The Pulp Invasion:

The international pulp and paper industry in the Mekong Region

by Chris Lang

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About this publication:

This report was produced in 2000-2001 for the World Rainforest Movement, looking at the current state of the pulp and paper industry in the Mekong Region: Thailand, Laos, Cambodia and Vietnam. The research covers

the extent of plantations and their social and environmental impacts in the region, the role of the various institutions in supporting the expansion of industrial plantations, and the patterns of local resistance to ecological damage and loss of livelihood. It was written to encourage debate on the issues raised about the pulp and paper industry and the development of industrial plantations in the Mekong Region.

The aim of the report is not to provide "solutions" or "recommendations" but to support the rights of communities to make their own decisions over the management of their rivers, farmlands and forests.

Introduction:

The last ten years has seen a massive increase in the area of fast-growing tree plantations in the Mekong region. Proponents of plantations often justify them on environmental grounds such as reforestation, or to prevent soil erosion or flooding, or to reduce pressure on native forests, or to alleviate poverty, or to combat global climate change. However, the main beneficiary of fast-growing tree plantations is the pulp and paper industry. As the area of plantations has increased, more and more villagers in the Mekong region have seen their forests, fallows and grazing lands replaced with eucalyptus, acacia and pine monocultures.

The large-scale pulp and paper mills in the Mekong region were all built on the advice of northern consultants, funded with northern “aid” and supplied with northern machinery. In addition to a cheap supply of wood, paper production requires huge amounts of chemicals, water and energy. In the Mekong region many of the paper and pulp mills have resulted in high levels of pollution, releasing thousands of polluting substances into nearby rivers, including dissolved chemicals and wood particles.

A range of actors works to support policies supporting the promotion of such plantations, including the World Bank, the Asian Development Bank (ADB), export credit agencies, bilateral aid agencies, forestry and engineering consultants, forestry research organisations, suppliers of pulp and paper making machinery, industry associations and alliances and even some NGOs.

Perhaps the most notorious forestry consulting firm is the Finnish company, Jaakko Poyry. Since 1958, when Dr Jaakko Poyry founded the company, it has grown to become the world's largest forestry and engineering consulting firm, with 4,500 employees. The company is responsible for more than 350 pulp and paper mill projects, in 100 countries around the world. In the Mekong region Poyry has worked for Siam Pulp and Paper, Phoenix and Advance Agro in Thailand. In Laos, Poyry worked on the ADB's "Industrial Tree Plantation Project". In Vietnam, Poyry played an important role in the development of the Bai Bang pulp and paper mill and recently worked on proposals for a new pulp mill in Kontum province.

The impacts of fast-growing tree plantations and of pollution from pulp and paper mills have often been devastating for local communities, their forests and their rivers. In Thailand, farmers have formed networks with NGOs to protest against the spread of eucalyptus plantations, particularly in the northeast of the country. In Cambodia, villagers concerned about losing their community forests have petitioned the government and held meetings with government officials. In Laos, villagers have declared land as communal grazing land and forest in defiance of the company attempting to enclose the land as fast-growing tree plantations. Many of Vietnam's plantations have been damaged by grazing, fire or simply cut down by villagers who need the land. What the government and its advisers see as "barren land" or "degraded land" is in fact often already being used by villagers.

CAMBODIA

In Cambodia, there are to date few areas of monoculture fast-growing tree plantations. However, the

institutional support for plantations is already in place.

In recent years, the World Bank and the Asian Development Bank have been involved in rewriting Cambodia's Land Law and Forest Law. The World Bank-supported Draft Forestry Law fails to differentiate between plantations and forests and states that a forest can be "natural or planted". This deliberate confusion between a crop of planted trees and a forest or woodland helps the promotion of plantations in the country. In effect it allows companies to continue logging. Simply by claiming to be in the process of "reforesting", they can disguise the reality: the destruction of villagers' community forests, grazing land, commons and fallows, to be replaced by even-aged stands of one of two species of fast-growing (often alien) trees.

During the 1990s, the government allocated a series of large scale logging concessions which reduced villagers' access and rights to forests, and caused massive damage to the forests themselves. NGOs have documented these problems and, as a result, logging concessions have become more and more controversial. In January 2002, the Cambodian government suspended all logging concession operations. In addition to the logging concessions, however, the government has recently granted land concessions covering vast areas of Cambodia. These land concessions provide the concessionaires with control of land and in at least one case the purpose seems to be the establishment of huge areas of fast-growing tree plantations.

In 2000, the government awarded a concession for Cambodia's first large-scale tree plantation to the Pheapimex Group, one of the largest and most destructive logging companies in Cambodia. Pheapimex's concession covers 300,000 hectares of "spare forest" land in the provinces of Kampong Chhnang and Pursat. Pheapimex plans to plant eucalyptus and acacia trees and to build a pulp and paper mill.

Villagers in Ansa Chombok commune in Pursat province have protested to the government, in an attempt to prevent Pheapimex from destroying 6,800 hectares of forest near their village. In February 2001, villagers travelled to Phnom Penh to try to persuade the government to halt the planned plantation. In March, a meeting between government officials and villagers took place in Ansa Chombok commune. NGOs continue to work with villagers, for example in Pursat province to create a forest protection society aiming to establish legally villagers' right to forests for gathering and other purposes.

LAOS

As in Cambodia, the area of fast-growing tree plantations in Laos is currently small. However, before the Asian economic crisis in 1997, several Thai companies were interested in establishing plantations in Laos to feed pulp and paper mills in Thailand.

Today, the ADB is the most influential actor in the development of fast-growing tree plantations in Laos. A Tropical Forestry Action Plan (TFAP) carried out with funding from UNDP, FAO, ADB, World Bank and SIDA was approved by the Lao government in December 1993. Among the recommendations made under the TFAP was the introduction of industrial tree plantations. Soon after the TFAP was completed, the ADB funded a study on establishing plantations of fast-growing trees for the production of industrial wood for export. Since 1994, the ADB has been running its US$11.2 million "Industrial Tree Plantation Project" in Laos, covering three provinces and aiming to establish 9,600 hectares of commercial fast-growing tree plantations. Phase one of the project is planned to run until 2003.

Jaakko Poyry Consulting AB (Sweden) and Burapha Development Consultants (the Lao based subsidiary of Silvi Nova, a Swedish forest industry company) shared the US$1.5 million contract for consulting services on the project. One of Poyry's reports for the project states that the aim is to "develop a model to implement the policy of growing high yielding tree plantations on unstocked forest land and eroded land by the private sector." The same report defines "unstocked forest" as "previously forested areas in which the crown density has been reduced to less than 20% because of logging or heavy disturbance" and "abandoned 'hai' [swidden fields] and

disturbed stands with a crown density of less than 20%". This definition allows companies to describe villagers' community forests, grazing lands, fallow land, regenerating forest areas and fields as "unstocked forest" which they can then convert to fast-growing tree plantations.

In Bolikhamxai province BGA Lao Plantation Forestry, a company funded by the ADB project, has cleared dense secondary forest and replaced it with monoculture eucalyptus plantations. BGA aims to establish around 50,000 hectares of fast-growing tree plantations, mainly of eucalyptus, in Bolikhamxai and Khammouane provinces. The company also plans to build a wood chip mill, to export chips to Japan, and eventually to build a pulp and paper mill. Jaakko Poyry carried out the feasibility study for the BGA project.

Without the subsidies BGA is receiving from the ADB, it is unlikely that it would be able to carry out its plantation work. In 2000, the company received 70 per cent of its expenses in the form of concessionary loans from the ADB.

In addition to supporting companies establishing plantations, the ADB is helping to shape the policy framework in Laos to promote plantations. For example, in 1999 ADB commissioned Fortech, an Australian forestry consulting firm, to produce a report entitled, "Current Constraints Affecting State and Private Investments in Industrial Tree Plantations in the Lao PDR". Fortech's report recommends that the Lao government should support plantation development, through, for example, rewriting the forestry law, appointing a plantation investment coordinator, preparing a step-by-step guide for potential investors in plantations in Laos, publishing marketing information and building new roads in "key plantation development regions". Despite the fact that these recommendations would involve changes to Lao law and considerable expense, only the executive summary of the report is publicly available.

THAILAND

Thailand has the largest pulp and paper industry of the four countries looked at in this book. The industry has expanded to serve the needs of an ever increasing international market for pulp and paper, at the expense of Thailand's forests and people.

The pulp and paper industry in Thailand has been developed with the support of the Thai government and a range of international actors. Since the 1960s, the Thai government (with prompting from the World Bank) has promoted cash crops for export. In many ways, fast-growing tree plantations are simply another cash crop.

The Thai government's most brutal plan to promote the establishment of tree plantations started in 1991, when the then-military government launched the “Land Distribution Programme for the Poor Living in Degraded Forest Areas”, a project known by its Thai initials as Khor Jor Kor. The project was to be implemented by the military's Internal Security Operations Command and aimed to evict 2,500 villages from reserve forests over an area of 2.24 million hectares in northeast Thailand. Thai and foreign companies would then be able to lease the land for eucalyptus plantations.

Massive pro-democracy protests in May 1992 in Bangkok forced the military government to resign. In the following months thousands of affected villagers protested throughout northeast Thailand and eventually farmers resettled under Khor Jor Kor were allowed to return to their land.

In the mid-1990s, the Finnish government funded the Thai Forest Sector Master Plan, which was carried out by Jaakko Poyry. Poyry's master plan was heavily biased towards the development of industrial forestry and the pulp and paper industry and recommended handing over four million hectares of farmers' land to private companies for tree plantations.

Thailand's pulp and paper mills have been built with international finance, often in the form of cheap

concessionary loans. In the 1990s, three major new pulp mills started operations in Thailand: Siam Cellulose (1992); Phoenix II (1994); Advance Agro (1996). All three use technology and machinery from Northern countries to produce pulp.

Siam Pulp and Paper is part of the Siam Cement Group, Thailand's largest industrial conglomerate. Siam Pulp and Paper and its affiliates have a capacity of more than one million tons a year of pulp, paper and converted products. Jaakko Poyry won a contract in 1987 to plan a kraft mill, establish plantations and evaluate tenders and in 1989 Poyry provided advice on procurement for Siam Pulp and Paper. Kvaerner supplied pulping equipment to Siam Cellulose. After the economic crisis of 1997 caught Siam Cement with a debt of US$4.2 billion, the company hired McKinsey Consulting to get them out of the crisis. In 1999, Siam Pulp and Paper appointed Salomon Brothers as its investment banker. In early 2002, Siam Pulp and Paper took over Phoenix pulp and paper.

Phoenix pulp and paper's first production line started up in 1982. The consulting engineer for the 70,000 tons a year mill was the German-Austrian company, Klockner-Voest, and the pulping technology was supplied by the Swedish company, Kamyr. Jaakko Poyry acted as consultant for the second mill, which opened in 1994, bringing production to 200,000 tons a year. Phoenix II cost US$240 million and was financed in part by a loan of US$80 million from several Nordic banks, led by Leonia Bank of Finland. The Finnish government pays all the loan interest due to Leonia Bank. The loan was guaranteed by Finnvera, the Finnish Export Credit Agency, and the Industrial Finance Corporation of Thailand. A series of Nordic companies delivered machinery, equipment and services for Phoenix's mill, including Ahlstrom, Sunds-Defibrator, Nopon Oy, Valmet and Jaakko Poyry. Phoenix currently has plans to double its production capacity.

Advance Agro produces 430,000 tons of pulp a year. Jaakko Poyry produced a prefeasibility study and acted as engineering and construction management consultant. The mill cost US$650 million and the project's main backers were Bangkok Bank, Thai Farmers' Bank, Krung Thai Bank, the UK's Commonwealth Development Corporation, export credit agencies and the World Bank's International Finance Corporation. Barclays de Zoete Wedd was the international lead manager for an initial public offering in 1994. Sunds-Defribrator supplied pulping and bleaching technology and Kvaerner supplied a fibreline for Advance Agro. Mitsubishi of Japan supplied machinery for the plant.

The Asian economic crisis in 1997 had a serious impact on the pulp and paper industry in Thailand. The value of the Thai baht collapsed, leaving companies with even higher debts. Companies looking for a way out of debt sold shares to northern firms. In 1998, Stora Enso bought a 19.9 per cent share of Advance Agro and New Oji bought a further 5.5 per cent of the company. Norske Skog took over the Shin Ho newsprint plant in Thailand.

After the economic crisis, exports increased further, partly as a way for companies to earn hard currency to repay debts and partly because domestic consumption fell. Siam Pulp and Paper exports around 50 per cent of its production to more than 40 countries. Advance Agro exports 70 per cent of its production, the two largest markets being China and Japan. Phoenix exports 60 per cent of its production to more than 25 countries including Europe, North America, Korea, Australia and Japan.

Villagers have protested repeatedly against the problems associated with fast-growing tree plantations. They have petitioned government officials, held rallies, spoken out at seminars, given television interviews, blocked roads, marched on government offices, ripped out eucalyptus seedlings, chopped down trees, stopped bulldozers and burned down nurseries and equipment. They have planted fruit trees, regenerated community forests on land reclaimed from eucalyptus plantations and explained to journalists the methods they use to preserve patches of community forests between their fields.

As a result of these protests, villagers have won some concessions from the government. In some cases, for example in Nong Yak village in Surin province, communities have grouped together to re-establish community

forest on land reclaimed from a eucalyptus plantation.

VIETNAM

Vietnam has a large area of fast-growing tree plantations and a large number of small, mainly Chinese-built pulp and paper mills. There are 94 paper and board mills and 27 pulp mills, producing a total of about 360,000 tons of paper and board a year. Thailand's production capacity, for comparison, is 3.8 million tons.

Many of the plantations supposedly feeding these mills have very low growth rates and many are cut down before reaching rotation age. In Vietnam, according to an ADB report in 2000, "Very few of the plantations are economically viable". The country relies on imports of both pulp and paper, mainly from Russia and Indonesia.

In addition to the pulp and paper mills, wood chip mills around the coastal city of Danang produce chips largely for export to Taiwan and Japan. The pulp, paper and wood chip mills compete for raw materials. In the late 1990s, a Taiwanese company built a wood chip mill at Hai Phong and offered to pay more than the Bai Bang pulp and paper mill. Farmers cut down plantations and sold the wood to the new mill. However, after 18 months the wood chip mill closed as it could not guarantee a reliable supply of raw materials.

Support for plantation development and the expansion of the pulp and paper industry comes from within the government and from international "aid" agencies and their "expert" consultants. A Tropical Forestry Action Plan was carried out in 1990-91. TFAP consultants argued for an expanded pulp and paper industry and included on the TFAP "shopping list" was a US$25 million industrial plantations development project and a US$150,000 project to identify sites for industrial tree plantations.

In the last decade the Vietnamese government has had two major programmes aimed at promoting plantations: Programme 327 from 1992 to 1998 and the Five Million Hectare Reforestation Programme (5MHRP), which started in 1998. According to the World Bank, Programme 327 was a result of the TFAP.

Programme 327 was intended to "regreen the barren hills" and was supposed to plant 5 million hectares in 10 years. Under Programme 327, according to a World Bank-hired consultant, the area of natural forest decreased, plantation programmes had mostly failed, and rural development (supposedly one of the targets of the programme) in mountainous communities had stalled.

The government replaced Programme 327 with the 5MHRP. Of the five million hectares to be planted under the 5MHRP two million hectares is proposed to supply raw material for paper, pit-props for mines and timber. In other words, the government plans a further two million hectares of fast-growing industrial tree plantations. In December 1998, at the Consultative Group meeting in Paris, international aid agencies formed a partnership to support the 5MHRP, including: World Bank, ADB, FAO, World Food Programme, WWF, IUCN, UNDP, JICA and the governments of Finland, Sweden, Netherlands, Japan, Switzerland, Germany and Denmark. The total cost of the 5MHRP could be as much as US$2.5 billion.

Vinapimex, the state-owed Vietnam Paper Corporation, has ambitious plans to expand the pulp and paper industry in Vietnam. In September 2001, Vinapimex announced a US$1.9 billion plan to build 16 new pulp and paper projects, with almost 700,000 hectares of associated plantations.

The expansion of the Bai Bang pulp and paper mill is top of Vinapimex’s plans. The name Bai Bang was notorious in Sweden during the 1970s and 1980s. Bai Bang was the subject of parliamentary debates, newspaper articles, reports and wide public discussion. At a cost of around US$1 billion, the mill became Sweden's largest ever aid project and is possibly the most expensive pulp and paper mill in the world per ton of paper produced. In 1998, Sida produced a brochure celebrating 30 years of Swedish aid involvement in Vietnam. In it Sida explains who benefits from its aid: “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."

Today, Bai Bang appears not to be much of an issue, at least in Sweden. The proposed expansion was received with barely a murmur in Stockholm, despite the fact that funding for phase I is to come from the Swedish international aid agency, Sida, and the Swedish Export Credit Corporation, SEK. Vinapimex has signed contracts with Voith Paper and China's Sinochem to rebuild the plant. Another Swedish company, Elof Hansson, and a Japanese company, Marubeni, have won contracts to supply equipment. Elof Hansson leads a group of supplier companies which includes Metso Paper, Kvaerner Chemetics, Kvaerner Pulping, Purac, and AF-IPK.

In 1998, Vinapimex hired Jaakko Poyry Consulting to carry out a feasibility study for a 130,000 tons a year pulp mill in Kontum province, in the central highlands of Vietnam. Three years later the Vietnamese government approved a Vinapimex proposal to establish plantations to supply a new paper mill in Kontum. The government agreed to fund seven per cent of the US$240 million project. The remainder is to come from international official development assistance. To supply raw material to the mill, Vinapimex has already started planting trees and aims to establish an area of 125,000 hectares of fast-growing tree plantations. In addition, Vinapimex plans to use 38,000 hectares of natural forest to supply the mill.

There are at least four important ways in which the expansion of the pulp and paper industry in the Mekong region, as elsewhere in the South, is part of a global process. First, the advice that governments in the region receive about the industry comes from northern consultants. Second, the financing for the plantations and for the pulp and paper mills comes from the north. Third, the machinery and equipment that goes into the pulp and paper mills is supplied, developed and manufactured by northern firms. All three of these processes are often funded by multilateral or bilateral "aid" and export credits. Finally, a large percentage of the end product, paper, goes to markets in the north, where paper consumption is many, many times that of the countries in the Mekong region.

In Thailand, Phoenix's plans for expansion will only take place if the company can secure cheap international loans and subsidies from the Thai government. Rather than serving the needs of Thailand's rural communities, the expansion is to serve an export market and the demands of the international market for pulp.

The expansion of plantations in Laos is only possible because the ADB is providing cheap loans. Meanwhile, the Bank's consultants work to create the policy framework to enable the expansion of plantations.

In Cambodia, although many of the actors involved appear to be local (such as the government and the government's favourite logging company, Pheapimex) the World Bank and the ADB are failing to address the problems of logging concessions and the massive land concessions that the government has handed out in recent years. If Pheapimex does build its pulp mill, it is likely that the advice, machinery and technology will be supplied --with the support of export credits and aid-- from northern countries.

The Vietnamese government's five million hectare reforestation programme is supported by a wide range of international actors, including "aid" agencies and NGOs. Although the programme includes elements other than industrial tree plantations, one of the key aims is to establish two million hectares of plantations to serve the pulp and paper industry and other industrial processes.

This book is an attempt to give an overview of the processes and actors involved in promoting the pulp and paper industry in the Mekong region. The point is not to argue that everything about the pulp and paper industry is "bad", but to encourage debate on the issues raised about the pulp and paper industry and the development of industrial tree plantations in the Mekong Region. The aim of the book is not to provide "solutions" or "recommendations", but to support the rights of communities to make their own decisions over the management

of the rivers, farmlands and forests.

CAMBODIA – Land-grabs, logging and plantations

This report starts with a look at the legal framework for land rights in Cambodia – the recently rewritten Land Law and the Forest Law – followed by a look at some examples of cash crop plantations in Cambodia. Although not related to the paper and pulp industry, these large-scale plantations provide an indication of the likely problems villagers will face with the introduction of industrial fast-growing tree plantations. The third section looks at the history of tree plantation development in Cambodia, and the final section describes the problems with Cambodia's first industrial tree plantation, and how local communities are opposing the destruction of forests to make way for monoculture tree plantations.

Throughout Cambodia, village people depend on farmland, fisheries and forests for their livelihoods. In recent years, large scale logging concessions have reduced villagers' access and rights to forests, and caused massive damage to the forests themselves. Of a total land area of 18 million hectares, the government handed over approximately 7 million hectares to logging companies. After cancelling 12 concessions covering an area of more than 2 million hectares in early 1999, the government suspended all logging operations in January 2002.

In addition to the logging concessions, however, rural people are losing access to land increasingly through the granting of concessions to businesses for large-scale agricultural plantations, often involving abuse of administrative or military power. In 2000, the government awarded a concession for Cambodia's first large-scale tree plantation to the Pheapimex Group, one of the largest and most destructive logging companies in Cambodia.

1. THE LAND LAW AND THE FORESTRY LAW

Two laws are key to the issue of plantations in Cambodia: the Land Law and the Forestry Law. A new Land Law has recently been rewritten and became law in August 2001. The Forestry Law has also been rewritten and submitted to parliament for approval.

- LAND LAW

The issue of rights to land is one of the most crucial problems facing communities in Cambodia. In 1975, under the Khmer Rouge regime, private property was abolished. Only in 1989 was this formally overturned, once again allowing private property ownership. Although there was a recognition of the right to gain private land titles at this time, the vast majority of people did not receive a formal award of land and few people received land certificates.

The Land Title Department claims that 4.5 million people applied for land titles in the two years after 1989. However, this figure is likely to be exaggerated – it would mean that around half the population of the country had applied for land title (Williams 1999b: I 10 and footnote).

A new Land Law in 1992 failed to clarify the situation. Rather than addressing the issue of land grabbing that had taken place before the implementation of the law, the 1992 Land Law effectively made such takeovers of land and property legal. The confusion surrounding land titles and applications for land titles led to increasing land grabbing and concentration of control of land (Williams 1999b: II 6).

In 1999, Shaun Williams of Oxfam GB pointed out that "land grabbing is pervasive and is dominated by people with more power than their victims" (Sik Boreak 1999: 9). Williams calculated that the cost to the government of the failure to set up secure, registered land tenure through lost land tax revenue was US$12 million per year. He pointed out "This would be more than enough to pay for the participatory, rapid cadastral appraisal and

registration of land interests throughout the country" (Williams 1999b: I 11).

In January 1998, the ADB's first mission to review Cambodia's land legislation took place. Five months later a Cambodian government task force produced a draft land law. In October, the government's Council of Ministers adopted the law in principle. Shaun Williams described the draft law as "hastily conceived and fundamentally flawed" (Williams 1999a: 11). He pointed out that the advice given by the ADB's land law expert "appeared to have been ignored by the drafters of this revision" (Williams 1999b: II 2).

The ADB made revision of the Land Law a precondition for release of the next tranche of its Agricultural Sector Reform Programme, which perhaps explains why the government task force produced such a hurried draft.

As a response to the October 1998 draft law, the Cambodia Bar Association established an "NGO/IO Land Law Working Group", comprised of legal aid and human rights NGOs and IOs (International Organisations) (Williams 1999a: 11). The Working Group produced its own revised Land Law and has worked closely with government officials and the ADB's consultants. Heng Vong Bunchhat, the ADB's consultant told the Phnom Penh Post, "In some matters it is good to work together with organizations. They have contact with the small people and know their concerns. . . . But for the land law we did not only have to deal with social aspects. There were also economic aspects to consider" (Chea Sotheacheath and Marcher 1999: 4).

After two years of discussions, meetings and revisions the revised land law was approved by the National Assembly and Senate and became law on 31 August 2001 (World Bank 2001).

While the land law was under revision, villagers protesting against land grabs became a regular occurrence outside the National Assembly in Phnom Penh (O'Connell 2000). In July 2000, the Phnom Penh municipality banned protesters from the area in front of the National Assembly. In several cases, villagers had lost their land and community forests to businessmen who took the land for plantations such as coffee, oil palm, cashew trees. In October 2000, Ou Yon, a Buddhist activist in Kampong Thom, was murdered. His colleagues linked the shooting to an attempt by former Kampong Svay District Governor Ly Kam Say, to seize community land for a cashew tree plantation (Bou Saroeun 2000). In Poipet province, villagers' houses were bulldozed to make way for cash crops. As compensation, villagers were offered an area that was scattered with land-mines (Marcher and Lon Nara 2000).

In 1999, Legal Aid for Cambodia (LAC) had around 15,000 land dispute case clients. Two years later LAC has approximately 50,000 clients in 54 major cases. LAC classifies cases as major if the opponent is powerful (Cooper 2001).

In 2001, the World Bank launched a five-year, US$33.4 million Land Management and Administration Project, which aims to "improve land tenure security and promote the development of efficient land markets". The project is to be funded by the German government (US$3.5 million), the Finnish government (US$3.5 million), the Cambodian government (US$3 million) and the World Bank, through its International Development Agency (IDA) (US$23.4 million) (World Bank 2001).

Despite the wide-ranging scope of the programme, all "policy and institutional development activities" involved in the project will be rated environmental assessment category C and will therefore not be "subject to special environmental review requirements" (World Bank 2001).

While there is little doubt that land rights issues in Cambodia are a serious problem, the involvement of the World Bank in a land management programme raises several concerns. The World Bank is not a "donor" but a bank and its loans must be repaid by the Cambodian government. The government must therefore raise money in order to repay the Bank's loan. Allocating land to villagers is unlikely to make a profit for the government, whereas handing over control of large tracts of land to private companies (for tree plantations or cash crops)

may generate some income for the government – while impoverishing villagers.

The Bank's Project Information Document points out that "Lack of a land law is one of the main complaints of foreign investors in Cambodia (the others are high utility costs, inadequate infrastructure, and excessive bureaucracy)" (World Bank 2001). The danger is that the structural bias of the World Bank, as well as the Cambodian government's enthusiasm for cash crops and plantations, will result in the land registration programme favouring private investors' rights over those of villagers.

For several years, Taiwanese, Malaysian, Chinese, Vietnamese and Cambodian businesses have been taking over tracts of land in Cambodia for cash crops such as coffee, palm oil, cashew nuts, rubber, tea, fruit, rice, cassava and eucalyptus. In 1998, the Deputy director of the Agriculture Ministry's department of planning and cooperation, Kith Seng, told the Phnom Penh Post that the biggest problem was finding the massive amounts of land investors were asking for (Sainsbury and Chea Sotheacheath 1998).

In 1998, the Phnom Penh Post reported that a Chinese company from the Guangxi Zhuang Autonomous Region had "secured" 18,000 hectares of land, with the approval of the Cambodian government to plant eucalyptus and sugar cane. The article stated "one local commune chief has criticized the plan, saying the first he heard of the project was when company signs started going up on commune land" (Sainsbury and Chea Sotheacheath 1998). The article doesn't state where the project is, although it mentions that the government refused the company's application to clear land in a section of Bokor National Park.

- FORESTRY LAW

In 1995, the World Bank, UNDP and the FAO carried out a review of the forestry sector in Cambodia. The Forest Policy Assessment report was presented to the Consultative Group meeting of multilateral and bilateral aid agencies in Tokyo in 1996. In July 1996, the government formed a National Steering Committee to manage forest policy and agreed to four more studies, funded by the World Bank:

Forest Policy Reform (Associates in Rural Development, USA);
Forest Concession Management (Fortech, Australia);
Log Monitoring and Enforcement (Development Alternatives Inc., USA); and
Legal Counsel (White and Case, USA) (Bottomley 2000: 18).

The studies were carried out between November 1997 and February 1998, and the reports were published in April 1998. NGOs generally welcomed the information made available through the Forest Policy Reform Project and saw the process as increasing transparency in the Cambodian forestry sector. For example, Ruth Bottomley, of the NTFP Project welcomed the consultants' recommendations as "an effective template for forest policy reform" (Bottomley 2000: 18). NGO Forum raised concerns in a statement to the 1999 Consultative Group about the consultants' suggestions to establish a Cambodian Forest Action Centre which would enforce the forestry law with a staff of 700 armed rangers. NGO Forum was worried that this would bring yet more guns to Cambodia's forests and would put local communities at risk (Bottomley 2000: 18).

Since 1996, international aid organisations have made their continued funding conditional on improvements in the Cambodian forestry sector. For example, the UK delegate at the Consultative Group meeting in 1996 during his presentation stated, "The Royal Cambodian Government must be seen to be making proper use of its own resources in order to justify continued support by the international donors allocating funds for which their is intense competition from other well-deserving sources" (cited in Global Witness 1996: 11). In May 1996, the International Monetary Fund suspended Cambodia's Enhanced Structural Adjustment Fund payments because of the Cambodian government's "Failure to observe safeguards with respect to illegal logging and other forms of corruption" (IBRD 1999: 48).

In this context, the World Bank supported a rewrite of Cambodia's 1988 Forestry Law.

In September 2001, Ty Sokhun, the Secretary General of the Department of Forestry and Wildlife announced at a conference in Indonesia, "The draft has been reviewed and approved by the Council of Ministers, and has been submitted to both houses of the Parliament for adoption" (May Sam Oeun et al 2001).

The Environmental Working Group of the NGO Forum on Cambodia reviewed and submitted comments on the draft sub-decree on Forest Concession Planning (Bottomley 2000: 19). A consultation period was also allowed before the Draft Forestry Law was submitted to the National Assembly on 20 July 2001. Although the drafting of the new Forestry Law has allowed some participation and has to some extent helped to open up a discussion in Cambodia on deforestation and the impact of industrial logging, the various governmental departments and international organisations that have helped draft the law tend to have agendas which go against the rights of local communities to manage their resources. For example, the World Bank stated in 1999, "A sustainably managed industrial concession system can be the center piece for the Cambodian forestry sector" (World Bank 1999: 7). The concession system has proved disastrous for Cambodia's forests and for its communities.

Regarding future development of industrial tree plantations in Cambodia, the institutional bias in the law is best illustrated by the fact that the Draft Forestry Law fails to differentiate between plantations and forests. The Law states: "Forest means a unit of natural or artificial forest ecosystem, in the form of wet, flooded or dry land, dominated by trees and mixed vegetation, natural or planted, wildlife and other natural resources located therein, primarily utilized for timber and NTFPs production, conservation and other forest services" (Draft Forest Law, 20 July 2001: 3). This deliberate confusion between a crop of planted trees and a forest or woodland helps the promotion of plantations in the country. Companies can claim to be "reforesting", when in reality they are destroying villagers' community forests, grazing land, commons and fallows, and replacing them with even-aged stands of one of two species of fast-growing (often exotic) trees (see Carrere 1999: 7-9).

Article 7 of the draft Forest Law includes "reforestation on conversion forest, idle land and other areas" as a duty of the Forest Administration (Draft Forest Law, 20 July 2001: 5). While conversion forest is defined in the Law, "idle land" is not. The inclusion of the phrase "other areas" could allow any land, anywhere in the country to be converted to monoculture tree plantations.

2. RUBBER AND OIL PALM PLANTATIONS

While not related to the pulp and paper industry, rubber plantations and oil palm plantations have similar impacts on local communities to fast-growing tree plantations. Rubber and oil palm plantations also involve using large areas of land, often land which is crucial to local people's livelihoods.

During the 1960s, especially in the northeast of Cambodia, many highlanders were evicted from their traditional lands to make way for rubber plantations. The plantations, Prince Norodom Sihanouk's assimilation policies in the northeast and the bombing by the US airforce meant that the northeast was a prime recruiting ground during the first years of Pol Pot's Khmer Rouge (see Colm 1998).

Since the 1960s many of the rubber plantations have been neglected and only in recent years have some of them been rehabilitated. The Cambodian government is currently encouraging the rehabilitation of rubber plantations and the development of new plantations.

In August 2001, Prime Minister Hun Sen gave a speech in Kompong Thom province at the launch of the Chhub Rubber Plantation Company's 6,200 hectare plantation. In his speech, Hun Sen praised the company for "rehabilitating the ecological balance of the region, which was degraded to some extent by logging". Local villagers are to grow cash crops between the rubber trees and will be given three hectares of land "to develop

rubber plantations or grow other cash crops". Hun Sen added, "Our people have been transformed from rice and slash-and-burn farmers into workers and owners of the family rubber plantation" (Hun Sen 2001).

Local people's experiences with plantations and cash crops elsewhere in Cambodia however, indicate serious problems when large tracts of land are taken over by agricultural plantations. Two oil palm developments, one in Ratanakiri in north-east Cambodia and one south of Phnom Penh illustrate these problems.

In 1995, a joint venture company won a 20,000 hectare concession to plant an oil palm plantation in O Yadao district, Ratanakiri province. The company is a joint venture between Globaltech Sdn. Bhd. (Malaysia), Mittapheap-Men Sarun and Rama Khmer International (both Cambodia) (Colm 1996: 6). The project would displace 4,500 people from their land, while providing employment for a maximum of 400 (Paterson 1997: 4).

The company recruited villagers to clear land for the plantation including villagers' forests and fallow fields. "The company measured the land that people were in the process of farming and said this land belongs to the company already – even if we didn't sell," one villager told Sara Colm, a researcher with the NGO Natural Resources Management Project (Colm 1996: 11). However, a trial plantation in 1996 was a complete failure and land the company had already cleared was simply left unused. The company then started to plant coffee, much of which died because of drought the following season. The company then built a dam to provide water to irrigate the coffee. Villagers downstream of the dam have seen their streams and water sources depleted. The company bought the land which was submerged by the reservoir from villagers at a price of US$52 per hectare. Villagers sold the land unwillingly, reasoning that the company would take the land anyway, if they refused to sell (NTFP no date: 2-3).

A survey by the Ratanakiri-based NGO, NTFP project, compares the potential income to villagers from planting fruit trees between 1995 and 1998 and the income to villagers from large scale monoculture. The survey concludes that the income from fruit trees is significantly greater for villagers, and "because it is based on a variety of crops is less risky and more sustainable than large scale monocultures that are being presented as the alternative" (NTFP no date: 1).

The report also sums up villagers' problems with contract farming on large-scale monoculture plantations:

"While the company may be offering employment opportunities to local people, their sharecropping plan increases village peoples' vulnerability because they will have to give up growing rice for their families in order to tend the coffee. Their income will depend very much on seasonal growing conditions and the company will dictate the price at which villagers must sell their beans to the company. Farming people are really being asked to take risks that they cannot afford to take. Their question to the company was . . . how are they going to look after their children and their old people if they have to give up everything and look after coffee" (NTFP no date: 3).

