1. PUBLIC FINANCE

From the 1960s to the end of the 1980s, multilateral development banks were "significant catalysts in the funding of new pulp mills", writes CIFOR. During the 1990s, the World Bank produced a new forest policy, which limited Bank-financing of commercial forestry projects. As a result, in the last decade, multilateral banks provided only US$ 1.9 billion to the pulp sector. But since 2002, the World Bank has adopted a new forest policy which drops many of the old safeguards and paves the way for massive new investments in industrial forestry projects. As a result, the World Bank is financing large pulp mills again.

Development finance plays a key role in the expansion of the pulp industry. Multilateral and bilateral aid often finances the consulting firms which provide advice in favour of establishing plantations and building pulp mills. In Indonesia, for example, the World Bank has expressed support for the government's plans to expand the area of pulp plantations by five million hectares. New pulp mills themselves are often aid financed and export credit agencies in the North back the manufacture and export of machinery.

CIFOR notes that the multilateral banks act as "arbiters of quality, in which role they are implicitly recognised by the private sector". Often commercial banks will agree to finance a scheme once multilateral financing is in place. However, the fact that a multilateral bank has agreed to finance a project is no guarantee of quality as the number of aid-financed boondoggles littering the global South clearly indicates.

The multilateral banks most involved in pulp mill investment in the last two decades are the International Finance Corporation (IFC) and the European Investment Bank (EIB). Both have a mandate to lend to the private sector. In Asia, the Asian Development Bank has supported the expansion of the pulp industry through its loans to governments.

4.1.1. IFC: "Open for business"

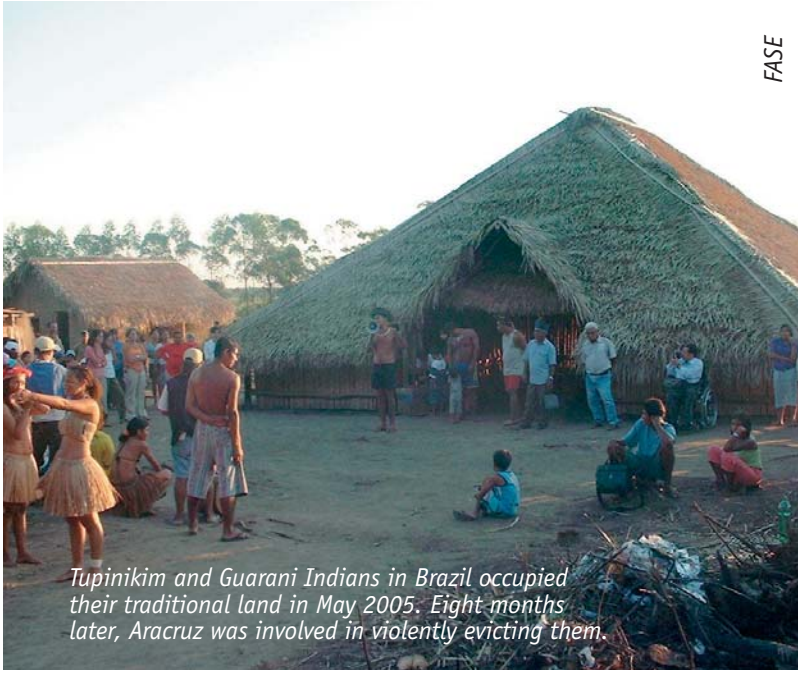
According to its mission statement, IFC exists to "promote sustainable private sector investment in developing countries, helping to reduce poverty and improve people's lives." IFC loans are supposed to be directed to developmentally beneficial projects which cannot raise sufficient capital on reasonable

terms from commercial banks.
IFC often requires that it is engaged as a paid adviser on the structure and financing of a project before actually making an investment. IFC usually brings in a syndicate thus ensuring additional finacing.

Although IFC has standards which must, in theory at least, be met before the bank can approve a loan; in practice, if a project does not meet its standards, the IFC attaches conditions for improvements to the loan. As CIFOR points out, once the funds are disbursed, there is little that IFC can do when a company proves unwilling or incapable of improving its operations.
IFC has a Forest Product Sector team which isactively looking for potential forestry projects to finance. "We are open for business," is how a senior investment officer with IFC, put it at a packaging industry conference in 2005.

IFC has financed several plantations and pulp projects in China, including Sino-Forest (Canada), Jiangxi Chenming Paper Company (a joint venture between South Africa's Sappi, South Korea's Shinmoorim and two Chinese companies, Chenming Group and Jiangxi Paper Industry Company) and Stora Enso (Sweden-Finland).

In November 2004, the IFC approved a US$ 50 million loan to Aracruz to finance the expansion of the company's pulp and plantation operations in Brazil. The IFC gave the loan in spite of ongoing land disputes between the indigenous Tupinikim and Guarani people and the company. In response to an NGO letter protesting the loan, IFC claimed that "land dispute issues were fully reviewed during IFC's appraisal". IFC's review was, however, based largely on information provided by the company. IFC staff made no attempt to talk to Guarani and Tupinikim indigenous peoples who were (and still are) involved in a land dispute with Aracruz. Neither did IFC talk to members of Brazil's Landless Peasants Movement (MST), which had occupied an area of Aracruz's plantations in April 2004. In May 2005, Guarani and Tupinikim reclaimed part of their land from the company, cutting thousands of eucalyptus trees and rebuilding two villages. Aracruz repaid the IFC loan in full shortly after the company was involved in a violent eviction of the villagers in January 2006.



Tupinikim and Guarani Indians in Brazil occupied their traditional land in May 2005. Eight months later, Aracruz was involved in violently evicting them.

4.1.2. EIB: Destroying livelihoods in Brazil

The European Investment Bank provided financing for the Veracel project in Brazil. EIB's process for approving the pulp mill loan was far from transparent. EIB declined requests from NGOs in Brazil to release the documents the Bank had produced during its evaluation of the Veracel project. The Bank also declined to release the date when the EIB Board would discuss the proposed loan to Veracel. The Veracel plantations and pulp mill have destroyed local livelihoods. An open letter from citizens in Bahia states: "Over the past years, Veracel has generated a track record of environmental degradation, concentration of land, eviction of thousands of workers from the rural areas to the outskirts of cities, causing significant social and environmental disruptions." Journalist Jodenilton Bastos notes that since the Veracel project started, "What has most increased is criminality, child prostitution, poverty, hunger, the number of people imprisoned, robberies, murders."

CIFOR points out that the Banks' analysis of their investments focuses on the economic and looks at benefits but not impacts. "EBRD and the EIB are happy to focus on macro benefits such as balance of payments improvement, job creation and as yet do not work actively to mitigate any potential negative impacts that their investments might have."

4.1.3. ADB: Increasing poverty

More than 80 per cent of the ADB's loans to the forestry sector have been spent on plantation projects. In total, more than one million hectares of plantations have been established using ADB financing, including 775,000 hectares of commercial plantations. In addition to financing plantations, the ADB has funded research into the expansion of the industry in countries like Indonesia, where the pulp industry has had devastating effects.

In Laos, the ADB's Industrial Tree Plantations Project created and increased poverty, according to the Bank's own project completion report. Nevertheless, the Bank approved a second plantations project which would repeat the mistakes of the first. In its appraisal of the second project, the Bank ignored the findings of its own consultants, who reported that "discussions with farmers (women and men) in the 6 villages revealed that their priorities in livelihood improvement do not include tree plantations of the kind offered by the proposed project." Yet as part of this second project, the ADB attempted to set up a Lao Plantation Authority, which would have been a "one-stop window for private investment in plantations", according to Akmal Siddiq, an economist at the ADB. The Bank ended up cancelling its loan as a result of internal and external criticisms and when the Lao government declined to agree to the Bank's loan conditions.

In 2000, the ADB started a forest policy review which was supposed to result in a new forest policy by the end of 2002. The Bank has still not produced its new forest policy and rumours have emerged that the Bank may pull out of financing forestry projects.

Chris Lang / WRM

An ADB-funded industrial tree plantations project led to the destruction of natural forests in Laos

4.1.4. ECAs: Supporting profits in the North

Export Credit Agencies play an important role in financing machinery and equipment purchases by pulp mills. While ECAs allow the purchase of modern equipment which is less polluting, changes in pulping technology mean that the production capacity of new pulp mills has increased substantially, meaning more demands on raw material, water and energy supply as well as needing transport and logistical infrastructure around the mill. In many cases, smaller pulp mills would make more sense, but political and economic factors mean that the biggest mill possible is constructed.

The Export Import Bank of the US (US Ex-Im) was the first ECA to apply environmental screening to their projects, based on World Bank operating guidelines. However, this did not stop US Ex-Im from supporting APP's incredibly destructive operations in Indonesia. Several other export credit agencies also supported APP, including Hermes (Germany), the Finnish Guarantee Board, Exportkreditnamnden (Sweden), Export Development Canada, CESCE (Spain) and Exportkreditfonden (Denmark).

"We in Indonesia want the taxpayers of the industrialized world to stop subsidizing the expropriation of our land, the destruction of our environment, and the ruination of public health through ECA projects", says Titi Soentoro of Bioforum, a coalition of 70 Indonesian NGOs.

4.2. PRIVATE FINANCE

Pulp mills are extremely capital intensive. As such the financiers of pulp mills play an important role in deciding which pulp mills get built and where. The record so far is not impressive. CIFOR's report on the financing of pulp mills notes: "In many cases critical risk factors are not addressed."[13] Financiers have failed to weed out the bad projects from the good. Of particular concern is the lack of attention paid to the source of raw material to feed the mills.

When APRIL carried out its initial public offering in 1995, the prospectus stated that the successful operation of the Riau Andalan pulp mill was a key

risk factor. But details of wood supply to the pulp mill was "non-reviewed information".

APP and APRIL built their enormous pulp mills in Sumatra before establishing tree plantations. They did so with funding from a wide range of commercial banks and financial institutions, including ABN Amro, Barclays, Credit Suisse First Boston, Deutsche Bank, Dresdner Bank, HypoVereinsbank and Commerzbank. None of these banks appeared concerned that the pulp mills did not have an adequate source of raw material. The result has been a massive increase in the rate of deforestation, illegal logging and land conflicts in Sumatra.

Determining whether a company has an adequate supply of legally obtained raw material should be an obvious part of the due diligence process and of the credit risk assessment. But, as CIFOR notes, "The risk assessment and due diligence practices of banks are not in themselves sufficient to identify poorly performing or unsustainable pulp producers."

Part of the problem lies in the superficiality of the credit risk assessment process. Lenders and investors rely on information from credit risk agencies and securities analysts and carry out little research when information is not given, for example about fibre supply. When problems arise, the damage has already been done. Even if a company receives a credit downgrade, this is "reactive rather than predictive", writes CIFOR.

Analysts' reports of pulp companies rarely pay sufficient attention to the issue of fibre supply to pulp mills. Reports tend to use company statistics rather than drawing up a framework of information that is needed and critically analysing companies' data.

Banks also often rely on assessments by consulting firms for valuation reports, feasibility studies or industry overviews. According to CIFOR, however, financiers often fail to read the actual reports and use the mere existence of the report to prove that the project is acceptable. In addition, many of the consultant firms utilised are biased towards the industry and pay little heed to environmental and social risk factors.
Once a company has launched its Initial Public Offering and goes back to the market for debt or equity, the due diligence process is repeated but the process is simpler as the company already has a track record in the market. Thus, the quality of the due diligence process sinks even further and key risks are often overlooked.

In essence, there are several types of risk that banks and other financiers need to consider before getting involved in any international investment: political risk, financial risk, legal risk and reputational risk. In the case of pulp mills, each of these risks is potentially serious.

4.2.1. Political risk

The political risks associated with pulp mills are perhaps best demonstrated in Uruguay, where the construction of Finnish company Botnia's pulp mill has led to a major diplomatic conflict between Argentina and Uruguay. The Argentinian government was so concerned about pollution from the pulp mill that it took Uruguay to the International Court of Justice in The Hague, claiming that Uruguay is in breach of the Statute of the River Uruguay. Although construction is almost complete, the diplomatic row continues. At the end of April 2007, Madrid hosted negotiations between the two governments, moderated by Spain's permanent representative to the United Nations, Juan Antonio Yáñez-Barnuevo. At the end of the three days of discussions, the governments of Argentina and Uruguay signed a joint declaration to work towards an amicable solution. Representatives agreed to meet again in one month's time. At this future meeting the possible relocation of the pulp mill is firmly on the negotiating table.
In Indonesia, the land rights of indigenous communities are assured in the Indonesian constitution. During the Soeharto dictatorship (1965 – 1998), however, the national government established much of the national forest estate without respecting these rights. Since the fall of Soeharto, indigenous communities across the archipelago have been reasserting their rights over their customary lands. As an example, in 2001, APP lost one quarter of its concession in Jambi (70,000 hectares) due to the successful struggle of indigenous communities to regain their territories.[14] This situation of overlapping land claims is found

throughout Indonesia and poses a political risk to investors in the pulp and paper sector. Indigenous communities that regain control of their customary lands rarely plant pulpwood due to the infrequent and low income that this tree crop generates.

Another form of political risk involves changes in environmental laws, or changes in the way environmental laws are implemented. While many governments in the South have environmental laws, these are often not implemented consistently. But this can change if a new government decides to implement existing pollution laws more strictly. It may decide to make regular, thorough inspections of pulp mill emissions. The result for pulp companies which rely on government officials turning a blind eye to the pollution from their mills, could be expensive changes in operating processes or retrofitting of pulping machinery.

Citizens' protests against industrial tree plantations and pulp operations can lead governments to reassess land use plans. Modern pulp mills rely on large areas of industrial tree plantations. Companies can only establish these plantations when the government puts in place legislation allowing corporations to control large areas of land. Concessions for plantations are often leased to corporations for very low rents. But there is no guarantee that governments will continue to hand over their countries' land. Recently, the Vientiane Times reported that the Lao government "would stop approving land concessions for investors on an indefinite basis, or until a more comprehensive strategy could be devised".

4.2.2. Financial risk

The banks which allowed APP to amass debts of US$ 13.9 billion found out the hard way about financial risk. In March 2001, APP defaulted on its loan repayments. Complex debt restructuring negotiations resulted in a debt restructuring package covering US$ 6.7 billion which was signed by 93 per cent of APP's creditors in 2005. Other creditors went to court to attempt to get their money back and in April 2007, some bondholder creditors won a motion filed at the New York State Supreme Court, which ordered APP to repay the creditors. But despite its debt problems, APP continues to expand and still manages to raise finance. In 2004, Germany's Euler Hermes provided export credit insurance for APP's expansion in China, apparently having learnt nothing from the company's massive debt default and horrendous environmental track record. In the meantime, Greenpeace China has documented how APP has established eucalyptus plantations inside a protected area in Hainan and is logging illegally in Yunnan province.