Another oil palm plantation, 150 kilometres south of Phnom Penh, has also led to problems for local people. A joint venture led by Mong Reththy, one of Cambodia's richest businessman and Cambodia's largest rubber trader, is attempting to establish an oil palm plantation on 3,800 hectares of land adjacent to Route 4, the main road between Phnom Penh and Sihanoukville.

The joint venture company behind the US$12 million project, Mong Reththy Investment Cambodia Oil Palm, is owned by Mong Reththy (60 per cent), Borim Universal (South Korea, 30 per cent), and Lavanaland (Malaysia, 10 per cent) (Bok Chiv Tor 2001).

The land was already in use by people living in four villages in the area. Almost all of the 300 families in Tanei village lost land to the company's plantations and many feel they were tricked into giving up their land. Villagers that did receive compensation were only paid for the land they lost and received nothing for the trees they had

planted on the land. One villager explained, "The chief of the commune asked us to give our thumb prints on a statement, but so far we haven't received anything. The government has given money to the company, but every month the company tells us it will pay us next month. Now one year has passed." Mong Reththy denies that his company has received any money from the government (Mong Reththy 2001).

The company, with the help of the Phnom Penh authorities, moved 99 families from a squat in Phnom Penh to work on the plantation. However, few of the people moved from Phnom Penh have actually found work on the plantation, the processing factory is still to be built, and many people are simply moving back to Phnom Penh to look for work there.

When people were moved from Phnom Penh in early 1999, the company promised to give them two hectare oil palm plots in order that they could earn some money from the oil palm kernels produced. In July 2000, Mong Reththy told the Phnom Penh Post that his company "is still waiting on a loan from the Rural Development bank to pay for preparing the land and providing villagers with seedling and fertilizer" (Bou Saroeun and O'Connell 2000).

Six months later, Mong Reththy wrote to Watershed magazine, explaining, "The promise of two hectares of planted palm oil plantation is still on the Company top priority agenda. The company is sourcing every possible way to secure a loan from local and international banks." Mong Reththy claimed that this was proof that his company is "more than willing to commit" (Mong Reththy 2001).

After more than two years, the villagers are still waiting for the promised two hectare plots. In June 2001, Bok Chhiv Tor, Project Coordinator for Mong Reththy, dismissed the problem, saying "The villagers can freely do whatever they please to earn their living. If they choose to work for the company we will give them employment." He added, "We really don't know how many of the villagers are currently employed by the company" (Bok Chiv Tor 2001).

In February 2001, more than 6,500 oil palm trees on Mong Reththy's plantation burned down. Mong Reththy told the Cambodian newspaper, Rasmey Kampuchea, that the fire was deliberately started, arguing that the fire started simultaneously in two different places. The oil palm trees burnt were planted in 1997, and were beginning to fruit. The company estimated the cost of the damage at around US$70,000 (Rasmey Kampuchea 4 March 2001).

So far, the oil palm venture doesn't even make a profit. The first fruits have begun to be harvested, but without a factory to process the kernels, the first year's harvest was simply left to rot.

The US$5 million factory is planned to be completed in 2002 but it is not clear where the money will come from. Mong Reththy is currently negotiating with the government in an attempt to gain help in funding the factory. In May 2001, Mong Reththy told the Cambodia Daily, "If there is no factory, I will lose another US$1.5 million in 2002." He said so far the plantation project has cost US$10 million in overheads, and this year it lost US$1 million (Kay Kimsong 2001).

In March 2001, the Rasmey Kampuchea newspaper reported that the Ministry of Agriculture did not encourage the oil palm plantations project, on the grounds that "it would not give a positive result". In the meantime, Mong Reththy is focussing on his 1,800-hectare cassava plantation (Rasmey Kampuchea 4 March 2001).

Similar problems of access to land and unemployment will arise in other areas of the country if the Cambodian government allows large tracts of land to be handed over to agri-businesses or tree plantation companies. The experience from Thailand with tree plantations indicates that further environmental and social problems will arise as water tables are lowered, community forests are replaced by monocultures and common land disappears. (See report on Thailand.)

3. A HISTORY OF FAST-GROWING TREE PLANTATIONS IN CAMBODIA

There have been several plans to develop a pulp and paper industry and associated fast-growing tree plantations in Cambodia. However, the level of paper consumption remains very low at around 0.7 kg per person in 1998 (PPI 1999) and there is only one large-scale industrial tree plantation currently underway in the country.

In 1965, the Committee for Coordination of Investigations of the Lower Mekong Basin (the forerunner of the Mekong River Commission) produced a report "on the feasibility of establishing a large-scale pulp and paper industry in the Lower Mekong basin". The justification was two-fold: to utilise the electricity that would be generated from the proposed hydroelectric dams on the Mekong mainstream; and to find a use for the "seemingly unexhaustable resources of wooden fibrous raw materials within the region" (Bryde et al 1965: 1). Thirty six years later the Mekong mainstream dams have not been built (outside China) and the proposals have been dropped, because of the massive social and environmental problems associated with such large-scale dams. Meanwhile, the forests of the region have been devastated by war, logging, dam construction, conversion to agriculture (often cash crops for export) and conversion to monoculture tree plantations.

The 1965 report looks at the possibility of establishing a large-scale pulp and paper mill in Phnom Penh. Having discussed the various possible sources of raw material already existing, the study concludes that they are not suitable for economic conversion to pulp, and "a large-scale pulp and paper industry within the Mekong basin is only feasible provided correspondingly large plantations of coniferous species are established" (Bryde et al 1965: 24). Interestingly, the consultants do not suggest possibility of eucalyptus or acacia plantations. The report recommends logging the "overmatured" pine forests in Cambodia, and replacing the natural pine forests with plantations (Bryde et al 1965: 35-39).

However, the report concludes "no obvious reasons were seen for assigning high priority to a pulp and paper industry. On the contrary, it was considered likely that other types of industries may serve the interest of the Mekong countries much better, especially those calling for more labour and manual skills but less capital investment per employee" (Bryde et al 1965: 9). The plans for a large-scale pulp and paper mill in Phnom Penh were quietly shelved.

Since that time, there has been little effort made to develop a pulp and paper industry in Cambodia. Between 1985 and 1990 the Department of Forestry established approximately 2,000 hectares of Acacia auriculiformis and Eucalyptus camaldulensis plantations (White 1991: 7). These were supposedly planted to provide firewood, although neither species provides particularly good timber for burning.

Foresters, whether employed by aid agencies or NGOs, will, almost invariably, sooner or later, recommend large-scale industrial forestry, including "reforestation" involving tree plantations. In 1991, Keith White, forest advisory consultant to the NGO Australian Catholic Relief, recommended a five-year "Industrial Forestry Plantation" programme which would aim "To develop industrial wood production forests on degraded forest land and to rehabilitate them to productive forest". The consultant argues that this would provide rural employment and "viable economic growth leading to the establishment of needed forest industries" (White 1991). This programme did not take place. The consultant's assumptions about rural employment are contradicted by studies carried out in Ratanakiri province comparing the income to villagers of fruit tree planting on their own land with income from monoculture plantations. The surveys, carried out by the Ratanakiri-based NGO, NTFP project, indicate that villagers would prefer to retain control of their own land and plant their own crops, rather than becoming dependent on one crop and one company for their livelihoods (NTFP no date).

The Cambodian Forestry Department issued a study in 1999 which recommended "Rehabilitation of the country's degraded forest ecosystems" as a "priority concern for the future." The report added, "It is clear that a priority need exists to put in place an effective system for land-use planning. The question of the best ways of rehabilitating existing degraded forests is a secondary issue" (Vientiane Times 19-22 November 1999). Rather than being a secondary issue, however, who controls the rehabilitation of Cambodia's forests, and for whom the rehabilitation is carried out are crucial issues. Replacing degraded forest areas with monoculture (often exotic) tree plantations is a very different prospect for local people than community managed forest regeneration.

The Afforestation Office in the Department of Forestry, is currently carrying out a programme to plant acacia and eucalyptus which started in 1999. The chief of the Afforestation Office, Ma Sotaa said that the government-funded programme aims to "occupy the area for the pulp and paper industry" and will plant 2-300 hectares each year, with a total area of "more than 20,000 hectares". The trees are to be cut after five years. The land to be planted is "degraded forest area, with only small trees and imperata grassland" according to Ma Soktha (Ma Soktha 2000).

4. THE PHEAPIMEX CONCESSION

In January 2000, the Royal Government of Cambodia signed a contract with the Pheapimex Group giving the company a 70-year right to "develop" 300,000 hectares of "spare forest" land in the provinces of Kampong Chhnang and Pursat. Pheapimex intends to plant the land with eucalyptus and acacia trees to supply a planned pulp and paper mill in Kandal province (Bala Chandran 2001).

According to the contract for the concession, Pheapimex must plant 5,000 hectares in the first year, and a gradually increasing area each year for the first 15 years of the contract. The contract also requires that Pheapimex deposit US$20,000 with the government as a guarantee that the area proposed is planted. The amount of rent to be charged for the land, however, appears to be undecided. The contract states, "At the present time, the government is not ready to collect the annual land rental fee" and any rent due is to be agreed in the future, "in accordance with the law and decision of the government".

In December 2000, Pheapimex signed a joint venture agreement with the Chinese Farm Cooperation Group to build a pulp and paper mill. (People's Daily 25 December 2000) The US$70 million joint venture is financed with a loan to the Cambodian government from the Import-Export Bank of China. The loan forms part of a deal between the Chinese and Cambodian governments to boost trade and investment between the two countries. Under the terms of the loan, the Pheapimex and the Chinese Farm Cooperation Group will pay five per cent interest to the Cambodian government. The government will pay three per cent interest to the Chinese Import-Export Bank (Bala Chandran 2001).

The Secretary of State for Agriculture Forestry and Fishery, Chan Tong Yves, told a reporter that he welcomed the deal and said the government's efforts to draw investment into the agriculture sector were bearing fruit (Bala Chandran 2001). Pheapimex is well placed to benefit from such efforts. The company's Cambodian owner Choeng Sopheap (nicknamed Yeay Pho) has "extremely close relations" with Cambodian Prime Minister Hun Sen, according to the NGO Global Witness. Yeay Pho's husband, Lao Meng Ken, is a director of Pheapimex, and is a special adviser for foreign investment to Hun Sen (Global Witness 1999: 8) and Pheapimex is a major donor to the Cambodian People's Party.

Pheapimex-Fuchan, a Taiwanese joint venture with the Pheapimex Group is the largest logging concession holder in Cambodia, with more than 700,000 hectares of concessions. According to Global Witness, "Pheapimex-Fuchan is an example of all that is wrong with forestry in Cambodia. They enjoy the protection of Hun Sen, they cut what they like and it seems that no one has the power to do anything about it" (Bangkok Post 20 June 1998).

Global Witness has been monitoring logging in Cambodia since 1994 and is currently financed by Danida as the Independent Monitor of the Forest Crimes Monitoring Unit, which in turn is funded by the UK's DfID. The NGO has accused Pheapimex of illegally logging outside their concessions, logging in other firms' concessions, threatening and attacking forestry officials, logging without the prior approval of the Department of Forestry and logging in wildlife areas (Global Witness 1999: 7-8).

Pheapimex's plantation concession area in Kompong Chhnang and Pursat includes all the available forest land in the area. The concession is bordered by the Aural Wildlife Sanctuary to the east and by the Tonle Sap to the west. Both areas are protected. The concession may even encroach on the Aural Wildlife Sanctuary. If villagers' commons and forests are converted to monoculture tree plantations, they will have little choice other than to collect forest products from the protected areas.

Villagers in Ansa Chombok commune in Pursat province are worried that Pheapimex will destroy 6,800 hectares of forest near their village and replace it with monoculture tree plantation. The forest includes an area of lowland pine forest (Pinus merkusii) which is rare in Cambodia and protected by law.

In February 2001, villagers travelled to Phnom Penh to try to persuade the government to halt the planned plantation (Bou Sarouen 2001). In March, a meeting between government officials and villagers took place in March in Ansa Chombok commune. Over 100 villagers from seven villages turned up to the meeting but officials allowed only one representative from each village into the meeting.

Government officials started the meeting by asking villagers whether they would allow Pheapimex to work in their area. The village representatives responded by pointing out that they would first like to ask the government officials some questions:

Before the contract was signed was an environmental impact assessment approved and if so can they see it?
Was the National Assembly informed before the contract was signed?
On which law is the Pheapimex land concession contract based?
What does Pheapimex think Eucalyptus does to the soil and water table?
What impact does Pheapimex/Government think a paper factory will have on the Tonle Sap and its fish?
Why when Cambodia is in a process of losing its forests is the government allowing Pheapimex to destroy more forest to plant trees for paper?
Did the Ministry of Environment see and agree to the Pheapimex contract?

The government officials offered no response.

Oum Huot, a villager from Ansa Chombok told the Phnom Penh Post, "We completely reject the idea that this land is 'degraded forest'. This is good forest and the big trees were cut by loggers only in the last few years. If they leave this land alone for 15 to 20 years big trees will grow again" (Bou Saroeun 2001). "We are worried about this plan," Luek Thuon, another villager from Ansa Chombok, told the Phnom Penh Post. "If they destroy the old forest they might as well come to kill us all. It is our rice pot" (Bou Saroeun 2001).

Villagers from seven villages that would be affected by the proposed plantations issued a statement in January 2001 opposed the project. The statement is reproduced below:

"We disagree with the company's plan to bulldoze the existing forest and plant paper trees for the following reasons:

"We all rely upon the forest to meet our livelihood needs for it supplies resin, fruit, creepers, rattan, cassava, mushrooms, and housing materials and is also used for our cattle's grassland. The wood so far has not been depleted and is still useful and profitable for us. The cutting of trees [by the company] will cripple us and also impact on people 's fields throughout the planned location.

"The cutting, which will lead to the clearing of 130,000 hectares in Pursat Province will affect environment that the Government have planned to protect and reforest. Instead, Pheapimex is planning to destroy the forest that is useful for protection against floods, storms, and erosion into the Tonle Sap River.

"When planning the agro-agricultural scheme, the company did not talk with the local people and didn't examine the location of people's villages and farms within the investment area. As mentioned, we would like you to solve the problem before it is too late and to demand the whole planned land in order to be people's use and future generation's property."

An NGO visit to the area in March 2001 reported the various uses villagers made of the trees:

"Trach (Dipterocarpus intricatus) and Chhoeuteal (Dipterocarpus alatus) both tapped for resin, Kroeul (Melanorrhea laccifera) resin extracted to produce varnish, Srakum (Payena elliptica), Pring (Eugenia sp.), Kuy, Vay and Rum Doul which are all fruit trees, Rum Deng Meas one of many traditional medicine trees, Thbeng (Dipterocarpus obtusifolius) for firewood, housebuilding and resin, Krakas (Sindora cochinchinenis) for firewood and Popel (Hopea recepei) from which small amounts of wood used to preserve sugar palm sap and also occasionally used for boat building. There was also a good amount of bamboo and rattan in the forest which villagers make use of."

The contract between Pheapimex and the government states that "If there is wood with commercial value left on the land . . . [Pheapimex] must pay for the wood the whole price to [the government] in accordance with the existing forestry management law." NGOs in Cambodia report that businessmen are paying for young trees to be cut down inside Pheapimex's concession. The trees are used by fishing lot owners as poles in constructing barrages blocking rivers, in order to catch fish.

In October 2001, Chan Sarun, the Minister of Agriculture, wrote to the Department of Forestry, giving permission for the collection of non-timber forest products including "firewood, charcoal and young trees" in Pursat and other provinces. The letter seems to be an attempt to allow the degradation of the forest in the area of the Pheapimex concession. Another letter from Provincial Forestry Officials specifically allows local businessmen to collect poles in the area of the Pheapimex concession. These letters may relieve Pheapimex of the duty of paying the government for the wood cut within their concession area. The letters could also be an attempt to encourage the degradation of the forests in the area and an attempt to reduce local communities' opposition to the project.

The 2001 Land Law could also provide a mechanism for challenging the size of Pheapimex's concession. Article 59 of the Land Law states, "Land concessions shall not be more than 10,000 hectares. Existing

concessions which exceed such limit shall be reduced." In theory, at least, Pheapimex's concession area should be reduced in order to conform with the law. However, the article allows for exceptions and states, "The procedures for reductions and specific exemption shall be determined by sub-decree." The government has yet to produce any sub-decrees relating to Article 59 of the new Land Law.

Opposition to the plantations continues. Legal Aid of Cambodia is working with villagers in Pursat province to create a forest protection society aiming to establish legally villagers' right to forests for gathering and other purposes.

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LAOS – Subsidies to a struggling plantation industry

This report gives an overview of the situation in Laos, starting with an overview of the situation today, followed by a look at some of the international support to the industry, including the Asian Development Bank's role in promoting plantation development in Laos. The final section profiles some of the companies that are active in the plantation sector.

1. OVERVIEW OF THE SITUATION TODAY

Laos has a very low per capita consumption of paper and board products, reported to be 0.6 kilogrammes (kg) in 1998 (PPI 1999). Compared to Thailand, there is a much smaller area of fast-growing tree plantations. However, in recent years there has been a significant amount of interest, particularly from Thai companies, in expanding the area of tree plantations in Laos to serve the pulp and paper industry.

Laos' only paper mill, the Asia Paper Factory is 10 kilometres outside Vientiane. Water from the mill is channeled to nearby rice paddies. In February 2001, the Lao news paper Patheth Lao reported that local residents had complained about the factory emitting dirty water and a strong smell. Bounmy Somnsad, a consultant from the factory dismissed local people's concerns and said, "The water doesn't contain any chemicals, only flour and lime, which is good for rice production, it does not effect the health of residents" (KPL 2001b).

In the mid-1990s there were several reports that Laos was planning to build its first large-scale pulp mill. For example, in October 1996, Pulp and Paper International Magazine reported that Vientiane Pattana Agro Industry planned to build a 100,000 tons a year pulp mill. The company was a joint venture between the Lao government and a Thai company (PPI 1996). Phoenix Pulp and Paper Mill in Khon Kaen in Thailand has planned bamboo and eucalyptus plantations, a wood chipping mill, a 20,000 tons a year paper mill, a 600,000 tons a year pulp mill, a 55-room hotel and a tourist resort. The then-majority owners of Phoenix, European Overseas Development Corporation set up four companies all supervised by EODC's offices in Laos with the aim of expanding their operations to Laos (Watershed 1998b: 56-57). None of these plans have come to anything, partly because of the Asian economic crisis in 1997. (See report on Thailand – EODC.)

According to the FAO, the first eucalyptus and other fast-growing tree species in Laos were planted in the early 1960s. A survey carried out by the Ministry of Agriculture and Forestry in 1993 states that 1,900 hectares of plantations were established before 1976. By 1993 almost 10,000 hectares of plantations had been planted, although the Ministry estimated the survival rate to be as little as 46 per cent (FAO www 2).

The statistics for plantation area in Laos are inconsistent, and the exact area of plantations is difficult to establish. For example, in 2000, the FAO estimated that there was a total of 53,900 hectares of plantations in Laos. This total included 8,100 hectares of eucalyptus plantations, 5,400 hectares of acacia and 13,500 hectares of teak (FAO www 2). The Asian Development Bank, however, estimated in 1998 that 33,800 hectares of plantations had been established since 1975. The ADB's consultants point out that survival rate is low, and they estimate the actual plantation area to be between 12,000 and 15,000 hectares (Thongleua and Castren 1998).

There have been few (if any) open protests by farmers and villagers in Laos for two main reasons. First, the development of large-scale industrial plantations is still in its infancy and the impacts are therefore so far local and, compared to Thailand, still quite small. Second, Laos is a one-party state, and the Lao People's Revolutionary Party does not tolerate dissent. Amnesty International's 2001 report on Laos states, "Freedom of expression, association and religion continued to be severely restricted" (AI 2001). There is no free press in

Laos, there is no right to change the government, no right to freedom of speech, religion or movement. Under these circumstances, protest is far more difficult than in Thailand. However, villagers have complained to local officials about the impact of plantations and in Champasak province villagers have erected signs indicating communal grazing land and forest in defiance of the company attempting to enclose the land as tree plantations.

2. INTERNATIONAL SUPPORT TO THE INDUSTRY

Support for the development of fast-growing tree plantations in Laos comes from a series of sources. For example, Gary Oughton of the Vientiane-based consulting firm Ecolaos stated in November 2000, "We need to get trees back into this region of Southeast Asia, by any means possible." His consulting firm was involved in the Resettlement Action Plan for the proposed Nam Theun 2 hydropower dam. When asked about the problems of livelihoods being destroyed by the project, he recommended "joint forest management between villagers and a high tech company like Poyry." Inevitably, this would include industrial plantations.

Laos is heavily dependent on foreign investment and aid. Around 80 per cent of all "development" projects are paid for from overseas (Brandmaier 2001). Since 1988, 37 countries have invested more than US$5.7 billion in over 840 projects in Laos. Thailand has invested more than any other country, with around US$2.9 billion in 262 projects. The US ranks second with US$1.4 billion invested and South Korea third with US$636 million (KPL 2000).

There has been a series of overseas projects aimed at promoting plantation development in Laos. In 1967, Australia and Laos started discussion on the Lao-Australian Reforestation Project (Bounphom 1993: 6). According to a report produced for the Asian Development Bank, most of the tree planting carried out under the Lao-Australian Reforestation Project "failed bacause [sic] of a combination of one or more factors such as poor maintenance, cattle or fire damage" (Saravanamuttu Muttiah no date: 7).

The Asian Development Bank has funded projects in the forestry sector in Laos since 1978. The focus was on industrial forestry and the first loan of US$8 million went on modernising a plywood mill and on associated forestry operations (ADB 1989).

An ADB-funded "Forestry Development Project" started in 1979. One of the consultants on this project, Saravanamuttu Muttiah, reveals the bias towards industrial forestry and species including eucalyptus inherent in many such projects. The project was supposed to include collecting seed from forests. However, the consultant reported that the it was simply too much hard work to get into the forests to collect seed: "Because of various difficulties encountered in getting into remote forest areas for seed collection, the possibility of establishing chiefly clonal seed orchards of premier species was examined but it requires considerable initial research support" (Saravanamuttu Muttiah no date: 5). It is far easier for foresters to spend their time in the laboratory or seedling nursery working with tree species they know about, such as eucalyptus, than to go out in the forest collecting seeds of species about which they know far less than the local communities. Just in case the point was lost on the reader, the consultant added, "Eucalypts have a difinite [sic] place for community forestry in Laos" (Saravanamuttu Muttiah no date: 7).

A Tropical Forestry Action Plan (TFAP) carried out with funding from UNDP, FAO, ADB, World Bank and SIDA (ADB 1989: 4) was approved by the Lao government in December 1993 (Anon 1991: 13). Among the recommendations made under the TFAP was a logging rate of 280,000 cubic metres/year and the introduction of industrial tree plantations (Anon 1992: 3). "Commercially valuable" forest was to be logged – an area of between 750,000 and 1 million hectares according to the TFAP consultants. TFAP's second priority was the introduction of industrial tree plantations on logged over and degraded forest land to feed the pulp and paper industry in Thailand and other countries in Southeast Asia (Anon 1992: 6).

In 1992, a Lao-ACIAR project established acacia and eucalyptus trail plantations. The objectives, according to Bounphom Mounda of the Department of Forestry, included setting up trials and seed orchards "of species with most potential for large scale commercial plantations" (Bounphom 1993: 7). The project was titled "Improving and Sustaining Productivity of Eucalyptus in South East Asia" and in Laos it involved the introduction to Laos of fast-growing trees from species and provenance trials in Thailand (Pinyopusarerk and Chandler 1993: 2). The research fits well with the ambitions of Thai companies to expand their operations to Laos.

Soon after the TFAP for Laos was completed, the Asian Development Bank funded a study on establishing plantations of fast-growing trees for production of industrial wood for export, as a response to recommendations in the TFAP, according to Bounphom Mounda of the Department of Forestry (Bounphom 1993: 9).

Since 1994, the ADB has been running its "Industrial Tree Plantation Project" in Laos, covering three provinces and aiming to establish 9,600 hectares of commercial fast-growing tree plantations. The project is described in more detail in the ADB section below.

In 1993, the Department of Forestry was reorganised and a Plantations Division was established. This aimed to "(i) formulate policies and strategies for the development of plantation forestry; (ii) carry out, in cooperation with the Forestry Inventory Division and local authorities, necessary land use surveys and allocate suitable land for plantation purposes; (iii) encourage private investment in tree plantations; (iv) improve technical base and extension services for the development of plantation forestry; and (v) coordinate with the relevant authorities at central and local levels for the development of plantation forestry and establishment of nurseries" (ADB 1994: 1).

In 1993, the UN Food and Agriculture Organisation (FAO) organised a "Regional Expert Consultation on Eucalyptus" in Bangkok. In his presentation, Bounphom Mounda of the Forest Plantation Division at the Department of Forestry explained that forests in Laos could be rehabilitated through natural regeneration or through the establishment of plantations. Plantations, according to Bounphom, are "planned for barren (deforested) land. It is estimated that the country has approximately more than 10 million hectares of this land resulting from shifting cultivation practices" (Bounphom 1993: 5-6).

Bounphom pointed out that "There has been no in-depth study on Eucalyptus effects in the country." Yet he confidently asserted that large scale commercial plantations would create "job opportunities for the rural subsistence population and contribute to the socio-economic development of the country" (Bounphom 1993: 7).

Between December 1993 and June 1996, FAO and Japan's International Cooperation Agency (JICA) funded the FAO Regional Project for Strengthening Re-Afforestation Programmes in Asia (STRAP). The project worked in Bhutan, Burma, Vietnam and Laos (FAO 1995: 5). The project aimed to develop "sound conservation, management and development of man-made forests and trees on a sustainable basis in order to serve the protective functions in terms of desirable goods and service; therefore, to meet human and environmental needs" (Cameron et al 1995: 17).

In 1991, ISO/Swedforest listed 47 projects funded by multilateral and bilateral donors to the forestry and related sectors in Laos. Multilateral donors included: World Bank, ADB, UNDP, FAO, UNESCO, EEC, and the Mekong Committee. Bilateral donors included Australia, USSR, Vietnam, Norway, Netherlands, Germany, Japan, UK, Thailand, France and USA. In addition NGOs (Norwegian Church Aid, CIDSE, Save the Children Australia, Bahai International Community, CAA, Quaker Service Laos and JVC) funded 15 projects (ISO/ Swedforest 1991: 11-14). In February 1995, the Department of Forestry hosted an aid agency conference which agreed a total aid-budget of US$40 million to the forestry sector over the next three to five years (Cameron et al 1995: 25).

In November 2000, this had all changed. There were only three projects run through the DoF:

Lao-ADB plantation forestry project;
Lao-Swedish forestry project;
Shifting Cultivation Stabilisation project.

Another project, funded by Japan has moved to the National Agriculture and Forestry Research Institute. (See below.)

One of the reasons for the dramatic reduction in the number of forestry sector projects in Laos seems to be the demise of the GEF, Finnida and World Bank funded Forest Management and Conservation Programme (FOMACOP). The project was initially planned to run for 10-15 years, but the Government of Laos halted the programme after the first five-year phase. The total project budget was US$20.3 million, and the consultants were Jaakko Poyry Consulting, CARE International and Vientiane-based Burapha Consultants.

The project consisted of two components: a "village forestry" component under which villagers would log and earn money from "village forest management areas"; and a biodiversity conservation component.

Given the extent of illegal logging in Laos it is perhaps not surprising that the project ran into trouble [See for example, Anon (2000)]. In February 2000, a World Bank Mission reported that the reforms in Lao government forest policy anticipated under the project had not been implemented: "Accompanying the investment program, the project design anticipated significant reforms in the policy framework. These included preparation of sector legislation, deregulation of market controls on wood to ensure export parity pricing of timber and issuance of implementing regulations, satisfactory to the Bank, for forest management. Compliance with these measures has been slow and partial" (Rajesh 2000).

Before the Fomacop project collapsed, preliminary studies were made into assessing the "village forestry" part of the project according to Forest Stewardship Council standards. Among the rumours regarding the project's sudden end was one that Lao government officials were worried that the bribes they receive from the logging industry would disappear under an externally audited system such as FSC.

Partly as a result of the failure of the Fomacop project, the World Bank, Finnida and Sida carried out a Production Forest Review for Laos, which was completed in 2001.

- ASIAN DEVELOPMENT BANK (ADB)

Lao-ADB Plantation Project

In December 1993, the Asian Development Bank (ADB) agreed a US$11.2 million loan to the Government of Laos for an Industrial Tree Plantation Project. The project started in July 1994 and the first phase is planned to run until 2003. Under the project 9,600 hectares of commercial fast-growing tree plantations are proposed, 7,000 hectares of which will be established by private companies.

The project covers the provinces Vientiane, Bolikamxai and Savannakhet. Two technical assistance grants were associated with the loan: Institutional Support for Agricultural Promotion Bank (APB) which was completed in January 1997; and Institutional Support for Department of Forestry (DOF) which is due to be completed on 30 September 2001 (ADB no date).

According to the ADB, the project's aims are to
"(i) reestablish tree cover on unstocked and degraded forest land;
(ii) produce wood for fuel, and construction and industrial uses; and

(iii) establish a policy framework for the development of sustainable industrial tree plantations" (ADB no date).

Jaakko Poyry Consulting AB (Sweden) and Burapha Development Consultants (see section on Burapha, below) shared the US$1.5 million contract for consulting services on the project (Development Today 1994: 4).

A 1995 Poyry report produced for the project states that the aim of the project is to "develop a model to implement the policy of growing high yielding tree plantations on unstocked forest land and eroded land by the private sector." The same report defines "unstocked forest" as "previously forested areas in which the crown density has been reduced to less than 20% because of logging or heavy disturbance" and "abandoned 'hai' [swidden fields] and disturbed stands with a crown density of less than 20%" (Jaakko Poyry 1995b: 6).

This definition allows companies to describe villagers' community forests, grazing lands, fallow land, regenerating forest areas and fields as "unstocked forest" which they can then convert to fast-growing tree plantations. In Bolikhamxai province BGA, a company funded by the ADB project, has cleared dense secondary forest and replaced it with monoculture eucalyptus plantations. (See section on BGA, below.)

According to a BGA representative, as well as BGA the following companies have received funding under the ADB project: Long Ngum, Furniture km 5, BGA Luang Kian, Burapha, Hum Pang.

There are various loans involved in the financing of the ADB project, as follows:

The ADB loan to the Lao government is to be repaid within 40 years. For the first 10 years the loan is interest-free, after which the interest rate is 1 per cent.
The government in turn loans the money to the Agriculture Promotion Bank, and the Bank repays over a 15 year period. The first six years is interest free, followed by a 2 per cent interest rate.
The Agriculture Promotion Bank subsequently lends the money to companies or to farmers. Companies have 12 years to repay with 6 years interest-free, followed by a 7 per cent interest rate. Companies must provide 30 per cent of the money required themselves, before the loan will be approved.
Loans to farmers have to be repaid within eight years. Farmers get no interest-free period. For the first six years they have to pay 60 per cent of 7 per cent annual interest, and in the seventh and eight years the entire loan plus interest must be repaid (Xeme 1995: 79).

Farmers are at the end of the line: they pay more interest, have to repay the loan sooner, and if they are growing trees on their land instead of food crops, are at risk of being significantly worse off as a result of the project.

By September 2000, the ADB claimed that 7,842 hectares of tree plantations had been established. The ADB reports that "Marketing options for plantation wood in Lao PDR include export of wood chip to Japan, and establishment of a large processing factory/pulp mill in Lao PDR" (ADB no date). The wood chip exports to Japan presumably refers to BGA's proposed wood chip mill (see below). There are still no large pulp mills in Laos.

Fortech (1999) Report

In 1999, an Australian forestry consulting firm, Fortech, produced a report entitled "Current Constraints Affecting State and Private Investments in Industrial Tree Plantations in the Lao PDR", for the ADB and the Lao Government.

The Executive Summary of the report claims that plantation development in Laos "provides opportunities to generate economic growth and development" and argues that "at least one large scale plantation project" should be approved by the end of January 1999. The alternative, according to the consultants, is that "international investors will decide not to proceed in Lao PDR" (Fortech 1999: iv).

The report makes several recommendations that the Lao government should implement in order to subsidise the plantation industry in Laos. Such measures include (among others): rewriting the Plantation Regulations under the Forestry Law; appointing a "plantation investment coordinator"; preparing guidelines for plantation assessment proposals and a step-by-step guide for investors; collecting and publishing market information on domestic and international forest product markets; and building new roads in "key plantation development regions" (Fortech 1999: vii-ix).

Fortech's recommendations, if carried out, would amount to important changes in Laos – changes to forestry laws and changes to people's local environments as commons, swiddens, grazing land and community forests are converted to monoculture plantations. However, the Fortech report is not available to the public. When I wrote to the ADB requesting the report I received the following reply from Snimer Sahni, project officer at the ADB:

"The document you have requested is an official document. Nevertheless, we had sent you a copy of the executive summary. Since you still wanted the full document, we had sought the concurrence of the Lao PDR Government to release this to you. We have not so far received a response from them" (Sahni 2001).

That was six months ago. Since then I have heard nothing more on the subject from the ADB. Ms Sahni also referred me to the ADB's policy on Confidentiality and Disclosure of Information, which is available on the ADB's web-site.

The ADB's policy on Confidentiality and Disclosure of Information took effect on 1 January 1995. According to the Bank, this policy was "prompted by the realization that the Bank should provide the greatest possible degree of transparency and accountability" (ADB www 1). The Bank states that it "emphasizes a presumption in favor of disclosure where disclosure would not materially harm the interests of the Bank, its members, borrowers, and private sector clients" (ADB www 1).

The Bank claims several objectives for the policy, including: encouraging debate; ensuring local participation in decision making; broadening understanding of the Bank's role; facilitating coordination "with others interested in the common goal of development of the region"; and increasing the Bank's accountability (ADB www 1).

Clearly in the case of industrial scale plantations, and the constraints affecting future development of plantations, the ADB is not interested in achieving any of its stated aims regarding local participation in decision making or in encouraging debate.

Roads

The Asian Development Bank has played an important role in promoting the reconstruction of roads in Laos. Often these roads needed to be reconstructed because of the damage caused by logging trucks, and the timber and plantation industries are likely to be among the greatest beneficiaries of the new roads, as they can export their goods more easily.