4.2.3. Legal risk

Legal risks associated with pulp mills can take many forms and are often inadequately appraised before financiers agree to invest. Land rights in many countries in the South, for example, are fiendishly complex. While a plantation company may appear to have the necessary legal documents to establish its plantations (or in some cases may have illegally paid for the land titles or concession permits from the authorities), there are often over-lapping land rights, for example from indigenous peoples living in the area. Financiers cannot simply take the information provided by the company as an adequate description of the land rights situation in the area concerned.

The Tupinikim and Guarani indigenous people in Espírito Santo in Brazil have a long-running land dispute against Aracruz. Their claims are backed up by a series of studies produced by FUNAI (the Brazilian Governments Indian Affairs Agency) and by the Brazilian constitution, which recognises indigenous land rights. In September 2006, FUNAI sent the land demarcation file to the Ministry of Justice for a decision on demarcating 11,009 hectares as indigenous land. Five months later, however, the Ministry of Justice returned the file to FUNAI, asking for more information. Meanwhile Aracruz has taken out a court case in attempt to hold on to the land. While the area of land under dispute is small compared to Aracruz's total plantation area, the company is clearly worried that if the Tupinikim and Guarani regain their land, it will be the start of a flood of land claims against the company. Further north in Espírito Santo, Quilombola communities (descendants of escaped slaves) are also in conflict with Aracruz, which has occupied their traditional areas. In March 2007, a

protest by Quilombola communities paralysed harvesting and transport activities for four days over an area of 550 hectares.
Plantation companies can also find themselves in conflict with other industrial land users. A 2006 report by the NGO Down to Earth found a series of overlapping concessions in the plantations run by Indonesian company PT Hutan Rindang Banua (PT HRB). The plantations are supposed to supply wood to UFS's proposed 600,000 tonnes a year pulp mill in South Kalimantan, but Down To Earth found that PT HRB's plantation area overlaps with eleven oil palm plantation concessions, a coal mining company and small-scale mining sites used by local people. Given overlapping concessions and land claims, less than a third of the 295,000 hectare concession can be used for pulpwood plantations. Of this area only 15,000 hectares is "timber plantation in good condition", according to Down to Earth.[15]

In countries with widely known problems of corruption, another type of legal risk stems from projects that involve "Politically Exposed Persons" or "Politically Exposed Companies", who have illegally amassed large fortunes, diverted international aid payments or taken bribes in return for arranging favourable decisions. In 2003 for example, Indonesia passed landmark legislation making banks and other financial institutions responsible for transactions involving illegal logging and other environmental crimes. The new law identifies illegal logging as a "predicate offense" for money laundering, meaning that money laundering charges can now be applied to financial institutions engaged in projects that involve illegal timber harvesting. In November 2006, 93 NGOs from 27 countries sent a letter to Merrill Lynch, the Australian and New Zealand Banking Group (ANZ), Cornell Capital, the Development Bank of Singapore (DBS) and Cellmark identifying such risks in connection with their involvement in UFS's pulp projects in Kalimantan. The European Union, United States, Singapore and other countries have also recently adopted or are in process of adopting new Anti-Money Laundering laws. Under these frame-works, banks are required to be most vigilant where customers are involved in businesses which appear to be vulnerable to corruption.

4.2.4. Reputational risk

Financial services companies "regard reputational risk as the greatest threat to their market value," according to a 2004 study by PricewaterhouseCoopers and the Economist Intelligence Unit. The increasing number of protests against pulp mills worldwide is an indication that banks must start to take the reputational risks of getting involved in this sector more seriously.

Deutsche Bank's involvement as a financial advisor to UFS regarding its pulp projects in Kalimantan led to protests from NGOs in Germany and Austria. In November 2005, Robin Wood hung a banner reading "Shares up, rainforest flat", from the bank's headquarters in Frankfurt. Deutsche Bank pulled out of its involvement with UFS shortly afterwards.

Blockaded: The bridge between Uruguay and Argentina

Pulp mills and their associated industrial tree plantations have become a focus for NGO campaigns in recent years. Increasingly, NGOs are also focussing their campaigns on the financiers of pulp mills and plantations projects in the South. The first protests against industrial tree plantations in the South took place in India, Indonesia and Thailand during the 1980s and 1990s. In Thailand, protests against eucalyptus plantations were an important part of the development of a farmers' protest movement called Forum of the Poor. Villagers throughout the northeast of the country formed networks and protested against plans to plant eucalyptus on their land. In the early 1990s,

villagers successfully overturned a plan to evict tens of thousands of people from national parks and hand over the land to plantation companies.

In Cambodia, villagers have protested against several of the large land concessions that the government has handed out to companies (often to companies with close links to the government). In Pursat and Kompong Chhnang provinces villagers blocked tracks to stop workers from the Chinese-Cambodian company Wuzhishan from cutting down their community forest. Wuzhishan set up tree nurseries and started preparing land for planting but then abandoned the area and moved its operations to Mondulkiri province, in the northeast of the country, where it met further resistance from local villagers.

In Chile, the Mapuche indigenous people have consistently protested the invasion of their lands by monoculture tree plantations. In December 1997 Mapuche from Lumaco, in the Ninth Region of Chile, occupied part of the plantations and burnt two trucks carrying wood out of the area. The response was state repression. By May 2006, more than 200 Mapuche were being held for trial and 11 Mapuche were in prison. The problems faced by the Mapuche are internationally known. When Chilean President Michelle Bachelet visited Madrid, the Nobel prize-winner, José Saramago, told her to "look at the Mapuche".

Protests are not confined to the pulp industry's operations in the South. In the early 1990s nearly 1,000 people were arrested for protesting against logging for pulpwood near Vancouver Island's Clayoquot Sound. Greenpeace is currently running a campaign against Kimberly-Clark because of its continued support for clearcutting of forests in British Columbia. In Lapland, Greenpeace is supporting the Sami indigenous people to stop logging in native forests that are essential for winter grazing of reindeer. In March 2007, Greenpeace activists hung banners at a Botnia pulp mill and a Stora Enso paper mill in the northern Finnish town of Kemi to protest the destruction of Finnish old-growth forests.
Six years ago, Friends of the Earth documented the destruction caused by APP's operations in Sumatra and pointed the finger at the more than 300 financial institutions that had financed APP over the previous ten years. Friends of the Earth demanded that no bank loans, aid or export credits should be used to fund rainforest destruction.

In 2003, when the World Bank's MIGA was considering supporting UFS' plans to build a pulp mill in Kalimantan, 65 NGOs in 19 countries signed a letter to MIGA protesting the proposed guarantee. This was followed in November 2006, by another NGO letter to the commercial financing institutions involved in UFS's pulp projects in Kalimantan.

The German NGO, Robin Wood, is campaigning in support of the Tupinikim and Guarani struggle for land against Aracruz in Brazil. Robin Wood focussed its campaign on Procter & Gamble, one of Aracruz's largest customers. In March 2007, Procter & Gamble sold its European tissue operations to the Swedish company, SCA.

Uruguay's Botnia mill gave rise to the largest protest ever seen against a pulp project when protesters blockaded international bridges between Argentina and Uruguay. The Argentinian NGO Centre for Human Rights and Environment (CEDHA) filed a series of complaints against financial institutions involved in Botnia's proposed pulp mill alleging breaches of the OECD Guidelines for Multinational Enterprises.
People from Uruguay and Argentina continue to protest: in April 2007, about 130,000 people took part in a demonstration against the pulp mill.
Protests against Gunns' proposed pulp mill in Tasmania have seen thousands of people marching through the streets of Launceston and mobilized broad public opposition to the destruction of Tasmanian forests. Campaigners there have targeted the ANZ Bank because of its involvement in the proposed pulp mill project. "This is a clear cut case where ANZ must apply the Equator Principles," BankTrack's David Barnden says. "If ANZ doesn't pull out, the bank may face reputational and potential legal risks for choosing profits over sound procedure."

In support of these campaigns, NGOs have produced a North American Common Vision and a European Paper Vision. NGOs in Indonesia and Argentina have produced similar statements. In Europe, almost 50 NGOs (including WWF, Greenpeace and Friends of the Earth) signed onto the European Paper Vision

which envisions "a Europe that consumes 50% less paper than at present, produced by an industry that is less reliant on virgin tree fibres, makes maximal use of recycled materials, protects biodiversity, respects local people's land rights, provides employment, and has social impacts that are beneficial, conflict-free and fair".

Banks cannot continue to ignore the environmental and social impacts of industrial tree plantations and pulp mills. If they do so, their reputations will be at risk.

13. This section is based on a summary of the concerns raised in Masya Spek's 2006 report for CIFOR: "Financing pulp mills: an appraisal of risk assessment and safeguard procedures".

14. Barr, Christopher (2004) "Risk Analysis and Impact Assessment for Pulp and Plantation Investments: The Case of Indonesia", International Forum on Finance and Investment in China's Forestry Sector, Beijing, 22-23 September 2004. http://www.forest-trends.org/documents/meetings/Beijing_2004_sept/Chris%20Barr.pdf

15. Tio Minar, Betty (2006) "No Chip Mill Without Wood: A study of UFS pro jects to develop wood chip and paper pulp mills in Kalimantan, Indonesia", Down to Earth, August 2006. http://dte.gn.apc.org/cskalo6.pdf

Eli Greig / WildernessSociety

A banner supporting protection of Australia's largest temperate rainforest

Part 2

1. WORLDWIDE PULP EXPANSION

Globally over the next five years, the pulp industry is planning a total of more than 25 million tonnes of new pulp capacity - an average of five million tonnes a year. This is a dramatic increase. Between 1994 and 2004, world pulp capacity increased at a rate of about one million tonnes a year.[1] The global expansion of the pulp industry is focused on the global South, with the vast majority of this new pulp capacity planned for Uruguay, Brazil, Indonesia, Australia, China and Russia. The table below gives an overview of planned pulp mills worldwide. Associated with the expansion of pulp capacity is a huge increase in the area of industrial tree plantations.

The following section provides an overview of some of the countries in which the pulp invasion is taking place, the companies involved and the problems that these projects are creating for local people and their environments. Many of the planned ventures have already led to protests and thus pose considerable reputational risks for investors. While not all of the planned pulp mill projects are described in detail in the case studies, an indication is given of the seriousness of the problems to be awaited. More detailed information about projects in the pipeline, NGO concerns and company profiles are provided on our website: http://www.pulpmillwatch.org

Overview of the planned pulp expansions

Brazil is currently the world leader in new pulp capacity, with 6.7 million tonnes new capacity planned over the next five to six years. In Uruguay, construction of Botnia's one million tonnes a year pulp mill is nearing completion and Ence is planning another million tonne mill. Meanwhile Stora Enso is buying up land for plantations in Uruguay and is considering one more million tonne pulp mill. In Latin America, as a whole, about 4 million tonnes of new pulp capacity is currently under construction. This figure does not take into account the new pulp capacity that has recently come on line, such as the new 900,000 tonnes a year Veracel pulp mill and Aracruz's recent expansions (an increase of 1.3 million tonnes since 2000). In Chile, CPMC started up its 780,000 tonnes a year Santa Fe mill at the end of 2006 and Arauco's 856,000 tonnes a year Nueva Aldea pulp mill started up in September 2006.

In Australia, Gunns is planning a new pulp mill with a capacity of between 800,000 and 1.1 million tonnes a year. Protavia recently announced that it intended to combine plans for two proposed mills to build a single 700,000 tonnes a year mill in Victoria.

In South Africa, 200,000 hectares of new plantations are planned along with an increase of 565,000 tonnes a year pulp capacity. South Africa's pulp industry also looks to benefit from Mozambique's plans to establish up to seven million hectares of plantations.

Other massive plantation schemes are planned elsewhere in the world. The Vietnamese government has a 5 million hectare reforestation plan, of which one million hectares is to feed the pulp and paper industry. About 750,000 tonnes of new pulp capacity is planned or under construction in Vietnam. Three new pulp mills are planned in India, with a total capacity of 540,000 tonnes. In Laos, the Asian Development Bank has set a target of 500,000 hectares of plantations by 2015.

In Indonesia, the government (with the backing of the World Bank) aims to establish five million hectares of tree plantations. Meanwhile, about 4.4 million tonnes of new pulp capacity is currently planned or under study. Further possible projects include a US$ 1.3 billion plan from a group of Indian and Malaysian investors and plans by the South Korean Korindo Group.

Much of the pulp produced will be market pulp aimed at sales to China. But pulp production in China is also expanding rapidly. Although the Chinese government recently announced that it

would order the closure of up to three million tonnes of small pulp mills, almost five million tonnes of new capacity is currently planned or under construction in China. The Chinese government aims to establish 5.8 million hectares of industrial tree plantations for the pulp industry by 2015.

Further competition for sales of pulp to China comes from Russia. Currently, about half of the pulp produced in Russia is exported to China. Almost two million tonnes of new pulp capacity is planned in Russia. This figure could increase considerably in the near future.