On 26 November 1999, the transport ministers of Thailand, Laos and Vietnam signed an agreement to ease the flow of people and goods between the three countries. The agreement, signed by ministers Suthep Thaugsuban of Thailand, Phao Bounnaphol of Lao PDR and Le Ngoc Hoan of Viet Nam, aims to reduce bureaucracy, and to simplify legislation, regulations and procedures relating to cross-border transport. The ADB helped lay the groundwork for the agreement through a series of studies and workshops. "[T]he framework is essential – it underpins the joint road projects which are either under way or being planned to link the three countries" according to Thomas Jones, a senior project economist with the Asian Development Bank (ADB 1999).

Route 8 is the shortest route from the Lao capital, Vientiane to the sea. Route 8 is a crucial link between Laos and the Vietnamese port Cua Lo for the BGA Plantation project (see BGA section below). The road also runs close to the proposed Nam Theun 2 hydropower dam and recently completed ADB-funded Theun Hinboun dam, thus facilitating construction of these dams (Bangkok Post 25 June 1996). Since 1993, the military-run logging company, BPKP, has accelerated the logging of the Nakai Plateau to clear the reservoir area for the proposed Nam Theun 2 dam. Logs are exported across the Mekong to Thailand and by road to the port of Cua Lo near Vinh in Vietnam, where the timber is exported to Japan, Korea and Hong Kong (Ryder 1996).

The rebuilding of Route 8 was funded with financial assistance from the Japanese government (Lao Embassy 2000).

In March 2001, Deputy Prime Minister Chavalit Yongchaiyudh approved plans for a second bridge over the Mekong River between Thailand and Laos. The US$45 million bridge will link Mukdahan in Thailand with Savannakhet in Laos. The decision to build the bridge was rushed through by the Communications Ministry before a discussion in the Thai Cabinet, which would usually take place before decisions to go ahead with mega-projects. The Japan Bank of International Cooperation's (JBIC) agreement to fund the project expired at the end of the month, and Prime Minister Thaksin Shinawatra implemented measures to allow ministers and committees to approve specific projects (Piyanart 2001).

The following month, Thai Foreign Minister Surakiart Sathirathai announced that Vietnam would be invited to discuss a "common master plan" for the bridge. The bridge forms part of the ADB-backed East-West Corridor plan (Associated Press 2001).

The Lao government did not always support the bridge project. In 1999, the Thai newspaper Bangkok Phuchatkan reported that Lao officials did "not seem to be particularly pleased with this project, terming the route as only a facility for transporting transit goods between Thailand and Vietnam while Laos itself will have to shoulder the burden of containing contraband smuggling and the entry of illegal immigrants" (Bangkok Phuchatkan 13 September 1999).

Bounna Hansingsai, head of the trade service of Khammouane Province in Laos said, "Even though this transport route passes through many provinces in Laos, the countries that stand to gain the most from such cooperation are Thailand and Vietnam. . . . Route 8 is a main transport route for transit goods between Thailand and Vietnam" (Bangkok Phuchatkan 13 September 1999).

Eduardo Galeano in his book "The Open Veins of Latin America" describes how the infrastructure of Latin America was built to extract resources from the continent via ports and into the colonial economy (Monbiot 2001). In a strange echo of Galeano, the Laotian transport minister, Pao Bunnapol, told the Bangkok Post that "the bridge would provide a vital economic artery for the region as Laos was improving its highway connecting with the port city in Vietnam" (Bangkok Post 19 March 2001).

- JICA: FOREST CONSERVATION AND AFFORESTATION PROJECT

The Japanese International Cooperation Agency (JICA) is funding and carrying out the Forestry Conservation and Afforestation Project (FORCAP) in an area adjacent to the reservoir of the Nam Ngum dam. The dam was funded with a grant from the Japanese government. One of the aims of the project is presumably to attempt to prevent siltation in the reservoir by planting trees. The ADB also has an Integrated River Basin Planning project in the Nam Ngum catchment area.

JICA's project started in July 1996 and the preparation phase lasted until July 1998. Phase 2 started in July 1998 and is anticipated to be finished in July 2003. According to Iwasa Masayuki, Chief Advisor to FORCAP, "In Laos there are no forest management systems. We therefore assist at a local level to develop plans."

The project aims to plant a range of trees, including Acacia mangium, Afzellia xylocarpa and Pterocarpus macrocarpus. Although the plantations are small-scale, the project is looking for markets for the timber for house building or furniture within Laos, or possibly for export to Thailand or Malaysia.

One of the aims of the project is to provide income generating projects for villagers as an alternative to shifting cultivation. One such project involves small-scale village-based paper making from the bark of the branches of the paper mulberry tree (Broussonetia Papyrifera).

- LAO-SWEDISH FORESTRY PROGRAMME

The Swedish government has been involved in the forestry sector in Laos since the late 1970s. For the first ten years the Swedish International Development Agency (SIDA) supported logging operations in Laos, mainly through aid to two state forest enterprises: number 1 in Bolikhamxai and number 3 in Bolikhamxai-Vientiane province. According to Carl Mossberg of SCC Natura, the consultants currently carrying out the Lao-Swedish forestry programme, projects involved "establishment of saw mills, operations of saw mills, together with forestry operations and purchase of equipment, training of people, machine operators, various types of forestry staff and so on, but very much linked to the forestry operations, logging, saw mills" (Mossberg 2000).

In 1989, the ADB stated that SIDA "has been a major source of assistance to the forestry sector . . . with emphasis on forest management and wood harvesting" (ADB 1989: 4).

During the late 1980s the focus of Sida's aid shifted from logging operations to forest inventory, silviculture, natural forest management, plantations and more support to a research station at Nam Souang. The Nam Souang Silviculture Research Centre (NSSRC) was established in 1981 under the supervision of State Forest Enterprise no. 3 (Douangphet 1995: 27).

In 1988-1990, SIDA funded species trials at the Nam Souang Centre during phase two of the Lao-Swedish forest cooperation project. The trials included eucalyptus trees and according to Bounphom Mounda of the Department of Forestry, aimed "to find out the more promising provenances for the industrial tree plantation programme in the future" (Bounphom 1993: 6).

The research centre at Nam Souang covers 600 hectares, and much of its research work with exotic species has focussed on acacia. Even with this small area of land taken up by plantations, the centre ran into conflict with local communities. Douangphet Rattanasouk of the Nam Souang Centre points out that "in the past, NSSRC's area was the main area where the surrounding villagers deliberately delivered their buffaloes and cows and used it for grazing. After establishment of the NSSRC, it was difficult to protect trial plantations from the people and cattle. Especially in the dry season, the fire hazard was quite high and fires damaged saplings and fences" (Douangphet 1995: 29).

SIDA also funded Lao forestry students to study at the Dehra Dun Forestry School, established by the British Colonial regime in India in 1879.

Mossberg explains that during the 1990s, SIDA's involvement in Laos involved, "a continued shift away from forest operations to institution building, to work away from the centre, provinces and districts, to work with more broad issues related to better use of land, sustainable land use and village people and their ways of using land for survival and improved life" (Mossberg 2000).

Part of Sida's most recent work is a joint forest management project, involving villagers in the management of natural forest, and attempting to ensure that villagers receive some of the income generated by logging. This project ran into difficulties, partly because the Lao government was reluctant to allow communities to keep the

revenue gained from logging.

Sida planned to complete a review of its work in Laos in 2001. This will take the form of a series of reports, looking at for example participatory land management, gender issues and so on.

When asked whether Sida provides any aid for plantation development, Mossberg replied, "We are not focusing very much on plantations. If so, it is more plantation of trees as part of the environmental protection, for example in sloping lands farming systems with various types of combinations of trees and agricultural crops to prevent soil erosion and keep the fertility of the soil and so on. But no part is really plantations" (Mossberg 2000).

3. COMPANIES

- BGA LAO PLANTATION FORESTRY LTD

BGA Lao Plantation Forestry Ltd (BGA) aims to establish between 44,000 and 53,000 hectares of fast-growing tree plantations, mainly of eucalyptus, in Bolikhamxai and Khammouane provinces.

BGA was established as a US$30 million joint venture between General Finance (a Thai finance company); GF-Brierley, a 50-50 joint venture between General Finance and Brierley Investments Limited (founded in New Zealand, but now registered in Bermuda with its head office in Singapore) and Asia Tech (a Thai plantation company). When the BGA project was set up, GF-Brierley held a 22 per cent share in Asia Tech. (See sections on Asia Tech and Brierley, below.) The Government of Laos is a 15 per cent shareholder in BGA (Lao Embassy 1997).

With the onset of the Thai financial crisis in mid-1997, Asia Tech and General Finance pulled out of the project. General Finance was one of 56 finance companies closed in 1997 by the Thai government because of mounting bad loans. In August 1998, Thailand's central bank filed criminal charges against six executives of General Finance. The six were charged with extending US$8 million in loans without proper valuation of the collateral. However, Narongchai Akrasanee, the Chairman and Chief Executive Officer of General Finance said in September 2001, "The case has not reached the court. The case against me has been dropped by the Attorney General Office" (Narongchai 2001).

Brierley and the Lao Government have thus become the only partners in BGA.
BGA began surveying villages and land in 1993 and Jaakko Poyry, the forestry consultancy company, carried out the feasibility study for the BGA project. BGA signed a Memorandum of Understanding with the Lao government in 1997 (Lao Embassy 1997). The government formally approved the BGA project in 1999.

The company has a 50 year land lease in Bolikhamxai and Khammouane provinces. The main species to be planted is Eucalyptus camaldulensis, with seedlings provided by Siam Forestry, a Thai company. The company plans to build a wood chipping mill, and to export the wood chips to Japan, via the Vietnamese port of Vinh. In November 2000, BGA was currently surveying an area in Hinboun in order to build a wood chip mill. The wood chips from the mill will be exported via Route 8 to the deep sea port at Cua Lo, near Vinh in Vietnam and from there to Japan (BGA no date).

BGA has received direct or indirect subsidies from the governments of Laos and Japan as well as from the ADB's Industrial Tree Plantation project (see section on ADB above, for background information on this project). Without these subsidies the project would probably not be commercially viable. As it is the subsidies are accelerating deforestation.

When BGA completes its wood chip factory, electricity will come from the nearby 210 MW Theun Hinboun dam. Funded to the tune of US$60 million by the Asian Development Bank, the dam was completed in 1998. Since the dam was completed it has caused massive problems for people living nearby, who have seen the fisheries in the river destroyed along with their livelihoods.

Route 8, which is critical to export the woodchips from BGA's proposed wood chip mill, was rehabilitated with funding from the Japanese government. (See section on ADB – Roads, above.)

In 1999, BGA received funding under the ADB's Industrial Tree Plantation project, and last year 70 per cent of BGA's expenses came in the form of concessionary loans from the ADB project.

The Lao government handed over the land for the plantation rent-free in return for a 5 per cent share in the project. The government then bought a further 10 per cent share in the scheme. Under Lao Forestry Law plantations are exempt from land tax, and BGA pays only 5 per cent income tax on its operations.

Throughout the country, Lao government officials are undertaking a land allocation programme. In the areas where BGA plans to establish its plantations, the company used aerial photographs, satellite images, maps and GPS systems to locate the best land for plantations. The government has in effect allowed BGA to allocate its own plantation land. According to the company, between 39,000 to 48,000 hectares of the land leased to BGA is "Shifting Cultivation / grazing land / Degraded forest" (BGA no date). In other words, this is land that is currently in use by villagers.

A BGA publicity brochure for the project explains the process of land allocation for the village of Ban Lao Kha:

"Village Meeting
Village boundary Surveyed
Village area classified and mapped
BGA selects suitable land
Report prepared & submitted to the GOL Real Estate Department
Land lease granted" (BGA no date).

A representative of BGA explained, in November 2000, "BGA does the land allocation. So far 10 villages have been mapped." When asked whether any villagers were reluctant to have plantations on their land, he replied, "No. We did the presentation, so no one said no."

By November 2000, BGA had only established around 650 hectares of plantations, but villagers were already seeing their swiddens and forests converted to monoculture eucalyptus plantations. Villagers are employed on a day by day basis as labourers for 10,000 kip/day. Villagers in Ban Lao Luang report that the money they have earned from working for BGA is welcome, and they no longer have to travel to Thailand to find paid work. At present, the company needs labour to clear land for plantations but as the area of established plantations grows and as less land is cleared for new plantations the opportunities for employment will decrease. At the same time as employment decreases, villagers will see their livelihoods further eroded by the enclosure of their common land, swiddens, grazing lands and forests.

In Ban Lao Kha and Ban Lao Luang, BGA has cleared areas of dense natural forest in order to plant eucalyptus trees. Villagers in Ban Lao Luang report that they have to walk further to collect mushrooms and other forest products, and wildlife such as mice and birds have moved to remaining forest areas away from the plantations. BGA sprays the regenerating forest between the rows of eucalyptus trees three times a year with the herbicide glyphosate, making sure that the plantations remain monocultures.

Although no longer part of the BGA project, the Chairman and Chief Executive Officer of General Finance,

Narongchai Akrasanee, apparently played a key role in ensuring the infrastructure was in place for BGA's investment. As well as being director of several other Thai and regional companies, Narongchai has been advisor to several Thai Prime Ministers and in 1997 he was the Thai commerce minister.

In March 1997, he took part in a three-day official visit to Vietnam with the Thai foreign minister, Prachuab Chiyasarn. According to a report in the Bangkok Post, the Thais "expressed great interest in Routes 8 and 9" (Bangkok Post 14 March 1997). Route 8 links Thailand's Nakhon Phanom province with Laos's Khammouane and Vietnam's port city of Vinh, and its rehabilitation was crucial to for exporting wood chips from the BGA project.

During his Vietnam trip, Narongchai also discussed the problem of delays in exporting goods caused by bureaucratic red tape at Lao and Vietnamese borders. The Asian Development Bank subsequently arranged a series of studies and workshops to discuss ways of alleviating delays at customs, and in November 1999 the transport ministers of Thailand, Laos and Vietnam signed an agreement aimed at removing the restrictions on transporting goods between the three countries (Bangkok Post 14 March 1997). (See section on ADB – Roads, above.)

While in Vietnam, the Thai delegation, including Narongchai, witnessed the signing of a memorandum of understanding between Vietnamese officials and Asia Tech to develop an industrial zone in the central Vietnamese province of Nghe An (Bangkok Post 14 March 1997). Narongchai was also chairman of Asia Tech. (See section on Asia Tech, below.)

- ASIA TECH

Asia Tech is a Thai company investing in agriculture and tree plantation projects. Narongchai Akrasanee, the Thai businessman, (see BGA section, above) was the chairman of Asia Tech. Asia Tech was one of the partners in the BGA plantation project before they pulled out "because we ran out of long term funding" according to Narongchai (Narongchai 2001). (See report on Thailand – Asia Tech.)

Asia Tech is today "almost inactive" according to Narongchai, although he added, "it set up another company to produce and sell MDF [medium density fibreboard] boards" (Narongchai 2001).

In addition to the BGA project, Asia Tech has been involved in another plantation project in Laos, in Champasak province in the south of the country. This project ran into difficulties from the start of tree planting, and is now largely abandoned.

On 5 November 1990, Asia Tech wrote to the Lao government to propose a project on 16,000 hectares of land in Champasak province. A year later, Khamthai Sipandone (then-Prime Minister and president of the foreign investment committee) signed an investment permission document for an investment period of 30 years. The Lao government took a 5 per cent share of the project.

Asia Tech started trial plantations with eucalyptus in 1992, and with Acacia mangium in 1995. According to local sources, almost all of these trees died. Prasan Singhonsai of Asia Tech, however, blames the Lao government for the problems with these trials. In 1995, in a presentation at an FAO conference in Vientiane, he said, "our company has been adversely affected by a lack of consistent technical advice: in 1992, we invested in establishing 200 ha of eucalyptus plantations. Then we were obliged to abandon these plantations due to the confusion of technical units concerned" (Prasan 1995: 75).

At the same time as the eucalyptus and acacia trials, Asia Tech experimented with farming milk cows. These fared little better than the trees: many died, and the company sold the rest.

Asia Tech ran into further difficulties when District level officials surveyed the land area proposed for the project and could find only 12,404 hectares of available land for Asia Tech. "To avoid delay" the Minister of Agriculture and Forestry, Pimpa Taepkhampuan, handed over this area to Asia Tech and requested the Champasak governor to find the remaining area.

In March 1995, Forenco, a New Zealand forestry consulting company, produced a pre-feasibility report for Asia Tech, based on a two-day visit to the area by Peter Olsen of Forenco. Most of the 77-page study considers the financial implications of different planting regimes. Social, community and cultural issues occupied the consultants for half a page of the report (Bannan 1995: 11).

Among the items that the consultants recommended for "in depth investigations" before the project commenced was "social and community issues in the project area such a dislocation and relocation of local inhabitants and alternative livelihood provision" (Bannan 1995: 1).

Although the consultants stress that their report is not a feasibility report, no further studies were carried out before Asia Tech started commercial planting of trees in 1995.

One of the most serious problems caused by the project is that local people have lost access to their land, both for cattle grazing and growing crops. Prasan Singhonsai of Asia Tech stated in 1995, "The land conflict between the company and villagers living inside the company's area still exists because the allocated land contained 19 villages" (Prasan 1995: 75).

During 1996-1997, Asia Tech planted pine trees, clearing areas of secondary forest and fencing off land, thus preventing local people from grazing cattle. Villagers received no direct benefits from the company. Asia Tech paid some village headmen to help them identify which land was registered to the company, thus causing resentment and conflict among villagers (Watershed 1996a: 15).

During this period Asia Tech cleared forest to establish an area of 900 hectares of pine plantation. After government officials visited Champasak and inspected this 900 hectare plot in 1997, the Ministry of Agriculture and Forestry removed more than 4,000 hectares from Asia Tech's agreed land area leaving Asia Tech with around 8,200 hectares. Villagers initially hoped to regain their land, but District officials simply handed over land reclaimed from Asia Tech to other companies – to grow coffee, for example.

Asia Tech's planted areas are today largely neglected. Asia Tech sprayed the plantations with herbicide in 1998, but since then has done no maintenance of its plantations. In 2000, Asia Tech ploughed around two hectares of land for maize, and carried out sugar cane trials on a 15 hectare plot.

- BURAPHA

The Burapha Group was established in 1990 (Sonesack 1995: 70) and is structured perfectly to gain the most from the subsidies available for plantation development in Laos. The company is a subsidiary of the Swedish forest industry company Silvi Nova AB, and in Laos consists of three companies: BAFCO (Burapha Agroforestry Co. Ltd.); NAFCO (Nabong Farm Co. Ltd.); and BDC (Burapha Development Consultants Co. Ltd.). The first two companies are commercial ventures – BAFCO produces and exports wood based products from its own plantations, and NAFCO is a dairy farm which supplies Vientiane with dairy products, chicken and eggs. BDC however plays a very different role, being the largest consulting firm in Laos, providing advice on financial analysis, engineering, environment, forestry, agriculture and livestock and rural development.

In May 1995, the ADB contracted Burapha Development Consultants, along with CIRAD-Foret (of France) and MIDAS Agronomics (of Thailand) to act as consultants on the ADB's Industrial Tree Plantation project (see ADB section, above). In the five year contract period the consultants produced project documents including an Inception Report, quarterly progress reports, plantation management papers, and environmental technical reports (ADB no date).

In 1995 Jaakko Poyry and Burapha produced a report for the ADB commenting on the Lao Government's law on plantations, Directive 186. Among the consultant's recommendations were that export taxes and transport taxes should be reduced (Jaakko Poyry 1995a: i-ii).

When the Lao Government gets advice from forestry consultants through a project funded by the Asian Development Bank, it may believe that it is getting the best advice that money can buy. In Burapha's case however there is a clear conflict of interest. In its consultancy work for the ADB, Burapha Development Consultants provides advice recommending more subsidies to produce cheap timber which Burapha Agroforestry can buy and export. According to a representative of BGA, Burapha has even received funding through the ADB project. No wonder that a Burapha representative in Vientiane said about the ADB project, "The project for Burapha has been a success, I'm not sure about the project as a whole".

On 7th November 2000 Burapha formally opened its US$2.9 million laminated-wood processing factory at Nabong Farm, 30 kilometres from Vientiane. The factory will initially sell timber pallets to IKEA, the Swedish retailing giant, and in future will produce furniture under the trademark Vicwood. Financing came from a series of loans – US$550,000 from IKEA, US$800,000 from the International Finance Corporation (IFC), the private sector arm of the World Bank, and US$300,000 from Swedfund, the Swedish IFC counterpart (IFC www 1).

Burapha's project was supported by an institution called the Mekong Project Development Facility (MPDF). Created in 1997, MPDF helps companies in Vietnam, Cambodia and Laos to raise financing and helps them prepare business plans. MPDF is managed by the International Finance Corporation (IFC). MPDF has a budget of US$25 million between 1997 and 2002, and is funded by the European Union, IFC and the governments of Australia, Finland, Japan, Norway, Sweden, Switzerland, and the United Kingdom (IFC www 1).

MPDF produced a study of Burapha's eucalyptus project, and according to IFC, "MPDF played a key role in packaging the deal and getting IKEA and Swedfund on board" (IFC www 1).

MPDF conducts environmental and social reviews of all projects, and claims to ensure compliance with national laws, IFC policies and World Bank best practices. MPDF summarises this information in an Environmental Review Summary, "which becomes a public document once approved by the project sponsor" according to

MPDF's web-site (MPDF www 1). (On 27 September 2001, and again on 12 November 2001, I wrote to Javed Hamid, Director of the Asia and Pacific Department of the IFC in Washington, requesting copies of the MPDF reports on the Burapha project. At the time of writing [end of November 2001] I have not received any reply.)

Sumphorn Manodham, managing director of Burapha, points out how important MPDF's involvement was for Burapha: "We do not think we could have arranged the financing without MPDF, and the proof is that after the MPDF study, the same financiers that were reluctant are now providing funds" (IFC www 1).

The timber for Burapha's new factory will come from Burapha's 1,200 hectares of Eucalyptus camaldulensis plantations. Burapha's publicity materials claim that the factory will bring "beautiful hardwoods" to "discerning world markets without devastating the natural tropical forests". However, while IKEA has found a new source of cheap timber, with or without Burapha's factory project the logging of Laos' forests continues.

According to a representative of Burapha, the land used for Burapha's plantations at the Nabong farm was once a Cuban-funded farm and later the site of a FAO-funded project. After 1975, the area became a re-education camp and the top-soil was removed. Burapha claims therefore that planting eucalyptus in this area is an improvement.

Another Burapha employee, writing in 1995, stated that "In the past, out company has faced many difficulties when requesting land. Some officials believed that out plantations would destroy soil fertility, thus they hesitated to co-operate and issue the authorisation for use of the land" (Sonesack 1995: 71). This implies a more complex situation than simply "improving" land without topsoil.

- BRIERLEY INVESTMENTS LIMITED (BIL)

Brierley was founded in New Zealand in 1961 by Sir Ronald Brierley (BIL www 1). Initially the company bought shareholdings in public companies in Australia and New Zealand. By the 1980s Brierley had shareholdings in over 300 companies (BIL www 1). Between 1993 and 1996 Brierley invested US$235 million in Asia, in power projects in India, Indonesia and the Philippines, agribusiness in Thailand, and property and infrastructure in China (TimesNet Asia 1996). Brierley employs 5,300 people and invests in energy, oil, engineering, construction and property, wholesale and retail and others (including forestry) (Wright www 4).

In 1996 a Malaysian, Singaporean and Indonesian consortium bought 20% of Brierley at a price of US$692 million. The group consists of Hong Leong (Singapore), Hong Leong (Malaysia), Sembawang Corp (Singapore), Haw Par Brothers International (Singapore) and the Salim Group (Indonesia) (TimesNet Asia 1996).

After the Asian economic crisis in 1997 the Board initiated a review of corporate philosophy and investment strategy. Several investments were disposed of and bank debt was reduced (BIL www 1).

On 1 December 1999 Brierley relocated its global headquarters to Singapore. The company is listed on the Singapore, New Zealand, Australian and UK stock exchanges. Since December 1999 the company has been registered in Bermuda (BIL www 1).

Key investments include a 46% holding in the UK hotel group Thistle hotels plc (the largest hotel operator in London); a 30.3% shareholding Air New Zealand; and a 28% shareholding in James Hardie Industries (a global leader in fibre cement building products and systems) (BIL www 1).

In its 1999 Interim report to shareholders BIL reported that the last 12 months "have probably been the most difficult in the Company's history. The dramatic decline in asset values, initially triggered by the Asian economic crisis, was the catalyst for significant structural change to BIL" (BIL www 1).

Forestry operations: New Zealand

Brierley was part of the consortium that bought the New Zealand Forestry Corporation in 1996 after it was privatised by the New Zealand government. The consortium consisted of Fletcher Challenge Forests (part of Fletcher Challenge Limited, a New Zealand-based international company, with operations in building, energy and forestry: 37.5 per cent), Citifor Limited (a subsidiary of the government-owned China International Trust and Investment Corporation: 37.5 per cent) and Brierley Investment Limited (25 per cent). The consortium paid approximately US$1.7 billion, (Stride 2000) and renamed it the Central North Island Forest Partnership (CNIFP) (Fletcher Challenge 1998).

The CNIFP owns the cutting rights for 168,000 hectares of Radiata pine and douglas fir plantations. Adjacent to this area is 117,000 hectares of plantations owned by Fletcher Challenge, forming the largest single Radiata pine plantation in the world. Fletcher Challenge has integrated the management of the two plantations areas, laying off 120 staff in the process. According to Fletcher Challenge, the two areas together can produce six million cubic metres of wood per year (Fletcher Challenge 1998).

The Asian financial crisis of 1997 prompted a drop in log prices and severely cut into the NZ forestry asset's value (Stride 2000). In late 1998 Brierley decided to sell its investment in the CNIFP, resulting in a loss of approximately US$74 million (BIL www 1).

In 1999 Brierley reported a loss of US$80 million for the six months to 31 December 1998. In the six month period Brierley sold 24 of 59 assets it held on 30 June 1998. Most of the loss was as a result of the sale of CNIFP (FEER 1999).

The remaining partners in the CNIFP, Citic and Fletcher Forests, have huge debts and had to meet a deadline of 30 December 2000 to inject several hundred million dollars, otherwise the banks threatened to take over the forestry estate (Stride 2000). The company is presently in receivership and for sale (Rosoman forthcoming).

Chile

Brierley and International Paper jointly run Carter Holt Harvey which has pine plantations in Chile and in New Zealand (Carrere and Lohmann 1996: 88). At the end of 1999, Carter Hold Harvey sold its interest in Compania de Petroleos de Chile (Copec) the main part of the company's operations in Chile. The sale was to AntarChile a company controlled by the Angelini Group (CHC 1999).

Thailand and Laos

Brierley's Investment Review 1997 lists a number of projects in the forestry sector in Thailand and Laos, through the Thailand-based investment company, GF-Brierley. In November 1997, Brierley held 50 per cent of the GF-Brierley's shares. GF-Brierley was a joint venture between Brierley and Thailand-based General Finance and Securities Public Company (BIL www 1). GF-Brierley had a 22 per cent in Asia Tech Group, 38.6 per cent per cent of ATP, a pulp and paper development project, and a 30 per cent interest in BGA Laos, a tree plantation development project in Laos (BIL www 1).

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THAILAND – The fast-growing pulp and paper industry

This report looks at the expansion of the pulp and paper industry in Thailand. It starts with an overview of the industry today. Rather than providing a reliable source of paper needed by the people of Thailand, however, the industry today is dependent on imports, exports and lavish subsidies from the government and international "aid" agencies.

The Thai government has actively supported the development of the industry, through subsidies, pro-cash crop and plantation policies, tax relief and favourable import duties on machinery imports. The second section looks at some of the government support, and includes a brief introduction to some of the background political situation in the country during the early 1990s.

The third section looks at some of the international support to the industry in Thailand, largely through multilateral and bilateral "aid".

The fourth section looks at some of the Thai companies involved in the pulp and paper sector. While they have made profits, they have also run up enormous debts. This, accompanied by the economic crisis in 1997, has opened the door for international companies to buy up shares in Thai companies. Some of these companies are also profiled in this section, along with international consultants who provide advice and legitimacy for the industry.

Associated with the expansion of the pulp and paper industry, the area of fast-growing tree plantations has also expanded, often with disastrous impacts for many local communities. The fifth section describes some of the problems faced by communities and the protests against the industry in Thailand. Whilst faced with continuing threats of expansion, for example of Phoenix and Advance Agro's operations, villagers continue to protest, and continue to fight for their rights to decide how they will manage their environment.

1. OVERVIEW OF THE SITUATION TODAY

When the first pulp mill was built in Thailand in 1923, it had a production capacity of one ton a day. Since then, pulp and paper production has massively expanded and today Thailand has 44 paper and board mills with a total capacity of more than 3.8 million tons a year (PPI 1999) (Chatrudee 2000).

Eucalyptus trees provide the most important domestic source of raw material for the pulp industry. The Royal Forest Department planted the first eucalyptus tree in Thailand in 1946, in Phrae province (Pearmsak and Mochida 1999: 36). At first the spread of plantations was slow, and by 1976 only about 12,000 hectares of industrial plantations existed. A recent FAO publication estimates that by 1995 more than 300,000 hectares of industrial plantations had been established in Thailand (Brown 2000: 135).

The FAO's figures (and any other figures of plantation cover in Thailand) are estimates – no national inventory of plantations has ever been carried out (FAO www 1). The Royal Forestry Department has never produced any studies on the impacts of eucalyptus plantations of larger than 160 hectares (Tunya 2000).

Consumption of paper products is dominated by kraft paper, which in 1998 accounted for 47 per cent of consumption. Newsprint accounted for 19 per cent and printing and writing paper 14 per cent. Household and sanitary paper consumption stood at 3 per cent of paper and board consumption (pponline 1999).

The biggest kraft paper producer is Siam Cement Group, with a total annual capacity of 805,000 tons. Second is Panjapol Group with a capacity of 505,000 tons, and Thai Cane Paper is third, with 280,000 tons. The

biggest producer of printing and writing paper is Advance Agro, with a capacity of 264,000 tons followed by Thai Cane Paper with 264,000 tons and Central Paper with 68,000 tons (Chatrudee 2000).

The following are the major companies involved in the pulp and paper industry in Thailand:

Pulp and paper mills
Advance Agro (Prachinburi province)
Phoenix Pulp and Paper (Khon Kaen)
Siam Pulp and Paper (Ratchaburi)
Panjapol Pulp and Paper (Ayuthaya)
Siam Cellulose (Kanchanaburi)

Board
Thai Plywood (Bangkok/Saraburi)
Metro Fibre (Kanchanaburi)
Thai Cane Board (Kanchanaburi)

Wood chips
Rung Ruang Kitti (Chachoengsao)
Siam Forestry (Kanchanaburi)
Thai Vivat (Surin)
Kit Thawee (Surin)
Siam Tree Development (Chon Buri)
August Chip Woods (Chon Buri)
K.M.I. Forest (Buriram)
(Source: Siam Tree Development Company, in Tunya 2000)

Several factors have played a role in promoting the eucalyptus boom in Thailand. Developments in shipping, and the changing world pulp and paper economy meant that trees grown in the South could be used to supply a world pulp market. (See Carrere and Lohmann 1996: 41-59.)

The oil crisis of the early 1970s, which led to a rise in the cost of importing pulp to Thailand, was another factor in the development of Thailand's pulp industry. The production of pulp, as opposed to importing it, at least from the financial point of view, suddenly became a much more attractive proposition.

The first mill to produce pulp for the domestic market was the Phoenix pulp and paper mill in Khon Kaen, which came on line in 1982. In order to allow sales of pulp from Phoenix to compete with cheap imports from Brazil and Portugal, in 1982 the Thai government increased import tax on pulp from one per cent to 10 per cent, and forced importers to pay a 15 per cent commercial tax as well a series of other import duties (Pearmsak and Mochida 1999: 68).

Despite these import taxes, and even though domestic production capacity largely met demand for paper in 1992, Thailand imported 73,000 tonnes of paper and pulp simply because it was cheaper (The Nation 15 September 1993). Pulp from Indonesia threatens to flood the Thai market. In 1996, Indonesia produced 7.4 million tons of pulp, but local demand was only 2.6 million tons. Indonesia has lower labour costs than Thailand, so Indonesian companies can sell their paper for less than Thai manufacturers (Yuthana 1997).

In 1997, Thailand imported 349,000 tons of short- and long-fibre pulp mainly from the US, Canada, Chile, Brazil, New Zealand, Sweden, Indonesia and the Czech Republic. As most of Thailand's pulp production uses eucalyptus wood, producing short-fibre pulp, a large proportion of the imports consist of long-fibre pulp. Imports of waste-paper were almost double imports of short- and long-fibre pulp, at 622,000 tons – from the US,

Singapore, Germany, Netherlands, New Zealand and Hong Kong. 66 per cent of this was old corrugated containers (FAO 1998).

The Asian economic crisis of 1997 had a serious impact on the pulp and paper industry in Thailand. One result generally was an increase in foreign ownership companies. After the crisis, more foreign investment poured into Thailand than ever before. In the eleven years of economic boom from 1986 to mid-1997, Thailand received a total of US$19.1 million private foreign direct investment (FDI). In the two years after the crisis, 45 large companies listed on the Stock Exchange of Thailand offered their share to foreign buyers. As a result, US $14.9 million of FDI flowed into the country between July 1997 and the end of 1999. Almost all the foreign investors were interested in buying up cheap assets (Pasuk and Baker 2000: 218).

Northern companies are moving into the Thai pulp and paper industry by buying into Thai firms. Stora Enso, for example, has a 19.9 per cent share of Advance Agro (Sonnenfeld 1999: 31). New Oji bought up 5.5 per cent of Advance Agro. Norske Skog took over Shin Ho newsprint plant in Thailand.

Another effect of the economic crisis was a reduction in domestic consumption of paper and board. Consumption fell from 2,042,000 tons in 1997, to 1,604,000 tons in 1998. Domestic pulp consumption also fell from 802,000 tons in 1997, to 644,000 tons in 1998 (FAO 1998). Imports of pulp and paper in 1998 decreased to 43 per cent of 1997 levels (pponline 1999).

At the same time, production capacity increased. Exports increased, partly because of the surplus created by reduced domestic demand, but also because companies were desperate to earn hard currency in order to repay foreign loans after the collapse of the value of the baht. In 1997 exports of pulp and paper stood at 525,000 tons. By 1998 this figure had almost doubled, at 971,000 tons (Paperloop 2000).

According to the Thai Pulp and Paper Association, domestic demand stood at 1.9 million tons in 1999, with production capacity of 3.8 million tons. Somboon Chuchawal, the association's chairman concluded that no new investment in the industry was likely in the next decade (Chatrudee 2000).

Advance Agro and Phoenix currently have ambitious plans to increase capacity, driven by their needs to repay debt, and by the demand for cheap pulp internationally.

2. THAI GOVERNMENT SUPPORT TO TO THE PULP AND PAPER INDUSTRY

Since the 1960s, the government of Thailand (with prodding and support from the World Bank, see below) has promoted cash crops such as corn, cassava, sugar cane and kenaf for export. One of the results has been that farmers expanded their fields into logged-over forest lands (Casson 1997: 11) (Lohmann 1991: 3). In many ways, fast-growing tree plantations are simply another cash crop.

In 1961, Thailand's first National Economic and Social Development Plan (NESDP) specified that 50 per cent of land should be reserved for forest (Apichai et al 1990: 11). The first Plan set a target of 2,000 hectares a year for plantations. The target area increased with subsequent Plans, from 38,000 hectares in the third Plan (1972-1976) to 400,000 in the fourth Plan (1977-1981) (TDRI and TEI 1993: 4-53).

With the fifth NESDP (1982-1986) the government introduced a private sector role in establishing plantations. A target of 48,000 hectares annually was to be planted. The government provided a series of subsidies, including cheap rent for forest land and tax exemption (Pearmsak and Mochida 1999: 26).

In response, twelve companies applied to the Board of Investment for promotion privileges on a proposed total area of 20,000 hectares of plantations. Half of the companies withdrew their applications because of a

lack of available land, and the remainder planted up around 8,300 hectares (TDRI and TEI 1993: 4-64).

Under the forestry policy of 1985, the area of "forest" in Thailand was to be increased to 40 per cent of the country's total land area, and this target figure was also included in the sixth NESDP (1987-1991) (Pearmsak and Mochida 1999: 48). The 40 per cent target figure has endured, despite the fact that people live on much of the land required, despite villagers' protests and ever-increasing information about the impacts of fast-growing tree plantations. Government officials frequently quote the target figure as a justification for more plantations. For example, Chittiwat Silapat of the FIO said, "There's no way to force farmers to go out of that area, no way to force them to plant forest. But this [i.e. 40 per cent forest cover] is a must, we must have a forest cover area" (Chittiwat 2000a).

During the late 1980s, the government unofficially allowed companies to clear forest and declare it "degraded", and therefore suitable for "reforestation" with eucalyptus plantations. In January 1990, 156 employees of Suan Kitti, a subsidiary of Suan Hua Seng one of Thailand's foremost plantation companies (see section on Suan Hua Seng below), were arrested for illegally logging a forest area in eastern Thailand (Carrere and Lohmann 1996: 237). The government of Chatichai Choonhaven was at the time racked by scandals and corruption. Several influential figures in the Chatichai administration were also on Suan Kitti's board (Pye 1997: 4). As a result of the public outcry, in May 1990 the Chatichai administration banned all commercial plantation projects in National Reserve Forests (Carrere and Lohmann 1996: 237).

However, a military coup the following February breathed new life into the plantation industry -- particularly though a project known by its Thai initials as *Khor Jor Kor* (the Land Distribution Programme for the Poor Living in Degraded Forest Areas). Despite the harmless sounding title, the project was carried out by the military's Internal Security Operations Command, and aimed to resettle five million villagers (Carrere and Lohmann 1996: 237) supposedly encroaching in reserve forest areas. The project targetted 2,500 villages in 352 reserve forests over an area of 2.24 million hectares in northeast Thailand. Thai and foreign companies would then be able to lease the land for eucalyptus plantations (PER 1996) (Lohmann 1991: 4).

During 1991 and 1992, the Army and the RFD forcibly evicted hundreds of villagers from their homes. Thousands of villagers including those already evicted called on the government to cancel the project (PER 1996).

A broad-based public protest against the military coup culminated in the biggest demonstration in Thai history in May 1992, with over 500,000 people taking part in a night and day vigil at Sanam Luang and the Democracy Monument in Bangkok. The government's initial response was to order troops to fire into the crowds of unarmed demonstrators. Thousands were wounded and over one hundred people were killed. The protests continued, despite the violent repression and eventually the military dictatorship led by General Suchina Kraprayoon was forced to back down (Pye 1997: 5).

In June and July 1992, thousands of affected villagers protested in Nakhon Ratchasima province. On 24th June, about 300 farmers set off from Khorat on a march to Bangkok, demanding the total scrapping of the *Khor Jor Kor* programme. More people joined the march until by the end of June, 3000 protesters blocked Highway 2, the main road to the northeast. Eventually, after refusing to negotiate with less important representatives, the protesters met Deputy Interior Minister Anek Sithiprasasana. The seven-hour long meeting resulted in a victory for the farmers, and the Anand-government cancelled the project and allowed the resettled farmers to return to their homes (PER 1996) (Pye 1997).

With the end of the *Khor Jor Kor* project, the government of then-Prime Minister Anand Panyarachun passed a Cabinet Resolution dated 8 September 1992, which limited the area of national forest reserve that could be planted with eucalyptus to 8 hectares (50 rai). In addition, only farmers who had lived on the land for five years or more could plant trees in national forest reserve land (Krungthep Thurakij 21,22,26 September 1999).

In September 1993, the Council of Economic ministers of the Chuan Leekpai government decided to lift the ban on commercial reforestation that had been imposed by the previous administration (Bello et al 1998: 198) (Carrere and Lohmann 1996: 238).

Since then a series of governments has promoted plantations and approved new pulp mills and expansions of existing mills. New mills have to be approved by the Board of Investment (BoI). Initially established under the aegis of the World Bank, the BoI has played a crucial role in promoting the development of a pulp and paper industry in Thailand. The BoI's approval of Advance Agro's pulp and paper mill indicates the type and value of subsidies the government provides to the industry. With the approval, Advance Agro was awarded:

exemption from corporate income tax for the first eight years, and 50 per cent reduction for the next five years;
exemption from import duty on machinery to build the mill;
a 75 per cent reduction on import duties on raw materials used in production for domestic sales, and a total exemption from import duties on raw materials for export sales of pulp and paper mill 1 for five years; and
tax deductions for the first ten years of operation (AA www 3).

Coincidentally, Staphorn Kavitanon became a member of the board of Advance Agro in 1996. Staphorn is Secretary General of the Board of Investment (AA www 3).

The two government institutions most directly involved with establishing plantations are the Royal Forest Department and the Forest Industry Organisation. Both institutions are profiled below.

- ROYAL FOREST DEPARTMENT (RFD)

Formed in 1896, the Royal Forest Department is a product of British imperialism. In 1895, Herbert Slade, the Deputy Conservator of Forests in Burma, conducted a six month-long inspection of Siam's forests. He advised the King to nationalise the forest and set up a forestry service to attempt to limit the rate of logging by timber companies. (At the time, the teak trade in northern Thailand was dominated by six companies, three of them British, one French, one Danish and one Chinese.)

Herbert Slade became the first Director-General of the RFD. Until 1923, the succeeding Director-Generals were all British, and the Department was dominated by British forestry officers. In 1899, King Rama V (King Chulalongkorn) of Siam formally claimed ownership of all forest land in the country. In 1932, with the end of absolute monarchy in Thailand, forest lands became the property of the state, with logging concessions leased to corporations. Timber production reached a peak of 4.5 million cubic metres in 1968, after which it declined and in the mid-1980s Thailand became a net importer of timber.

The impact of logging on the forests was disastrous – the area of forest declined from 274,000 square kilometres in 1961 to 143,000 square kilometres in 1989. During the 1980s, villagers protested against the logging companies, blocking roads, obstructing logging operations and occupying logging camps. Villagers set up their own forest protection patrols and planted trees in logged-over forest. As a result of the protest movement, and floods in 1988, which were blamed on logging and which killed more than 300 people, the government declared a nationwide ban on inland logging concessions in January 1989 (logging concessions in mangrove forests remained).

With the logging ban, the RFD shifted its focus from logging to "conservation" and "reforestation". During the 1980s, the RFD set up a separate office specifically to promote commercial tree farms, with a public relations budget of US$24 million (Carrere and Lohmann 1996: 233). Post-logging ban, the RFD, the military and private companies have promoted plans to establish four million hectares of fast-growing tree plantations to feed the pulp and paper industry. Meanwhile, many of Thailand's logging companies simply moved their

operations to neighbouring countries: Burma, Cambodia and Laos (Lang and Pye 2000: 30-31).

In 1992, a Reforestation Office was established within the RFD. Two years later the Office accounted for 40 per cent of the RFD's budget. The Reforestation Office announced three major programmes in 1993 aimed at promoting reforestation:

the King's Project, which aimed to plant 800,000 hectares in commemoration of the King's Golden Jubilee;
a subsidising fund for private forest tree farms programme, which aimed to plant up 1,300,000 hectares; and
a programme to replace cassava with fast-growing trees, which aimed to plant 48,000 hectares.

The King's Project was a dismal failure. After a year, the RFD admitted only 30 per cent of 297 million saplings produced for the campaign had actually been planted. Government officials resorted to cutting down "degraded forest" to meet planting targets. For example, in Udon Thani province, a cemetery forest was cleared and after the district head appeared at a public event to launch the project, villagers spent five days planting eucalyptus saplings. The then-Director General of the RFD, Pong Leng-ee was removed when it emerged that less than twenty per cent of the budget for the King's Project had actually gone on producing seedlings (Pye forthcoming).

In April 2001, the private reforestation was put on hold. The Budget Bureau scrapped the budget for the year on the grounds that the RFD already had approximately US$800,000 left over from previous years. By 1999, of the 1,300,000 hectares target, only around 500,000 hectares had been planted with trees. A source told the Bangkok Post in April 2001, "the number has vastly decreased as many participants abandoned the project in the interval" (Ploenpote 2001a).

The RFD is plagued with corruption and illegal logging scandals. In 1996, Yanyong Thanompichai, then-Director-General of the RFD, was removed from his post following an illegal logging scandal in Surat Thani province. Two years later, another RFD Director-General Sathit Sawintara, was removed following the exposure of systematic illegal logging, involving high-level forestry officials, in the Salween National Park (Pye forthcoming).

Today's Director-General of the RFD is Plodprasop Suraswadi. Plodprasop seems happy to continue the RFD's role as an unregulated and unaccountable armed force. In January 2000, he appeared on the cover of the RFD's in house magazine "Vanasarn" in military-looking uniform armed with a knife and a uniform. Such gestures are reflected in some of RFD's recent activities. In May 1999, approximately 500 police and 1,500 forestry officials broke up a peaceful demonstration of farmers in Chiang Mai. In the same month, Karen people living in Thung Yai Naresuan Wildlife Sanctuary accused Plodprasop of threatening three Karen hermits with an assault rifle, and ordering their meditation huts to be burned down. Plodprasop denied any knowledge of the incident, but the previous month a group of "paramilitary rangers" demolished Karen homes, destroyed cooking utensils and farming tools in Thung Yai Naresuan (Uamdao 1999a). In August 2000, the racism and violence of the RFD's "nature conservation" was transparent as RFD officials and police watched as a group of lowland Thais cut down the orchards and burned houses of Hmong people in Pa Klang, Nan province. (See Watershed 2000a.)

- FOREST INDUSTRY ORGANISATION (FIO)

FIO was established on 1 January 1947 as a state-owned forestry enterprise. Until the January 1989 ban on timber concessions in Thailand, FIO's main activity was logging. Today, FIO sells illegally felled logs that have been confiscated by the police, operates sawmills and furniture factories, and has established plantations covering approximately 144,000 hectares (Chittiwat 2000a). The plantations are mainly teak in the North, rubber in the South and eucalyptus camaldulensis in the northeast and east of Thailand (Chittiwat 2000a).

Before the 1989 logging ban, logging concessions had accounted for more than 80 per cent of FIO's income (Suphaphan 1994). With the logging ban, "everything collapsed overnight" according to Chittiwat Silapat, of FIO's Office of Budget and Planning. FIO survived by selling timber stockpiled in its yards, and by running up debts. "If we were a private company, I think we would be bankrupt" said Chittiwat (Chittiwat 2000a).

In the early 1990s, FIO planned a US$168 million joint venture pulp mill in Si Sa Ket in northeast Thailand. A majority share in the project was to have been held by the Siam Cement Group and Advance Agro with a 10 per cent share held by the Industrial Finance Corporation of Thailand. The project was shelved due to local opposition (Carrere and Lohmann 1996: 232). Villagers wrote letters to the FIO, the Science Ministry, the Office of the Prime Minister's Secretariat and to the province's nine MPs, asking for the plan to be reconsidered (Walakkamon 1995). In April 1994, about 200 villagers from Kanthararom district in Si Sa Ket province rallied in front of the provincial hall in protest at the FIO's proposed pulp mill (Bangkok Post 19 April 1994).

Chittiwat's views on the project typify FIO's technocratic approach to forestry: "Once the pulp mill had been established it would have benefitted the local people and they could have had more jobs, and at the same time can create more forest cover. Even if it was eucalyptus" (Chittiwat 2000a).

According to *Paper Asia* magazine, Jaakko Poyry offered to conduct a preliminary study free-of-charge on the condition that if FIO and the government approve the project, they would have to hire Jaakko Poyry for all further studies on the project. FIO turned Poyry down and asked Poyry to propose prices for the report (Chang 1991: 16).

Over the next few years the organisation's teak plantations will reach maturity, allowing FIO to cash in on logging its plantations (Chittiwat 2000a). FIO has also turned to international aid projects (see section on International "Aid", below) in order to help it survive. SCC Natura has benefited from a series of Swedish-funded contracts to help "finding a new life for FIO". (See section on SCC Natura, below.)

Recently, the Chinese government has offered FIO the possibility of establishing a pulp mill. Three years of talks between Advance Agro and the Chinese government to establish a US$1 billion plantation and pulp project have come to nothing, and the Chinese government is eying FIO's plantations as a source of raw material for the project. The pulp would be exported to China. (See section on Advance Agro, below.)

- CARBON FORESTRY

International discussions, supposedly aimed at addressing the problems of global climate change, have presented plantation proponents with their latest, and perhaps most inequitable, form of support for the plantation industry. In a blatantly imperialist move, some Northern governments, energy companies and forestry consultants are attempting to evade the need to reduce emissions of greenhouse gases in the North, by claiming that planting trees in the South can absorb greenhouse gases.

In 1991, the Asian Development Bank funded a project in Thailand titled, "Preparation of a National Strategy on Global Climate Change". The project was initially focussed on the 1992 UNCED meeting in Rio, but the project

was redesigned after Rio "in order to help Thailand meet its international obligations as a signatory to the Framework Convention on Climate Change". Among the project's recommendations is the implementation of "Reforestation programs, leading both to a mitigation of GHG [greenhouse gas] emissions and to the maintenance of biodiversity" (TDRI and TEI 1993: II).

In 1995, the Thai government agreed to accept foreign aid for forestry and energy efficiency projects aimed at preventing global warming. However, the government refused to allow "carbon credit" in return for such investment (The Nation 29 January 1995).

The RFD and the FIO have welcomed the chance of cashing in on carbon forestry. Sonjai Javanond, an official at the RFD, told the Japanese newspaper, the Daily Yomiuri, "There is no doubt that afforestation is one of the most significant measures in controlling global warming. We hope that tree planting will be carried out on a larger scale in the future" (Daily Yomiuri 6 January 2001).

Similarly, Chittiwat Silipat of FIO pointed out the benefits to his institution of carbon forestry, "FIO will be more than happy if we can get some fund for helping us running our plantations" (Chittiwat 2000b).

However, not all Thai government officials offer such unreserved support for helping Northern governments evade their responsibilities. Wanee Samphantharak, deputy secretary general of the Office of Environmental Policy, leads the Thai delegation at the UN Conference on Climate Change. In March 2001, Wanee told the Nation that to rush to accept funding for "reforestation" would cause more damage to Thailand than benefits. He warned that "Free food would be poisonous," and pointed out that Thailand might lose sovereignty over forest areas, as an increasing area must remain green to absorb carbon dioxide from the atmosphere. He added that saying yes to the offer would automatically mean that Thailand agrees that those who are causing global warming need take no action to reduce their own greenhouse gas emissions, but can pay others to act for them (Kamol 2001).

So far there are few carbon forestry projects in Thailand. Problems with Thailand's position of allowing carbon forestry projects, without allowing "carbon credits" to the funding country are already appearing. A joint project, between Kansai Electric Power Co and the RFD, aims to restore mangrove forests at the Khanom River in Nakhon Si Thammarat Province in southern Thailand. The project will also explore the possibility of using mangrove trees to absorb carbon dioxide (Daily Yomiuri 6 January 2001). Since 1975, up to 200,000 hectares of mangrove forests in Thailand have been destroyed to make way for shrimp ponds. The project plans to plant 80 hectares with mangroves over four years (Daily Yomiuri 6 January 2001).

At the COP-6 negotiations, which took place in November 2000 at the Hague, one of the Thai delegates claimed that at 4.00 a.m. a Japanese delegate inserted a claim for carbon credits from the Thai project into a document presented to the president of the negotiations. The Thai delegate added, "How could we argue about that when we were in our hotel beds?" He pointed out that while Thailand sends 10 people to cover the negotiations, countries like Japan and the US sent as many as 150 officials (Kamol 2001).

Kansai Electric Power officials admitted to the Japanese newspaper, the Daily Yomiuri, that the company may pull out of the mangrove project in Thailand, as a result of the confusion over whether Thailand will allow Japan to claim Carbon credits from the project. A Kansai official revealed where the importance of the project lies, at least as far as the company is concerned: "it . . . is important to produce research results that show that afforestation contributes to curbing global warming" (Daily Yomiuri 6 January 2001).

3. INTERNATIONAL SUPPORT

The expansion of plantations and the pulp and paper industry in Thailand is not an accident, nor is it the

necessary result of something neutral called "development". It has happened because a range of institutions (sometimes working deliberately together but also simply working towards their own aims) have promoted the growth of both industry and the industrial plantations necessary to feed that industry.

This section looks at some of these institutions and the ways in which they have ensured that the model of industrial tree plantations has been implemented on the ground. International "aid" agencies, both multilateral and bilateral have worked hand in hand with successive Thai governments to ensure the development of the industry in Thailand. Section 3 looks at the Thai government's support to the industry.

- WORLD BANK

The World Bank has played a significant role behind the scenes in promoting the development of the pulp and paper industry in Thailand. From the mid-1950s, the Bank promoted the expansion of infrastructure and commercial logging leading to the opening up of many forest areas (Lohmann 1991: 3).

In addition to direct loans to pulp and paper companies through the International Finance Corporation, the Bank's private finance arm, the World Bank played an important role in establishing a series of semi-autonomous state agencies in Thailand. These include: the Industrial Finance Corporation of Thailand (IFCT); the Thai Board of Investment (BOI); and the National Economic and Social Development Board (NESDB). As well as promoting industrial development in general, both IFCT and BOI have played an important role in promoting the pulp and paper industry in Thailand. The NESDB meanwhile overseas all public investment planning (Rich 1994: 13) and through its promotion of cash crops grown for export, has paved the way large-scale eucalyptus planting. (See section on Thai Government support, above.)

Almost all of Thailand's pulp and paper mills have been built with international finance – often in the form of cheap concessional loans. Foreign "experts" often come with those loans. Siam Kraft, Thailand's first modern pulp mill, for example, received financing from the US Export-Import Bank. The engineer was Parsons and Wittemore, a US-based pulp and paper manufacturing company (Sonnenfeld 1998a: 63).

In the 1990s, several new pulp mills started operations in Thailand: Siam Cellulose (1992); Phoenix II (1994); Advance Agro (1996). All three new mills are designed to use eucalyptus as raw material (Sonnenfeld 1998b: 118) and all three use technology and machinery from Northern countries to produce pulp.

- ASIAN DEVELOPMENT BANK

Northern funders have played a key role in promoting the development of a wood-based pulp and paper industry in Thailand. When the Army Mapping Corps established Thailand's first paper mill in 1923, the raw material used was waste paper.

It is only in the 1990s that wood has become a significant raw material for the pulp and paper industry in Thailand. In 1988, the Asian Development Bank noted that "wood is not a significant source of raw material" for the pulp and paper industry in Thailand. Instead the industry relied on waste paper, rice straw, bagasse, bamboo and kenaf. According to the Bank, "Shortages of raw material keep the pulp and paper industries operating below capacity and prevent expanded capacity" (ADB 1988: 1). The Bank's narrow view of the situation is clearly illustrated here. According to the Bank, the industry must expand. Yet, by the late 1980s there had been several major protests against the development of eucalyptus plantations in Thailand – the ADB appears oblivious to these protests. (See section on Protests, below.)

From 1989, the Asian Development Bank, carried out a "Private Tree Farms Development Study", which aimed to "prepare for the development of a major resource base which could support new and expanded domestic industries based on wood fibre" (ADB 1988: 5). The US$320,000 technical assistance was funded through a grant from the Japan Special Fund (ADB 1988: 8). According to the Bank, the project aimed "to determine appropriate mechanisms to develop a meaningful reforestation program relying on the active involvement of the private sector" (ADB 1988: 9). Phase one of the project identified private companies "interested or active in tree plantation development" and determined the level of interest from banks in giving loans to plantation companies (ADB 1988: 6).

The Agricultural Land Reform Office is currently in negotiations with the Asian Development Bank to receive a US$20 million loan from the ADB for structural adjustment in the agriculture sector. The Four year project would establish a revolving fund to promote commercial tree plantations in land reform areas, and would be carried out in association with the RFD and the FIO (Montri 2000a: 5) (Montri 2000b: 6).

- CANADA

Canada's International Development Agency (CIDA) helped fund the Canadian consultant firm H.A. Simon's work with the Thai company Soon Hua Seng (Carrere and Lohmann 1996: 234) and helped establish the ASEAN Forest Tree Seed Centre in Thailand (ADB 1988: 4). In 1992, Chemetics International Company of Vancouver won a contract with Phoenix to supply engineering services, equipment and materials for an integrated chemicals bleaching plant. The deal was financed with loans from the Export Development Corporation of Canada (US$5.7 million) and the Canadian Imperial Bank of Commerce (US$4.3 million) (EDC 1992).

- UK

The British Commonwealth Development Corporation has invested in the following Soon Hua Seng Group companies: Advance Agro Public Company Ltd (Integrated pulp and paper mill); Thailand Advanced Communications Co Ltd (Printing and publishing); and Thailand Soon Hua Seng Company Ltd (Eucalyptus forestry and pulp and paper production) (CDC no date b). (See section on CDC, below.)

- JAPAN

Aid agencies have also supported research into fast-growing tree plantations aimed specifically for the pulp and paper industry. Japan has been particularly active in this field. In 1981, Japan's International Cooperation Agency (JICA) established a trial eucalyptus plantation covering 844 hectares in Sakaerat (JICA no date b: 11) in northeast Thailand. The project aimed to promote research and training of Thai forestry officials.

Funds from Japan's Overseas Economic Cooperation have supported farmers' participation in the Thai-Japan Reforestation and Wood Industry Co. which was designed to supply raw materials to a consortium of Japanese paper makers (Carrere and Lohmann 1996: 233-234).

During the 1980s, JICA also supported the Research and Training in Reafforestation Centre based in Bangkok (ADB 1988: 4).

In 1992, JICA funded the "Reforestation and Extension Project in the Northeast of Thailand", a five year project which established four large-scale nursery centres in the northeast and aimed to produce 20 million seedlings a year. The seedlings were distributed to farmers in over 100 selected villages, with extension services also provided by the project. The project also established a demonstration plantation covering 6,400 hectares (JICA no date a) (Carrere and Lohmann 1996: 233).

- AUSTRALIA

During the 1980s, the Australian government promoted eucalyptus plantations in Thailand, through its support of a project in Tung Kula Ronghai in north east Thailand. Tree planting, supposedly to "reforest" upland areas as part of the project led to widespread protests by the communities affected.

The theory was simple: the fast-growing trees would raise the water table, and thus prevent salts being deposited in upper soil layers. Rice yields would therefore increase. The project designers however, completely overlooked the fact that the "degraded" forest, which the project replaced with eucalyptus trees, was actually of vital importance to the villagers and provided a source of firewood as well as pasture for grazing animals (Casson 1997: 13).

Even where the project met its own goals, it failed from the villagers' point of view. In June 1987, project consultants McGowan International reported that 480 hectares of eucalyptus planted in Nam Kham had successfully lowered the water table -- unfortunately the plantations had also dried up village wells (Casson 1997: 14).

A 1995 Thai NGO report documents the problems with the project: "Soils where eucalyptus is planted have become sandier, and the ground is crossed by deep cracks in the dry season. In Kampaeng subdistrict, which consists mainly of uplands, soils which have become sandy migrate to lower areas. They have, for example, accumulated in the local natural pools or nong, making them so shallow they are unusable by livestock or people" (Jirawan et al 1995).

Despite the problems, the project won the Australian government's 1988 award for "Excellence in Overseas Development Assistance" (Carrere and Lohmann 1996: 235).

The Australian Agency for International Development (AusAID) has learnt few lessons from its failure at Tung Kula Ronghai. According to Gerard Guthrie, AusAID's Director of Rural Development, Infrastructure and Environment, "AusAID has had almost no activity" in plantation development. AusAID does not have a policy on plantations and does not even have a forest policy. AusAID has not commissioned any research into tree plantations in the last five years, and "given the absence of relevant projects" it does not propose to commission any (Guthrie 2001).

- FINLAND

The case of the Thai Forest Sector Master Plan shows how some of the various actors work together in promoting industrial forestry and the pulp industry. The Master Plan project came about through a series of meetings between Jouko Virta, the president of Jaakko Poyry's consulting division, and members of the Thai government. In May 1988, during a trip to Finland, then-Prime Minister Prem Tinsulanonda signed an agreement for the Finnish government to fund a Thai Forest Sector Master Plan. Not surprisingly, Jaakko Poyry won the contract to carry out the project (Carrere and Lohmann 1996: 243) (Rajesh 1995: 30).

Poyry benefitted further from the Finnish government's generosity in 1988, shortly after the then-Finnish Ambassador to Thailand, Benjamin Bassin, visited the Phoenix pulp and paper mill in northeast Thailand. The Finnish government subsequently agreed to give an interest US$91 million free pre-mixed concessional credit for the expansion of Phoenix's pulp mill. The Swedish and Austrian governments also contributed concessional loans. Between 1990 and 1994, Jaakko Poyry International was among the Finnish firms that supplied the designs, machinery and technical advice to Phoenix (Watershed 1998b: 52). (See section on Phoenix, below.)

Poyry's Thai Forestry Sector Master Plan had an overwhelming bias towards planning for the development of industrial forestry and the pulp and paper industry and formulating the relevant policies and developing

institutions to implement the plan (Montri 2000a: 2). The Plan recommended handing over four million hectares of farmers' land to private companies for tree plantations to feed the pulp and paper industry.

Thai NGOs opposed the plan, asking Finland to withdraw its aid for the plan. In August 1990, representatives from more than 200 Thai NGOs announced their refusal to participate in the TFSMP until it was completely separated from current government forest policy (Lohmann 1991: 16).

In 1995, the Finnish International Development Agency (FINNIDA), commissioned the World Conservation Union (IUCN) to carry out a review of the TFSMP. The review pointed out "serious flaws" in the Plan, and stated "if implemented either partially or in full, the plan would have many widespread, permanent social, economic and environmental impacts." IUCN's review team also pointed out that "the project was established with serious flaws in its design and methodology," with 80 per cent of consultancies going to international consultants who were "almost exclusively Finnish or Swedish and none spoke Thai" (Watershed 1996b: 4). (See Rajesh (1995) for a critique of the TFSMP.)

Although the TFSMP was never adopted by the Thai cabinet, during the project Poyry learnt the ins and outs of Thailand's forestry sector. Finnish machinery exporters also benefitted. During the same trip to Finland in 1988 that he signed the TFSMP agreement, Prem Tinsulanonda also agreed to the establishment of the Thai-Finnish Trade Association (now called the Thai-Finnish Chamber of Commerce). The Association aimed to "serve and promote trade activities between Thailand and Finland" (T-FCC www 1). Between 1989 and 1992, Thai exports to Finland grew four times, while Finnish exports to Thailand grew ten times (T-FCC www 1). Exports of machinery, much of it related to the forestry sector, rose from US$19 million in 1990 to US$113 million by 1993 (Carrere and Lohmann 1996: 234).

- SWEDEN

More Scandinavian support to industrial forestry in Thailand came in the form of a Sida-funded project: "Organisational Development of the Forest Industry Organisation (FIO)". Until the 1989 ban on inland logging concessions, FIO was responsible for logging Thailand's forests, through concessions handed out to logging companies. With the logging ban, FIO lost its main source of income and quickly ran up huge debts.

Like the TFSMP, the Swedish-funded FIO project grew out of meetings between a Scandinavian consultant and Thai officials. In 1992, Carl Mossberg, a consultant working in Laos for the Swedish forestry consultants, Swedforest, visited Bangkok and FIO. He met Chittiwat Silapat who was then head of wood products sales at the FIO. At the time Chittiwat was considering ways for FIO to survive in post-logging ban Thailand, and he asked Mossberg whether there was "any possibility for us to have some help from Sweden" (Chittiwat 2000a).

Chittiwat visited Sweden in November 1992, discussed the project with officials at the Board for Investment and Technical Support (BITS), and on his return to Bangkok submitted a proposal which BITS agreed to fund (Chittiwat 2000a). Not surprisingly, Swedforest subsequently won the contract. Tomas Jonsson, the project manager for the project said Swedforest won the project "In an open bidding process" (Jonsson 2001a). Yet, the funding proposal that FIO submitted to BITS in 1993 states, "The project will be carried out in close cooperation between FIO and Doman through Swedforest International AB of Sweden" (FIO 1993: 4). At the time Swedforest was part of the Doman Group, the Swedish state forest enterprise. Swedforest is now called SCC Natura. (See section on SCC Natura, below.)

In what Carl Mossberg described as "finding a new life for FIO" (Mossberg 2000) the project aimed to help FIO change focus to a pulp and paper and plantation agency. Project documents state that "forest plantation [sic] is the only answer for needed wood supply" (FIO 1993: 1) and that the new role of FIO is "to be a forerunner in establishing sustainable economic forests for Thailand's self-sufficiency" (Usher 1994). As part of FIO's new image, SCC Natura and FIO spent three years preparing two plantations for assessment for compliance with

Forest Stewardship Council's principles for well managed plantations. SmartWood carried out the assessment in October 2000. In June 2001, Jeff Hayward of SmartWood stated, "we are still in a contracting phase. . . . We are in process of contracting a five year certificate that would include, at the present, only the two units evaluated in October 2000" (Hayward 2001). In 2001, the two plantation areas were awarded FSC certificates. The FSC assessment effectively continued the process started by Swedforest in 1993 – a process that has involved little, if any, discussion with NGOs and no facilitation of public debate about the role of FIO since the logging ban. (See section on FIO, above.)

4. COMPANIES

The real beneficiaries of the support to the pulp and paper industry are the companies. This section profiles some of the Thai and international companies involved in the industry in Thailand.

- ADVANCE AGRO

Advance Agro Public Company Limited is the largest fully integrated pulp and paper manufacturer in Thailand. The company manufactures and distributes pulp and printing and writing paper in Thailand and exports to Europe, Asia, USA, Africa and countries in the Middle East (Wright www 1). Seventy per cent of the company's production is exported, the two largest markets being China and Japan (Woranuj 2000).

Advance Agro is part of the Soon Hua Seng (SHS) Group. SHS was founded in the 1950s by members of the Dumnernchanvanit family, which still controls the Group (AA www 2). SHS boasts of being the biggest rice and cassava exporter in the world (Mallet 1992) and started growing eucalyptus in 1982 as an alternative to crops such as rice and cassava. The company converted its cassava fields into eucalyptus plantations partly as a result of a European Community decision to reduce cassava imports (Malee 1992). In 1987, SHS started to plant eucalyptus on a commercial scale and formed Advance Agro to produce pulp and paper (AA www 4).

Advance Agro was incorporated in 1989, and listed on the Stock Exchange of Thailand in February 1995. The major shareholders are the Soon Hua Seng Group (47.1 per cent), officers and directors of Advance Agro (8.9 per cent), Stora Enso (19.9 per cent), Oji Paper (5.5 per cent) and the Commonwealth Development Corporation (1.1 per cent) (AA www 2).

Advance Agro's and the SHS Group's management are well connected with Thailand's political elite. Virabongsa Ramangkura, Advance Agro's chairman, served as an economic advisor to General Prem Tinsulanonda, Thailand's prime minister in the 1980s. In the mid-1990s, he was finance minister during General Chatichai Choonhaven's administration and was deputy premier in charge of economic affairs under Prime Minister General Chavalit Yongchaiyudh. Virabongsa is an advisor to Bangkok Bank, which has outstanding loans of approximately US$850 million with the SHS Group (AA www 3). In November 2000, Virabongsa became chairman of the Thai language newspaper and magazine publisher Siam Rath Co (Achara 2000).

Chanchai Leetavorn, Chairman of Advance Agro's board of directors, has held the posts of Permanent Secretary of the Ministry of Finance, Minister of Commerce and Deputy Minister of Finance (AA www 3).

Kitti Dumnernchanvanit, President of SHS, was a Senator in the Thai Senate, and an economic advisor to the Prime Minister (Sonnenfeld 1998a: 66). Until 2000, he was a director of Bangkok Bank. Kitti's son Yothin Dumnernchanvanit is the General Manager of Advance Agro (Bangkok Post 24 April 2000).

Prasit Kanchanawat, a former commerce minister, held the positions of chairman of SHS and Bangkok Bank simultaneously (Mallet 1992).

Advance Agro's first mill opened in 1996, and the second in 1998, at Tha Toom in Prachinburi province, 120 kilometres from Bangkok (AA www 1). Total production capacity is 430,000 tonnes of pulp per year (Srisamorn 2000). Raw material is eucalyptus and imported long-fibre pulp. (AA www 1) All short-fibre wood comes from eucalyptus trees grown in a 150-kilometre radius of the Tha Toom mills (AA www 3). SHS established a laboratory for conducting research into Eucalyptus camaldulensis and other fast-growing trees in 1982. Today, SHS Group's 67 hectare complex of greenhouses and nursery plots churns out 65 million hybrid clone seedlings every year (AA www 3).