New pulp mills, planned and under construction:[2]

Company	Location	Country	Capacity (t/yr)	Cost (US$)	Completion anticipated
Protavia	Victoria	Australia	700,000	1 billion	-
Gunns	Tasmania	Australia	800,000 – 1.1 million	1.2 billion	-
Aracruz	Rio Grande do Sul	Brazil	1.3 million	-	2010-2015
Suzano	Bahia	Brazil	1.1 million	1.3 billion	2007
Suzano	Bahia	Brazil	1.25 million	-	2010
VCP	Tres Lagoas	Brazil	1.1 million	1.15 billion	2009
Sateri International	Bahia Sul	Brazil	250,000	375 million	2007
Veracel	Bahia	Brazil	900,000	-	-
Stora Enso	Rio Grande do Sul	Brazil[3]	1 million	-	2012-2013
Cenibra	Minas Gerais	Brazil	800,000	-	2013
APP China	Hainan	China	780,000	-	2008
APP China	Zhejiang	China	250,000	142 million	-
APP China	Guangxi	China	300,000	-	2008
APRIL	Shandong	China	1 million	-	-
Oji Paper	Jiangsu	China	700,000	-	2009
Shandong Chenming	Guangdong	China	700,000	1.2 billion	2009
Stora Enso	Guangxi	China	1 million	-	-
Lee & Man	Chongqing	China	125,000	-	2008
West Coast Paper Mills	Karnataka	India	250,000	300 million	2008
ITC	Andhra Pradesh	India	120,000	-	2007
Seshasayee	Tamil Nadu	India	170,000	80 million	2007
APRIL	Sumatra	Indonesia	600,000	-	2007
APP	Sumatra	Indonesia	800,000	-	2007
Kaltim Prima Pulp & Paper	East Kalimantan	Indonesia	1.2 million	1.5 billion	-
UFS	South Kalimantan	Indonesia	600,000	-	-
PT Garuda Kalimantan Lestari	West Kalimantan	Indonesia	1.2 million	-	-
Aditya Birla	Savannakhet	Laos	200,000	350 million	-
BILT	Sabah	Malaysia	125,000	-	-
Larvik Cell	Pskov	Russia	600,000	563 million	2009
Baikal Pulp and Paper	Irkutsk	Russia	200,000	-	-
Mondi	Syktyvkar	Russia	1 million	1.5 billion	-
Sappi	Saiccor	South Africa	200,000	290 million	2008
Sappi	Ngodwana	South Africa	225,000	-	-
NCT Forestry Cooperative	Richards Bay	South Africa	140,000	-	-
Forscot	Invergordon	Scotland	550,000	-	-
Botnia	Fray Bentos	Uruguay	1 million	1.2 billion	2007
ENCE	Colonia	Uruguay	1 million	930 million	2010
Stora Enso	-	Uruguay	1 million	-	-
Tracodi	Long An	Vietnam	100,000	93 million	2007
Lee & Man	200 km south of HCM City	Vietnam	150,000	-	2008-2009
Incomex Saigon	Quang Nam	Vietnam	115,000	150 million	-
BILT, Martin Group (?)	Tuyen Quang	Vietnam	130,000	200 million	2009
Vinapimex	Bai Bang	Vietnam	250,000	300 million	-

Source: RISI (www.risiinfo.com)

1. "Eastern and Southern Africa Region Forest Investment Forum. Investment Opportunities: Constraints to Investments and Potential Solutions", The World Bank, Pietermaritzburg, South Africa, 13-16 June 2006. http://www.profor.info/pdf/ESAFIFProceedings.pdf
2. This table is based on a revue of publicly available statements in April 2006. An attempt has been made to weed out projects which now seem unlikely go ahead and to add in some that have been announced since April 2006. Some of these projects are expansions of existing pulp mills and others are new pulp mills.
   The information is intended to be indicative rather than exhaustive. Plans change and many projects are announced which never leave the drawing board.
   Not all of the projects in the table have received planning permission. No guarantee can be given that the information in this table is complete or (obviously) that all (or any) of these projects actually will go ahead. Further details will be posted on pulpmillswatch.org.
3. Stora Enso has not yet decided whether to build this pulp mill in Brazil or Uruguay.

2. COUNTRY PROFILES

AUSTRALIA

June Oxford / Wilderness Society

Giant trees in Tasmania

The woodchip industry in Australia and the proposed new pulp mills are focussed on the island state of Tasmania and the southeast of mainland Australia. Tasmania's old-growth forests are ancient and unique in the world. The swamp gum tree (Eucalyptus regnans) is the world's largest flowering plant and the tallest hardwood tree in the world. Tasmanian forests being converted to pulpwood plantations include areas of temperate rainforests that provide habitat for many rare and endangered animal species, including the famous Tasmanian Devil, that can be found nowhere else.[1]

These old-growth forests are logged for wood chips to be exported mainly to Japan to be made into paper. When the forest is logged, only the largest trees are removed. What's left is piled up and burned. Huge clouds of smoke hang over Tasmania,

sometimes for weeks. Then the land is sprayed with herbicide and carrots laced with 1080 poison are left between the rows of seedlings to kill any wildlife, which survived the destruction of the forest. The monoculture plantations established to provide wood for the pulp industry are sprayed with a cocktail of chemicals to control pests and weeds. As a result, some local communities' water sources have become contaminated with atrazine.[2]

Australia plans to increase the area of industrial tree plantations in the country to three million hectares by the year 2020. Approved by the government in 1997, the report "Plantations for Australia: The 2020 Vision" was drawn up as a "strategic partnership between the Australian State and Territory Governments and the plantation timber growing and processing industry."

In the five years after the 2020 Vision was launched, about 85,000 hectares a year were planted, mainly of eucalyptus. The government set up a system of tax benefits called the "managed investment scheme".

Threatened old growth forests in Tasmania.

Bill Manning worked as a forester in Tasmania for 32 years. His last forestry job was with the Forestry Practices Board, which regulates forestry practices in Tasmania. "From my extensive experience in the forestry industry," he told a Senate Committee in 2003, the 2020 Vision has led, among other things, to "corruption of forest management in Tasmania such that there is no enforcement of this weakened code of forest practice and no silvicultural outcome other than the clear felling of native forest for plantation establishment of exotic introduced plantation species."

Manning also testified to the Senate Committee that the logging industry was destroying native forests: "The clearfelling is out of control," he said. "The scale of clearfelling in Tasmania is huge."[3]

New pulp mills planned

Two massive pulp mills are currently being planned for Australia. If these are built, they will consume at least six million tonnes a year of wood.

- For several years, an Australian investment company called **Protavia** has been planning to build two 350,000 tonnes a year pulp mills at Heywood and Penola in Victoria. In April 2007, RISI, an information provider for the pulp industry, reported that Protavia plans to drop the Heywood pulp mill scheme and build one mega-pulp mill in Penola. It is difficult to know how serious Protavia is about its pulp mill plans. Tim Woods, of the Construction Forestry Mining Energy Union told The Australian newspaper that "At every turn they [Protavia] have promised the mill would go ahead. A lot of people have planned their futures on that promise and Protavia let them do it, knowing they would get up and walk away."[4] Woods described Protavia's director John Roche as a "deal maker" and suggested that Protavia was fulfilling a public relations role by providing the illusion that the tax breaks for plantations were producing a larger, diversified industry. Meanwhile, the South Australian government has offered to draw up a special bill that would ignore planning laws and allow parliament to decide whether the larger pulp mill at Penola could go ahead.[5]

- **Gunns** is planning to build a pulp mill with a capacity between 800,000 and 1.1 million tonnes a year near Launceston in Tasmania. The US$ 1.2 billion pulp mill is to be supplied by a mixture of wood from plantations and native forests. In its first year of operation, 80 per cent of the wood supplied to the pulp mill would come from Tasmania's native forests.

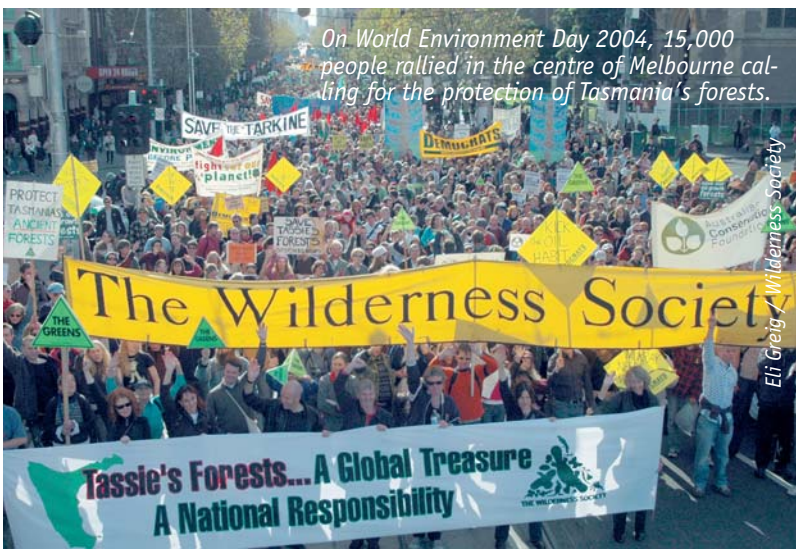
Gunns proposed pulp mill would consume Tasmanian native forests

Sean Cadman, a forest campaigner with the Tasmanian Wilderness Society, points out that Gunns proposed mill would "consume millions of tonnes of native forest and dump millions of tonnes of pollutants into the ocean and air. Thousands of tonnes of hazardous chemicals will be produced, transported, stored and consumed." The impact on Tasmania's forests and wildlife of the increased logging associated with this massive pulp mill would be severe. "Gunns have been responsible for clearing huge areas of Tasmania's native forests and converting native forest including rainforests to monoculture plantations," says Cadman. The endangered Tasmanian wedge-tailed eagle needs mature native forest to nest and breed. "If the planned logging goes ahead," says Cadman, "the eagle will be driven further along the path towards extinction."

In March, 2007, Gunns withdrew its application from the Resource Planning and Development Committee, arguing that the approval process was taking too long. Gunns then petitioned the government to create new legislation to avoid the assessment procedure. Tasmanian Premier Paul Lennon agreed and put a "Pulp Mill Assessment Bill 2007" to parliament specifically to allow Gunns to bypass state planning legislation, which requires that large-scale developments minimise environmental damage.
Parliament passed the bill and agreed to fast-track the approval process. The government appointed Finnish consulting firm SWECO PIC to carry out an assessment of the proposed pulp mill by 30 June 2007. The process will involve no input from the public, but will cost Tasmanian taxpayers US$ 625,000.

Tasmania's Minister for Planning, Steven Kons states that SWECO PIC "has been serving the pulp and paper industry since 1971". This is precisely the problem – SWECO PIC is not independent from the pulp industry. If SWECO PIC decides that the project can go ahead, several of its past (and potential future) clients stand to win lucrative contracts supplying equipment and services to the pulp mill. If the project doesn't go ahead as a result of SWECO PIC's report to the Tasmanian government, SWECO PIC is in effect depriving its own clients of work – and the probability of future contracts for itself.

Since resigning from the Resource Planning and Development Committee, Warwick Raverty has become an outspoken critic of the proposed pulp mill. Raverty has nothing against pulp mills in general, having worked for 20 years in the pulp industry before joining CSIRO in 2000. However, he is concerned about the approval process for the proposed mill. Speaking in a private capacity, he told freelance writer Roger Hanney that he's "not impressed" with the selection of SWECO PIC as consultants.[6] "One of the mills that they designed equipment for is the now infamous Arauco Valdivia bleached kraft pulp mill in Chile which has had to be shut because it polluted wetlands and caused mass killings of swans," he said.



On World Environment Day 2004, 15,000 people rallied in the centre of Melbourne calling for the protection of Tasmania's forests.

Eli Greig / Wilderness Society

1. "Trees not Gunns", Rainforest Action Network.http://www.treesnotgunns.org/
2. Richard Flanagan (2007) "Paradise Raised", Sunday Telegraph, 21 April 2007.
3. "Plantation forests industry", Proof Committee Hansard Senate, Rural and Regional Affairs and Transport References Committee, Canberra. 8 October 2003. www.aph.gov.au/senate/committee/rrat_ctte/completed_inquiries/2002-04/plantation_forests/hansard/o81003.doc
4. Roberts, Jeremy (2007) "Town devastated as pulp mill project dumped", The Australian, 20 April 2007.
5. Neales, Sue (2007) "SA gets a Tassie-like mill battle", Mercury, 10 April 2007.
6. "Interview with Dr Warwick Raverty", 17 April 2007. http://typingisnotactivism.wordpress.com/interview-with-dr-warwick-raverty-tuesday-april-17-2007/

BRAZIL


Chris Lang / WRM

Clearcut of a eucalyptus plantation in Brazil

Pulp industry and plantation proponents like to portray Brazil as a huge, half-empty terrain, where the pulp industry and associated plantations are providing jobs and developing the country. The industry advocates plantations as an alternative to using wood from the Amazon rainforests. But these plantations are not established on land that no one else wants, and the mills are thousands of kilometres from the Amazon. The plantations and pulp mills are concentrated in the coastal areas close to the ports from which the pulp is exported.

When the pulp industry arrived forty years ago in the Southeast of Brazil, large areas of Atlantic Rainforest were destroyed. With concessions granted by the then military government, plantation companies took over the lands of indigenous peoples, Quilombolas (descendants of escaped slaves) and peasant farmers. More recently, pulpwood plantations also replaced the species rich Cerrado savannah woodland. Ever since, the region has been impacted by pollution and sinking ground water levels and people have been protesting against plantations on their traditional land. But the expansions are still continuing at an alarming rate – driven by the international pulp industry and with the support of private banks and government subsidies.

Brazil has extremely inequitable land distribution, with three per cent of the population holding almost two-thirds of the country's arable land. The large areas of land being taken over for industrial tree plantations exacerbate this situation.

Plantation expansion plans

The area of pulpwood plantations in Brazil is

rapidly expanding as companies establish ever greater areas of eucalyptus monocultures. The pulp industry owns over 1.7 million hectares of plantations – about one-third of the total area of industrial tree plantations in Brazil (plantations are also used to provide charcoal for the steel industry and timber). While this figure may not sound much, especially in a country the size of Brazil, in some areas eucalyptus plantations completely dominate the landscape. In Conceição da Barra in the north of the state of Espírito Santo, for example, about 70 per cent of the land is covered with eucalyptus plantations.

The expansion of plantations in Brazil started under the military dictatorship in 1966 with a programme of subsidies for plantation establishment. The subsidies remained in place until 1987. An average of 180,000 hectares a year was established during this period.[1] Recently the annual average increase in plantation area has been about 100,000 hectares.

Forest consulting firm Pöyry describes Brazil as the "natural hub for the forest industry's expansion in South America", and expects that the area of plantations will double in the next 10 years. According to Pöyry, "This raw material base will sustain the forest industry's expansion with new mills mainly aimed at exports of market pulp, increasingly replacing the production of high-cost mills in the mature markets of North America and Europe.[2]

The pulp companies and their expansion plans

In 2005, according to the Brazilian Association of Pulp and Paper (BRACELPA), Brazil produced 10.1 million tonnes of pulp and 8.6 million tonnes of paper and employs 108,000 workers. The sector is dominated by a handful of major companies, of which, in terms of pulp production, Aracruz Cellulose is the largest.

Several companies are currently expanding their plantation and pulp operations in Brazil.

- **Aracruz** is planning to expand its operations in Espírito Santo and announced in 2006 that it is looking at the possibility of building a new 1.3 million tonnes a year pulp mill in Rio Grande do Sul. Aracruz currently has a total capacity of 3 million tonnes of pulp (up from 1.3 million tonnes in 2000). Almost all of Aracruz's pulp is exported. The company accounts for nearly half of total pulp exports from Brazil and is the world's largest producer of bleached eucalyptus pulp.