Advance Agro manufactures an office paper called "Envirocopy Premium". Advance Agro markets the paper as elemental chlorine free, not using timber from rainforest, produced in a mill which uses minimum water and uses effluent to irrigate tree plantations. The company describes the plantation areas as old rice growing areas now degraded after generations of rice farming (Hobbs 1998).

Advance Agro exports pulp to mills in Tasmania belonging to AMCOR, the Australian paper and packaging giant (BWC 1999).

Advance Agro mills produce office copy papers marketed as "Speed copy papers". The paper is marketed by The Paper Company as coming from an "environmentally certified factory" using eucalyptus from its own plantations (Paper Company www 1).

In contrast with its internationally projected "green" image, in Thailand Advance Agro is notorious for the 1990 "Suan Kitti scandal", when 156 Soon Hua Seng employees were arrested for illegally logging a forest area in East Thailand. (See section 3, above.) After the scandal, SHS hired the Finnish-owned Presko public relations firm for advice, and swiftly changed the name of the proposed mill from "Suan Kitti Pulp Mill" to Advance Agro (Sonnenfeld 1999: 18).

Advance Agro does not actually own any of its own plantations, instead purchasing the wood from Agro Lines, another member of the SHS Group. Agro Lines obtains its wood from four sources:

from its own plantations (which in 1997 covered 31,000 hectares);
from plantations owned by the SHS Group;
from local farmers under contract to Agro Lines (in 1997, 46,000 hectares); and
from individual farmers (AA www 3).

The logs are transported to the mill either by farmers or by a trucking company which is also part of the SHS Group, working under subcontract to Agro Lines (AA www 3). Yet another SHS Group company owns the trucks which transport much of the finished product from the mills (AA www 3).

Shareholders and finances

In 1994, Advance Agro planned an initial public offering, aiming to raise US$80 million, part of the US$650 million required to build a pulp and paper mill. Barclays de Zoete Wedd was the international lead manager for the offering. The project's main backers were Bangkok Bank, Thai Farmers' Bank, Krung Thai Bank and the Commonwealth Development Corporation (see section on CDC, below) (Mallet 1994). The mill was financed with loans from export credit agencies with working capital and guarantee facilities provided by Thai banks (AA www 1). The International Finance Corporation lent Advance Agro US$10 million in 1994 (IFC 2000).

In April 1994, Mitsubishi Corp, Japan's largest general trading house, and Mitsubishi Heavy Industries Ltd, a major Japanese machinery maker, received an US$126 million order from Soon Hua Seng to build a paper mill. Under the agreement Mitsubishi Heavy provided the machinery for the plant, and Mitsubishi Corp handled the import and export arrangement (The Nation 14 April 1994).

Advance Agro was hit hard by the economic crisis in 1997. The company breached financial covenants on its loans as a result of foreign exchange losses. As almost all of Advance Agro's debt was in US dollars, the company was very vulnerable when the value of the Thai baht fell by almost half in 1997 (Bangkok Post 8 November 1997).

In November 1997, Advance Agro made a US$111.35 million bond offering on US markets (Luce and Bardacke 1997). The company was the first from Thailand to issue high-yield bonds. The proceeds from the deal were to be used to build a new pulp mill (see Sino-Thai project, below), to pay off debt and for working capital (Bangkok Post 10 November 1997).

In 1997, Advance Agro posted losses of US$200 million. To compensate for the losses, in 1998 Advance Agro planned to increase exports to the US, Europe, Australia, the Middle East and Asian countries (Bangkok Post 10 March 1998).

The economic crisis was also behind the sale of 19.9 per cent of Advance Agro shares to Enso (now Stora Enso, see section on Stora Enso, below). The benefits to Stora Enso are huge. For US$82 million, in addition to the shares, Stora Enso received:

exclusive international marketing rights outside Thailand and Japan (Burt 1998c);
two members of Stora Enso on the Board of Advance Agro (Jirajaree 1998);
a secure market for at least 12,000 tonnes of long-fibre pulp a year from its European mills (AA www 4); and
Stora Enso has approval rights for major corporate decisions, as long as it holds at least 10 per cent of the company (AA www 4) .

In May 1999, Jukka Harmala, the president of Stora Enso group became a board member of Advance Agro (Bangkok Post 7 May 1999).

New Oji Paper, Japan's largest producer of pulp and paper, also bought 5.5 per cent of Advance Agro in 1998, at a cost of US$22 million (The Nation 29 September 1998). Under the agreement a senior executive of Oji Paper will sit on the Board of Advance Agro (Bangkok Post 29 December 1998). Through the deal Oji Paper won the exclusive right to sell Advance Agro paper in Japan (AA www 4). In May 1999, Masahiko Ohkuni of Oji Paper became a board member of Advance Agro (Bangkok Post 7 May 1999).

Although Advance Agro hoped to make a profit in the year 2000 (which would have been its first profitable year since its pulp and paper mill opened in 1996), Soon Hua Seng Group's creditors were getting increasingly nervous about the Group's debt restructuring. Bangkok Bank has nearly 30 billion baht (approximately US$850 million) in outstanding loans with SHS. SHS and Bangkok Bank have close links. SHS is a major shareholder of the Bank, and Kitti Dumnernchanvanit only resigned from the Board of Directors of Bangkok Bank in 2000. Bangkok Bank, Krung Thai Bank and Thai Farmers Bank have also offered export credits worth US$510 million to SHS group, including a US$300 million line for Advance Agro (Cholada and Darana 2000).

By August 2000, local banks were threatening to file a suit against Kitti Dumnernchanvanit, Advance Agro's General Manager, after talks on debt restructuring broke down. Since June 2000, the Bank of Thailand has required local banks to submit restructuring schedules for non-performing loans. If the talks fail to meet deadlines, the banks are required to press legal suits, or face fines imposed by the Bank of Thailand. An executive at Bangkok Bank said the bank would file suits aimed at the individual companies within the group, starting with Advance Agro. Soon Hua Seng serviced its debt to foreign creditors through its export earnings, while failing to repay loans from Thai banks. SHS used funds from many loans to the group for alternative purposes, leaving no clear trace of where cash was transferred. The Soon Hua Seng case has proved "to be a huge headache for all the creditors", an executive of Thai Farmers Bank told the Bangkok Post (Cholada

2000a).

In 2000, Bangkok Bank, Krung Thai and Thai Farmers Bank paid out four billion baht (about US$110 million) in guarantees to cover Advance Agro's debt to foreign creditors. The three banks covered Advance Agro's liabilities after the company defaulted on debt repayments (Cholada 2000b).

Related companies

Other SHS Group companies involved in plantations, or the pulp and paper industry include:

Agro Lines, which as well as selling wood to Advance Agro also uses wood in its own fibreboard plant, sells wood to other pulp producers in Thailand, and exports wood chips to Japan (AA www 3).

Hi-Tech, which operates a 35,000 tons a year paper mill at Ban Laem Kho Jan in Chachoengsao. The mill started operations in 1993. Surplus pulp from Advance Agro's mills is transported to the Hi-Tech mill (AA www 3) (Mallet 1994).

Eka Udon Trading Company, which operates a wood processing factory in Chachoengsao province. The factory produces goods used in the rest of the SHS Group. For example, wooden pallets for forklift truck are used to transport paper products around Advance Agro's mills (AA www 3).

Agro Mats Co., which operates a Medium Density Fibreboard factory (AA www 3).

Suan Kitti Reforestation Co., which operates a 300,000 tons a year wood chip plant exporting to Korea and Japan, as well as selling to local markets. The company also delivers tree bark and undersized wood chips to the SHS Group's power plants for use as fuel (AA www 3).

Advance-Alcore, a joint venture between Advance Agro (78 per cent) and Ahlstrom Alcore of Finland (22 per cent) started production in August 1996. The 3,500 tons a year cardboard plant is located in Prachinburi. Eighty per cent of the produce is used by Advance Agro subsidiaries, the remainder sold to other mills in Thailand or exported (Bangkok Post 3 September 1996).

Advance-Oji Speciality Paper, a joint venture between Advance Agro and Oji Paper formed in October 1996 to produce carbonless copy paper at a new 30,000 tons a year plant in Prachinburi (Bangkok Post 3 October 1996). In February 1997, Advance-Oji Speciality Papers signed a loan agreement of US$60 million with a group of Japanese banks, led by Sakura Bank, to finance machinery purchases and construction of its new plant (The Nation 18 February 1997). Oji made its decision to invest in the project after a Jaakko Poyry market study on carbonless copy paper. Advance Agro withdrew from the project because of funding difficulties after the 1997 financial crisis, leaving Oji as the sole owner. The mill started production in May 1998. Half the base paper for the mill is supplied by Advance Agro and the rest comes from Japan. The finished paper is marketed under the brandname "Phoenix", although there is no connection with the Phoenix pulp and paper mill. Seventy per cent of output is exported, mainly to Hong Kong, Malaysia, the Philippines, Singapore, South Korea and Taiwan (Ryan 2001).

Advance Power Supply, a subsidiary of Advance Agro, received a credit facility in October 1996, to construct two 150 MW power plants. Advance Power Supply arranged the credit facility through the Bangkok Bank, Krung Thai Bank and the Industrial Finance Corporation of Thailand, as well as a group of finance and securities companies. The two new units were to be built by another subsidiary of Advance Agro, National Power Supply (Bangkok Post 11 October 1996). In 1998, National Power Supply reached a deal with Michigan-based CMS energy which bought up US$60 million in shares. National Power Supply plans to build two 150 MW units – a US$90 million investment (The Nation 2 May 1998).

Wood Vision and Scene Co., which produces garden furniture, office furniture, flooring and household furniture in its Eucalyptus Wooden Furniture Plant in Chachoengsao province (AA www 3).

Expansion to China

In 1992, the Soon Hua Seng Group announced a US$1 billion plantation and pulp and paper project in China's Guangdong province. On 5 November 1992, SHS signed an agreement with the Chinese state-controlled

Forestry and Paper Mill Co. of Shanwei City to plant 32,000 hectares with eucalyptus and acacia trees from 1993, to build a 120,000 tons a year wood chip mill in 1997-98, and to construct a 120,000 tons a year pulp and paper mill in 1999 (Mallet 1992) (Ratchapol 1992). The land is to be rented from the Chinese government for 50 years (Khao Sod 10 July 1998).

Between 3-11 July 1998, Sanan Kachonprasat, Thailand's former Minister of Interior, led a group of Thai government representatives to China on a visit to SHS Group's Chinese plantations (Khao Sod 10 July 1998).

Advance Agro and the Sino-Thai pulp project

In March 1997, Virabongsa Ramangkura, chairman of Advance Agro, announced a project to construct a new 700,000 tonnes a year pulp mill in Prachinburi province, with 96,000 hectares of eucalyptus plantations to supply raw material. The Chinese government would hold 51 per cent of the joint venture, with Advance Agro the remaining 49 per cent (Bangkok Post 25 March 1997). At US$1 billion the project would be China's largest single overseas investment. The pulp would be produced for export to China (The Nation 25 March 1997).

According to Virabongsa, Advance Agro was awarded the deal because it said it could build the plant in less than two years, compared to three or four years required by other potential partners (The Nation 25 March 1997). After more than four years of negotiations, however, the project is highly controversial in Thailand, land has not been found for the plantations, and China has threatened to move the project to Malaysia where it says land is available at a cheaper price (Woranuj 2001). In order to rescue the project, in May 2001, the Ministry of Agriculture and Cooperatives ordered the Forest Industry Organisation to look into the possibility of using its plantations to supply the mill (Ploenpote 2001b).

The project has been negotiated at the highest level of government. Chinese representatives met with then-Thailand's Prime Minister General Chavalit Yongchaiyudh on 24 March 1997, and Chavalit visited China in April 1997 (Achara 1998). In May 1998, Supachai Panitchpakdi, then-Thailand's deputy prime minister and commerce minister visited China for five days. The joint venture with Advance Agro was among the projects Supachai discussed with Chinese premier Zhu Rongji (Woranuj 1998) (Achara 1998).

Supachai also met with State Councillor Wu Yi and agreed to set up a joint working group on project investments consisting of government officials from Thailand and China (Achara 1998).

On his return to Thailand Supachai urged the Agriculture Minister Pongpol Adireksen to move ahead with the project. The Agricultural and Land Reform Office (ALRO) was to set aside 200,000 rai (32,000 hectares) for the project (Bangkok Post 21 April 1998).

In July 1998, Major General Sanan Kachornprasat, then-Thailand's interior minister, led another Thai delegation to China. The Bangkok Post reported that Chinese government officials asked Sanan to set aside areas in Thailand for the proposed eucalyptus plantation (Bangkok Post 14 July 1998).

In September 1999, China's President, Jiang Zemin visited Thailand with a 180-person official delegation for a five-day visit. Land allocation for the Sino-Thai project was a key part of the visit (Achara 1999). During the visit, Chuan Leekpai told Jiang Zemin that Thailand could not set aside the 96,000 hectares required for the project, but that 32,000 hectares could probably be found, and he suggested a contract farming agreement between the company and farmers to make up the remaining area (Bhanravee and Yuwadee 1999). The signing of a Memorandum of Understanding on the project scheduled as part of Jiang's visit was put on hold (Piyanart and Marisa 1999).

In the week following Jiang's visit, the Agriculture Ministry announced that land owned by the SHS company, Suan Kitti, would be allocated for the joint venture. The land is owned by former Senator Kitti

Dumnernchanvanit, who received a 30 year concession on the land area before the ban on commercial plantations in 1992 (Pennapa 1999). (See section 3, above.)

On 1 February 2000, the Thai cabinet agreed in principle to cooperate on the project. An agreement was signed on 2 February 2000 by Supachai Pantitchpakdi and the Chinese Ambassador to Thailand (Bangkok Post 2 February 2000). The proposal was tabled before cabinet just before Commerce Minister Supachai travelled to China – the approval was apparently intended as a gift to Beijing (Wasant 2000).

Thailand's Royal Forest Department (RFD) has backed the project, and has attempted through the project to evict farmers living on forest land. The RFD also suggested increasing the area of land that could be allocated to individual farmers in degraded forest reserves from 8 hectares to 16 hectares. The Committee on National Forest Policy rejected the RFD's proposals (Matichon 3 September 1999) (Thai Rath 4 September 1999).

In October 1999, the RFD set up a working team of 20 people to search for 200,000 rai (32,000 hectares) of degraded forest reserve in six provinces. The government had already set up a committee – the Committee to Consider the Area for Eucalyptus Plantations within the Sino-Thai Pulp and Paper Project (Matichon 11-12 October 1999).

The RFD attempted to set a condition for the project: China should replant 100,000 rai (16,000 ha). According to Plodprasop Suraswadi, Director-General of the RFD, "We already have designated an area for the project. If China agrees to the area we propose, the project can go ahead but it has to be on condition to replant the forest land" (The Nation 10 September 1999). In January 2000, China accepted the conditions, by which time the area to be replanted appeared to have grown to 400,000 rai (64,000 ha) nationwide. Plodprasop attached six additional conditions, including the use only of degraded land that was already occupied by forest encroachers and that China was to cover all survey and compensation costs (Uamdao 2000a). Dismissing any potential ecological problems, Plodprasop told the Nation, "The trees won't have any effects on other trees because we will plant only eucalyptus and not mix them with other species. It is likely eucalyptus will scramble for water among themselves" (The Nation 10 September 1999).

RFD sees the project as a means to reasserting its control over forest land. In March 2000, at a panel discussion organised by the Thai Society of Environmental Journalists, Plodprasop stated that the project would help the RFD in solving encroachment problems on forest reserve land in the northeast. The company must negotiate with the villagers, and pay compensation to those agreeing to return land, "the department would get back large tracts of forest land without having to spend its own resources". Plodprasop argued that eucalyptus trees consumed relatively little nutrients while producing large volumes of wood. Apparently forgetting that the whole point of the project is to export pulp to China, Plodprasop added that the project would help reduce Thailand's imports of paper (Bangkok Post 20 March 2000).

Several Thai environmental NGOs oppose the scheme. Pakphum Withantiwat, an advisor the Forum of the Poor, Pornpana Kuanchakorn of Project for Ecological Recovery, Surapol Duangkae of Wildlife Fund Thailand and Daycha Siripat, an advisor to the Alternative Farming Network have all expressed their opposition to the scheme to the press. NGOs pointed out the ecological problems as well as the impacts of removing such a large area from farmland (Pennapa 1999) (Uamdao 1999c) (Uamdao 1999b).

Towards the end of September 1999, NGOs organised a seminar entitled "Eucalyptus and the Failure of Thai Forestry". The China-Advance Agro project was the focus of much of the discussion. NGOs pointed out that despite the scale of the project, the contract signing was not transparent, and no details were released to the public. In addition, the project was in contradiction with two Cabinet resolutions: that of the Chatichai Choonhaven government dated 15 May 1990, which temporarily revoked approval to rent degraded forest reserves for eucalyptus plantations; and that of the Anand Panyarachun dated 8 September 1992 which limited the area of national forest reserve that could be planted with eucalyptus to 8 hectares (50 rai) (Krungthep Thurakij 21,22,26 September 1999).

The "degraded" forest areas that the project would convert to monoculture are home to rare birds such as Rufous-winged Buzzard, White-rumped Falcon, Blossom-headed and Red-breasted Parakeets and Fulvous-breasted Woodpeckers (Round 2000). Although an environmental impact assessment would be required for the pulp mill, no study is planned to be carried out of the environmental and social impacts of the plantations (Montri 2000a: 5).

In addition to the NGOs, several government officials have spoken out against the project. In October 2000, the Chachoengsao Provincial Administration Organisation (PAO) filled a petition against the project with the cabinet. Somchai Asschaisophon, president of the Chachoengsao PAO stated that people living in Takiab district and provincial councillors opposed the project (Bangkok Post 4 October 2000).

Forestry officials at Kao Ang Ruenai Wildlife Sanctuary in Chachoengsao expressed their concern about the project to the Bangkok Post, pointing out that there was no further land available for farmers to resettle in once they were moved to make way for eucalyptus (Uamdao 2000b).

In July 1998, Krit Khongpetch, the former Deputy Minister of Agriculture and Cooperatives was reported in the Thai language newspaper, Khao Sod, disagreeing with the proposed Chinese joint venture. He pointed out the likely impacts on ecosystems, especially the impact on underground water and likelihood of drought. He questioned the motives behind the project and asked why China wanted to use land in Thailand when China has a very large area suitable for plantations (Khao Sod 11 July 1998).

Even the head of the Forest Industry Organisation (see section on FIO, above), Prasit Puaktow, came out against the project. "Nobody here is happy with the project because all the 200,000 rai [32,000 hectares] of degraded forest have owners and its not worth selling the land because the project only lasts for 30 years. After that, there's nothing they can do to earn a living" he said to the Bangkok Post (Uamdao 2000b).

In August 2000, Chang Noi (a pseudonym) reported in The Nation that Newin Chidchob the Agriculture Minister had disowned the project during a televised debate with the Assembly of the Poor. Newin said the Chavalit government started the project and that the present government (under prime minister Chuan Leekpai) found it a huge embarrassment and would like to get out of it (Chang Noi 2000).

The current status of the project (in January 2002) is not clear. Villagers in Chachoengsao report that the RFD continues to survey the area, apparently in order to allocate land for the project. Neither the Chinese nor the Thai government has issued any statement stating that the project will be relocated to Malaysia (Rajesh 2001). In May 2001, the Bangkok Post reported that the Ministry of Agriculture had instructed the Forest Industry Organisation to look into the possibility of using its plantations to supply the proposed pulp mill. Under this

scenario, the mill could be developed either as a state investment or as a joint venture. Advance Agro would be a potential partner if the project goes to the private sector, according to the Post (Ploenpote 2001b).

- PHOENIX PULP AND PAPER COMPANY

Established in 1975, Phoenix is today Thailand's largest short-fibre pulp producer (Wright www 2). Phoenix Pulp and Paper produces bleached eucalyptus pulp, bleached bamboo pulp, and bleached kenaf pulp (EODC www 1).

Sixty per cent of production is exported to over 25 countries, including Europe, North America, Korea, Australia and Japan. The remaining 40 per cent is for the domestic market (Pearmsak and Mochida 1999: 122) (Davison 1998). The company employs around 1,200 people in its mills in Khon Kaen, about 450 kilometres northeast of Bangkok (EODC www 1).

Phoenix's first production line went into operation in 1982. The consulting engineer for the 70,000 tons a year mill was the German-Austrian company, Klockner-Voest, and the pulping technology was supplied by the Swedish company, Kamyr (Sonnenfeld 1998a: 67).

In the mid-1980s, Phoenix started to look at the possibility of a second mill, and hired Jaakko Poyry to carry out a feasibility study (Sonnenfeld 1999: 35).

Phoenix's second mill opened in 1994, and with a capacity of 100,000 tons a year doubled Phoenix's capacity. Phoenix II cost US$240 million (EODC www 1) covered in part by a loan of US$80 million, from several Scandinavian banks, led by Leonia Bank of Finland. The loan was guaranteed by Finnvera, the Finnish Export Credit Agency, and the Industrial Finance Corporation of Thailand. The loan is a concessionary loan under which the Finnish government pays all the loan interest due to Leonia Bank: the largest concessionary loan ever granted by the Finnish government (The Nation 17 June 1999).

Between 1990 and 1994, Scandinavian companies including Ahlstrom, Sunds Defibrator, Nopon Oy, Valmet and Jaakko Poyry delivered machinery, equipment and services for Phoenix II (WRM 1998b).

The first mill was planned to use kenaf, a woody annual similar to jute, as raw material. Before the world market for kenaf collapsed in 1967, up to 70,000 farmers grew the crop in northeastern Thailand, and the mill was supposed to provide a new market for kenaf growers. However, Phoenix's survey, carried out before the mill was built, overestimated the amount of kenaf grown in the region, and many farmers found they could get a better price for their kenaf on the world fibre-market (Watershed 1998b: 54). In addition, during the 1980s, many farmers shifted to growing cassava hoping to profit from rising prices in Europe. The mill was thus left short of raw material, and in 1985, Phoenix started to process bamboo and began contracting with farmers to grow eucalyptus (Sonnenfeld 1998a: 63). In 1988, with funding from USAID and the Thai government, Phoenix launched a programme to select a fast-growing bamboo variety to supply the mill (Lehmer 1997).

In 1988, Phoenix entered into negotiations with the Lao government about a possible 16,000 hectares concession to cut bamboo in Savannahkhet province, and about establishing a wood chip factory in Laos. Although these plans came to nothing, they are indicative of the serious shortage of raw material that Phoenix faced, and in 1988 Phoenix was buying bamboo from as far away Kanchanaburi in western Thailand (Bangkok Post 29 August 1988).

The raw material for Phoenix II is eucalyptus. Sudhir Mittal, Deputy Managing Director of Phoenix, explained, "We thought if we build a second line we will have to export part of our product. It can be only eucalyptus because eucalyptus is known worldwide – you can sell eucalyptus pulp anywhere in the world" (Watershed 1998b: 54). Since the mid-1980s when Phoenix began contracting with farmers to grow eucalyptus, the number

of farmers supplying the mill has grown to around 60,000 today.

Phoenix supplied six million eucalyptus seedlings to farmers within a 150 kilometre radius of the mill. Farmers are responsible for planting fertilising, weeding and selling the trees. Farmers are also responsible for digging out the trees after the third coppice rotation. According to Mittal, "They want to earn some money, they have to meet the expenses also" (Watershed 1998b: 54).

In fact, the risks of growing the tree crop are simply passed on to the farmers. Phoenix does not need to rent land, worry about crop failures due to diseases, or invest any money into the management of plantations to supply the mill. The contract Phoenix draws up with farmers is simply an attempt to prevent farmers selling their wood to any other companies (Pearmsak and Mochida 1999: 124). When wood prices are high, for example in 1995-96, farmers sell their timber elsewhere, leaving Phoenix facing raw material shortages. Phoenix's extension officers now visit farmers once a month to monitor the tree crops (Pearmsak and Mochida 1999: 142).

Recurrent raw material shortages are not the only problem that Phoenix faces. Government officials have closed down Phoenix mills on several occasions, as a result of pollution from the mill. In March 1992, Thailand's government forced Phoenix to close down, as a result of a massive fish kill in the Phong River downstream of the Phoenix mill. Although it later turned out that a huge spill of molasses from a government-run sugar mill was the likely cause of the fish deaths, before the spill farmers had been arguing with Phoenix management over its effluent emissions into the Phong River. Activists insisted that Phoenix should also remain closed. Phoenix reacted by flying in a new waste water treatment plant from Ahlstrom in Finland. Crews worked 24 hour shifts to install the equipment, and Phoenix reopened within a month (Sonnenfeld 1998a: 69).

Phoenix's pollution problems did not end there, however. In May 1993, officials from the Industrial Works Department of the Ministry of Industry closed down Phoenix again, for about a month, again on the grounds that it had polluted the Nam Phong river, this time killing thousands of fish (Davison 1998).

On 22 July 1994, NGOs submitted a petition to Kavee Supatheera, the Khon Kaen governor asking him to appoint a committee to study the fish deaths in the river, and to find measures to stop the pollution.

One of the Finnish government's arguments for supporting Phoenix II was that effluent discharged into the Phong River from the mill would be reduced. Pirkka Tapiola, the Embassy of Finland's *charge d'affairs* in Bangkok, told the Nation, "We wanted to finance the acquisition of clean, environmentally-sound technology" (The Nation 17 June 1999).

"Project Green", a scheme designed by Jaakko Poyry, whereby Phoenix's effluent was discharged over eucalyptus plantations, started in 1995 (WRM 1998b). However, the scheme fails to solve the pollution problem. The yellow, frothy waste water spreads to adjoining rice fields, wetlands and groundwater, ruining rice crops and threatening the health of local people. With heavy rains the water overflows into the Phong river.

Rice farmers have repeatedly protested the damage to their crops caused by the waste water discharged through Project Green. As a result, of villagers' for compensation Phoenix has paid out around US$100,000 to villagers. The company however, refuses to accept responsibility for damaged crops as a result of "Project Green".

Pollution of the Phong River has continued, and in July 1998, the Bangkok Post reported thousands of fish "floating belly-up" in the Phong River. The Industry Minister, Somsak Thepsuthin, ordered the mill closed again in July 1998 (Watershed 1998b: 56). Once again in June 1999, the Public Works Department ordered the mill shut down again, because flow from the Ubolrat dam, upstream of the pulp mill, had fallen below the required one million cubic metres of water a day. Phoenix argued that the regulation should be scrapped, saying that

since March 1997, all the water from the mill has been discharged through Project Green (Reuters 1999).

Despite the mill's pollution problems and the problems faced by farmers because of the huge areas covered with eucalyptus grown for Phoenix, the company attempts to market its products as "entirely environment-friendly" and adds "Phoenix's raw-materials obtained from 'tree-free' pulp gives the company an added edge against its competitors" (Phoenix no date a).

Phoenix has 40 to 45 worldwide customers and only three or four in Thailand (Umesh 1999b). Phoenix's main export markets for eucalyptus pulp are Japan, Korea, Indonesia and Europe, and for bamboo pulp US, Europe, India, Vietnam and Sri Lanka (Phoenix no date b).

A US-based company, Lyons Falls, stopped purchasing bamboo pulp from Phoenix in 1997, after Earth Island Journal launched a consumer campaign aimed at persuading companies not to purchase pulp from Phoenix on the grounds that the mill is polluting and that industrial-scale harvesting of bamboo is not environmentally sound (Lehmer 1998).

Shareholders and the takeovers

Phoenix was launched in 1975 as a joint venture between Ballarpur Industries, the European Overseas Development Corporation, the Thai Ministry of Finance, the Industrial Finance Corporation of Thailand and other Thai partners (Towie 1998) (EODC www 1).

Ballarpur is an Indian-based conglomerate. The group's major activities include engineering, chemicals, textiles, agri-business, electrical equipment, pulp and paper. Ballarpur supplied machinery and equipment for Phoenix (Sasithorn 1999) (BILT www 1).

Despite its impressive sounding name, the European Overseas Development Corporation's (EODC) main activities are its stake in Phoenix and a hotel in the Seychelles (Towie 1998). EODC was established in 1966, and aimed specifically to cash in on consulting contracts in the South, associated with project involving European export credits (Watershed 1998b: 53).

The chairman of EODC is George Davison, a 66 year-old ex-US marine. Until he was forced to resign in 1999, after losing an extended takeover battle, Davison was also chairman and chief executive of Phoenix (Watershed 1998b: 53).

In 1994, a battle for control over Phoenix started. Kirit Shah, one of the company's investors decided that Phoenix management, led by EODC, was not running the company well. Share price was at an all-time low. Shah launched a tender offer for Phoenix, through his family's privately held investment company, Globex Pty Ltd (Towie 1998).

Shah also enlisted the help of a friend, Rakesh Saxena, an advisor to the Bangkok Bank of Commerce (BBC). According to Shah, Saxena agreed to put the bank's resources behind the takeover bid. Saxena would find half the investors required to buy around a 22 per cent share in the company – enough for Shah's group to have a majority (Towie 1998).

Davison argues that the whole takeover was backed by Thailand's political elite and says the takeover "amounts to the expropriation of the assets of major foreign investors" (Davison 1998). According to Davison Members of Parliament Suchart Tancharoen (former Deputy Minister of the Interior), Newin Chidchob (Deputy Minister of Agriculture and former Deputy Minister of Finance) were core members of the "Group of 16" – a group of politicians and businessmen who took over companies, asset-stripped them, and sold them. Suchart Tancharoen controlled Jalaprathan Cement, one of the companies that made a bid for Phoenix in mid-1994. The

Saudi arms dealer Adnan Khashoggi, also held a substantial share in Jalaprathan Cement. Other companies behind the bid were a Singaporean dummy company and Globex (Davison 1998).

The Bangkok Bank of Commerce (BBC) funded a series of takeover attempts in the 1990s, partly through loans to local politicians and businessmen. Collateral for these loans was often grossly inflated. Mark Greenwood, a Bangkok-based financial consultant described the process: "Nearly every takeover that the BBC was intended to fraudulently get money out of the piggy bank rather than anything else" (Towie 1998). For many years Thailand's aristocracy had used BBC as their own private bank, arranging low-interest loans for their own projects. In the early 1990s, politicians got in on the act. One of the scams involved setting up dummy companies to take out loans, buying shares with the money, and then borrowing more money against the shares. When BBC finally collapsed in 1996, its bad debts had reached US$3 billion, much of which was allegedly embezzled. A few days before the Bank's collapse, Saxena slipped out of the country (Towie 1998). He is now in Canada charged with embezzling more than US$2.2 billion from BBC. In September 2000, the British Columbia Supreme Court ordered Saxena to be extradited to Thailand to face charges. He remains in Canada, living under house arrest in a luxurious apartment he built himself (The Province 6 December 2000).

According to a lawsuit filed by the Bank of Thailand, Chuttawat Mookatamara, a politician from the north of Thailand, received US$50 million from the BBC to buy Phoenix shares. In another Phoenix related case, an indictment against former deputy interior minister Suchart Tancharoen was withdrawn after Suchart reportedly agreed to repay US$60 million. BBC is now defunct (Towie 1998).

Shah took his battle with Davison to the Stock Exchange of Thailand, claiming improper financial dealings at Phoenix management. On 19 June 1998, SET suspended trading in Phoenix stock (Reuters 1999) and hired PricewatershouseCoopers to carry out a special audit into Phoenix accounts (Towie 1998). The PWC audit concluded that Davison should have given more details of the deals to board members, but that the ventures had not caused material damage to Phoenix (Umesh and McAuley 1999).

Davison meanwhile attempted to block Shah's takeover bid by borrowing money through EODC to buy up Phoenix shares on the market (Watershed 1998b: 56). Eventually, EODC simply ran out of cash to service its US$70 million in debt. Merita Bank of Finland put EODC in technical default on a loan which used 3.8 million Phoenix shares as collateral (Towie 1998). In 1999, EODC transferred 23 million shares to Phatra Thanakit as payment of loans made to EODC (Umesh and Nuntawan 1999).

The 1999 Annual General Meeting ended in farce. The eight hour meeting featured computer crashes, allegations of voting fraud, and a 20-minute period when the lights at the Delta Grand Pacific hotel went out. Globex representatives asked police to detain Davison when he closed the meeting before a final count on a vote. Amid the chaos, Globex succeeded in naming five directors to the 15-member board (Umesh and Nuntawan 1999).

Finally, on 15 June 1999, George Davison resigned as chairman and chief executive of Phoenix (Umesh and McAuley 1999). Two days later, Lalit Mohan Thapar, the chairman of Ballarpur Industries, was appointed chairman of Phoenix (Sharma 2000). Kirit Shah became vice-chairman along with Banyong Pongpanich, executive chairman of Phatra Thanakit Finance (Bangkok Post 18 June 1999).

Phoenix has been aiming to expand again, this time in order to find a solution to its financial problems, with the company's total debts totalling US$77 million. In June 2000, Phoenix announced a proposal to increase its capacity to 470,000 tons a year, with a US$450 million new plant. Eighty per cent of the increased output is proposed to be exported, when the new plant comes on line in 2003. Phoenix management was reported to be discussing potential low interest loans with the Finnish and Swedish governments (Busrin and Srisamorn 2000).

In February 2001, rumours circulated in the Thai press about a possible Siam Cement tender offer for Phoenix

shares. Thai Farmers Bank, which holds 15.57 per cent of Phoenix expressed an interest in selling to Siam Cement (Oranan 2001).

In October 2001, Siam Pulp and Paper bought 24.98 percent of Phoenix from Janpath Investments. In January 2002, Siam Pulp and Paper bought a 20 per cent stake from Thai Farmers Bank in January 2002 raising its holding to 44.98 per cent. After a tender offer, which finished early in January 2002, Siam Pulp and Paper owned more 61 per cent of Phoenix. Siam Pulp and Paper plans to go ahead with planned expanions of Phoenix – including a US$30 million upgrade of the pulp mill and US$60-80 million on new facilities (Reuters 2002b). Phoenix Executive Director Vashi Purswani told Reuters in January 2002, that the proposed doubling of output at Phoenix was on track. "We are still waiting for permission," he said. "Hopefully we should get this in the next three months" (Reuters 2002a).

- SIAM PULP AND PAPER

Siam Pulp and Paper is part of the Siam Cement Group, which was established by Royal decree in 1913 and is today Thailand's largest industrial conglomerate. The Siam Cement Group includes the following companies operating in the pulp and paper industry:

Siam Pulp and Paper,
Siam Forestry,
Siam Cellulose,
Thai Paper,
Thai Union Paper,
Siam Kraft Industry,
Kraft Paper Industry,
Thai Kraft Paper Industry,
Thai Union Paper Industry,
Thai Containers,
Thai Containers Industry,
Thai Containers Ratchaburi (1989),
Thai Containers Songkhla (1994),
Thai Containers Chonburi (1995),
Citypack,
Siam Toppan Packaging (Advert in Phoenix no date b).

Siam Pulp and Paper forms the third largest division of Siam Cement, after cement and construction materials. In 1993, Siam Pulp and Paper produced half of all the packaging paper sold in Thailand, and around 40 per cent of all printing and writing paper (Pappens 1993).

However, the Siam Cement Group moved into pulp and paper almost accidentally. In the 1970s, Siam Kraft Paper produced sack kraft for Siam Cement in its 25,000 tons per year mill in Ratchaburi province (Sonnenfeld 1998b: 110). Siam Kraft was Thailand's first modern pulp mill, built in the late 1960s. Raw material for the mill came from bagasse, the residue from sugar cane processing (Sonnenfeld 1998a: 63).

Siam Cement is dependent on a regular supply of cement sacks – without sacks the company cannot sell cement. So Siam Cement loaned money to Siam Kraft Paper to keep the operation afloat. In 1976, Siam Cement took over Siam Kraft Paper, which at the time had a 50,000 tons a year mill at Ratchaburi, and some unused pulp equipment, which Siam Cement restarted. Siam Cement discovered that producing kraft paper from waste paper was cheaper than using bagasse. The company continued to produce bagasse pulp, but with a new bleaching line so that the pulp could be sold (Pappens 1993).

As there was no market at the time in Thailand for bagasse pulp, Siam Pulp and Paper turned to Yuen Foong Yu, a Taiwanese company with experience in producing and selling bagasse pulp. In 1982, Yuen Foong Yu, Siam Cement and Siam Pulp and Paper set up a new company, Thai Paper. In 1983, the three companies bought a 51 per cent share in Thai Union Paper, one of Thailand's oldest paper makers (Pappens 1993).

Siam Pulp and Paper expanded rapidly during the 1980s, establishing other companies, partly for tax reasons (Pappens 1993). In November 1992, Siam Pulp and Paper officially opened three new affiliated pulp and paper mills in Kanchanaburi:

Siam Cellulose (capacity 50,000 tons of bleached pulp per year);
Thai Kraft Paper, (capacity 250,000 tons of kraft paper a year); and
Thai Union Paper, (capacity 70,000 tons coated paper and gypsum paper per year) (Bangkok Post 17 November 1992) (Pappens 1993).

By the mid-1990s Siam Pulp and Paper and its affiliated companies had a capacity of more than one million tons a year of pulp, paper and converted products (Pappens 1993). Industrial paper accounted for 46 per cent of 1999 revenues; printing & writing paper, 36 per cent; packaging & printing, 18 per cent; and a nominal amount from paper pulp (Wright www 3).

Siam Pulp and Paper also looked at expanding abroad and approached the Lao government about a possible US$250 million project to build a 150,000 tons-per-year pulp mill. The mill was to be supplied from 32,000 hectares of plantations in Savannakhet province in central Laos (Carrere and Lohmann 1996: 241). Siam Pulp and Paper hired Jaakko Poyry to carry out a feasibility study of the project. The project was shelved in 1993, however, according to the company because of a slump in world pulp prices. Adul Udol, managing director of Siam Kraft Industry, a subsidiary of Siam Cement, told The Nation that the project would be feasible only if the Laotian government received external assistance to invest in roads leading to the site (Pichaya 1993).

In 1996, Siam Pulp and Paper made its first overseas investment, with the purchase of 30 per cent of PT Nityasa Prima, a proposed US$520 million, 350,000 tons a year pulp plant in East Kalimantan, Indonesia. The Indonesian company PT Suryaraya Wahana, part of the PT Astra International Group, owns 60 per cent of the venture, with local investors holding the remaining 10 per cent. Chumpol Nalamlieng, Siam Cement's president told the Financial Times his company had to buy pulp overseas because Thailand's supply was limited due to deforestation and government restrictions on tree farming. "Indonesia has huge wood resources – bigger than the (Association of South East Asian Nations) region combined," Mr Chumpol said. "Clearly it is going to be cheaper to produce pulp in Indonesia for the foreseeable future" (Barnes 1996). A year later, this project was also cancelled (Saragosa 1997).

The economic crisis in 1997 was disastrous for Siam Cement. The company was caught with US$4.2 billion of foreign loans and Siam Cement suffered the biggest ever deficit by a Thai company – recording a loss of US $1.3 billion in 1997. Only by increasing the valuation of its assets by 75 per cent could the company avoid posting a negative net worth (Barnes 1998a) (Pasuk and Baker 2000: 224).

The group responded by hiring McKinsey Consulting, who drew up a plan to sell off one-third of Siam Cement's assets (Barnes 1998b). Over the next two years, Siam Cement managed to increase its exports, convert some

of its dollar loans to baht and managed once again to make a profit. The sell off was scaled down to a 13 per cent asset-sale (Pasuk and Baker 2000: 224). Siam Pulp and Paper exports around 50 per cent of its production to more than 40 countries. About one-third of its industrial and packaging products go to China and another third to Malaysia (Umesh 1999a).

Even with the sell off, in 1999 Siam Cement had more than 120 subsidiaries (Barnes 1999). In 1999, Siam Pulp and Paper was looking for acquisitions or mergers to make it among the largest paper companies in the region, according to president Chaisak Saeng-Xuto in an interview with the Bangkok Post. "There is not really anybody who is our direct competitor for industrial paper outside of Japan, in this part of the world. But we are number 10 or so in printing and writing paper." Siam Pulp and Paper appointed Salomon Brothers as its investment banker to search for partners in the printing and writing paper business (Umesh 1999a).

In January 2000, Reuters reported that Siam Cement was to issue up to US$1.34 billion of domestic bonds. Aviruth Wongbuddhapitak, Siam Cement's chief financial officer, told Reuters "We have a foreign exposure of about US$1.8 billion, while our foreign exchange revenues are about US$1 billion. We need to lower this gap to lower the risk of volatility" (Reuters 2000).

In February 2001, Chumpol Nalamlieng, Siam Cement Group's president, announced that the Group was considering buying Phoenix Pulp and Paper. Siam Cement Group planned to sell off its printing and writing-paper business, owned by Siam Pulp and Paper, and hoped that taking over Phoenix would add value to Siam Cement's paper business and improve its price. Siam Pulp and Paper is Phoenix's largest customer for pulp. When combined, Phoenix and Siam Pulp and Paper's output would match that of Advance Agro, currently Thailand's biggest pulp and paper producer (Nareerat 2001).

In October 2001, Siam Pulp and Paper bought 24.98 percent of Phoenix from Janpath Investments. In January 2002, Siam Pulp and Paper bought a 20 per cent stake from Thai Farmers Bank in January 2002 raising its holding to 44.98 per cent. After a tender offer, which finished early in January 2002, Siam Pulp and Paper owned more 61 per cent of Phoenix. Siam Pulp and Paper plans to go ahead with planned expanions of Phoenix - including a US$30 million upgrade of the pulp mill and US$60-80 million on new facilities (Reuters 2002b). Phoenix Executive Director Vashi Purswani told Reuters in January 2002, that the proposed doubling of output at Phoenix was on track. "We are still waiting for permission," he said. "Hopefully we should get this in the next three months" (Reuters 2002a).

Siam Forestry, another part of the Siam Pulp and Paper Group, carries out plantation management and conducts research in nursery production and tree breeding, and buys all raw materials for all the companies involved in pulp and paper in the Siam Cement Group (Pearmsak and Mochida 1999: 89).

In 1993, after the 50,000 tons a year Siam Cellulose mill opened, Singh Tangtatswas, deputy managing director, explained to the magazine Pulp and Paper International the company's reasoning for building the mill: "Siam Cellulose is an experiment really. We wanted to get farmers interested in growing eucalyptus and bamboo. But they are obviously reluctant to start planting if there is not a guaranteed market for their crop. We decided therefore to build a small pulp mill which could run on the existing wood supply and prove to the farmers that we would buy their wood. Our Siam Forestry subsidiary now distributes seedlings and helps them with technical know-how. If we can persuade the farmers to start planting on a large scale, we could well invest in a larger mill too, between 100,000 and 300,000 tons/yr, hopefully within the next five to 10 years. We are also still lobbying the government to allow the use of degraded land to set up plantations" (Pappens 1993).

Siam Forestry targets farmers in 10 provinces to grow their trees, and since 1996 has aimed to increase areas planted by 9,600 hectares each year. Through contract tree farming, farmers take on risks and selling is limited to Siam Forestry, preventing farmers from selling at higher prices when prices are good (Pearmsak and Mochida 1999: 90). According to Pearmsak Makarabhirom, a forester with the Regional Community Forestry

Training Centre in Bangkok, farmers with little money have to take out loans at a high rate of interest to plant eucalyptus, and if the trees fail, the farmers suffer the losses. Pearmsak concludes, "In the present situation, CTF [contract tree farming] is unlikely to be a long-term viable option for farmers" (Pearmsak and Mochida 1999: 104).

- SHIN HO PAPER

Thailand's first newsprint paper company, Shin Ho Paper was established in March 1991, as a joint venture between Korea's Shin Ho Group (29 per cent), Bara Winsor Group (16 per cent), the International Finance Corporation, the World Bank's private investment arm (15 per cent), Vatvharapol, the owner of the Thai Rath newspaper (10 per cent), Korea's Long Term Credit Bank (10 per cent), CNB Technology Finance (5 per cent) and Joint Venture Capital of Korea (5 per cent). The 120,000 tons a year mill uses waste paper as raw material, 70 per cent of which is imported from the US, the rest coming from local sources (Bangkok Post 31 March 1991). The mill is in Sing Buri, north of Bangkok.

The US$120 million project was funded with a US$22 million loan from the World Bank's International Finance Corporation (IFC), US$34 million from an IFC led syndicate, US$22 million from Bangkok Bank and US$6 million from a Korean source (Chang 1991: 17).

Before the Shin Ho mill came on line in mid-1994, Thailand obtained all of its newsprint from the international market, importing more than 200,000 tons a year (Pornpana and Rajesh 1995: 4). The Thai Rath newspaper is Shin Ho's main customer (Bangkok Post 18 August 1998).

In October 1998, Norske Skog bought up 70 per cent of the shares in Shin Ho, and took over the operation of the Sing Buri mill (pponline 1999). This is the first step in Norske Skog's plans to invest US$1 billion to develop a pulp and paper business in Thailand. Norske Skog plans to increase the production capacity of the mill to meet demand in the region (Bangkok Post 24 June 1998). Norske Skog is the major supplier of printing paper in Asia, and opened a regional office in Singapore in 1997 (Puntasen 1998).

During the 1990s, Norske Skog has doubled its newsprint production capacity, and grown from a medium-sized supplier with mills in Norway to one of the world largest paper manufacturers with a total production capacity of 2.4 million tons a year. With mills in Norway, France, Austria, Czech Republic, Thailand and Korea, more than half the company's newsprint is now produced outside Norway (Norske Skog advert in Krungtaebturakit 11 November 1998). In Norway, the company has repeatedly faced criticism from NGOs about its activities in the taiga forests (WRM 1999).

In February 1999, Norske Skog finalised an agreement with Abitibi-Consolidated of Canada and Hansol Paper of Korea, to form the Pan Asia Paper Company (PAPCO). Each company owns one-third of PAPCO, which has a total production capacity of about 1.4 million tons a year, and its sales amount to 40 per cent of the Asian market place outside Japan (CPPA 1998) (CPPA 1999).

- ASIA TECH

Asia Tech is today an almost defunct forestry company. Its plantations Laos are badly maintained or completely neglected, and villagers in northeastern Thailand have won back areas of their forests previously seized by the company for eucalyptus plantations. The company's plans for pulp and paper mills have been shelved.

In 1994, Brierley Investment, an investment company founded in New Zealand, but now registered in Bermuda with its head office in Singapore, established a joint venture with the Thai finance company General Finance. GF-Brierley owns 22 per cent of Asia Tech. John Rodwell, chief executive of GF-Brierley told The Nation, that the Thai partner (General Finance) was chosen because General Finance has a good understanding of the Thai and Indochinese business environment. "Brierley recognised that for business prosperity to thrive in this part of the world where business is very much relationship-driven, we had to find a joint venture partner which is a respected company," he said (Wichit and Suwatchai 1995).

Brierley's plans back-fired when the Thai government closed General Finance in December 1997, along with 55 other companies, due to mounting bad loans. In 1998, Thailand's central bank filed criminal charges against six executives of General Finance. The company officials were charged with extending US$8 million in loans without proper valuation of the collateral (Financial Times 21 August 1998).

In 1991, Asia Tech started a project to plant 32,000 hectares of plantations in three provinces in Thailand: Nong Khai, Sakorn Nakhorn and Nakhorn Phanom. Asia Tech illegally seized seasonally-flooded forests used as commons by villagers for cattle raising, collecting forest products and as natural fish spawning grounds.

In 1991, aided by local government officials and some villagers Asia Tech moved onto 480 hectares of village land, bulldozed trees and rice crops, burnt bamboo and planted the land with eucalyptus trees. Asia Tech also planted up land surrounding villagers' plots, thus preventing villagers access to their own land. Villagers in Ban Dong San demanded that Asia Tech cut the trees and hand over the land to the villagers so that the community forest could regrow. In July 1996, the villagers won the battle for their land and Asia Tech promised that after the eucalyptus trees were cut (in 1998) the land would be returned to the villagers (Watershed 1996a: 11).

Asia Tech planned to build a pulp mill in Nong Khai, (Carrere and Lohmann 1996: 239) but to date has still not started construction.

Asia Tech has made two attempts to establish plantations in Laos. In 1990, Asia Tech wrote to the Lao government requesting permission to establish 16,000 hectares of plantations in Champasak province. Little of the total area has been planted however, and the area that was planted is today badly maintained or completely neglected. However, Asia Tech still retains control of the land. (See report on Laos – Asia Tech.)

Asia Tech fared no better in its second plantation venture into Laos. Asia Tech was part of the BGA Lao Plantation Forestry consortium, which planned to invest US$30 million in a 50,000 hectare plantation in Bolikhamxay and Khamouane provinces in central Laos. The other companies in the consortium were General Finance and GF-Brierley, with the Lao government taking a 15 per cent share in the joint venture (Lao Embassy 1997). The 1997 economic crisis led to the closure of General Finance and resulted in Asia Tech pulling out, leaving Brierley and the Lao government as the only investors in the project. (See report on Laos.)

As with other pulp and paper companies in Thailand, Asia Tech has good links with the Thai political elite. When Asia Tech started planting up villagers land in the northeast of Thailand, the company was reportedly helped by politicians from the New Aspiration, Chart Pattana, Nam Thai and Chart Thai political parties (Carrere and Lohmann 1996: 232).

The Chairman and Chief Executive Officer of General Finance, one of the investors in Asia Tech, was Narongchai Akrasanee. Narongchai is also a Director of a number of other Thai companies and has served as a Senator of the Thai Senate. He has been adviser to several Prime Ministers in Thailand (APEC www 1) and was Thai Commerce Minister in 1997 when the economic crisis broke. He is now managing director of a company called Seranee Holdings.

In March 1997, Thailand's cabinet under Prime Minister General Chavalit Yongchaiyudh, approved a proposal to issue 28 new licences for insurance companies – the first since 1982. An independent panel which included insurance industry experts from outside the government was established, overseen by Narongchai Akrasanee, the commerce minister. "We have selected a healthy list of companies here. . . . The best interest of customers and the industry has been served," Narongchai told the Financial Times. Yet, as the Financial Times points out, the companies to gain the licences are dominated by industrial conglomerates, and include companies controlled by Charoen Popkhand, the telecommunications and animal feed giant, Advance Agro, and a consortium led by General Finance, of which Narongchai was the chairman and CEO (Bardacke 1997).

George Davison, former CEO of Phoenix Pulp and Paper alleges that in 1997 the Thai Ministry of Commerce, when Narongchai Akransanee was Commerce Minister, refused to register the minutes of Phoenix's 1997 AGM. According to Davison, Narongchai was "deeply involved in the BBC [Bangkok Bank of Commerce] matters and therefore can be said to have been a part of the take-over effort" (Davison 1998). (See section on Phoenix, above.)

Also in 1997, then-Commerce Minister Narongchai Akrasanee was part of a three-day government delegation to Vietnam. The delegation witnessed the signing of a memorandum of understanding between Nghe An province and Asia Tech to develop an industrial zone in Nghe An. Negotiations included facilitating transport between Thailand and Vietnam, such as rebuilding roads 8 and 9. Road 8 is crucial in order to export chips from BGA's proposed wood chip mill in Laos (Bangkok Post 14 March 1997).

- STORA ENSO

Stora Enso is one of the world's largest pulp and paper companies, created in 1998 by the merger of Finland's Enso and Sweden's Stora. Stora Enso produces magazine papers, newsprint, fine papers and packaging boards, and runs extensive sawmilling operations. The company also owns 2.6 million hectares of forest land in Finland and Sweden, 0.3 million hectares in the US, and "significant" areas in Canada and Portugal (Stora Enso www 1).

In 1999, Stora Enso had sales of more than US$11 billion, and employed around 45,000 people in more than 40 countries (Stora Enso www 1).

In February 2000, Stora Enso became the largest paper and board manufacturer in the world with the US$4.8 billion purchase of the US-based Consolidated Papers. Stora Enso's total paper and board capacity is around 15 million tonnes (bitonline www 1).

Shareholders

At the end of 2000, the largest shareholder in Stora Enso was the Finnish State, with 14.8 per cent of shares and 23.8 per cent of votes. Before the merger with Stora, the Finnish state owned 45 per cent of the shares and 66 per cent of the voting rights in Enso (Carnegy 1995).

The second largest shareholder in Stora Enso is the Swedish investment trust, Investor Group, with 8.7 per cent of shares and 23.8 per cent of votes.

Investor Group is the investment vehicle of the Wallenberg family. Described as Europe's foremost business dynasty, the Wallenberg family has dominated Sweden's business life for most of this century. The Wallenbergs founded Investor in 1916, to deal with stocks held by Stockholm's Enskilda Banken, the Wallenberg family-controlled bank (Burt 1999b). Today, Investor holds shares in companies which account for more than 40 per cent of the Swedish stock exchange, including (in addition to Stora Enso): Ericsson (the mobile telephone equipment group), SKF (the world's largest maker of roller bearings) AstraZeneca (the

pharmaceutical company), ABB (the engineering group), Electrolux (the world's largest producer of household appliances), Atlas Copco, Gambro, Stockholm Enskilda Banken, Saab Auto and Volvo. The main shareholder in Investor is Franklin Mutual Advisers, a US fund management group (Burt 1999a) (FT 1999) (Brown-Humes 1999b).

When Percy Barnevik became Chairman of Investor, he was the first non-Wallenberg family member to be made chairman. Barnevik is famous in business circles for restructuring the engineering group ABB. According to the *Financial Times*, Barnevik has introduced his "triple-jump" to Investor: first a business is restructured; if that fails the management is changed; the final option is to sell out or to merge it (Burt 1998b). Barnevik explained, "It is really very simple. We want to improve profitability. That means at each company you set new targets, failing that you change the management, and if that does not work you do the deal" (Burt 1998a).

In 1998, shortly after the merger of Stora and Enso, Jukka Harmala, the new CEO at Stora Enso, explained the company's expansion policy to the Financial Times, "In the years to come one must be present in some of the fast-growing areas, where (wood) fibre is cheaper than it is in this part of the world. Today's economic problems there will be overcome" (McIvor 1998). In 1998, Enso bought up 19.9 per cent of the shares in Advance Agro. Stora Enso has significant control over Advance Agro. Under the deal Stora Enso won:

exclusive rights to market Advance Agro products outside Japan and Thailand;
two members on the board of Advance Agro (one of which is Stora Enso president Jukka Harmala);
the right to approve (or not) major corporate decisions; and
a secured market for at least 12,000 tons of long-fibre pulp a year from its mills in Europe. (See Advance Agro section, above.)

Before Enso bought up shares in Advance Agro, both Stora and Enso had shown an interest in expanding to Southeast Asia. In 1995, Stora signed a technology cooperation agreement with Ballarpur Industries, India's biggest paper manufacturer, and one of the major shareholders in Phoenix Pulp and Paper in Thailand (Harding, Brown-Humes and Simon 1995). (See section on Phoenix, above.)

Also in 1995, Enso, backed by the Finnish Fund for Industrial Cooperation (Kerski 1995: 147), announced an investment in a plantation and pulp mill project in East Kalimantan, Indonesia (Harding, Brown-Humes and Simon 1995). The project, called PT Finnantara Intiga, is a joint venture with the Indonesian Inhutani III forestry corporation and the Gudang Garam group. The pulp mill would be export-oriented and raw material would come from the company's own plantations (Sonnenfeld 1999: 34).

The area is inhabited by approximately 60,000 people in 190 villages. According to Finnantara Intiga, the area is "seriously degraded" and the idea is to plant fast growing tree species which will prevent suppress the growth of grass, supply industrial timber, and "perhaps" prepare the soil for the introduction of other tree species. The company claims to have respected the traditional property rights of the people living in the project area.

A 1996 report, carried out by Judith Mayer, presents a somewhat different picture: "The good intentions of plantation planners, and their admirable attempts to ensure that the project is implemented in a culturally and ecologically sensitive manner, cannot compensate for the fundamental problem arising a) from the enormous scale of the plantation project, b) from financial and political pressure that require rapid plantation expansion prior to completion of pulp mill construction, and c) from considerations of industrial silviculture that call for planting only a limited number of fast-growing pulpwood species" (Mayer 1996).

The Asian economic crisis led to Enso putting the Finnintiga pulp mill project on hold (George 1999), but the company still plans to plant up 50,000 hectares with industrial tree plantations. So far they have established 20,000 hectares (Lounela 2001).

In 1997, Stora set up Veracel Cellulose, a joint venture with Odebracht, the Brazilian industrial conglomerate (10 per cent), and Aracruz Cellulose, the pulp and paper company (45 per cent). The joint venture aims to invest up to US$1.6 billion in what would be the largest single pulp line in the world, with a capacity of 830,000 tons a year, in Bahia, Brazil (Burt 1997). Raw material is to come from the company's own 80,000 hectare eucalyptus plantations, and 90 per cent of the pulp produced will be exported (Veracel www 1).

The Brazilian states of Bahia and Espirito Santo are dominated by three major pulp corporation: Veracel, Aracruz and Bahia Sul, which between them own more than 300,000 hectares of eucalyptus monoculture plantations. A broad coalition of NGOs, indigenous peoples, peasants, fisherfolk, academics and others have formed the "Movement against the Green Desert in Espirito Santo and Bahia" (WRM 2000).

Veracel Cellulose is struggling to find investors interesting in stumping up the US$1.6 billion needed to build its pulp mill. According to Stora Enso, "implementation of the Veracel pulp mill will be postponed . . . and the decision to build the Veracel pulp mill will be taken in the end of 2002, subject to international pulp market conditions" (WRM 2000).

In China, Stora Enso owns a 61 per cent share in Suzhou Papyrus Paper, acquired in 1998. The other shareholders in Suzhou Papyrus are Purple Charta (20 per cent) and the Suzhou Light Industrial Bureau (19 per cent) and the company is China's largest producer of coated fine paper with an annual capacity of 120,000 tons (Stora Enso www 2). 85 per cent of raw material supplied to the mill is short fibre eucalyptus pulp imported mainly from Brazil and Thailand.

The Suzhou Papyrus mill started up in 1997, and is a good illustration of Stora Enso's global operations. Although Veracel Cellulose in Brazil is currently on hold, in 1999 Bjorn Hagglund, deputy CEO of Stora Enso, told the Financial Times that Stora Enso planned to increase its pulp capacity in Brazil in order to secure raw materials for its paper mills in China and Thailand. "We have identified two areas of global interest for us, one of them is publication papers in North America, the other is fine papers in Asia and China," said Hagglund (George 1999).

Rumours circulated in the business press during 2001 that Stora Enso is planning to buy part of the debt-laden Singapore-based holding company Asia Pulp and Paper. In November 2000, Stora Enso's deputy CEO Bjorn Hagglund led a delegation to China where they visited four APP-owned mills (Paperloop 2001). APP has pulp and paper operations in Indonesia, India and China. APP also has outstanding debts of more than US$12 billion and in March 2001 APP stopped paying interest and principal to its creditors. One way for APP to repay its debts (perhaps the only way) is to sell off some of its operations, which leaves the door open for multinational giants like Stora Enso (Reuters 2001) (Financial Times 28 March 2001).

Stora Enso has sales offices in Japan, Singapore, Hong Kong and China. In addition to selling its own products and those of associated companies (like Advance Agro) Stora Enso also sells products produced by other companies (such as Eurocan Pulp and Paper). Stora Enso sells almost US$1 billion worth of paper and paper products to Asia each year, with shipments from Europe accounting for approximately half of this. Stora Enso is the most important European supplier of sawn timber goods in Asia (Hu 1999).

Stora Enso has faced criticism over its operations in plantations and in logging old-growth forests in the North. In 1998, Russian NGOs wrote to Jukka Harmala, then-Enso's CEO, requesting that Enso stops buying timber from Piaozersky lespromkhoz (a logging company which logs in northwest Karelia), on the grounds that it was constructing a logging road inside an old-growth forest area to the north of Paanojarvi national park (FNL www 2). In June 2000, Taiga Rescue Network reported that Stora Enso was considering withdrawing from a moratorium agreed in 1996 on logging in old-growth forests in Karelia. Stora Enso is the main buyer of timber from Piaozersky lespromkhoz (TRN 2000).

During Stora Enso's 1999 Annual General Meeting, four shareholders demanded that Stora Enso abandoned procurement of old-growth forest timber, and demanded that the company sought Forest Stewardship Council (FSC) certification for its Finnish forestry operations. All Stora Enso's forest holdings in Sweden are FSC-certified, but in Finland Stora Enso is the biggest user of Finnish old-growth timber (Taiga-News 1999). In Sweden, the assessor of Stora Enso's forest holdings is SCC Natura, through a partnership with Scientific Certification Systems (USA). (See section on SCC Natura, below.)

Stora Enso Forest Consulting

The Finland-based Stora Enso Forest Consulting started operation in 1970, as part of Enso's Forest Division, and in 1988 it became a subsidiary of Enso – Enso Forest Development Oy Ltd. In 1994, the company bought Silvestria Consulting Ltd of Finland and in 1995, established an Indonesian subsidiary PT Enso Forest Indonesia. After Stora and Enso merged the name changed to Stora Enso Forest Consulting Oy Ltd (Stora Enso www 3).

Projects include a timber estate project in West Kalimantan (Finnantara Intiga), the Namibia-Finland forestry programme, a "poverty alleviation" programme in Peru, the provincial forestry action programme in Zambia and the Vietnam-Finland Forest Sector Cooperation Programme in Bac Thai, Vietnam.

In February 2001, Antti Marjokorpi and Antti Otsamo, representatives of Stora Enso Forest Consulting, visited Thailand to investigate the impacts of the proposed Advance Agro Sino-Thai eucalyptus plantation project. (See Advance Agro section, above.) The consultants were carrying out a study on behalf of Stora Enso looking at the social and environmental impacts of their operations (Rajesh 2001).

In a meeting with Thai NGOs, Marjokorpi and Otsamo refused to comment on the question "would Stora Enso pull out of the Advance Agro mill due to large-scale social and ecological impacts?" They evaded questions about Stora Enso's accountability in the Sino-Thai project saying that Stora Enso has "jumped on a train that is already running" and has in any case only a minority share in Advance Agro (Rajesh 2001). As explained above, this is simply untrue. The president of Stora Enso, Jukka Harmala, sits on Advance Agro's board and Stora Enso has the right to approve (or not) major corporate decisions.

- COMMONWEALTH DEVELOPMENT CORPORATION (CDC)

Established in 1948, as the Colonial Development Corporation, CDC's duty was to carry out projects "for developing resources of colonial territories" (Competition Commission www 1). In 1963 CDC became the Commonwealth Development Corporation and its remit was expanded to apply to the Commonwealth countries. Its remit was later further expanded to cover overseas countries generally and its role was redefined as being "to assist overseas countries in the development of their economies" (Competition Commission www 1).

CDC's web-site boasts that, "through our extensive network of contacts, [CDC is] well placed to introduce co-investors to, or syndicate, larger deals." CDC's current portfolio is valued at over US$2 billion, invested in more than 400 business in more than 50 countries (CDC www 1).

Until 1994 CDC received grant aid and loans from the UK government's aid programme which it invested in overseas companies. Of the total sum that CDC invested in 1993 almost half was in the form of interest-free loans from the Overseas Development Agency, the UK's "aid" agency (CDC 1994: 18).

Not surprisingly, given the interest-free loans and government support it has received, CDC has been a very profitable operation. However, with 15 per cent of CDC's investments in southeast Asia, the Asian economic crisis led to a 10 per cent fall in pre-tax profits for CDC in 1997 (Holman 1998). In 1998, CDC posted its worst ever results, with a deficit of around US$60 million – CDC's first annual deficit since 1954 (Bennett 1999c) (Bennett 1999b).

In November 1991, the Secretary of State of Trade and Industry referred several questions about the efficiency and costs of CDC to the Monopolies and Merger Commission (MMC). The report concluded "we are left in no doubt that CDC is generally held in high regard throughout the world in which it operates." The MMC's research involved analysing CDC's own data, responses from the public in the UK, and government ministers and officials, project sponsors, co-financiers and British Government Posts. Notably absent is any attempt to talk to villagers on the receiving end of the projects, or developing country NGOs. The Commission's only criticism was that CDC's business judgment was "sometimes insufficiently supported by quantified analysis, both in its decisions on investments and in monitoring and evaluation" (Competition Commission www 1).

MMC recommended that CDC "should adopt a clear policy that it will not invest in projects if it cannot satisfy itself that the impact of the project on social and environmental factors will be acceptable. It should also establish procedures to check regularly that projects are being operated in accordance with the relevant guidelines dealing with these matters" (Competition Commission www 1).

Privatisation

Prime Minister Tony Blair singled out CDC as the first organisation to be privatised under the newly elected New Labour government in 1997. The government will retain a 40 per cent share in CDC and hoped to raise more than US$750 million from the privatisation of CDC (Luce 1997). In 1997, CDC owed more than US$1 billion to the government (Holman and Wighton 1997) and these advances had been interest-free since 1995 (HMSO 1999).

On 27 July 1999, the Commonwealth Development Corporation Act received Royal Assent, allowing the partial privatisation to go ahead. CDC will remain wholly owned by the government for a transition period while CDC restructures financially. The government's share of CDC cannot fall below 25 per cent without parliamentary approval (HMSO 1999).

As a part-privatised company, CDC will continue to receive generous government subsidies. The CDC Act allows CDC exemption from UK corporation tax on its profits as long as the government owns 25 per cent of the shares of the company (HMSO 1999). Clare Short, the UK international development secretary, told the Financial Times that a new category of "development investment corporation" might be established for tax purposes, to prevent CDC moving offshore after its partial privatisation (Halligan 1998). Without preferential tax treatment, government ministers were worried that CDC would not be attractive to institutional investors. The tax treatment would only apply to CDC (Bennett 1999a).

After privatisation, CDC will still be able to borrow money from the government. The government will also continue to give guarantees to CDC or its subsidiaries. The guarantees ensure that the UK government will repay CDC's third party debts, if CDC defaults. This government backing allows CDC to borrow at lower interest rates, as lenders are confident that the debt will be repaid (HMSO 1999).

In December 1999, CDC became a public limited company, registered as CDC Group plc (CDC www 1). As a

private company, CDC Group will operate under the 1985 Companies Act and documents will be filed in Companies House, London, where they are available to the public (HMSO 1999).

Management

Sir William Ryrie, deputy chairman of CDC is a former British civil servant and from 1984 to 1993 was chief executive of the International Finance Corporation, the World Bank's private lending arm (Gooding 1995).

Sir Peter Leslie, a former chairman of CDC, retired in June 1995. (He became non-executive chairman of NCM Credit Insurance, the export credit insurer. NCM used to be the short term insurance division of the Export Credits Guarantee Department but was privatised under the 1979 to 1997 Conservative Government.) Leslie chaired the Export Guarantees Advisory Council (which advises ECGD) from 1987 to 1992. He was replaced at CDC by Lord Cairns, former chief executive and deputy chairman of SG Warburg. Cairns was treasurer of Voluntary Services Overseas from 1974 to 1981 and chairman from 1981 to 1992. He told the Financial Times that this has given him an understanding of "many of the development angles that CDC deals with" (Caswell and Kibazo 1995).

CDC's investments

CDC has invested in a wide range of businesses, including a bauxite mine and the power sector in Guyana, cocoa plantations in Malaysia, a hotel in Cuba, a tin mine in Malaysia, tree plantations in the Solomon Islands, a copper mine in Zambia, a gas-fired power station in Ivory Coast, a cellular phone company in India, a gas pipeline in Tanzania and palm oil businesses throughout the Asia-Pacific region. Its main investment sector is agribusiness.

In August 1999, CDC signed a US$32 million agreement with PT Harapan Sawit Lestari, an oil palm plantation and processing company operating a 25,400 hectare plantation in West Kalimantan. CDC will own 65 per cent of the business and manage the operation (CDC www 1).

In Papua New Guinea, CDC is involved in about 23,000 hectares of palm oil plantations, through its 76 per cent share in Pacific Rim Plantations. In 2000, the company started renting land from villagers. One year later, villagers were unhappy with the arrangement as the company had failed to provide the benefits promised when it leased the land (Peel 2001).

CDC was one of the financiers of the Lesotho Highland Water Development Project. CDC loaned US$36 million to the project, which will cost US$8 billion in total. Consisting of five dams and a complex series of tunnels, the project will divert water from the Senqu river basin to South Africa's Ash river and from there into the Vaal dam 70 kilometres south of Johannesburg. Work began in 1986 and is due to be completed in 2020. The project has already resulted in loss of livelihoods, increased soil erosion, loss of farmland and the eviction of 24,000 people from their homes. Villagers complain that compensation payments have been inadequate or remain unpaid (Lang et al 2000: 110).