- **Stora Enso** is buying up land in the west of Rio Grande do Sul. The company aims to establish 100,000 hectares of plantations and is planning to build a new pulp mill in either Brazil or Uruguay, or perhaps both

- In Bahia Sul province, **Suzano** is expanding its pulp operations. The company's new pulp line is planned to start up in October 2007, increasing production by one million tonnes a year.

- **Veracel** has plans to double its current capacity of 900,000 tonnes a year in the state of Bahia.

- **Sateri International** is planning to expand its dissolving pulp mill Bahia Pulp by 250,000 tonnes a year.

- **Votorantim Celulose e Papel** (VCP) is building a new 1.1 million tonnes a year pulp mill at Tres Lagoas, 600 kilometres northwest of Sao Paulo. The pulp mill is planned to start operations in 2009.

Bahia Pulp: Existing Pulp Mill and the new one under construction

At the costs of local people: Protests against the expansions

But this expansion of industrial tree plantations comes with serious social and environmental impacts. These plantations are occupying indigenous and traditional peoples' territories, evicting people from rural areas and contributing to the creation of poverty.

In a country where land ownership is among the most skewed in the world, the vast areas of industrial tree plantations are further increasing land concentration. Brazil's Movement of Landless Peasants (MST) is occupying lands planned for the pulpwood monocultures to illustrate the inequity of producing pulp for export from land that could be used to feed the people of Brazil.

Via Campesina, an international peasant farmers' movement, has also protested against Brazil's pulp industry. On 8 March 2007, World Women's Day, more than 1,000 women from Via Campesina occupied plantations belonging to Aracruz, Stora Enso and Votorantim Celulose e Papel, in protest against the expansion of plantations in Rio Grande do Sul. The previous year, about 1,500 women farmers from Via Campesina occupied a tree nursery belonging to Aracruz near Porto Alegre. The farmers destroyed greenhouses and 5 million tree seedlings. Aracruz claimed they caused US$ 20 million worth of damage. Via Campesina describes the act as "a protest, an outcry so that society could comprehend something that it is not seeing, but which is destroying our rivers and our animals, the diversity of nature, and even our lives."[3]

A decades-long land dispute between the Tupinikim and Guarani indigenous peoples and Aracruz is still not resolved. Aracruz built its first pulp mill on the site of a Tupinikim village and destroyed at least seven other Tupinikim villages to make way for its plantations in the state of Espírito Santo. "When the company came, the people left. They weren't able to defy it. They were forced to leave and even threatened," Eugenio Francisco, a Tupinikim of the village of Lancha told researchers from FUNAI, Brazil's indigenous affairs agency in 1994. "The company took everything," he said.[4]

The company denies that the Tupinikim and Guarani are indigenous peoples and launched a racist campaign against them through leaflets and billboard advertisements, one of which read, "Aracruz brought progress. FUNAI brought the Indians."

Indigenous people demand their 11,000 hectares of land back from Aracruz

Quilombola communities in the north of Espírito Santo are trying to reclaim 10,000 hectares from Aracruz. In July 2006, 500 Quilombola villagers reclaimed a cemetery where their ancestors are buried that had been covered in eucalyptus plantations. A Quilombola villager explained what they want from the company: "Aracruz can export its pulp, that's OK. But people need jobs and to get back their own lives. Aracruz needs to resolve all these problems before it can export." Another Quilombola villager put it more simply. "I want Aracruz to disappear from here," he said.[5]

A recent open letter from 48 organisations and individuals protests Veracel's operations in the south of Bahia: "Over the past years, Veracel has generated a track record of environmental degradation, concentration of land, eviction of thousands of workers from the rural areas to the outskirts of cities, causing significant social and environmental disruptions."

Veracel has established plantations on the lands of the Pataxó indigenous people in the area of Monte Pascoal. "This company is damaging our environment, co-opting our leaders with distribution of vehicles and promises of benefits with the clear objective of dividing us and continuing with the

invasion of our territory," the letter quotes a Pataxó as saying.

The letter also points out that Veracel's plantations have "resulted in the disappearance of several rivers and streams, as well as the disappearance of several communities."[6]

In the region of Sateri International's Bahia pulp mill the resistance against the company's activities and expansion plans is growing. The fast growing tree plantations have led to the drying-up of the water sources in a region which already suffered water shortages. The social and environmental impacts are serious. Local communities can no longer grow crops using their traditional agricultural systems.

Workers at the mill point out the non-compliance with workers' rights guaranteed internationally by ILO conventions which have been ratified by Brazil. On 16 March 2007, construction workers hired for the expansion of the pulp mill at Camaçari went on strike. Apart from demanding higher salaries and better working conditions, workers are also demanding payments for the danger and health risks associated with working on the pulp mill construction site. On the construction site, workers are exposed to the toxic gases produced from the existing pulp mill. "Many workers have almost fainted," says one of the directors of the trade union. "The company has the obligation to pay, but does not pay."
Other workers complain that they have colleagues who have skin problems because of the absorption of vapour and chemicals. Workers in the mill describe the unsafe working conditions and the many accidents. Three collective cases are currently going through the courts. The cases refer to the health hazards and dangers at the construction site and criticise the lack of commitment of the company concerning the safety of the workers.

In 1999, as a result of the controversies caused by the plantations and pulp industry in Brazil, citizens, fisher and farming communities, social movements, pastoral groups and churches formed the Alert against the Green Desert Network. In a 2003 letter to Brazil's President Luiz Inacio Lula da Silva, the Green Desert Network summed up the problems


CEPEDES

Bahia Pulp: Strike of workers at the pulp mill gate

caused by the pulp industry's industrial tree plantations:

"Over the past four decades, this complex has destroyed the local communities' way of life. The companies in this sector continue to invade their lands and have caused rural exodus with the consequent dispersion of many communities. In such regions, the rivers have been degraded by pollution caused by wide-spread use of pesticides and a process of desiccation, linked to large-scale plantations, compromising fishing and the quality and quantity of drinking water."[7]

1. This figure includes all industrial tree plantations - not just plantations for the pulp industry.
2. Know-How Wire, Pöyry Magazine, Issue 1, 2007, page 34.
3. "What was not made public in the Aracruz case", Via Campesina, 8 March 2006. http://www.viacampesina.org/ccount/click.php?id=11
4. Carrere, Ricardo (1997) "The environmental and social effects of corporate environmentalism in the Brazilian market pulp industry", presentation at "Business Responsibility for Environmental Protection in Developing Countries" organized by the United Nations Research Institute for Social Development (UNRISD) and the Universidad Nacional (UNA), in Costa Rica in September 1997. http://www.wrm.org.uy/plantations/information/effects.html
5. Lang, Chris (2006) "Brazil: Quilombolas protest against Aracruz Cellulose", World Rainforest Movement Bulletin 103, February 2006. http://www.wrm.org.uy/bulletin/103/Brazil.html
6. "Stora Enso's operations in Brazil are socially and environmentally unsustainable", 31 August 2006. http://www.wrm.org.uy/countries/Brazil/LetterStoraEnso.html
7. "Brazil: The Alert Against the Green Desert Network demands a change in the forestry model" World Rainforest Movement Bulletin 72, July 2003. http://www.wrm.org.uy/bulletin/72/Brazil.html

CHINA

Foto: Liu Bing / Greenpeace

Natural forests in Yunnan, September 2004

The largest investments in new pulp production are taking place in the South of China, in the provinces Fujian, Yunnan, Hainan, Guangxi and Guangdong. Industrial tree plantations are also being established in these provinces to feed these pulp mills.

The southern region of China is largely farmland with some areas of natural forests. Hainan, Guangxi and Guangdong are the main fruit producing provinces in China. Since the manufacturing and export boom started in the 1990s, Guangdong has become one of the highest-earning provinces in China. The economic boom has spread to neighbouring provinces.

Yunnan is known as the "kingdom of plants". Of the 30,000 types of plants found in China, 18,000 are found in Yunnan. Yunnan is also home to 26 indigenous peoples. Forests in China provide 40% of the fuel for rural households. Nearly 60 percent of China's forests are collectively owned and they play a critical role in the lives of both their owners and the nation, currently providing half the domestic timber supply and most non-timber forest products.[1] China has been called the most forest-dependent civilization in the world.

Nevertheless, China's pulp and paper industry is expanding rapidly. Since 1990, 50 per cent of the world's expansion of paper production has been in China. Its pulp industry is changing from one based on agricultural residues of rice and wheat crops, to the use of wood and recycled paper as raw materials. Before 2000, only ten per cent of China's pulp was produced from wood. Today more than half of China's pulp comes from wood fibre.

Since the mid-1990s, thousands of small pulp and paper mills have been closed down, largely in an attempt to control pollution. While it is true that

China's small pulp mills were polluting, it would have been possible to upgrade the mills to reduce the pollution, for example by improving chemical recovery, by reducing the amount of silica going into the waste water and by using alternative pulping techniques. In May 2007, the Chinese government announced that it would be ordering the closure of thousands of small-capacity straw pulp mills across the country, with a total capacity of about 3 million tonnes a year.

This restructuring of the pulp industry in China from small-scale mills to massive mills reliant on wood-based pulp and recycled paper has created a bonanza for Northern consulting firms, machinery suppliers and paper companies. China is the "Promised Land as far as pulp and paper equipment suppliers are concerned," wrote Pulp and Paper International's Graeme Rodden in December 2003. Large foreign companies such as UPM, Stora Enso and APP are increasingly playing a role in pulp and paper production in China.

The consumption tiger

When talking about the world's future markets and resources, China always appears as the consumption tiger, due to its huge population and current low level of per capita paper consumption (compared to Europe or North America). Certainly, China's consumption of wood products is growing at an alarming rate. Today China is the world's second largest producer and consumer of paper products, surpassed only by the US. By 2005, consumption of paper per person reached 45 kilogrammes with a total consumption of 58 million tonnes, up from 7.9 million tonnes in 1980. Currently, China produces about 50 million tonnes of paper and board a year – a figure which is expected to increase to almost 70 million tonnes by 2010. But much of the paper produced in China today is exported,[2] in the form of packaging for exports to North America and Europe.

Lacking raw material

China has a limited supply of wood fibre. In 1998, it declared a ten year logging moratorium after a series of massive floods exacerbated by destructive logging throughout the nation's forests in the previous decades. China can currently supply only about 28 per cent of the raw material demand of its pulp industry, so imports of pulp are booming. The increasing Chinese demand for wood from other countries adds to the problems of illegal logging and deforestation in Indonesia and Russia and to the unsustainable plantation expansion in countries like Brazil. But instead of taking these problems into account, pulp producers in China are developing large-scale mills before securing a sustainable supply of fibre.

Imports of wood pulp reached 7.2 million tonnes in 2004, mainly coming from Canada, Indonesia, Russia, Brazil and the US. To provide more wood for the growing pulp industry, the Chinese government has ambitious goals to expand the area of industrial tree plantations, with plans to spend a total of US$ 8.65 billion for plantation development between 2002 and 2015, including 5.8 million hectares for the pulp industry.[3] Although much of the financing for plantations comes from the Chinese government, since 1981, the development of plantations has been supported by aid from the Australian government. A proposed World Bank project will finance a further 200,000 hectares of industrial tree plantations in Guangxi.[4]

China has about 1.65 million hectares of eucalyptus plantations. Guangxi province is one of China's largest growers of eucalyptus, with more than 350,000 hectares of eucalyptus plantations. Several companies are establishing new plantations in Guangxi province, including APP, Oji Paper, Sino Forest Group, Feng Lin, Gao Feng Group and Guangxi Plantation Development Company.[5]

Dennis Neilson, director of New Zealand forestry consulting firm DANA, comments that China's plantation programme is way behind schedule and growth rates of Poplar were in many cases so poor that the government is now discouraging Poplar planting. Despite the massive tree-planting programme, the area of plantations is not sufficient to meet the demand from the industry's pulp and paper mills.

The massive increase in demand for wood fibre has led to increased pressure on China's forests. It is also creating competition between land use for food

production and the establishment of industrial tree plantations. This is unlikely to change, according to Risto Pitkänen, writing in Botnia's customer magazine Echo: "Feeding its enormous population puts so much pressure on land use that China has no real scope for a pulping industry based on plantation forests." Establishing plantations can be a slow and complex business as most of the suitable land is held by households and communities.[6] Also, the cost of growing wood in China is considerably higher than in key competitor countries such as Indonesia and Brazil. UPM, for example, plans to import pulp from Botnia's pulp mill in Uruguay to UPM's paper mill in Changshu, China.

Geng Yunsheng/Greenpeace

Local farmers criticise APP for logging such big trees near their village, Yunnan Province, November 2004

New pulp capacities

In spite of the shortage of wood supply, China seems to be building a massive new pulp or paper mill almost every month. Some of the projects currently planned include the following:

- **Shandong Chenming** plans to start construction of a 700,000 tonnes a year pulp mill in Zhanjiang and to establish 200,000 hectares of eucalyptus plantations. So far it has planted 4,000 hectares.

- In March 2007, **Ningbo APP Paper** ordered a 250,000 tonnes a year pulp line from Andritz for its pulp mill in Ningbo City, Zhejiang province. The mill will use woodchips from nearby poplar plantations as its raw material.

- **APP China** plans to build a 300,000 tonnes a year pulp mill in Qinzhou city, Guangxi province.

- **APP China** is also planning to expand its pulp operations in Hainan, by 780,000 tonnes a year.

- **Lee & Man Paper Manufacturing** plans to build a 125,000 tonnes a year unbleached bamboo pulp mill in Chongqing.

- Indonesia's **APRIL** is planning to add a new 1 million tonnes a year pulp mill to its operations in Rizhou City, Shandong province.

- **Oji Paper** is planning to build a 700,000 tonnes a year pulp mill at its site in Nantong City, Jiangsu province. The pulp mill is part of a US$ 1.9 billion pulp and paper development.

- **Stora Enso** is planning to build a 1 million tonnes a year pulp mill in Guangxi province.

Pulp companies expanding in China: UPM, APP, Stora Enso

Several pulp and paper companies have established their own plantation projects in the southern provinces Guangdong, Guangxi and Hainan. Some of the world's largest pulp producers, including APP, Stora Enso and UPM, have announced that they are planning to develop huge hardwood pulp mills with associated large-scale plantations.