LHDP hit the business headlines in 1999, when the Lesotho government accused Marsupha Sole, the former head of the Lesotho Highland Development Corporation, of taking nearly US$2 million in bribes from ten companies and two consortia associated with the project (Lang et al 2000: 108).

In Thailand, CDC has shares in the following companies:

Advance Agro Public Company Ltd (Integrated pulp and paper mill);
Thailand Soon Hua Seng Company Ltd (Eucalyptus forestry and pulp and paper production);
Industrial Finance Corporation of Thailand (Development finance);

Global Leasing Co Ltd (Leasing finance);
Industrial Venture Company Ltd (Venture capital);
Sinkahakan Credit Foncier Co Ltd (Mortgage finance);
Thai Rural Equity Fund (Small enterprise development finance);
Thailand Advanced Communications Co Ltd (Printing and publishing);
Thailand Mah Boonkrong Sirichai 25 Co Ltd (Cashew nut processing);
Thailand Mongkolwat Co Ltd (Prawn farming);
Thailand Thailand Rubber Replanting Aid Fund (Rubber replanting and extension services); and
Thailand United Palm Oil (Oil palm cultivation). (CDC no date b)

Pulp and paper

CDC's first investment in the pulp and paper sector was in 1949, for Usutu Pulp Co, Swaziland.

CDC was one of the financial backers of Advance Agro, and CDC owns a one per cent share in Advance Agro. (See section on Advance Agro, above.)

CDC aims to fund more projects in the pulp and paper sector in the South. In 1998, Peter Massey, the head of CDC's wood products team told the Financial Times, "Production from the boreal forests of the northern hemisphere takes too long to mature and is often inaccessible. . . . There is a general shift in pulp and paper production from north to south and west to east," he said. "Equatorial regions offer a much better yield. The time from planting to harvesting can be as short as five years, as opposed to at least 20 years in Europe or North America" (Soloman 1998).

CDC promotes contract tree farming schemes whereby villagers plant trees to be sold to pulp mills. According to Massey, "It's a win-win situation. The local communities move to a new and reliable source of income, while the pulp and paper companies cut down their capital costs" (Soloman 1998). This contrasts dramatically with the reality for villagers. A recent detailed study of contract tree farming in Thailand concludes, "In the present situation, CTF [contract tree farming] is unlikely to be a long-term viable option for farmers" (Pearmsak and Mochida 1999: 104).

Among CDC's business principles and policies is the statement that CDC will "avoid investments where impacts on communities and the environment have not been properly considered and mitigated in their design" (CDC no date a).

- SHELL

Best known for its activities in the oil and gas sector, Shell's operations also include chemicals, coal and metals, and since the late 1970s it has moved into the forestry sector. The move came partly as a result of the oil crisis and hikes in the price of oil during the 1970s. The initial aim was to produce energy from wood biomass, but Shell now is now involved in plantations for the pulp and paper industry (van Ginneken 1991: 107).

Shell's first venture into plantations was in 1980 when it bought up land in Brazil and planted pine trees. Shell has since expanded its plantation operations to Argentina, Chile, Paraguay, Uruguay, New Zealand, South Africa and Congo.

In 1987, Shell started preparations for a 17,600 hectare eucalyptus plantation planned for the Khun Song forest reserve in Chanthaburi province, Thailand. The trees were to be exported as wood chips to the pulp and paper industries of Taiwan, Korea and Japan (Bangkok Post 28 December 1987).

Shell chose the site for the US$70 million project for two reasons: its proximity to Laem Chabang deep-sea port in Rayong province, and because the 800 families living on the land had no formal land-use rights (Usher 1989). In the terminology of the Royal Forest Department (RFD), they were "squatters".

Although the RFD jumped at the opportunity to hand over "degraded forest" to a commercial eucalyptus plantation, and approved Shell's request to plant the land, the Thai cabinet also had to approve the project (Lohmann 1991: 9).

In 1990, Shell was forced to drop the plantation proposals in Thailand as protests increased against the project and scandals forced delays in governmental approval for the project (Carrere and Lohmann 1996: 237). RFD officials warned villagers of forcible eviction, houses were burned down, and villagers arrested for forest encroachment. Villagers meanwhile burned down eucalyptus in experimental plantation plots. In February 1988, after the governor of Chanthaburi opposed the project, unknown gunmen fired at his house, apparently in an attempt to persuade him to drop his opposition to the scheme (Lohmann 1991: 9).

This failed project provides a blatant example of support to the pulp and paper industry, in this case from the UK-based International Institute for Environment and Development (IIED). Caroline Sargent, then director of IIED's Forestry and Land Use programme accepted a consultancy from Shell. Rather than questioning whether the project should go ahead, Sargent's report attempted to find ways of implementing the plantation, through public relations, demonstration plots, extension projects in bee-keeping and mushroom growing, a guaranteed price for eucalyptus, technical and financial support for Shell to build villages and a system of contract farming (Lang 1996: 30).

Three years later, another NGO, this time the World Wide Fund for Nature provided further support for Shell's plantation efforts, with a collaboration with Shell on a Tree Plantation Review. One of the aims of the study was to "highlight the need for tree plantations" (Lang 1996: 35). The study resulted in a series of guidelines for plantation development, as "A contribution to the debate on environmentally and socially responsible planning and management practices for tree plantations" (Shell/WWF 1993). The level of the debate is illustrated in the principles for the guidelines: Section 2.1 describes the "need for guidelines" followed by, in Section 2.2, the "need for plantations" (Shell/WWF 1993: 3).

- JAAKKO POYRY

Founded in 1958 by Dr. Jaakko Poyry, a pulp and paper engineer, the Jaakko Poyry Group is a Finnish consulting and engineering group. Today Poyry is the world's largest forestry and engineering consulting firm, with 4,500 employees and a turnover in 1998 of around US$400 million (Lang et al 2000: 42).

Poyry's main shareholder is Finvest, a Finnish investment group. In 1995, Poyry agreed to a takeover by Finvest, which was in effect a reverse takeover. Under the deal Poyry's shareholders and senior management gained control of 52 per cent of Finvest's votes (Brown-Humes 1995a).

Poyry has played a key role in promoting pulp mill operations, logging and fast-growing tree plantations in the South, and has carried out over 6,000 contracts in more than 100 countries including 300 "major pulp and paper mill projects" (Lang et al 2000: 42).

In 1978, Dr. Poyry was responsible for the engineering work, wood supply planning and construction management for the world's largest single line pulp mill: Aracruz Cellulose in Brazil. Dr. Poyry was also the consultant for the expansion of the mill in 1991. In 2000, the Jaakko Poyry Group won a further contract for yet another expansion of the Aracruz mills (Paperhall www 1).

The firm began working in southeast Asia in the early 1970s and played a key role in setting up deals in the

pulp and paper industry, acting as a go-between for Scandinavian industry with the governments of the region and in brokering soft loans from governments at home. Poyry meanwhile has benefitted from Finnish and Swedish aid-funded consultancies in Laos, Vietnam and Thailand.

Poyry established its presence in Asia through Jaakko Poyry Consulting, working as a consulting firm on projects funded by the ADB and other international finance organisations. Poyry has carried out forest inventories and developed forestry management plans for the governments of Indonesia, Thailand and other southeast Asian countries (Sonnenfeld 1999: 31).

David Sonnenfeld, an academic at Washington State University, states, "the Jaakko Poyry group played a critical role in brokering the sale of pulp and paper technology in Southeast Asia" (Sonnenfeld 1999: 31). Almost all bleached kraft pulp mills built in Southeast Asia between 1981 and 1996, used Nordic pulping and bleaching technology. Jaakko Poyry won the contracts as consulting engineer for around two-thirds of these projects (Sonnenfeld 1999: 36).

Poyry's projects in Thailand (between 1971 and 1994) include the following:

1993: Advance Agro – Engineering and construction management of pulp mill;
1992: Hi-Tech Paper – Project management services;
1992: Phoenix – Design and procurement of effluent treatment plant;
1991: Ban Wat Chan – Preparation of a plan for integrated rural development (Nordic Project Export Fund);
1991: Thai Paper – Pre-engineering of a paper mill;
1991: Phoenix – Feasibility study for paper mill in Laos;
1990: Thai Forestry Sector Master Plan (UNDP/FINNIDA-funded);
1990: Phoenix – Technological review of environmental control measures;
1989: Lanna Lignite – Prefeasibility and feasibility study for bagasse pulp mill;
1989: Siam Pulp and Paper – Procurement assistance;
1989: Suan Kitti – Prefeasibility study for pulp mill (later renamed Advance Agro);
1987: Siam Pulp and Paper – Work plan for kraft pulp mill, plantation establishment, and assistance in evaluating tenders;
1984: RFD and FIO – Forestry development plan (FINNIDA-funded) (Jaakko Poyry no date).

Master Plans provide an opportunity for Poyry to shape the forestry sector to their liking, by increasing the focus on industrial forestry. Such contracts also provide an means for the consultants to learn the ropes, and gain contacts within the forestry sector in the country in which they are operating. In Thailand, Poyry won the contract for the Thai Forestry Sector Master Plan (see section on International Support, above) and Poyry's consultant on the TFSMP admitted that his work included bringing Thailand's "institutional and social frame into shape" thus allowing the wider application of Western techniques of industrial forestry (Laitalainen 1992).

In Laos, Poyry carried out the US$20 million World Bank, FINNIDA and GEF funded Forest Management and Conservation Project. The Lao government halted the project in September 2000 after the first five year phase, amid floods of rumours of corruption in the logging industry. Poyry's subsidiary Interforest AB has won several contracts in the forestry sector in Vietnam. (See report on Vietnam.)

Poyry's record in Indonesia is spectacular, even by Poyry's standards. Between 1979 and 1993, the company won more than 110 contracts in Indonesia, ranging from industrial forest plantation projects to a contract for overseas training in Brazil. In 1984, Poyry carried out a World Bank-funded contract aimed at "strengthening the structure of the Indonesian pulp and paper industry" (Lang 1996: 12). Four years later, Poyry won a contract from the Asian Development Bank to identify sites for the development of the pulp industry in Indonesia. Jaakko Poyry won further contracts on the pulp mills projects it had recommended, including Indorayan, Indah Kiat, Riau Andalan, PT TEL all in Sumatra and the Finantara Intiga project in East Kalimantan. (WRM 1998a)

A recent award-winning video by Inge Altemeier and Reinhart Hortnung, documents the impact of the projects in Sumatra, caused by the pollution from these mills. Hundreds of villagers suffer skin diseases, fruit trees produce inedible fruit and fish in the rivers have died. The mills in Sumatra use natural forest as raw material, and in several cases the acacia plantations established on the logged-over forest land, which were supposed to feed the pulp mills have failed. One of the companies, PT TEL is reported to be planting oil palm on the failed tree plantation land, exporting the kernels to Europe as livestock feed.

- SCC NATURA

SCC Natura was founded in 1973 as Swedforest, by the Swedish forestry board, as a mechanism for transferring Swedish forestry expertise to the South (Usher 1994). Swedforest was part of the Doman Konsult AB, which in turn was part of the Doman Group, Sweden's state-owned forestry enterprise.

Doman merged with Assi in 1993, one of Sweden's Largest forest products companies, with a turnover of around US$1 billion. Doman was Sweden's largest forest owner, with 3.4 million hectares of forest land. Assi was one of Doman's biggest customers, buying 37 per cent of its wood requirement from Doman (PPI 1993). The Swedish state is the largest shareholder in AssiDoman. AssiDoman "has been one of the front-runners in promoting forest certification and FSC" according to CEO Gunnar Palme (Palme 2000). Since 1998, all of AssiDoman's forest holdings have been certified under the Forest Stewardship Council (FSC), and a representative from AssiDoman currently sits on the board of FSC.

Swedforest was renamed as Scandiaconsult Natura (SCC Natura) in 1998, and is now fully owned by Scandiaconsult. Scandiaconsult is one of Scandinavia's largest consulting companies, employing more than 2,000 people. SCC Natura has offices in Bolivia, the Dominican Republic, India, Laos, Lesotho and Vietnam (SCC Natura www 1).

SCC Natura is tiny in comparison to Jaakko Poyry, employing only 25 core staff and around 25 long-term contract staff abroad. Although in its publicity material the company makes claims stressing the importance of "local empowerment" and "sustainable development", its work areas include industrial forestry: saw mills, pulp mills, plantations and logging.

SCC Natura has benefited from contracts from, among others, the World Bank, the Asian Development Bank, Sida, the International Finance Corporation, UNDP, FAO, and the Nordic Investment Fund (SCC Natura www 1). SCC Natura has worked in a wide range of countries including Laos, Thailand, Vietnam, Nicaragua, Bolivia, Indonesia, Tanzania, Chile, Ukraine and Sweden.

Since 1991, SCC Natura has had the contract for the Sida-funded Laos-Swedish Forestry Programme. (See report on Laos.) In Vietnam, SCC Natura is the consultant for the Sida-funded Vietnam-Sweden Mountain Rural Development Project. (See report on Vietnam.)

In Thailand, the company managed to win a seven-year long consultancy aiming to provide a "new role" for the Forest Industry Organisation. (See section on FIO, above.) Thai NGOs and villagers meanwhile are actively campaigning to limit the role of FIO or even to close the institution down completely. (See Watershed 2000b.)

On the company's web-site, SCC Natura lists another Sida-funded consultancy project in Thailand. Titled "Sustainable Forest Plantation Management", the project ran from 1997 to 2000. Karl Hagstrom of Sida stated that apart from the Sida support to the FIO project (mentioned above) he was "not aware of any project support from Sida during the period which you mention as far as forestry in Thailand" (Hagstrom 2001).

Chitiwat Silapat of the FIO confirmed that the project is in fact Phase III of the FIO project, and plantation management was one part of the project. SCC Natura, however, will give no information about the project.

When asked for a brief description of the project, and a list of the reports produced for the project Tomas Jonsson, of SCC Natura, responded (quoted here in full), "You have to contact the client and ask for documents. Natura has no right to distribute reports" (Jonsson 2001b).

The Swedish-funded "Organisational Development of the Forest Industry Organisation" project included preparing methods and criteria for management of FIO's plantations in accordance with Forest Stewardship Council Principles. According to FIO's 1997 request to Sida for further funding of the project, "A process has been started, with FIO as lead agent, to develop national criteria for sustainable management of forests in Thailand" (FIO 1997: 6).

According to the project's "logical framework analysis matrix", one of the results expected from the project was to start a process "to develop Thai national criteria for forest management". A "verifiable indicator" of this, according to the matrix is "A national committee established for development of national forest management criteria". An "important assumption" in the matrix is that "NGOs, local government groups etc. are interested to participate and cooperate" (FIO 1997: annex).

The setting up of national committees to discuss national standards for forest management is an important part of the forest certification process. In theory at least, it can involve a wide range of actors in a discussion about the management of the country's forests. However, the reality in Thailand is that such a discussion has been raging for at least the last twenty years. Villagers have protested logging operations and large-scale plantation developments. The 1989 logging ban was partly the result of protests against the timber industry in Thailand. Problems with the development of fast-growing tree plantations have led to many protests and Thailand's newspapers frequently feature discussions of the issues surrounding plantation development. Villagers have also consistently demanded the rights to manage their own resources. Thailand's 1997 constitution was preceded by a long public discussion and included in the constitution is the right of communities to manage their resources. Community forestry has been another focus of discussion for many years, with villagers, NGOs and academics working together to write a draft Community Forestry Bill.

FIO and SCC Natura's consultants failed to establish a broad-based discussion. Indeed, they operated in almost total silence. Until a small article appeared in the Bangkok Post in August 2000, many Thai NGOs were unaware that FIO had been planning for at least three years to have its plantations certified.

In October 2000, when interviewers from Watershed magazine met Jay Blakeney, one of the consultants hired by SmartWood to carry out the FSC assessment of two of FIO's plantations, he told them, with a straight face, that TERRA was one of the NGOs SmartWood had consulted. This was the first that anyone in TERRA knew of such consultation.

Although not accredited as an Forest Stewardship Council assessor, SCC Natura performs FSC assessments in Sweden through a partnership with Scientific Certification Systems (USA). Through this arrangement, SCC Natura has assessed and certified Stora Enso's four million hectares of forestry operations in Sweden. According to a report in Sveriges natur, the Swedish Society for Nature Conservation magazine, SCC Natura's annual revisions of Stora Enso's operations are carried out without making any checks in the field. In the six days allocated for the annual check, SCC Natura's representative "stops at the district offices, reads the environmental audit report and talks with the staff" (Klefbom and Olsson no date).

- SCANDINAVIAN MACHINERY SUPPLIERS

Machinery and equipment suppliers, many based in Scandinavia, are also among the beneficiaries of Thailand's pulp and paper boom. Three of these companies, Sunds-Defibrator, Kvaerner Pulping and Ahlstrom are outlined below.

Sunds-Defibrator

Until 1997, Sunds-Defibrator was a subsidiary of the Finnish Rauma-Repola group. In 1997, Rauma-Repola merged with the Kymmene Corporation to become UPM-Kymmene. The following year, UPM-Kymmene launched a joint venture between Rauma and Valmet (a semi-privatised technology company, with the Finnish state as largest shareholder). Sunds-Defribrator in 1999, was a subsidiary of the new Rauma-Valmet Corporation, jointly owned by UPM-Kymmene and the Finnish state (Sonnenfeld 1999: 40). Valmet, Sunds-Defibrator and Beloit have now merged to form Valmet Corporation. Valmet Corporation is a member of Metso Corporation (Advert in Phoenix no date a). Metso is one of Europe's biggest engineering companies.

Based in Sweden, Sunds-Defibrator supplies entire fibrelines, and supplied pulping and bleaching technology for Phoenix II and Advance Agro mills. The contract to supply machinery to Advance Agro was worth US$64.6 million (Sonnenfeld 1999: 32).

Sunds-Defibrator has also supplied machinery to Riau Andalan Pulp and Paper, PT Kertas Leces, PT Pakerin and PT Bekasi Tegah in Indonesia, and the Sabah Forestry Industry pulp mill in Malaysia (Sonnenfeld 1999: 32).

Kvaerner Pulp and Paper

Kvaerner Pulp and Paper is part of Anglo-Norwegian Kvaerner Group, which is involved in ship building, engineering, oil and gas exploration, construction, mining, property and power development, as well as the pulp and paper industry (Lang et al 2000: 63).

In the early 1970s Kvaerner joined Ahlstrom and Myrens Verksted to form Kamyr AB. In 1989 Myrens Verksted sold its share to the other two companies. Ahlstrom had the rights to sales in North America, while Kvaerner could use the Kamyr name everywhere else. In 1993, Kvaerner and Ahlstrom dissolved their partnership and Kvaerner reverted to using its own name (Sonnenfeld 1999: 32).

1998 was a disastrous year for Kvaerner. It posted a huge loss, its share price dropped and the Board of Directors sacked the CEO Erik Tonseth. The replacement CEO, Kjell Almskog, started a major restructuring and today many of the 240 or more subsidiary companies that formed the Kvaerner Group are being sold off (Lang et al 2000: 63).

In 1999 the Kvaerner group remerged its Kvaerner Pulp and Paper division with Ahlstrom's Machinery division (Sonnenfeld 1999: 34).

Kvaerner has supplied pulping equipment to Siam Cellulose, a fibreline to Advance Agro in Thailand; won contracts to supply equipment to the Sabah Forest Industry pulp mill in Malaysia; and has supplied PT Indah Kiat and PT Wira Karya Skati in Indonesia (Sonnenfeld 1999: 32).

Ahlstrom

The Ahlstrom company was one of the largest privately held firms in Finland. At the end of 1994, Ahlstrom family members held 74.7 per cent of the shares in the company (Sonnenfeld 1999: 33). In the late 1980s

Ahlstrom sold most of its holdings in forestry and forest industries, focussing on technology and services. Since the split with Kvaerner in the Kamyr partnership, (see above) Ahlstrom has expanded sales in South Africa, Russia, Japan, China, India and has opened a new office in Thailand (Sonnenfeld 1999: 33).

Ahlstrom supplied the waste water treatment and chemical recovery facilities to Phoenix II in Thailand, and has supplied equipment to Indorayon, Indah Kiat and PT Kiani Kertas in Indonesia (Sonnenfeld 1999: 34).

5. IMPACTS AND PROTESTS

The impact of the fast-growing pulp and paper industry, and its associated plantations, on the people and forests in Thailand has been severe. When forests and woodlands are converted to eucalyptus plantations, villagers lose a source of food, medicine and firewood. A 1995 report documents in detail the problems villagers faced as a result of the Australian-funded Tung Kula Ronghai project:

"The replacement of diverse native forests and other vegetation with eucalyptus monocultures has diminished the land's ability to support human and animal life. It has also reduced local water supplies on public lands in Kampaeng subdistrict [Roi Et province], where there had been permanent one-metre-deep natural pools or marshes (*nong*) on public (forested and nonforested) lands. Today water levels have retreated to 10 metres or more beneath the surface, and there is not enough water to use year round" (Jirawan et al 1995).

The report details what was lost to local economies as a result of planting up the land with eucalyptus trees:

> "The destructive effects of this deprivation on the local economy are immediate and clear. For examples, we need only look at Kampaeng subdistrict villagers who had previously been able to earn 200-300 baht per day per individual from gathering and selling forest mushrooms; or who had grazed some 900 cows and buffalo, each carrying a price of 5,000-8000 baht, in local woodlands; or who had earned 3,000-4,000 baht per year by making charcoal from branches and fallen wood" (Jirawan et al 1995).

The report also notes that villagers have had to migrate to find work elsewhere. Rice fields have dried up. Water must be collected from further away. Villagers have been forced to sell their cows and buffaloes as they lost their grazing lands. Younger people have thus been deprived of an income, forcing them to look for alternative livelihoods and forcing families to split up (Jirawan et al 1995).

In 1989, a report funded by USAID and the Khon Kaen-based Rural Development Institute looked at the effect of eucalyptus plantations in several northeastern provinces. The report concludes that large eucalyptus plantations can deplete underground water sources; eucalyptus leaves decompose slowly and fall in greater numbers than other crops; toxins in the leaves inhibit the growth of other crops; and a eucalyptus plantation uses a higher overall volume of water than other crops (Usher 1990).

In 1990, a research team from the Thai Development Research Institute, led by Dr Dhira Phantumvanit, concluded, "the promotion of fast-growing trees, particularly the eucalyptus, will not help solve rural poverty nor improve distribution problems. Concessions for large-scale planters to grow commercial forests in degraded forests will aggravate rural poverty rather than easing it" (Bangkok Post 12 January 1991).

In the east of Thailand, the plantation boom caused by the proximity to seaports and roads led in turn to a land speculation boom. Businessmen sent representatives to buy up land from indebted villagers. Villagers may have been willing to sell for a variety of reasons: the land around them may already have been bought up, thus denying them access to their own fields; forestry officials may attempt to clear them off the land as "illegal squatters"; neighbours may have already sold their land and be temporarily well off; violence, threats and even

murder may be used; and the fact that local officials collect bribes for issuing land documents means that establishing rights to land is easier for companies who can afford the bribes, than for villagers who cannot.

Once their land is lost, villagers have no choice other than to encroach on forests in other areas. Often they remain on their new fields only until the next wave of land speculation appears (Lohmann 1991: 8).

One of the pulp and paper industry's 'solutions' to problems of large-scale plantations, is to encourage contract tree farming, whereby farmers grow the trees on their own land. This has several benefits for the industry. Companies can secure raw material supplies, through contracts which prevent farmers selling wood to anyone else. Companies avoid the problem of renting state land that is already occupied by villagers (Lohmann 1991: 9). The company does not need to employ plantation workers, and therefore does not need to worry about social security or labour problems (Pearmsak and Mochida 1999: 55).

Contract tree farming effectively passes on risks associated with growing fast-growing tree plantations from pulp and paper companies to farmers. Pearmsak Makarabhirom, a forester with the Regional Community Forestry Training Centre in Bangkok, in a recent study of contract tree farming in Thailand argues "farmers have been facing many problems in every step of the operation, particularly in tree cutting, wood yield estimating or weighing, and transportation, in which farmer[s] are unable to negotiate for a reasonable cost, only receiv[ing] payment after all costs incurred are deducted" (Pearmsak and Mochida 1999: 86).

In 1999, Pitaya Petmark, an official at the RFD, told the Bangkok Post, "To me, between eucalyptus and rice, it's better to grow eucalyptus because they grow fast and need no care. Northeasterners may disagree because of their old-fashioned thinking that they should be able to reap their crop every year" (Onnucha 1999a). Samran Udonsak, a former eucalyptus grower who has uprooted his trees in favour of rice, explains some of the problems he faced trying to live off income from eucalyptus trees, "It's better to grow rice because we can sell it right away or keep it for our own consumption. Growing eucalyptus, we must wait three to four years before they are big enough to cut. What will eat while waiting for the trees?" (Onnucha 1999b).

The RFD appears oblivious to these problems and has never produced a study of the environmental impacts of eucalyptus plantations on an area larger than 160 hectares (Tunya 2000).

Since the mid-1980s, villagers and NGOs have protested the development of the pulp and paper industry and the fast-growing plantations associated with it. Villagers have petitioned government officials, held rallies, spoken out at seminars, given television interviews, blocked roads, marched on government offices, ripped out eucalyptus seedlings, chopped down trees, stopped bulldozers and burned down nurseries and equipment. They have planted fruit trees, regenerated community forests on land reclaimed from eucalyptus plantations and explained to journalists the methods they use to preserve patches of community forests between their fields (Lohmann 1991: 4) (Casson 1997: 11).

A chronology of some of the protests against fast-growing tree plantations gives an indication of the scale of the problem (although this chronology is by no means complete):

> **September 1985:** More than 2,000 villagers in Si Sa Ket province dug up eucalyptus sapling, burnt nurseries and asked the government to stop the eucalyptus planting at the Nonlan Forest (Suda 1989).
> **February 1987:** Villagers from Ban Namkam in Roi Et province grouped together with eight other villages to sign a letter to the provincial authorities asking for companies to stop cutting forests for eucalyptus plantations (Suda 1989).
> **May 1987:** Villagers of Tambon Yangkam in Roi Et requested that officials prevent companies from buying forest at Dongbang Forest (Suda 1989).
> **April 1987:** Villagers from Tambon Kaampia in Ubon Ratchathani requested the authorities to stop companies planting eucalyptus and asked the government to give them land-use rights (Suda 1989).

June 1987: Villagers from Tombon Ponsai, Roi Et province asked officials to stop companies planting eucalyptus and to stop land eviction (Suda 1989).
July 1987: Villagers from Ban Tuey, Tambon Tung Kula Ronghai in Roi Et, held demonstrations and asked for an end to eucalyptus planting on their land (Suda 1989).
February 1988: Villagers from 15 villagers in Surin province demonstrated at the provincial office demanding land-use rights, after the Tambon council made an agreement to stop planting eucalyptus (Suda 1989).
March 1988: Villagers cut down eucalyptus trees at a village forestry office in Pakhaam District, Buriram province (Lohmann 1990).
March 1988: 2,000 villagers in Nong Khai province protested at Buengkan district office against eucalyptus planting companies who were attempting to buy their lands to plant eucalyptus. The authorities gave no response. Finally, villagers cut down 400 eucalyptus trees and burnt saplings in a nursery (Suda 1989).
June 1988: Villagers of Ban Nongka, Surin province, dug up eucalyptus trees, arguing that they wanted the land to plant other crops (Suda 1989).
June 1988: In Surin province, during a protest on 2 June 1988, villagers set fire to eucalyptus leaves and branches outside Tha Tum district police station. Police had issued arrest warrants for two villagers accused of cutting eucalyptus trees planted by the forestry office (Bangkok Post 4 June 1988).
June 1988: About 3,500 villagers in from Tambon Namsab and Tambon Sabsomboon in Prachinburi province burnt down forestry officials' houses in a protest against the government's eucalyptus policy. The villagers also set fire to a garage, two motorcycles, a home made truck, two greenhouses, a water pump and a dynamo (The Nation 14 June 1988).
August 1990: Representatives from more than 200 Thai NGOs announced their refusal to participate in the Jaakko Poyry led-Thai Forestry Sector Master Plan until it was completely separated from current government forest policy (Lohmann 1991: 16).
1991: The former monk Phra Prachak Kuttjitto, led villagers in Buriram province in opposing eucalyptus plantations. Among the tactics used was that of "ordaining" trees to prevent them from being cut down (Kulcharee 1997). The Pa Kham district of Buriram province was a special target of repression under the Khor Jor Kor campaign. Villages were surrounded by troops, houses dismantled, leaders detained and Phra Prachak Kuttjitto and others were attacked and arrested (Lohmann 1991: 17).
May 1992: A broad-based popular movement overthrew the military junta and resistance to fast-growing tree plantations continued. Following protests including blockades of major highways and long negotiations with farmers' leaders, the government scrapped *Khor Jor Kor*, the military eviction programme, and imposed a maximum area of 8 hectares on any type of commercial tree plantation (Carrere and Lohmann 1996: 237).
1993: Villagers at Dong Kheng forest began to pull up eucalyptus saplings and trees, established as part of the Australian-funded Tung Kula Ronghai project. In April 1994, villagers drew up a forest restoration and conservation plan, including setting aside 240 hectares as conservation forest, on land recovered from eucalyptus plantation (Jirawan et al 1995).
September 1993: About 300 villagers from Tambon Sen Suk destroyed more than 1,000 rai (160 hectares) of eucalyptus trees in Phanom Phrai district, Roi Et province (Bangkok Post 21 September 1993).
April 1994: About 200 villagers from Kanthararom district in Si Sa Ket province rallied in front of the provincial hall to protest at the FIO's proposed pulp mill (Bangkok Post 19 April 1994).
March 1995: Villagers in Si Sa Ket sent a letter to the FIO, the Science Ministry, the Office of the Prime Minister's Secretariat and to the provinces nine MPs, asking the government to reconsider FIO's planned pulp mill (Walakkamon 1995).
February 1996: Around 1,700 villagers protested against eucalyptus plantations at the provincial office in Roi Et. At the time the Minister of Agriculture was out of the country. Villagers decided to continue their sit-in until the Minister met with them on his return to Thailand (PER 1996).

1997: From the mid-1990s, the Assembly of the Poor, a coalition of local organisations and villagers, held a series of protests in front of Government House in Bangkok. In 1997, the Assembly held a 99-day protest, which won a series of concessions from the government. However, after the economic crisis, the government changed and the new government under Chuan Leekpai refused to acknowledge the previous government's agreements with the Forum.
April 1999: A protest lasting two weeks, involving a total of around 40,000 farmers from the uplands of northern Thailand, took place outside the provincial office in Chiang Mai. The farmers, many from ethnic groups, demanded citizenship for ethnic groups and a reduction in reforestation. Approximately 500 Police and 1,500 forestry officials broke up the protest on 19 May 1999 (Forsyth 2001: 140) (Northern Farmers Network et al 1999).
September 1999: NGOs organised a seminar entitled "Eucalyptus and the Failure of Thai Forestry". The China-Advance Agro project was the focus of much of the discussion (Krungthep Thurakij 21,22,26 September 1999).
March 2000: RFD director Plodprasop Suraswadi threatened 1,000 families in Somdej district of Kalasin with eviction if they did not move voluntarily. A few months earlier, in a protest about the government's failure to find them new land to live on, the villagers felled most eucalyptus trees in a plantation established by the FIO about 26 years ago (Uamdao and Ploenpote 2000).
April 2000: The Thai Society of Environmental Journalists visited Tha Takiab subdistrict. Kamnan Thawee Sathuchart told the journalists that a number of villages were against the project. Another villager pointed out that local people had been trying for decades to get ownership papers for the land, but had failed (Kamol 2000).
July 2000: 10,000 people converged on Sanam Luang in Bangkok as a show of support for the Assembly of the Poor, which was once again protesting outside Government House in Bangkok (Supahatra 2000).
October 2000: The Chachoengsao Provincial Administration Organisation (PAO) filled a petition with the cabinet protesting the Sino-Thai plantation project. Somchai Asschaisophon, president of the Chachoengsao PAO stated that people living in Takiab district and provincial councillors opposed the project (Bangkok Post 4 October 2000).

As a result of these protests villagers have won some concessions from the government, and have in several instances regenerated their community forests on land previously planted up with eucalyptus. In Nong Yak village in Surin province, eight communities grouped together to re-establish community forest on land reclaimed from an FIO eucalyptus plantation. The forest has regenerated and today provides many services and products to villagers. In addition to such success stories, villagers have also, in association with academics and NGOs, attempted to influence the policy-level debate in Thailand.

In November 1997, Thailand's new constitution was passed, which allows communities the right to manage their natural resources. Despite such a progressive constitution, state institutions, especially the Royal Forest Department, continue to threaten villagers with eviction to make way for fast-growing tree plantations.

For the past ten years, villagers, NGOs and academics have worked together to produce a Community Forest Bill, which recognises communities rights to manage their forests. The Bill has been stalled by the RFD and their supporters in some nature conservation NGOs, and currently six versions of the Bill are awaiting a cabinet decision.

Although these protests and discussions about forests and plantations, are widely reported (in the English and Thai press), and are an expression of the serious problems faced by villagers threatened with losing their land to tree plantations, such protests are either ignored or simply dismissed by plantation proponents, and the forestry consultants acting as the hired guns of the pulp and paper industry.

For example, Jouko Virta, President of Jaakko Poyry's consulting division, although aware of the level of

debate in Thailand about Poyry's proposed Forest Master Plan attempted to marginalise protests. He claimed that protests and criticisms of the plan were a result of only two or three "extremist individuals", and added "I think they are anarchists" (Carrere and Lohmann 1996: 245).

When employees of the Soon Hua Seng (SHS) subsidiary Suan Kitti were arrested in 1990, for clearing forest to make way for eucalyptus plantations, the resulting uproar prompted then-Prime Minister Chatichai Choonhaven to prohibit all commercial plantations in National Forest Reserves. Rather than facing up to the issues raised, SHS attempting to dodge public debate, by renaming its proposed pulp and paper mill "Advance Agro", instead of the originally proposed name, "Suan Kitti Pulp Mill". SHS then hired the Finnish-owned, Bangkok-based Presko public relations firm for advice on minimising any further environmental criticism (Sonnenfeld 1999: 35).