<u>UPM's paper mill in China relies on pulp imports from Uruguay</u>

When UPM started up its 350,000 tonnes a year paper mill in Changshu, it relied on imported pulp from Indonesia, Finland and Canada. The mill has now expanded to 800,000 tonnes a year and still relies on imported pulp. The Changshu mill will import pulp from Botnia's pulp mill in Uruguay once it starts up (UPM is a shareholder in the Botnia pulp mill project).

UPM chose to import pulp because of the difficulties of growing industrial tree plantations in China. The company pulled out of a joint venture to build a pulp mill and establish plantations in Guangdong

province in November 2004. Christian Cossalter of CIFOR suggests that among the reasons for UPM's pull out were the limited availability of land for plantations and the difficulty of growing and buying pulpwood at competitive costs in Guangdong province. "The decision to withdraw was made after studies of the local conditions and the availability and cost of wood for a modern large-scale pulp mill were conducted," writes Cossalter. As it is cheaper to transport pulp over long distances than it is to transport wood, UPM pulled out of the joint venture for a pulp mill in China.

APP's illegal logging activities in China

APP is attempting to source wood fibre within China. The company is planting eucalyptus on Hainan Island, including protected conservation areas. Greenpeace China notes that since 1997, APP has cleared large areas of forest in Wuzhishan Natural Reserve for eucalyptus plantations. The yield from APP's plantations is lower than the company anticipated and the total area established is below initial predictions.

In addition to clearing forests in Hainan, Greenpeace has documented how APP has destroyed forests in Yunnan province to feed its pulp mills. In 2002, APP signed an agreement with the Yunnan provincial government and started logging immediately, before receiving permission from central government. The State Forest Administration investigated and found several breaches of China's Forest Law. In its report, SFA described APP as "problematic". Greenpeace is demanding that the Chinese authorities immediately stop APP's planned eucalyptus plantations in Yunnan.
In August 2006, APP signed an agreement to invest more than US$ 90 million in Yunnan Yunjing Forestry and Paper. The deal would have given APP the rights to log in 66,700 hectares of Yunnan's forest, but in February 2007, the Chinese central government authorities blocked the deal. A State Forestry Administration spokesperson told the media that the state was worried about losing valuable forest assets.[7]

Geng Yunsheng/Greenpeace

Greenpeace China has documented APP's illegal logging in Yunnan.

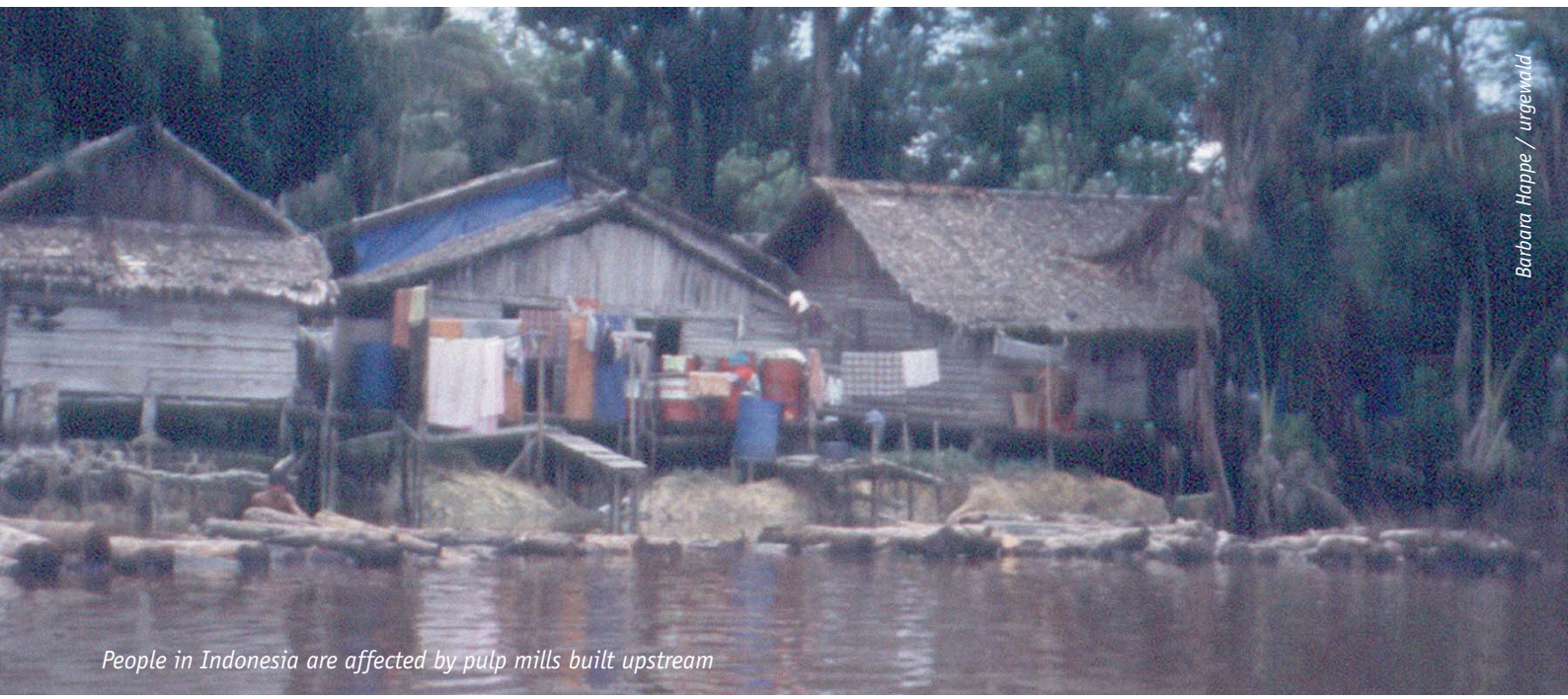
Plantation expansions by Stora Enso

Stora Enso plans to establish 120,000 hectares of plantations in Guangxi province. In 2005, Stora Enso hired UNDP to produce an Environmental and Social Impact Assessment on its proposed plantations project. Although UNDP's report notes that local communities have serious concerns about the spreading of eucalyptus monocultures it fails to recognise the impacts, and refers to villagers' criticisms of eucalyptus plantations as "rumours". The references cited at the end of the report run to nine pages, but include none of the many NGO studies on the social and environmental impacts of tree plantations.

An official of Guangxi Environmental Protection Bureau told China Business Weekly about their concerns about the environmental impacts of this project, including whether the land area of Guangxi is sufficient to support such a large project. Many local environmentalists share the official's concerns. Without sufficient land, native forests will be cleared to make way for plantations. Already, many cases of forest destruction for plantations were reported in Guangxi in 2005.[8]

1. "Conservation Programs/ Forest: Overview", WWF China website. http://www.wwfchina.org/english/loca.php?loca=92
2. Export of paper in the form of packaging does not show up in the statistics for exported paper from China. When electronic goods, say, are packaged in China then the cardboard box appears in China's consumption statistics. The cardboard box itself is exported, along with the electronic goods.
3. American Forest and Paper Association, "China's Subsidization of its Forest Products Industry", July 2004.
4. UNDP (2006) "Environmental and Social Impact Analysis Stora Enso Plantation Project in Guangxi, China", Final Report, 5 February 2006, page 16.
5. UNDP (2006) "Environmental and Social Impact Analysis Stora Enso Plantation Project in Guangxi, China", Final Report, 5 February 2006, page 16.
6. http://www.wwfchina.org/english/loca.php?loca=92
7. "China scraps Indonesia's Asia Pulp deal", Bangkok Post, 9 February 2007.
8. "Stora Enso, the social responsibility of paper giant", China Business Weekly, 27 April 2006.

INDONESIA



Barbara Happe / urgewald

People in Indonesia are affected by pulp mills built upstream

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. During this same period, the consumption of paper per person in Indonesia increased from 7.6 kilogrammes to 23.19 kilogrammes. While paper use increased by about three times, pulp production has increased by a factor of almost six. The massive increase in pulp production supplies paper mills in Indonesia, but the enormous increase in capacity has little to do with increased demand for paper in Indonesia. It is for export.

In Sumatra, the pulp and paper industry has contributed to the loss of large areas of tropical rainforest. By 2000, according to CIFOR, the pulp industry had destroyed an area of 835,000 hectares of high biodiversity rainforest.[1] The impact on rural communities and their livelihoods has been devastating.

Pulp companies and their expansion plans

The pulp and paper industry in Indonesia is dominated by two companies, APP and APRIL, which together control more than 75 per cent of total pulp capacity.[2] APP and APRIL both plan to expand their operations in Sumatra this year, and are eager to participate in the national government plan to expand pulp and paper plantations by five million hectares over the coming decade.[3]

- **APP** plans to increase its pulp capacity by 800,000 tonnes a year.
- **APRIL** plans to increase its pulp capacity by 600,000 tonnes a year.

Several plans have emerged in recent years to build pulp mills in Kalimantan.

- A South Korean company called **Korindo** has plans to establish a pulp mill.
- A group of Indian and Malaysian investors is reported to be looking at a potential pulp project in Kalimantan.
- In January 2007, Bisnis Indonesia reported that two companies are planning to invest a total of US$ 3 billion in massive new pulp mills. **PT Garuda Kalimantan** Lestari plans a 1.2 million tonne capacity pulp mill and associated chemical plant in West

Kalimantan. PT Kaltim Prima Pulp & Paper plans a 1.2 million tonne capacity pulp mill in East Kalimantan.

- Earlier this year, **United Fiber Systems** opened a new 700,000 tonne wood chip mill on the island of Pulau Laut off the coast of South Kalimantan. Local fishers in Pulau Laut have already seen the impact of the wood chip mill as coral reefs around the island were destroyed to construct the port for the mill. The wood chip mill is the first stage of UFS' proposed pulp projects in Kalimantan. UFS is in negotiations to take over the 525,000 tonnes a year Kiani Kertas pulp mill in East Kalimantan and has been running the mill since.

The impacts of these plans on the communities and forests of Kalimantan will be devastating. UFS claims that it will only use timber from plantations to feed its operations. But forestry studies by UFS' hired consultants are classified as "confidential documents". Research and calculations carried out separately by CIFOR, Down to Earth, and Global 2000 (Friends of the Earth Austria) indicate that the area of plantations is far from adequate to supply UFS' proposed pulp operations. Large areas claimed by UFS as productive plantations are agroforestry areas managed by local communities, or have poor growth rates due to lack of maintenance and fires.

Plantation expansion with the help of the World Bank

In spite of all the acknowledged problems caused by pulp wood plantations in Indonesia, the government is promoting the establishment of a further five million hectares of pulpwood plantations. The World Bank has announced its support for the government's plans to expand plantations, rating this as "among the highest priorities".

The logic behind this plan is that there is not enough plantation wood to supply the huge pulp capacities and companies rely on natural forests as a consequence. CIFOR estimated in 2005 that three-quarters of the timber consumed by the pulp industry in Indonesia was from native forests. "Expansion of pulp processing capacity has occurred much faster than plantation development," CIFOR points out. The yields from plantations cannot meet the demand from the existing pulp mills and legal supplies of wood from native forests in Sumatra "are rapidly being exhausted".[4] But instead of recommending a downsizing in pulp mill capacity, the World Bank wants to support the expansion of pulpwood plantations.

Indonesian and international NGOs have criticised these plans. "The push to establish between five to seven million hectares of industrial plantations will cause tremendous harm to our forests and the women and men whose livelihoods depend on them," Farah Sofa of WALHI, Friends of the Earth Indonesia, told Environment News Service.[5] WALHI is a national coalition of more than 450 NGOs from across Indonesia. It is demanding a moratorium on further forest conversion and has called on the government to stop all new permissions for industrial timber plantations that will convert forests or cause land conflicts with local communities.


Jens Wieting

Monocultures are replacing tropical rainforest

APP and APRIL both plan to expand industrial tree plantations by clearing and draining peat swamp forests. Existing pulpwood and oil palm plantations on peat soils in Indonesia have led to rapid oxidation of the peat soils and extensive fires, releasing billions of tonnes of CO_2 into the atmosphere. About 80 per cent of Indonesia's emissions come from destruction of peat forests and forest fires, making Indonesia the third biggest emitter of CO_2 in the world, behind the USA and China.[6]

Both APP and APRIL have also acquired plantation operations in Kalimantan. In October 2004, APP bought the Finantara Intiga plantations in West Kalimantan from Stora Enso. In 2005, APRIL bought PT ITCI and Adindo plantations in East Kalimantan. Both companies may use the plantations to supply fibre to their operations in China. The search for timber to supply their mills is not limited to Indonesia. In 2004, a company associated with APP was caught red-handed logging inside Bokum Sakor national park in Cambodia.

Ongoing deforestation in Sumatra for pulp production

In Riau province, APP's Indah Kiat mill and APRIL's Riau Andalan Pulp and Paper (RAPP) both have a capacity of two million tonnes of pulp a year.[7] Deforestation in Riau province has accelerated in recent years, in spite of APP and APRIL's promises to conserve forests. WWF Indonesia calculates that timber concessions associated with APRIL include 570,000 hectares of forest. APRIL uses 70 per cent native forests (mixed tropical hardwood) in its Riau Andalan pulp mill and pulped the equivalent of 90,000 hectares of forest in 2005, according to WWF Indonesia.

Jens Wieting

APRIL still uses huge amounts of native forests in its pulp mills

A July 2006 article in the Japanese newspaper The Daily Yomiuri describes the scene at one of APRIL's logging operations: "Drying tropical timber was stacked in piles between thick tree stumps – as if it were a heap of bones. The place looked like a field that had been hit by a bomb." In February 2007, police sealed off the piles of native tropical timber ready for pulping at APRIL's Riau pulp mill, and commenced an investigation into the use of illegal wood by APRIL. As of June 2007, the police investigation was ongoing, and APRIL could not use the piles of mixed tropical hardwood. Apparently this has forced the mill to reduce pulp production by about 30 per cent.

Land Tenure Conflicts

Land tenure conflicts in Indonesia pose significant risks for pulp companies and investors. The national government established much of the national forest estate since the 1970s without respecting the land rights of indigenous communities. Almost all logging and plantation concessions in Indonesia have overlapping claims with indigenous peoples, and conflicts over land use are common.

Indigenous communities have land claims over much of the area that APP and APRIL has already planted. In 2001, APP lost 70,000 hectares of its land to local land claims in Jambi, amounting to about one-quarter of APP's total concession in that province.

A 2003 report by Human Rights Watch documents violence associated with the pulp industry's expansion in Sumatra. APP's plantations, for example, "were established in Riau during the 1980s and 90s largely on land unlawfully seized from indigenous Malay and Sakai communities, without due process and with little or no compensation. These land seizures took place under intimidation by armed police and military agents."

Since President Soeharto's dictatorship ended in 1998, communities have started to protest the loss of their lands and livelihoods. These protests "have been met with violent attacks by organized mobs of hundreds of club-wielding company enforcers, trained by and sometimes accompanied by state police," reports Human Rights Watch.[8]

The government has recently allocated large areas of forest land for industrial tree plantations: 500,000 hectares in South Kalimantan and about one million hectares in East Kalimantan. This is leading to increased land conflicts, as much of these lands are claimed and used by local

Barbara Happe / urgewald

The last remaining rainforests in Sumatra are being clearcut for pulp production

communities. Clearance for industrial tree plantations is increasing deforestation, threatening local economies, biodiversity and water values. The allocation of new pulpwood concessions follows a history of land conflict caused by pulp plantations in Kalimantan. In the 1990s, companies belonging to Bob Hasan, the businessman and close friend of Soeharto, built the Kiani Kertas mill and targeted primary forests in East Kalimantan where Bentian indigenous communities lived. The first thing the Bentian communities heard about the proposed plantations was the sound of chain saws in their customary forests. Workers bulldozed their gardens, fruit trees and forests. Ancestral graves were destroyed and looted. The plantation companies then claimed "reforestation funds", in order to establish plantations on the deforested sites. Much of the land was then burned and abandoned. Hasan's companies gave no meaningful compensation to affected communities. After Soeharto's fall, Hasan was jailed for corruption.

1. Barr, Christopher (2000) "Profits on Paper: the Political Economy of Fiber, Finance and Debt in Indonesia's Pulp and Paper Industries", Centre for International Forestry Research (CIFOR) and WWF-International's Macroeconomics Program Office.
2. Barr, Christopher and Christian Cossalter (2005) "Pulp and Plantation Development in Indonesia. An Overview of Issues and Trends," Centre for International Forestry Research (CIFOR) Seminar for EC Asia Pro Eco Project, Brussels, December, 2005.
3. For a collection of recent information about APP and APRIL, see http://appwatch.blogspot.com/ and http://aprilwatch.blogspot.com/.
4. Barr, Christopher and Christian Cossalter (2005) "Pulp and Plantation Development in Indonesia. An Overview of Issues and Trends," Centre for International Forestry Research (CIFOR) Seminar for EC Asia Pro Eco Project, Brussels, December, 2005.
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7. Barr, Christopher and Christian Cossalter (2005) "Pulp and Plantation Development in Indonesia. An Overview of Issues and Trends," Centre for International Forestry Research (CIFOR) Seminar for EC Asia Pro Eco Project, Brussels, December, 2005.
8. Human Rights Watch (2003) "Without Remedy: Human Rights Abuse and Indonesia's Pulp and Paper Industry", January 2003. http://hrw.org/reports/2003/indono103/index.htm

LAOS

Chris Lang / WRM

According to government statistics, the country had 41.5% forest cover in 2002, down from 47% in 1992. Other estimates of forest cover are as low as 36 per cent.[1] Forests in Laos have been heavily damaged by logging, roads, bombing during the US war on Indochina and recently hydropower dam construction. Nevertheless, the forests remain an important part of rural villagers' livelihood systems. Villagers' main food sources are rice and fisheries, but forests provide important additional products including resin, firewood, medicinal herbs, food and thatching for roofs.

The Lao government has handed over large areas of the country as concessions, many of which are used for rubber plantations, in the South by Vietnamese companies and in the North by Chinese companies.

Industrial tree plantations

Over the past decade, several companies have attempted to develop large scale pulpwood plantations in Laos. All of these plans have one thing in common: they are not intended to provide the raw material for paper production in Laos.

The paper consumption per capita in Laos is among the lowest in the world. In 1980 it stood at 0.31 kilogrammes per person per year and by 2005 it had increased to 0.56 kilogrammes per person per year.

There are no clear figures for the area of industrial tree plantations in Laos because of the lack of any reliable survey data. Even where plantations have been established, many have failed due to poor maintenance.
According to the FAO's 2005 Forest Resources Assessment, in 1990 there were 4,000 hectares of plantations in Laos. By 2000, the area had increased to 99,000 hectares and by 2005 to 224,000 hectares. Other estimates are far lower – in 2004, the Lao government's "Forest Strategy to the year 2020" estimated that an area of about 113,000 hectares had been planted of which about 75,000 hectares had survived. But all of these estimates

are just that, estimates, as none are based on detailed surveys of rural Laos.

The Forest Strategy 2020 quotes a survey carried out in 2002, which indicated that growth rates were extremely low (average mean annual increment of 6.2 m3/ha/yr). "Such slow growth rates make tree plantations non-viable," the Forest Strategy 2020 comments.

Failed or abandoned plantation projects in Laos are common. In some cases the motivation for obtaining a plantation concession is to log the forest. Once the company has cleared the land a feeble effort is made to plant and then the site is abandoned.

Financial institutions involvement

Despite poor growth rates, lack of reliable data and the fact that establishing plantations is often no more than an alibi for logging the forest, the Asian Development Bank has been one of the main promoters of industrial tree plantations in Laos. In the early 1990s, the ADB part-financed a Tropical Forest Action Plan (TFAP) for Laos, which recommended continued logging and the introduction of industrial tree plantations on logged over and "degraded" forest. Soon after the TFAP was completed, the ADB started looking at the possibility of funding plantations in Laos. The Bank's Industrial Tree Plantations Project started up in 1993 and was completed in 2003.

According to the Bank's own reports, the Industrial Tree Plantations Project was a disaster.[2] It created and increased poverty and indebtedness. It led to increased deforestation as forests were cleared to make way for eucalyptus plantations. Loan funds went missing and the Bank started an investigation into corruption in the project.[3]
These problems were published in ADB reports towards the end of 2005, yet the Bank's Board approved a second tree plantation project for Laos in early 2006. This project aimed to attract more investment in the plantations, pulp and paper industry in Laos, but by January 2007, negotiations between the ADB and the Lao Government had run aground – possibly because the ADB knew that it was being watched closely by NGOs in Laos and internationally. When the Lao Government asked for more time for negotiations, the ADB declined and cancelled the loan. According to a source, the Lao Government did not agree to the conditions that the Bank wanted to attach to the loan.

But even before the project started, the ADB succeeded in attracting at least one multinational corporation to Laos. In August 2004, the ADB supported a Private Sector Consultation Workshop in Vientiane, "to present the investment opportunities to multinational pulp and paper companies". Representatives from Japan's pulp and paper giant **Oji Paper** were at the meeting and within a few months Oji Paper bought up an existing 154,000 hectare plantation operation in Laos from a company called BGA Laos. One-third of the area is to be planted, mainly with eucalyptus plantations. Wood chips from Oji Paper's plantations will be exported via the port of Vinh in Vietnam to Oji's pulp mills in China and Japan.

- In March 2006, the **Indian Aditya Birla Group** announced that it will invest US$ 350 million in industrial tree plantations and a 200,000 tonnes a year dissolving pulp mill in Laos. The Lao government has leased 50,000 hectares to Aditya Birla for 75 years.

- **Stora Enso** has commissioned a feasibility study for establishing 35,000 hectares of Acacia and eucalyptus plantations in Savannakhet and Salavane provinces in Laos. The area that Stora Enso is investigating was heavily bombed by the US during the war against Vietnam. Eija Pitkänen of Stora Enso confirms that "Stora Enso will clear all lands it will use from UXO [unexploded ordnance]".[4]

- Pulp giants **UPM** and **APP** are also reported to be considering investing in plantations in Laos.

International aid threatens forests and local livelihoods

The Forest Strategy 2020's comments on industrial tree plantations in Laos are typical of international aid agency support to tree plantations. The report, which was written with support from the Japanese government, states that "Tree plantation development, although strongly promoted by the

Government, is still in its early stage. Given favourable national conditions, including climate and land availability, and growing demand in the region, trees from plantation are expected to play a much larger role in the future."

The Forest Strategy 2020 anticipates an area of 500,000 hectares of industrial tree plantations by the year 2020. The ADB wants to meet this target by 2015.

However, it is a myth that there is a large area of land available for tree planting in Laos. Most of the land that is suitable for industrial tree plantations is already being used by villagers.
While the ADB and the companies claim to be planting on "degraded" forest, as one observer in Laos points out, "degraded forest is often another word for healthy, recovering forest with wide utility value to villagers and biodiverse in flora and fauna". The ADB's own project preparation reports confirm this: "Most villagers expressed the opinion that they have no degraded forest land." In fact the forests are vital to villagers' livelihoods. "Most farmers use forest land for harvesting logs and bamboo, collecting fire wood and non-timber forest products. Together with rice production and livestock breeding this use of forest is one of the three important main sources of income," notes the ADB report.[5]

Another ADB report notes that "degraded" forest is in fact land that is used by farmers: "in many cases, such lands were reported by farmers to be areas traditionally used for shifting cultivation".[6]


Chris Lang / WRM

Oji Paper is clearing forests in Laos to make way for eucalyptus monocultures

However, forests have been cleared to make way for ADB-funded plantations. Villagers have to walk further to collect mushrooms and other forest products and wildlife has been displaced. Although villagers welcome work provided by the plantation company, once plantations are established the company will not employ villagers until the plantations are harvested. ADB-funded eucalyptus plantations in Ban Lao Kha, which were established in 2000 have not grown well. In some places the forest is growing back faster than the eucalyptus trees. In parts of the plantation, the trees have died completely.

"People conclude that the plantations are not for their benefit, but are for the benefit of business," comments a critic in Laos. "Villagers have lost their land. Eucalyptus plantations are supposed to be reforestation and are supposed to be planted in degraded forests. But villagers say that Eucalyptus plantations have taken away their forests."

1. A report on Voice of America, for example, states that forest cover in Laos declined from 48% in 1992 to 36% in 2007. Songrit PhonNgern (2007) "Laos Cracks Down Hard on Illegal Logging", Voice of America, 23 May 2007. http://www.voanews.com/lao/2007-05-23-voa2.cfm.
   For a discussion of the problems inherent in statistics of forest cover, see Chris Lang (2001) "Deforestation in Vietnam, Laos and Cambodia", in Vajpeyi, D.K. (ed.) (2001) Deforestation, Environment, and Sustainable Development: A Comparative Analysis. Praeger: Westport, Connecticut and London, pp. 111–137. http://chrislang.org/2001/01/03/deforestation-in-vienam-laos-and-cambodia/
2. Sector Assistance Program Evaluation for the Agriculture and Natural Resources Sector in the Lao People's Democratic Republic, SAP: LAO 2005-17, Operations Evaluation Department Asian Development Bank, December 2005. http://www.adb.org/Documents/Reports/SAPE/LAO/2005-17-LAO-SAP.pdf Project Completion Report LAO: Industrial Tree Plantation Project, Project Number: 20067, Loan Number: 1295, Asian Development Bank, November 2005. http://www.adb.org/Documents/PCRs/LAO/20067-LAO-PCR.pdf
3. Chris Lang and Bruce Shoemaker (2006) "Creating Poverty in Laos: The Asian Development Bank and industrial tree plantations", A World Rainforest Movement Briefing Paper, April 2006. http://chrislang.org/2006/04/25/creating-poverty-in-laos-the-asian-development-bank-and-industrial-tree-plantations/
4. Eija Pitkänen, Vice President, Sustainability Communications and CSR, Stora Enso, email to Chris Lang, 15 May 2007.
5. "Tree Plantation for Livelihood Improvement Project: Final Report" TA No. 3794-LAO, MIDAS Agronomics, Champa Lao Consulting, Scandiaconsult Natura, CIRAD Foret, October 2003, page 42-43.
6. Sector Assistance Program Evaluation for the Agriculture and Natural Resources Sector in the Lao People's Democratic Republic, SAP: LAO 2005-17, Operations Evaluation Department Asian Development Bank, December 2005, page 36. http://www.adb.org/Documents/Reports/SAPE/LAO/2005-17-LAO-SAP.pdf

SOUTH AFRICA


Timber Watch

Slovoville squatter camp, established in part by people evicted to make way for industrial tree plantations

There are three key issues to be considered regarding industrial tree plantations in South Africa: biodiversity, water and land rights.

South Africa's biodiversity is not only found inside its national parks; its grasslands contain up to 4,000 plant species – more species than are found in many countries. Industrial tree plantations have replaced vast areas of these grasslands in South Africa, threatening many species found in the grassland ecosystem.

The fast growing plantation trees consume large amounts of water. Local communities living near plantations face sinking water levels and dry wells.

The exotic species used for the pulpwood industry have spread into the surrounding environment and along rivers and watercourses.

Under the apartheid regime in South Africa, black people were denied basic human and political rights, including their rights to land. While land redistribution is ongoing, most farmland is still white-owned. The government aims to transfer 30 per cent of farmland back to black South Africans by 2014,[1] but progress so far has been slow. Through vast areas of plantations, South Africa's pulp and paper companies are among the largest private landowners in the country.

Pulp companies and their expansions plans

More than 1.5 million hectares of South Africa is covered with industrial tree plantations. The pulp and paper industry is the main driver of the expansion of plantations and consumes over two-thirds of the timber from South Africa's plantations. More than half of the plantation area is planted with pine, about one-third is eucalyptus and about one-fifth is acacia.

Two companies dominate the pulp and paper industry in South Africa: Sappi and Mondi.

• **Sappi** (South African Pulp and Paper Industries Ltd) was registered in 1936 and today owns 465,000 hectares of plantations in South Africa (it has a further 75,000 hectares in Swaziland). Worldwide, the company manufactures 5 million tonnes of paper and 3 million tonnes of pulp a year and employs a total of 16,000 people. In South Africa, Sappi is currently expanding its Saiccor dissolving pulp mill by more than 200,000 tonnes a year. The company also plans to expand pulp production at its Ngodwana mill by 225,000 tonnes a year. The company is planning to convert the plantations feeding its mill from pine to eucalyptus.

• **Mondi** manages 430,000 hectares of plantations. The company was formed in 1967 by Anglo American, one of the world's largest mining companies. Today Mondi has 35,000 employees in 35 countries. In early 2007, Anglo American announced that it would demerge the company and Mondi would become an independent company. Mondi has a paper mill in Durban and a wood chip mill and pulp mill at Richards Bay. In 2005, Mondi completed a new 720,000 tonnes a year pulp line at its Richards Bay pulp mill.

In addition to these two giants, several smaller companies have sizeable operations in South Africa.

• **SAFCOL** (South African Forestry Company Ltd) was set up in 1992 to run state-owned plantations in preparation for privatisation. Global Forest Products is a joint venture between Mondi and a US investment company, Global Environment Fund, with 67,000 hectares of industrial tree plantations.

• **NCT Forestry Cooperative Ltd** is a cooperative marketing company, formed in 1949 to represent independent and private tree farmers. Its more than 2,000 members own a total of 300,000 hectares of plantations. In 2004, NCT started up a 360,000 tonnes a year wood chip mill in Durban. In March 2005, Japan's Hokuetsu Paper Mills bought up 10 per cent of NCT Durban Wood Chips. Two months later NCT signed a contract to supply 300,000 tonnes of wood chips a year to Hokuetsu.

NCT is planning to build a new pulp mill at Richards Bay. The "Pulp United" project started in 2003 as a joint venture with Sweden's Sodra Cell but two years later Sodra Cell pulled out, apparently because of concerns about the costs of electricity supply to the proposed mill. NCT continued the project and in March 2007, Sweden's Rottneros Group signed a letter of intent with NCT to build a pulp mill in South Africa. The planned pulp mill has been reduced in size from 300,000 to 140,000 tonnes. Rottneros plans to move its mechanical pulp production line from its Utansjö mill to South Africa. One of the reasons for the move, according to Rottneros, is that energy costs in South Africa are cheaper than in Sweden. In August 2006, Rottneros announced that it would close its plant at Utansjö because of the high cost of electricity.

In addition to producing pulp and paper, exports of woodchips from South Africa are massive. Central Timber Co-operative (CTC) is the world's largest exporter of woodchips via its woodchip mill in Richards Bay.

People living near to pulp mills suffer health problems caused by the polluted air

Plantation expansion

Between 1920 and 1960, the state was responsible for most expansion in the area of industrial tree plantations. Communities living on the land were forcibly relocated to other areas. During the 1960s, private companies started establishing tree plantations. In the 1980s, Mondi and Sappi led a new wave of plantation establishment as Sappi built a new pulp and paper mill in eastern Transvaal and Mondi built a pulp mill in Richards Bay.

The government subsidised the expansion of the pulp and paper industry with tax incentives and a General Export Incentive Scheme, which was withdrawn after 1994.[2]

In the early 1990s, the area of plantations increased at a rate of 45,000 hectares a year. Since 1996, the rate has been about 11,000 hectares a year, although a coalition of South African NGOs, Timberwatch, points out that the real amount is higher because this figure excludes illegal, unregistered plantations. Timberwatch estimates that up to 40 per cent of timber plantations may be unlawful because they were not registered before planting started.

The timber industry and government is currently expanding the area of plantations in Eastern Cape Province. Timberwatch reports that an area of 200,000 hectares of new plantations is planned mainly in Eastern Cape, "mostly on community land".[3] Mondi, for example, has established an area of pine plantations in Maclear and Ugie districts in Eastern Cape.[4]

In neighbouring Mozambique, the government has ambitious plans for industrial tree plantations. A 2006 "National Reforestation Strategy" outlines plans for at least 2 million hectares of tree plantations in the next 20 years. A further 3 million hectares is to be zoned and made "available for potential investors for the development of industrial plantations". In total, the plan identifies an area of 7 million hectares as suitable for plantations.[5]

Impacts on water, people and biodiversity

Impacts on the environment from plantations in South Africa include the irreversible conversion of species-rich grasslands. Biodiverse landscapes have been replaced by monocultures of tree plantations. Trees from plantations (in particular acacia, but also eucalyptus and pines) have spread outside the plantation areas, invading further areas of natural ecosystems. Timberwatch estimates that the area now covered by exotic trees which have spread from industrial tree plantations, is at least as large as the area of plantations themselves: "There is at least as much unmanaged scrub timber as there is formal plantation."

Boet Fourie, a former Natal Agricultural Union (NAU) president, describes exotic tree plantations as being like "giant water pumps, which suck up ground water before it reaches the rivers".[6] Plantations have caused springs, streams and ponds to dry up. John Blessing Karumbidza of the of the University of KwaZulu-Natal, in a recent report for World Rainforest Movement (WRM), talked to villagers in Sabokwe and found that the issue of water came up frequently. One woman told Karumbidza that "The thing is that we compete for water with these plantations. They use up a lot of water. I remember in 1996, the stream close to our garden was running perennially because the eucalyptus trees were not here."

In 1972, South Africa introduced an Afforestation Permit System in an attempt to address the impact of tree plantations on water resources. Planting trees in wetlands and close to rivers and streams was restricted. But the plantations still use huge amounts of water and impact the rural communities they surround. Although the environmental costs are borne by local communities, the expansion of tree plantations has continued – driven largely by the expansion of woodchip, pulp and paper mills in the country.

As World Rainforest Movement's Ricardo Carrere and Larry Lohmann note in "Pulping the South", the conversion of grasslands to plantations has destroyed vast areas traditionally used by pastoralists. "It has become more difficult for farmers to raise livestock for meat and milk" and "Reeds needed for making mats or cords used for roofing or trays have disappeared after plantations have caused small watercourses to dry up", comment Carrere and Lohmann.

Former species-rich grassland, converted to industrial tree plantations

John Blessing Karumbidza, in his report for WRM, found that security and safety are among the most serious concerns for people living near plantations. "As parents with girl children we worry a lot about the plantations," a villager told Karumbidza. "There are always strange men wandering around aimlessly and many sexual offences have been reported. So they cannot go to fetch water or firewood any more. Besides, these offences, the plantations are used by thieves to hide and to store their loot. When the police discover these things they come and harass us by searching our houses apartheid style. We are not safe here with these plantations."

The loss of land and dramatic changes in the landscape caused by industrial tree plantations undermines the culture and identity of rural people. "We are locked here in the midst of plantations as you can see. We are like people who are in a prison," Chief Mbuyazi in Sabokwe community told Karumbidza. "Whenever you get out of the house, all you see are these eucalyptus plantations. They have robbed us of a sense of community and the typical rural environment to which we are accustomed, which is characterised by diversity. When you think about talking to the ancestors, there are specific trees where we used to take a pot of brewed beer and our offering and then appease the spirits. You cannot do that under a gum tree. They erode our culture by denying us the opportunity to practice our culture."

"We cry because our children have no clothes and no shoes," a villager told the Natal Witness newspaper in 1994. "Life has been difficult since the trees came."

1. "Country profile: South Africa", BBC News, http://news.bbc.co.uk/1/hi/world/africa/country_profiles/1071886.stm
2. Garforth, Mike and James Mayers (2005) "Plantations, Privatization, Poverty and Power. Changing Ownership and Management of State Forests", Earthscan, London, page 228.
3. "The Timberwatch coalition in 2006", Timberwatch website, http://www.timberwatch.org.za/.
4. "Pulp and Paper Sector Summit Resource Book", compiled by Naledi, October 2005. http://www.naledi.org.za/cgi-bin/naledi/na-showitem.pl?publication:1131127739
5. Nuñez, Raquel and Vera Ribiero (2006) "Mozambique: Paving the way for industrial tree plantations", World Rainforest Movement Bulletin 107, June 2006. http://www.wrm.org.uy/bulletin/107/Mozambique.html
6. Cited in John Blessing Karumbidza (2005) A Study of the Social and Economic Impacts of Industrial Tree Plantations in the KwaZulu - Natal Province of South Africa, World Rainforest Movement. http://www.wrm.org.uy/countries/SouthAfrica/book.html

URUGUAY

Mass protest against the Botnia pulp mill

The Uruguayan landscape is dominated by grasslands. Sheep and cattle raising as well as agriculture are the main land uses. Today, only three per cent of Uruguay is covered by native forests, and even this small area is threatened. Industrial plantations cover more than one million hectares, almost double the area of native forests. Land distribution in Uruguay is similar to that in Brazil and small farmers have little access to land. The pulp and plantation boom is exacerbating these problems while adding the problem of foreign control over land. In common with industrial tree plantations in other countries in the South, plantations in Uruguay have serious impacts on water supplies.

The pulp mill conflict

In 2006, a major diplomatic row broke out between Argentina and Uruguay when the construction of two pulp mills was started on the Uruguayan side of the Uruguay River. The two mills, with a combined capacity of 1.5 million tonnes a year amounted to Uruguay's largest ever foreign investment. The Argentinian government took Uruguay to the International Court of Justice in the Hague, arguing that Uruguay had failed to notify Argentina of the proposed pulp mills and is therefore in breach of the 1975 Statute of the River Uruguay.

A final ruling will take two or three years, but the court initially ruled against Argentina by declining to order a halt to the construction of the pulp mills. The court argued that if the pulp mills were to pollute the river, they would only start doing so once construction is completed.

The companies behind the pulp mills, Botnia (Metsa-Botnia and UPM, Finland) and Ence (Spain) both plan to export the produced pulp.

People from Uruguay and Argentina have been protesting the pulp mills for several years. Citizens in Argentina have blocked the international bridge between the two countries as a way of protest. In April 2005, about 40,000 people from Uruguay and Argentina took part in a demonstration on the bridge against the pulp mills. A march against the mill in April 2007, was one of the largest environmental demonstrations anywhere in the world, with 130,000 people participating. Since November 2006, protesters have set up a series of road blocks on the three bridges between the two countries.

As a result of the protests, Ence decided to move the site of its pulp mill to the small tourist town of Conchillas in Colonia, southwest Uruguay. Ence has applied for approval for the Colonia project from the Uruguayan authorities and will produce an environmental impact study if approval is granted. The company has also announced that the proposed mill will have a capacity of one million tonnes a year. Local people oppose the mill and have already started to organise protests against its construction.

The Argentinian NGO Centre for Human Rights and Environment (CEDHA) has made several complaints to the Organisation for Economic Cooperation and Development (OECD), alleging breaches of the OECD's guidelines for multinational companies.[1] Nevertheless, the International Finance Corporation decided to go ahead with a US$ 170 million loan for the Botnia project. The World Bank's Multilateral Investment Guarantee Agency (MIGA) agreed to provide political risk insurance covering US$ 350 million. Other financial support includes US$ 230 million from the Finnish export credit agency Finnvera and US$ 70 million from the Nordic Investment Bank. Private banks Calyon (France) and Nordea (Norway/Sweden) are mandated lead arrangers for the IFC loan, and Calyon, Danske Bank and Nordea were mandated to arrange a US$ 393 million revolving credit facility.

A subsidiary of Botnia, Forestal Oriental, has established eucalyptus plantations to supply Botnia's pulp mill in Uruguay. Botnia claims that Forestal Oriental will supply 90 per cent of the raw material required to run the mill, 70 per cent from Forestal Oriental's own plantations and the rest from timber bought from other plantation operations. Forestal Oriental and other Botnia subsidiaries in Uruguay own just over 160,000 hectares of which they intend to plant a total of 98,000 hectares with Eucalyptus monocultures.[2]

Forestal Oriental at present produces more than one million cubic metres of wood a year, which is significantly less than the 3.5 million cubic metres that will be required once the pulp mills starts operating at full capacity.

This time they are not wind mills, your worship! They are harmful - the bigger one is named BOTNIA and the other one is ENCE. They come to poison us all.

Plantation and pulp expansion

The rate of establishment of plantations in Uruguay peaked in 1997 at almost 60,000 hectares a year and is currently about 10,000 hectares a year. Today, there is a total of more than one million hectares of industrial tree plantations in Uruguay - about 70 per cent Eucalyptus and 28 per cent Pine. World Rainforest Movement points out that the plantations have replaced grasslands, surrounded grazing lands and left rural communities isolated. Rural areas have become depopulated, rural schools have closed, wells have dried up and communities have become dependent on water delivered by the authorities. Agricultural production in areas near the plantations has become impossible. In April 2007, representatives of small farmer organisations and other social organisations set up a national initiative demanding the suspension of monoculture tree plantations in Uruguay.

The plantations are increasing land concentration and foreign land ownership. Four hundred thousand hectares of Uruguayan land is now in the hands of multinational corporations: Botnia (Finland), Ence (Spain) Stora Enso (Sweden-Finland) and Weyerhaeuser (US).

Beside the planned projects of **Botnia** and **ENCE,** other companies are active in the pulp sector in Uruguay:

- **Weyerhaeuser** (USA) has established 100,000 hectares of plantations. Weyerhaeuser's plantations were subsidised through tax breaks on the land and lowered duties on imported trucks and equipment.

- **Stora Enso** (Sweden-Finland) is also buying up land for plantations in Uruguay. So far the company has established 23,000 hectares and plans to plant a total of 100,000 hectares. The company is also considering constructing a new pulp mill in Uruguay. Recently, government officials in Uruguay announced that companies from Canada, the US and Japan are also considering pulp projects in the country.

Plantation development is heavily subsidised

The development of industrial tree plantations in Uruguay is the direct result of a series of government subsidies. The 1987 Forestry Act, produced under the influence of a World Bank structural adjustment policy, provided tax benefits and payments for part of the costs of establishing plantations. During the 1990s, an area of more than 5↑00,000 hectares of plantations was established by companies from Spain, Finland, Canada and the USA. In the 12 years up to the year 2000, the government handed out more than US$ 400 million in tax exemption and direct payments to the plantations industry. On top of this figure, the government also built new roads, ports, bridges and railway lines to transport and export the wood.

In addition to the subsidies from the Uruguayan government, Forestal Oriental's plantations were supported by the Finnish government in the form of a US$ 7 million loan from Finnfund (whose majority shareholder is the Finnish state: 79.9 per cent directly and 20 per cent through Finnvera – the remaining 0.1 per cent is owned by the Confederation of Finnish Industries).[3]

Botnia's pulp mill is located in a free trade zone – exempting it from tax.

Botnia's Managing Director in Uruguay, Ronald M. Beare, says that "Botnia is a great opportunity, both for Uruguay and for the wider region."[4] But many in Uruguay and Argentina disagree with this assessment. The Uruguayan writer, Eduardo Galeano, describes the development of the pulp industry in Uruguay as being "in the purest Colonial tradition: vast artificial plantations that they call forests, converted into pulp in an industrial process that dumps chemical waste into rivers and makes the air impossible to breathe."[5]

Communities surrounded by plantations are affected by drought and have to rely on water delivered by the authorities in water containers.

1. See CEDHA's website for more information on CEDHA's compliance com plaints to the OECD and other activities against the pulp mill: http://www.cedha.org.ar/en/initiatives/paper_pulp_mills/.
2. Marko Janhunen, Vice President, Communications & Public Relations Project, Oy Metsä-Botnia Ab, email to Chris Lang, 15 May 2007.
3. For an overview of the subsidies to the Botnia project, see Chris Lang (2007) "Subsidies and the Botnia pulp mill", Presentation at "Sustainable pulp production in Latin America or just pulp fiction?" organised by The Greens/EFA and the Heinrich Böll Foundation, European Parliament, Brussels, 16 May 2007. http://chrislang.org/2007/05/24/subsidies-and-the-botnia-pulp-mill/
4. "View of MD in Uruguay", Botnia website. http://www.botnia.com/en/default.asp?path=204,1490,1496,1636
5. "Uruguay: The Botnia pulp mill project intends to profit from climate change", World Rainforest Movement Bulletin 109, August 2006. http://www.wrm.org.uy/bulletin/109/Uruguay.html

Part 3

1. RECOMMENDATIONS

1.1. THE ROLE OF DEVELOPMENT BANKS

The mandate of development banks is based on the goal of poverty reduction in developing and transition countries. However, such publicly owned banks have given generous support for the expansion of the international pulp industry without evaluating its development impact. Given all the negative impacts on people and environment mentioned in this report, the question arises why development banks are financing the pulp and plantation industry.

The reality is that aid to pulp mills supports industry in the countries giving the aid. The Swedish aid agency (Sida) for example, is clear about where the benefits of its aid to the Bai Bang pulp and paper mill in northern Vietnam ended up. Sweden poured a total of about US$ 1 billion into the Bai Bang project between 1974 and 2002, making it perhaps the most expensive pulp mill in the world per ton of pulp produced. In 1998, Sida produced a brochure celebrating 30 years of Swedish aid involvement in Vietnam, which states: "Sweden has benefited a lot from development cooperation with Vietnam. Development aid has cleared the way for Swedish companies. The Bai Bang project, with its many branches, has produced a lot of spin-off effects."

If they were serious about their mandate of reducing poverty, development banks and aid agencies would not subsidise the pulp industry – including supporting the expansion of industrial tree plantations. CIFOR's 2003 "Fastwood" report points out that, "Subsidies create economic distortions and make plantations viable in situations where other land uses might make better economic and environmental sense." A 2002 submission from IUCN and WWF to the World Bank argued against further subsidies to plantations: "Large amounts of money that could have been better invested, either within or outside the forest sector, have gone to support ill-conceived planting schemes." CIFOR's 2003 "Fastwood" report concludes that "The sooner subsidies to commercial plantations are phased out, or at least dramatically reduced, the better."

Of course, not every pulp mill is necessarily bad. A pulp and paper mill in, say, Kenya to provide paper for local users such as schools could be quite small and would be providing an important service for people in Kenya. But today's massive pulp mills are built to produce pulp for the international market or to produce packaging for consumer goods for exports. These projects are neither "development" nor do they relieve poverty. Instead, aid to the pulp industry is way of providing public funds for the private profits of an international industry.

Examples in this report and experiences from the past show that development aid for the pulp and industrial tree plantation sector is not only not leading to poverty alleviation; its net developmental impact is negative. Instead of serving industry interests at the cost of local people and the environment, aid agencies and development banks with the mandate to reduce poverty should stop such investments and end all subsidies to the pulp and industrial tree plantation sector.

1.2. THE ROLE OF COMMERCIAL BANKS

Commercial banks also have a responsibility to look at the negative impacts their investments are causing. After being criticised by the public for supporting controversial projects, many banks have adopted the Equator Principles. But due to the Equator Principles' limited scope, this step is not sufficient to exclude problematic investments. The Equator Principles are only applied to project finance and do not cover bonds, equity, commodities financing or general corporate loans.

As only a small part of pulp financing comes from project finance, the Equator Principles are generally not utilized in this sector. Also, the Principles are based on very general criteria and do not sufficiently address the specific problems associated with forest, pulp and plantation projects.

Realising the economic, ecological and social disaster that the investments in the Indonesian pulp sector have caused, several banks, such as ABN Amro, HSBC, Citibank, ING Bank, JP Morgan Chase and Bank of America, have developed specific forest policies. While each of these policies also has weaknesses, most of them contain exclusion criteria that may at least weed out the worst projects. The forest policies, for example, do not allow financing that leads to the destruction of primary (rain) forests or violates national laws or international conventions. Some banks will not finance operations in areas where indigenous land claims are not settled and others recognise the principle of free prior informed consent for affected indigenous communities. While the scope of most forest policies is broader than the Equator Principles, they still do not cover the full breadth of the banks' financial operations. To date, only ABN Amro plans to apply its forest policy to all forms of financing. All of the above named banks are, however, still a step ahead of their competitors, most of whom have no policy to regulate their financing activities in the forest and pulp sectors.

Banks and other commercial financiers are called upon to develop environmental and social criteria as well as due diligence procedures that cover all of their financial activities. To address the negative impacts of pulp and plantation investments adequately, we recommend that banks develop forest policies with a specific sector standard for pulp that excludes projects with problems in the following areas:

Land tenure and human rights
Governments often ignore the fact that lands designated for plantation development are encumbered with existing access, use and ownership rights. Some governments use force to remove communities from lands to make them available for industrial pulp wood plantations. The process of taking over indigenous peoples and local communities' lands is often illegal under national law, but takes place due to the political and economic strength of the companies concerned, and the marginalised status of rural communities.
Investors need to obtain independent information on the status of lands that companies claim are available for pulp mill and plantation development, and pay particular attention to overlapping land access, use and ownership claims, and land conflicts.
Investors should require that relevant international conventions for the protection of human rights are respected[1].

Free, prior and informed consent[2]
Indigenous Peoples have rights that derive from their status as peoples with land management and governance systems that predate the nation states that they now find themselves within. One of these rights is the right to give or withhold their free, prior and informed consent over development plans that will take place on or impact their customary territories. Investors should request information on indigenous peoples that will be affected by the project, including information on any agreements reached with indigenous peoples about the planned projects. Investors should seek independent information to verify that indigenous peoples have given their free, prior and informed consent to planned plantation and pulp and paper mill developments that will impact their customary territories.

Biodiversity and conservation values
Pulp mills have large impacts on forests and other ecosystems through the use of wood from natural forests and the conversion of forests and other ecosystems to pulpwood plantations. While national law may require the protection of biodiversity, environmental impact assessments in many countries are not rigorous enough to determine and prevent negative impacts on biodiversity. In many cases, industrial logging and forest conversion take place in areas with potentially high conservation value without any assessment of environmental and social impacts. Investors should therefore require independent assessments on the impacts on biodiversity and conservation values of proposed developments, including all areas where pulp wood may be sourced, both within and outside proposed

concession areas. Conservation values include not only biodiversity values, but also social and cultural values.

Pollution
Pulp mills generate large amounts of liquid, solid and airborne waste. Due to the limited ability of many Southern governments to monitor and control waste emissions from industrial facilities, it is not unusual that once a pulp and paper mill begins operating, maintenance of its waste water treatment facilities are ignored, and hazardous mill waste ends up being released into the air or dumped in waterways and on nearby lands. In order to minimise hazardous waste production, investors should require the use of best available technology to limit toxic emissions to air, water and solid waste. Investors should, for instance, require that no chlorine and chlorine compounds be used for bleaching. In addition, investors should require an ongoing system for the independent monitoring of pulp and paper mill waste, with the involvement of communities that will be affected by plantations and mills. Pesticides, herbicides and fertilizers used on pulpwood plantations often pollute water and soils and impact the livelihoods of surrounding and downstream communities. Independent monitoring of plantations impacts, including local stakeholder involvement, needs to be included in loan agreements.

Water impacts of plantations and mills
Fast growing pulp wood plantations use vast amounts of water and often have a negative impact on agricultural lands surrounding and downstream of plantation areas. Pulp and paper mills use large amounts of water. Investors should require independent information on the water related impacts of plantations and pulp and paper mills.

Raw material supply
Companies seeking investment in pulp and paper mills often overstate the raw material supply that they have access to or plan to grow. Figures for existing plantation wood volumes are often based on best sites. Many areas of plantations are subject to overlapping land claims and land conflict, which can lead to the wood resource being burned or otherwise removed. In some countries such as Indonesia, pulp mills rely on wood from natural forests, often with devastating impacts on these forests and exacerbating problems of illegal logging and forest conversion. The raw material should not come from plantations that have replaced natural forests. Investors must require independent information on the raw material supply, land conflicts affecting that supply, assumptions about annual growth rates, and impacts on natural forests. They should demand that the pulp and paper company provides credible, independent, third-party certificates for legal and sustainable wood sourcing for all raw material used.

Labour standards
Mill and plantation workers in the South are often exposed to hazardous chemicals, and suffer from poor working conditions and low remuneration. Investors should require independent information on the working conditions in proposed or existing mills and plantations. Investors must insist that minimum ILO standards relating to workers and subcontracted workers rights are followed[3].

Genetically modified organisms
Some pulp companies are developing genetically modified trees in order to maximise growth rates. This poses unacceptable risks to the environment. Investors should require that no genetically modified organisms be used in plantations.

Know your client
Companies seeking investment try hard to present their projects as economically, ecologically and socially viable. It is important to examine the track record of any company seeking investment, and to take into account the irregularities, social problems or forest destruction it has caused in the past.

The case of the Soeharto family in Indonesia shows, how major irregularities develop, if political exposed persons or politically exposed companies, who have illegally amassed large fortunes, diverted international aid payments or taken bribes in return for arranging favourable decisions, are involved in a project. Investors should be extremely cautious when contemplating investments in countries where there is a high risk of bribery and corruption.

Know your country
Banks are therefore advised to develop country risk

categories that mirror the environmental and social risks of doing business in countries with weak environmental laws, weak implementation, a lack of democracy a high instance of corruption and other issues, which will impact the environmental and social performance of specific investments. In countries with high risk ratings, due diligence procedures for environmentally sensitive projects must be especially thorough and in some cases, it may even be advisable to call a moratorium for environmentally sensitive investments, such as major pulp projects, in such countries.

1. ILO Convention 169 for the Protection of the Rights of Indigenous Peoples, Draft UN declaration on indigenous peoples, General Declaration of Human Rights (1948), UN Convention for the Elimination of all Forms of Racial Discrimination (1966), International Agreement on Economics, Social and Cultural Rights (1966), International Agreement on Civil and Political Rights (1966).
2. The right for an free, prior and informed consent for indigenous people is e.g. found in the Draft UN declaration on indigenous peoples
3. ILO Fundamental Work Rights: freedom of association, the right to organi se and to collective bargaining; the abolition of forced labour, the elimi nation of child labour; and the prohibition of discrimination in employ ment and occupation (equality of opportunity and treatment).

1.3. EXISTING TOOLS

Several tools already exist that can help banks to determine whether a project is problematic in regards to some of the issues mentioned above. While none of these tools are sufficient on their own, collectively they can be of great benefit to come to a realistic assessment of pulp and plantation projects in the pipeline.

Global Forest Watch
Established by the World Resources Institute, Global Forest Watch works with groups around the world to create detailed forest maps. Global Forest Watch has mapped frontier forests, the world's remaining large intact natural forest ecosystems - undisturbed and large enough to maintain all of their biodiversity. Several major companies, including IKEA, have adopted policies relating to the conservation of intact forest ecosystems and use maps developed by Global Forest Watch. In its lending policy, the Bank of America states that "lending proceeds will not go to logging operations in intact forests as defined by WRI mapping.[4]" For more information see: http://www.globalforest-watch.org http://www.globalforestwatch.org

Greenpeace's global mapping of intact forests
Published in 2006, the Greenpeace map is the first global assessment of remaining tracts of intact forest landscapes larger than 500 square kilometres that are not fragmented by infrastructure, such as roads, settlements, waterways, pipelines, power lines etc. These tracts are located within the forest vegetation zone and are mostly forested, but also contain swamps and other non-forested ecosystems, which are without significant visible signs of human impact such as logging, burning or other forms of forest clearing. For more information see: http://www.intactforests.org/index.htm

Certification
The aim of independent third-party certification is to guarantee that a wood product comes from well-managed sources and can be traced from forest or plantation to end product. The Forest Stewardship Council (FSC) is currently the only certification scheme which is endorsed by major NGOs. Its criteria cover economic, ecological and social aspects. Certification can provide banks with a first indication of whether projects meet sustainability standards. However, in recent years concerns have been raised specifically about the awarding of FSC certificates to pulpwood plantations with serious social and environmental impacts and there are ongoing disagreements within FSC on these issues. Investors should therefore not rely solely on certification, but need to evaluate all of the issues listed in the recommendations.

High Conservation Value (HCV)[5]
The High Conservation Value concept was first promoted by the Forest Stewardship Council (FSC) as a way of providing extra protection to critically important forests. It has since been extended to other ecosystems. The core of the HCV approach is the identification and maintenance of High Conservation Values (HCVs) in terms of endangered and threatened species, habitats, landscapes, environmental services, livelihoods and cultural identity. The HCV Resource Network is overseen and directed by a Steering Group of NGOs (Greenpeace, WWF and others), the Forest Stewardship Council, the ITTO, the World Bank and two paper companies. The World Bank is currently exploring how the concept can be applied to help it define which are the 'critical forests' and 'critical habitats'

that its policies on forests and natural habitats are meant to safeguard. One must, however, caution that problems arise if this tool is used as a stand alone landscape zoning procedure without consideration of wider framing considerations like legality, land rights and the rights of indigenous peoples. In the past, HCV consultations with local stakeholders were sometimes abbreviated and the assessments of consultants contracted by companies have often excluded consideration of HCV criteria like livelihoods and cultural aspects. For more information, see: http://www.hcvnetwork.org/ and http://www.wrm.org.uy/bulletin/114/viewpoint.html

Global Reporting Initiative (GRI)

The Global Reporting Initiative, supported by the UN Global Compact could serve as a framework for the reporting of non-financial company information. But so far, the GRI has not produced sector supplements for the pulp and paper sector. These would in any case, need to include detailed information on the volumes of raw material consumed, the relevant social and environmental impacts in the supply areas, as well as production capacity, actual production, pollution control and labour standards applied. For more information see: http://www.globalreporting.org/Home

Pulpmillwatch

In order to supplement and update the information contained in this report, urgewald will regularly post news on pulp mill investments in the pipeline. This information will be published on the website: www.pulpmillwatch.org and its purpose is to encourage financial institutions to identify environmental and social risks of pulp projects before making their lending decisions.

4. http://www.bankofamerica.com/environment/index.cfm?template=env_workrel

5. See definition of high conservation values at http://www.hcvnetwork.org/

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