Although protests eventually led to the cancelling of Shell's proposed plantations in Thailand, Shell Company of Thailand's Managing Director, Sarisdiguna Kittiyakara, attempted to confuse the issue, claiming that the objections to the proposed plantations originated with tapioca mill owners whose land would be subsumed under Shell's project. He also accused Thai environmentalists of being co-opted by Western paper-producing countries that felt threatened by the prospect of a local paper industry (Usher 1989).

In a similar vein, a consultant with Vientiane-based Burapha Development Consultants, claimed that protests in Thailand against eucalyptus plantations started when a Thai-Chinese pulp importing company launched a "smear campaign" against eucalyptus plantations. According to the consultant, the campaign was an attempt to safeguard its position as a pulp importer and to prevent Thailand from developing its own pulp producing industry.

Throughout the 1990s, the then-management of Phoenix Pulp and Paper alleged that accusations of pollution from the Phoenix mill in Khon Kaen were simply part of the campaign to take over the company. Sudhir Mittal, Phoenix's Deputy Managing Director told Watershed magazine in 1998, after the mill had been closed for polluting the Phong River, "The closure is in the name of environment, but it is not because of environment. There has been a lot of pressure on the Phoenix management – there is a certain group of people who want to take over the company" (Watershed 1998b: 55).

In October 2000, Chittiwat Silapat of FIO argued that today there are few protests about eucalyptus, "Because it is not so bad as they [villagers] said" (Chittiwat 2000a). Chittiwat appears oblivious to the ongoing discussion about the proposed Sino-Thai plantation project. He is also apparently unaware that Prasit Puaktow, the head of the FIO and Chittiwat's boss, six months earlier announced publicly, "nobody here is happy with the project because all the 200,000 rai [32,000 hectares] of degraded forests have owners" (Uamdao 2000b).

Clearly, villagers will continue to protest what is a serious threat to their livelihoods. Sa-ad Koonchat, spokesperson of Nong Yak village's community Forest Recovery Committee in Surin province, sums up the problem well in an interview in *Watershed* magazine:

> "We began to protest when we realised that a eucalyptus plantation is not a forest. Before, the natural forest was very important for us. We gathered mushrooms, bamboo shoots, insects and herbs for food. There was water, and there were animals and birds. The forest was cool and peaceful. Eucalyptus plantations gave us no benefits, there was nothing to eat. . . .
>
> "For fifteen years, we lived with the eucalyptus, protesting against it. We went to the subdistrict council, to the district chief, to the provincial government, and then to Bangkok. We told them the problems. They said they understood the problems, but couldn't see a solution. They said they would solve the problems, then they did nothing. For 15 years we had this problem. I wondered, were they stupid? They could not see simple solutions.

"Most of the officials have never been in a forest, so they don't know the important benefits of a forest. They have never seen a eucalyptus plantation and don't understand the problems. They only know it makes paper and money. If there's no forest, we can't live" (Watershed 1998a: 35).

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VIETNAM - Deforestation, reforestation and industrial plantations

This report starts with an overview of the current situation in Vietnam and an analysis of some of the problems presented by the rapid expansion of fast-growing tree plantations in the country.

In the last decade, the Vietnamese government has had two major programmes aimed at promoting "reforestation": Programme 327 from 1992 to 1998 and the Five Million Hectare Reforestation Programme, which started in 1998. The second section looks at these two programmes, together with the effect of recent amendments to the Land Law and other laws on plantation development.

In recent years, international support to the forestry sector in Vietnam has grown. The third section looks at some of the main actors and their projects in supporting the development of fast-growing tree plantations.

Section four profiles the pulp and paper industry in Vietnam and the final section looks at some of the consultancies and research organisations involved in the forestry sector in Vietnam.

1. INTRODUCTION

Vietnam's first paper machine started operations in 1912, with a capacity of 2,500 tons a year (Le Chi Ai 1995: 57). In the 1970s before the Bai Bang pulp and paper mill was started, the three largest paper factories in North Vietnam were:

Viet Tri, 10,000 tons a year capacity, built with Chinese assistance;
a 5,000 tons a year capacity mill north of Hanoi and
a mill south of Hanoi producing wrapping paper (Jerve et al 1999: 48).

In addition, there were more than twenty smaller mills producing a total of 12,000 tons a year (Jerve et al 1999: 48).

Today, Vietnam has 94 paper and board mills and 27 pulp mills, producing a total of about 360,000 tons of paper and board a year (PPI 1999).

The three largest pulp and paper mills in Vietnam today are:

Bai Bang (55,000 tons a year) in the northern province of Phu Tho;
Tai Mai (48,000 tons a year) in Dong Nai province in the south of the country; and
Dong Nai (14,000 tons a year) also in Dong Nai province.

The largest single producer of paper products is the state-owned Vietnam Paper Corporation, Vinapimex. Vinapimex has 20 subsidiaries and 11 factories producing a total of about 170,000 tons a year (Export America November 2001: 5). In 1999, Vinapimex was the biggest loss maker in the country with nine of its member companies reporting a loss for the year (VDC online 2 February 2000).

In addition to paper mills, a series of mills around the coastal city of Danang, produce wood chips mainly for export to Taiwan and Japan.

These pulp, paper and wood chip mills compete for raw materials. In the north of the country, wood is transported from as far as 300 kilometres to the Bai Bang mill. The mill still suffers a shortage of raw material, which became worse in the late 1990s when a Taiwanese company built a wood chip mill at Hai Phong and

offered to pay more than Bai Bang. Farmers harvested their plantations and sold the wood to the new mill. After 18 months the wood chip mill closed because of lack of raw materials (Fortech 1998: 17).

Plantation programmes in Vietnam started in 1956 (Fortech 1998: 3). By 1975, 219,290 hectares had been established, according to Nguyen Ngoc Lung of the Department for Forestry Development (Fortech 1998: 3). In the next ten years, official figures claim that 563,120 hectares were established, but Lung points out that survival and growth rates were poor (Fortech 1998: 3). Between 1986 and 1992, there was an increased focus on plantations, often with funding from international aid agencies. In 1992, the government developed Programme 327. (See section on Programme 327, below.)

The Vietnamese government is currently carrying out a large scale "reforestation" programme and produces frequent reports claiming that ever increasing areas of the country are covered in "forests". Although there is a tradition of tree planting in "homegardens" in which farmers plant a wide range of tree species (Le Trong Cuc 1992: 27) much of the planting taking place today in Vietnam is of fast-growing trees aimed at producing raw material for the pulp and paper industry or woodchips for export, or simply inflating the area of "forests" to deflect attention from the actual rate of deforestation in the country.

Estimates of tree planting rates in Vietnam are inconsistent and rarely differentiate between industrial fast-growing tree plantations and natural regeneration.

For example:

In its December 1997 report to the Consultative Group of aid agencies, the Vietnamese government stated that forest cover was 30 per cent, up from 25 per cent in 1995 (Nguyen Le Thuy no date).

In December 2000, the Vietnam News Agency reported that the Minister for Agriculture and Rural Development, Le Huy Ngo, told the National Assembly that "Vietnam's -forest area had expanded by over 300,000 ha each year as a result of relentless efforts for forest protection and afforestation by local residents and administrations since 1995" (VNA 2000b).

In January 2001, Associated Press reported Le Sau, director of the National Institute of Forest Survey and Planning, as saying that: "Forests now cover 33.2% of Vietnam's land area, up from 28% five years ago, because of the fast recuperation of natural forests and government efforts to plant new trees" (AP 2001).

The Ministry of Agriculture and Rural Development (MARD) estimated in 2001 that there was an area of 500,000 hectares of concentrated plantations in Vietnam. However, the picture is not so optimistic as these statements appear. According to MARD, plantation managers face problems because of the limited market and low prices for their products (mostly eucalyptus, acacia and pine). Growth rates are low and harvesting is inefficient. Distances between logging and processing sites are often long and transportation costs account for the largest proportion of timber prices.

At the same time, MARD complains, there is excess cheap timber on the market which discourages farmers from investing time and money in growing trees (MARD 2001a). In its Forestry Sector Review, carried out in 2000, the Asian Development Bank (ADB) reports that "Very few of the plantations are economically viable" (MARD 2001a).

In spite of the area of plantations established in Vietnam, the country relies on imports of pulp and paper. North Vietnam started paper imports in 1960 when it imported 16,000 tons. By 1971, imports accounted for 27,500 tons, or about 75 per cent of consumption. Most imports came from the Soviet Union (Jerve et al 1999: 48). Pulp and Paper International reports that in 2000, Vietnam's paper producers met demand for newsprint, writing and printing paper and some low quality grade, but the country imported "large quantities" of kraftliner, coated products and cement bag paper (Tran Doan An 2001). In 2001, Vietnam imported around 225,000 tons of paper a year and Vinapimex imports about 75,000 tons of pulp a year (Export America November 2001: 5).

The Saigon Times reported in August 2001, that each year the industry is short of 189,000 tons of pulp and recycled paper each year, and relies on imports to fill the gap. Domestic pulp and recycled paper prices are about three times world prices, a fact that the Saigon Times blames on Vietnam's small production capacity and "non-automated mills with the obsolete and decaying machinery" (Saigon Times 29 August 2001).

Meanwhile, according to industry forecasts, demand for paper in Vietnam is set to increase by more than 10 per cent each year. By 2010, demand is estimated at 1.25 million tons. Vinapimex estimates that US$3 billion needs to be invested in machinery and plantations over the next 10 years, "to bring the industry up to scratch" (Saigon Times 30 July 2001).

In September 2001, Vinapimex announced an ambitious plan to expand the pulp and paper industry in Vietnam. With a total cost of US$1.9 billion, the plan involves 16 new pulp and paper production projects and 693,000 hectares of plantations. If they were all built, the mills would increase Vinapimex's annual paper production capacity from the current 171,000 tons to 419,000 tons (VNA 2001c).

The proposed expanded pulp and paper sector is to produce 40 per cent printing and writing paper, 40 per cent industrial packaging, 10 per cent newsprint and the remainder "niche products" (VNA 2001c).

However, there are several important problems facing the plantation industry in Vietnam. Unless these problems are addressed, the proposed expansion of the pulp and paper industry will make little sense. The problems are likely to be passed on to farmers who lose their land to tree plantations. Some of the problems include:

Only low quality soils are available for plantations as better soils are used either for higher value crops or for growing food;
Growth rates achieved in plantations in Vietnam are much lower than those for Indonesia or Malaysia;
Population density is high, leaving little available land for plantations;
Available land is scattered, increasing the costs of harvesting and transport;
The climate in the north of Vietnam is not as good for fast-growing trees as in the south. In the south, however, most land suitable for plantation development is already in use;
Timber loss to animal damage, fire and "theft" is common;
Even areas that appear not to be in use are often either fallows or are used for grazing;
Labour costs are low, but productivity is also low and the costs of establishing and maintaining plantations are as expensive as elsewhere in the region;
Road infrastructure is poor; and
Port capacities limit the size of chip carriers that can be used.

In September 1998, Vietnam had more wood than the country's pulp processors could handle, according to an article in the Vietnam Economic Times. The article argues that the rate of planting trees is not being matched by an increase in pulp processing capacity. Suppliers are stockpiling their timber while they wait for the pulp producers to take their wood. Meanwhile, the industry is having to import pulp to keep the paper machines running, because the pulp sector is not producing enough. The article argues that MARD has boosted tree planting and wood production as well as increasing the capacities of paper producers, without increasing pulp production. The article concludes, "The biggest losers, as usual, are the farmers, who are either stockpiling or selling their wood at rock-bottom prices" (VET 1998).

In December 1999, the Hanoi-based newspaper Nhan Dan reported that farmers were selling their products as firewood in local markets rather than to the pulp and paper industry because of the lack of transportation and the "low economic value of these long-lasting trees" (Nhan Dan 1 December 1999).

The risks of tree growing are often passed on to farmers: "Plantation development, even if successful, can provide some income but cannot match agricultural land uses in immediate returns. In fact in some regions, an over-supply of plantation timber, for example, eucalyptus poles is causing a reduction in market prices to the point where farmers risk making a loss, rather than the profit anticipated and calculated into the cost/benefit analyses of many projects" (Carew-Reid et al 1999: 82).

Ngo Thi Minh Hang of the National University for Economics carried out a cost-benefit analysis of tree planting by smallholders. He concluded that smallholders "generally have difficulty borrowing money to set up their tree growing enterprise except at high interest rates from private lenders. They face difficulties in growing and selling trees, as they have little information on marketing or log prices. . . . Their bargaining power is very weak in choosing between a number of traders and they do not know if the benefits from the sales are equitably shared. . . . law enforcement is not very good and many logs are stolen. . . . In addition to these considerations, smallholders have to bear the risks of fires, theft, diseases, insects and strong winds" (Ngo Thi Minh Hang 1996: 53).

A 1996 report by the UNDP points out that "Farmers in general see tree growing as worthwhile but more risky than producing short-term crops" (UNDP and FAO 1996: 17) The report continues, "However, farmers can also incur real losses or opportunity costs with the conversion of barren lands to trees. This cost is more serious than it appears on the surface since the people who have been using these areas are generally the poorest. Including an opportunity cost for products foregone renders many of the planting activities economically unsound. This indicates that protection and natural regeneration should seriously be considered as an alternative forest management option for many of the barren land areas" (UNDP and FAO 1996: 17).

Diseases which attack fast-growing tree plantations present yet another problem for the industry, and for farmers planting trees. Serious fungal attacks have spread from southern Vietnam to central Vietnam in a range of eucalyptus species. Other diseases, including cankers, threaten plantations in Vietnam (UNDP and FAO 1996: 22). In 1996, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Australian Centre for International Agricultural Research (ACIAR) started a project aimed at reducing the impacts of disease on eucalyptus (Midgeley et al 1996: 6).

Given the problems that plantations and the pulp and paper industry face in Vietnam, it is sometimes difficult to understand why it attracts so much attention from international aid agencies and international companies. Occasionally, however, governments are open about their motivations. In 1991, Stothert Enterprises, a Canadian company, won a US$4.2 million three-year SIDA-funded contract to provide technical assistance to the Bai Bang mill. The Canadian government viewed this as a "foot in the door" of the lucrative world of development aid in Vietnam: "The Stothert case demonstrates how a company can establish a foothold in Vietnam through a multilateral-funded [sic] project, where payment to the firm is secure, thereby reducing the risk involved. As a result, this contract will allow Stothert to learn the 'rules of the game' in Vietnam and to pursue other opportunities in the country" (Canadian government no date).

2. VIETNAMESE GOVERNMENT PROGRAMMES SUPPORTING PLANTATION DEVELOPMENT

The Vietnamese government started its first plantation programme in 1956. However, in the last decade, government support to plantation development has accelerated, first through Programme 327 and, since 1998, through the Five Million Hectare Reforestation Programme (5MHRP).

This section looks at Programme 327 and the 5MHRP followed by a brief look at some of the laws the government has passed which benefit the development of industrial plantations.

- PROGRAMME 327: REGREENING VIETNAM?

On 15 September 1992, the then-Prime Minister, Vo Van Kiet, announced Programme 327 in Decision 327-CT. The Decision, entitled "On the policy of the use of open and barren hills, alluvium shores and water bodies", aimed to achieve the following:

regreening of the major part of the degraded hills,
utilisation of bare land in hilly areas, of coastal alluvial flats, and of water bodies for production of goods and supply of industrial raw materials,
fulfilling the programme for fixed cultivation and sedentarisation,
stabilising and gradually improving the material as well as the spiritual life of people in new economic zones and of people belonging to ethnic minorities,
creating incomes to the State and consolidating the national security (GOV 1992b).

Article 1 of Decision 327-CT encourages the establishment of projects on bare land and degraded hills "in order to use the land". Article 2 gives priority to "projects with quick return of funds", and aims for the promotion of a "close linkage between processing industries and the domestic as well as the international market". Article 10 emphasises international cooperation particularly involving funding from the private sector, and Article 11 encourages state enterprises, households, companies, and foreign joint ventures to invest in plantations on bare lands in new economic zones (GOV 1992b).

The targets for reforestation under Programme 327 were ambitious, with the government aiming to plant five million hectares in 10 years (Nguyen Cat Giao 1995: 26). The actual number of projects established is difficult to ascertain, however, as reports vary from 1,200 projects at a cost of US$60 million, (Nguyen Cat Giao 1995: 28), to 800 projects at a cost of US$50 million (Nam Binh 1994: 5) both in September 1994, to 426 projects at a cost of US$12 million, in June 1994 (VN 1994c: 1).

The areas planted, and the areas of forest land allocated for future planting are even more difficult to establish. MARD estimates that 638,500 hectares of tree plantations were established under the project between 1992 and 1998 (Salmi et al 1999: 7).

Programme 327's objectives changed as time went on. In 1993, the government abolished state funding of forest enterprises, leaving many state forest enterprises with a funding crisis (Doran and Vo Quy 1993: 3). Programme 327 provided a life-line through which forest enterprises could continue to receive state funding.

In 1995, the Prime Minister issued Decision Number 556 which amended Programme 327 by focussing the programme on protecting forest from shifting cultivation and replanting bare land and hills on land classified as protection forest or special use zones, especially in mountainous and midland areas (Fortech 1998: 4) (Salmi et al 1999: 7).

In 1996, the programme became the "National Program to Create and Protect Watershed Protection and Special-use Forest". "Regreening bare hills" was now to be the focus (Fortech 1998: 4). Plantations for production were removed from the programme (Salmi et al 1999: 7).

In May 1995, representatives of Vietnam's Ministry of Forestry visited Washington, in order to present programme 327 to the World Bank, hoping to attract Bank funding for the project.
They were unsuccessful, and by 1998, Programme 327 had cost the government approximately US$213 million (Salmi et al 1999: 19).

In 1998, the World Bank hired Australian forestry consultants Fortech to "describe, analyse and evaluate" Programme 327. Although official data reports that Programme 327 was largely successful, Fortech's report is very critical of the Programme and states: "In practice, the Government acknowledges that the area of natural forest in protected and production areas has decreased; forest plantation programs have mostly failed; and that rural development in mountainous communities has stalled. Plantations established under the Program do exist in the field but are generally poorly stocked and suffer low growth rates. Industrial plantations also exist but these are located in a few selected areas and only on good soils. The majority of land targeted for Program 327 funding is poor quality and degraded" (Fortech 1998: 11).

Among the problems listed by Fortech's consultant are a top down bureaucratic approach, land allocation that does not involve local people, poor silvicultural practices, the project was simply imposed on poor households without their input, and Vietnam has little land available for large scale tree plantations (Fortech 1998: iii).

Fortech's consultant points out that projects designed under Programme 327 allow villagers little opportunity to use land allocated for tree planting according to their knowledge of what would work best. The consultant comments that bureaucrats in Hanoi, who must approve the projects, "cannot possibly choose projects relevant to the constraints facing local people" (Fortech 1998: 12).

Although projects under Programme 327 did sometimes provide some benefits to households, it was only once the trees could be cut down. For example, if the project involves reforesting bare land households received a percentage (usually 50%) of the income when the trees are cut and sold (Fortech 1998: 6). However, while they wait for the trees to grow, villagers lose access to their land. One of the key reasons that plantations fail in Vietnam is due to damage from grazing animals – the land that appears to be simply "bare land" is in fact often already in use.

The problem is summed up by Fortech's consultant, Scott Poynton: "The Government sees land in 327 project areas as plentiful, bare and unproductive. Local households view it differently. For them, land is scarce. Households adjacent to bare land establish and defend use rights over the bare areas. They will use as much of it as they can to grow food. If the land is unable to support food crops, they'll try cash crops such as rubber, coffee, tea or fruit trees. If these fail, the land will be used for grazing as cattle or buffalo can return annual income. Trees are generally the last option tried by local people because of the long wait for income. It is not surprising that most 'fast growing' tree plantations in Vietnam suffer extensive grazing damage" (Fortech 1998: 15-16).

- FIVE MILLION HECTARE REFORESTATION PROGRAMME

Perhaps as a result of its failure to secure World Bank funding for Programme 327, the Vietnamese government proposed a new and bigger programme to replace it: the Five Million Hectare Reforestation Programme (5MHRP).

The programme was developed in a report entitled, "Strengthening of reforestation, re-greening of open land and bare hills as a way to reduce harvesting in natural forests" (MARD 2000). On 5 December 1997, the 10th National Assembly agreed the "Resolution On Establishment of Five Million Hectares of New Forest".

The Prime Minister announced Decision 661/QD-TTg on the Five Million Hectare Reforestation Programme on 29 July 1998. The government established a fund (known as Fund 661) to fund projects under the programme (MARD 2000).

Decision 661 outlines the following targets for the programme:

Efficiently protect the existing 9.3 million hectares of forest;
Create two million hectares of special use and protection forests, as watershed protection and to protect against wind, sand and waves. One million hectares of the total area is to be established through natural regeneration and one million through plantations;
Create three million hectares of production forest, of which two million hectares is to be plantations to provide raw material for paper, pit-props for mines, timber, and one million hectares of long-term industrial crops and fruit trees;
50 million trees per year to be planted around houses, offices, schools and along roads and dykes to provide fuelwood and material for domestic furniture (MARD 2000).

The programme's target is to increase the area of "forest" in the country to 14 million hectares by the year 2010. The target area – five million hectares – came from French maps of 1943 which indicate that 43 per cent of Vietnam was then forested, five million hectares more than official figures in the mid-1990s when the programme was first dreamed up. Of the five million hectares the government plans to designate one million hectares to plantations for pulp production.

According to Article 1 of Decision 661, the programme aims to:

Speed up forest plantation, re-green bare land, protect existing forests as well as new forests, and increase the forest cover to more than 40% of the country;
Create employment, increase rural incomes, develop production and ensure national defence and security; and
Create raw material areas and develop industries to process forest products (MARD 2000).

Article 2 states, "With regard to protection forest, priority investment should be given to the vital key protection regions, head waters, reservoirs, especially the headwaters of the hydropower projects, cities, coastal protective areas and areas with urgent need of ecological rehabilitation" (MARD 2001a).

Article 2 also states: "people are the driving force for establishment, protection, and regeneration of forests and are entitled to enjoy benefits from forest-related activities" and "the creation of new forests will be implemented in the form of a number of local projects designed in close cooperation with the local people" (MARD 2001a).

In December 1998, during the Consultative Group meeting in Paris, international aid agencies got involved when they agreed to form a partnership to support the 5MHRP (MARD 2000). A year later, in December 1999, a Memorandum of Agreement to form a formal Partnership was signed between MARD and the representatives of 15 aid agencies and NGOs: World Bank, ADB, FAO, World Food Programme, WWF, IUCN, UNDP, JICA and the governments of Finland, Sweden, Holland, Japan, Switzerland, Germany, Denmark.

The total planned investment up to 2010 is US$2.5 billion, of which US$1.4 billion is to come from international aid agencies (Fortech 1998: 19). In its first two years of existence the 5MHRP received US$70 million each year in official development assistance, 70 per cent of which was non-refundable aid (VNA 2001b).

A "Joint Partnership Steering Committee" was established consisting of representatives of the Vietnamese government and international aid agencies.

The Swedish International Development Agency (SIDA) is one of the agencies involved in the discussions with the government about the 5 Million Hectare Reforestation Programme. Rolf Samuelsson, First Secretary at the Swedish Embassy in Hanoi, described SIDA's attitude to the project: "We think it's perhaps a rather squarishly top down plan type of programme, political agenda and so forth. But as Sweden is very much encouraging partnerships and sector-wide programme approaches we think this programme, for all its constraints, is a good starting point for a dialogue with the government on forestry issues" (Samuelsson 2001).

Other agencies involved in the Joint Partnership Steering Committee include the Netherlands, Germany, FAO, UNDP, WWF and the World Bank. Some of these agencies are already involved in funding or are planning other reforestation projects in Vietnam. (See section on International Support, below.)

While the aid agencies and the Vietnamese government discuss the future funding of projects the government has started planting. In 1999, 206,000 hectares of "forests" were planted, out of a target of 310,000 hectares. The target for 2000 was for 403,000 hectares with a state budget of approximately US$25 million.

MARD has even attempted aerial seeding, dumping 7.5 tons of pine and acacia seeds in an area of 2,500 hectares in Lai Chau province (VNA 1999). This was not a one off event but part of a two-year project costing US$700,000 (Nhan Dan 28 June 1999).

In 2000, around 400 projects were implemented under the 5MHRP. however most of these were projects that had carried over from Programme 327. SFEs tend to prepare new projects that are in any case similar to those under Programme 327, partly because this is what they are used to, but partly because there are no clear guidelines, criteria or indicators for project implementation and monitoring under 5MHRP (MARD 2001a).

In April 2000, UNDP reported that most of the resources supporting the 5MHRP Task Forces had come from Germany and UNDP, through existing projects: REFAS and PROFOR (UNDP www 1). (See section on International Support, below.)

FAO provided US$287,000 for technical support for the 5MHRP between 2000 and 2001. The support aimed (among other things) to "improve the methodology used for evaluating forest land in Viet Nam with respect to its potential and its suitability for specific purposes of tree planting and natural forest regeneration" (FAO www 1). An agreement was signed by permanent Deputy Agriculture and Rural Development Minister, Nguyen Van Dang and FAO representative in Vietnam, Fernanda Guerrieri, on 7 December 2000.

The Partnership of aid agencies, NGOs and the Vietnamese government established three Task Forces to investigate the proposed 5MHRP and to come up with recommendations. The Task Forces had the following tasks:
I: Clarification of the 5MHRP;
II: Forest Policy, Strategy, Institutions; and
III: Forest Sector Investment, Assistance Needs, Financing Strategy and Partnership Support Structure (UNDP www 1).

At the end of this study phase of the 5MHRP, WWF and the World Bank, through their "Forest Alliance", contributed US$10,000, "for the Partnership to build on the study results in the 2nd phase of the Partnership" (WWF 2001).

In April 2000, UNDP Vietnam stated on its web-site "At present, the participation of the Vietnamese side in the Partnership process does not yet fully reflect the importance of the 5MHRP for the sector. Meetings and work in the Task Forces appears to be driven mostly from the donor side and not be well linked to the on-going 5MHRP implementation process" (UNDP www 1).

In April and May 2001, a Joint Formulation Team (one international consultant and three Vietnamese consultants) produced a Forestry Sector Support Framework. The co-chairman of the Partnership Steering Committee is Wijnand van Ijssel, First Secretary at the Netherlands' Embassy in Hanoi. In mid-November 2001, the Minister of Agriculture and Rural Development and heads of international aid agencies signed a revised MoA. The name of the 5MHRP Partnership changed to the Forest Sector Support Program and Partnership (FSSP&P) and now covers the entire forestry sector (UNDP www 2).

The international aid agencies backing the 5MHRP appear to be using the programme to encourage further privatisation in Vietnam. For example, "If the Government wants to achieve similar development results in forestry as have been realized in the agricultural sector, however, it needs to provide the necessary framework conditions. These conditions would include reducing government's productive activities and leaving enough room and freedom for the private sector to develop" (MARD 2001a).

Under 5MHRP the government only funds protection "forests" leaving commercial plantations and other production forests to the private sector. So far there have been way more protection projects established than commercial plantations under the project. "In the list presented by the Ministry of Agriculture and Rural Development in late 1999, 483 domestic projects in the National Five Million Hectare Reforestation Programme belong to the categories 'protection forestry projects' (364) and 'production forestry projects' (119)" (Vu Hoai Minh et al 2000: 17).

The five million hectare programme is not only aimed at increasing the area of industrial tree plantations. It also states that "land allocation must be conducted openly and democratically" (MARD 2000). However, the projects under the programme must ultimately be approved by the MARD, meaning that the projects must fit in with the bureaucratic requirements of Hanoi-based officials. There is a danger that local people's knowledge and skills will be excluded from the design of the projects.

A report produced for MARD in 2001 under the 5MHRP, states that shifting cultivation provides the main source of food for many people in Vietnam and also plays an important role in natural regeneration and the conservation of biodiversity. "More often than not, forest clearance is the result of spontaneous migration, which leads to the loss of parts of 'resident' shifting cultivators' fallow land." Further, over the last twenty years, few shifting cultivators have actually abandoned their shifting agriculture. MARD's report concludes, "the assumption that ethnic minorities are principally responsible for forest clearance would be a misleading one within the framework of the 5MHRP initiatives" (MARD 2001a).

Yet, Le Sau, the director of the National Institute of Forest Survey and Planning was reported in 2001, to have stated that in addition to defoliation by American forces during the war, ethnic minority groups practising "slash and burn" agriculture destroyed forested areas (AP 2001). When government officials carry out land allocation and land use planning in indigenous peoples' areas attitudes such as Le Sau's can predominate. To many government officials fallows are simply "unused lands". Local people thus lose part of their farmland when it is targetted for reforestation. If fallow areas are planted with trees, farmers have no choice when the time comes to re-use the land, other than to clear another area for their crops, or to cut down the planted trees. Further, current tenure regulations do not permit joint ownership by communities. Common land is therefore at risk of being privatised through the land allocation programme.

The 5MHRP provides a new source of funding for State Forest Enterprises. Since 1993, SFEs have not received yearly management fees but have to compete to receive state funds for forestry projects. For SFEs with little land available for plantations, the 5MHRP provides an incentive to clear forest and apply for funding to set up plantations.

In addition, a report prepared for the 5MHRP in December 2000 points out that there are no safeguards within the programme to prevent planting up of land that is not naturally forested, such as grasslands and mudflats

(MARD 2000).

Many provinces have classified their "forests" with a view to securing state funding. Thus what was once production forest becomes protection forest simply in order to be eligible for funding from reforestation programmes (MARD 2001a).

The problem is summarised in a report produced for the MARD in February 2001: "Due to the shortage of financial, technical and human resources, as well as the failure to initiate enterprise reform, SFEs have largely become incapable of effective forest management, surviving instead on commissions generated through national programs" (MARD 2001a).

A further problems occurs in reporting on projects funded through 5MHRP. Because SFEs are dependent on future funding through 5MHRP there is little incentive to report accurately the success (or failure) rates of projects under the programme. A report produced in February 2001, for MARD, states that "The 5MHRP's lack of concrete objectives, criteria and indicators has mostly prevented transparent decision-making, monitoring and evaluation. Without increased possibilities for verification, provinces have to resort to the political process (and political patronism) to ensure access to Program funding. In the process, the rationale and feasibility of sub-projects becomes of secondary importance" (MARD 2001a).

The same report states, "on the one hand exotic monoculture tree plantations are often unsuited to local conditions, become vulnerable to fire, pests and diseases, and undermine the potential for biodiversity protection or rehabilitation; and on the other hand, exotic species tend to crowd out slower growing local species, as has been observed in many field sites" (MARD 2001a).

The report recommends a further study into promotion of commercial plantations: "A more thorough analysis is needed to justify the big investment in commercial plantations implied in the 5MHRP. Basically, the study should answer the question: 'Under what conditions (soil, market, infrastructure) is it feasible to invest in commercial plantations?' This study would be dynamic, and take into account available areas and their soil and climatic conditions, transport infrastructure, demand and supply situation of wood and forest products within and outside Vietnam, existing and planned processing units, market prices, production potentials under different conditions and silvicultural treatment, and production costs and returns. This study may give a basis for a national policy on commercial forest plantations and forest industry development" (MARD 2001a).

The 5MHRP includes very ambitious proposals for increasing the area of commercial plantations. Yet, more than two years into the programme, there was apparently no study of what these plantations are for. Even more alarming is that Vietnam's policy makers, and their international advisors and funders, show little interest in studying the impacts of commercial plantations on local people, their livelihoods and their environment.

- LAND LAW

Vietnam's land policy reforms began in 1981 and started by de-collectivising land ownership. This was followed in 1988 by resolution 10 NW.TW which allowed households long term land use rights (Carew-Reid et al 1999: 66).

In July 1993, the Vietnamese government introduced a new Land Law which clarified the allocation of land to families started under the 1988 resolution. Under this law, land could be allocated for 20 years for agricultural crops, and up to 50 years for forestry (Ton Gia Huyen 1995: 14). Land allocations for forestry are renewable (Salmi et al 1999: 17.18).

Since 1993, land use rights can be allocated to individuals, households and organisations (either state-owned or private). State forest enterprises can receive longer than 50 years rights to forest land but foreign companies or

individuals are not allowed to receive land use rights (Salmi et al 1999: 17-18).

The 1993 Land Law was drafted with the support of the World Bank's legal department (Chossudovsky 1994: 19). During the early 1990s, the Bank carried out a land use research project in Vietnam, under the leadership of Gary Budgen, an international property law partner with Australian law firm, Mallisons Stephen Jacques. His role involved drafting policy on land use and establishing a registration system to assist the government in dealing with foreign investors (Vietnam Today 1994 Vol. 2 No. 3: 8).

The 1993 Land Law allows provincial authorities to determine land use and allows them to allocate or confiscate land accordingly. Such powers, accompanied by provincial government and forest enterprise needs to generate their own funding, have led to an increase in commercial crops, including industrial tree crops, often at the expense of subsistence economies of village communities (Houghton 1996: 39). For example, in Song Be province, one of the most popular provinces with foreign investors, investment in plantation projects has occupied large tracts of land, eroded farmers' land rights and turned farmers into permanent tenants rather than landowners (Ratcliffe 1994: 2).

In 1998, the government announced amendments to the Land Law, which divided land into six categories: forest land, agricultural land, rural residential land, urban land, special land and unused land. Forest land was divided into forested land and non-forested land planned for reforestation. The 1998 Land Law makes a distinction between "plantation forest" and "natural forest" (MARD 2001a).

The 1998 Land law amendment allows organisations, but not individuals, to use the value of timber growing on allocated forest land for mortgages. Organisations can also use the land as capital contribution for forestry joint venture projects (Salmi et al 1999: 17-18).

In November 2001, the government passed yet another revision to the land law, this time allowing foreign banks to take land use rights as collateral for loans and attempting to help set up a land market (Mekong Sources 26 November - 1 December 2001).

While land allocation has helped to improve the situation for many farmers, and contributed to a boom in rice production in Vietnam, the allocation of forest land is not straightforward. By the end of 1999, rights had been allocated to 86 per cent of crop land but only 9.8 per cent of forest land (Carew-Reid et al 1999: 66). The current land allocation process is meaningless to farmers practising swidden agriculture as they can only claim ownership to land that is currently in use. Common land rights are also not recognised under the Land Law.

The land law has important implications for plantation development. A 1999 report produced for PROFOR Vietnam illustrates the point: "Clear and secure land use rights are essential for forestry development . . . Everywhere in the world forestry, with special reference to forest plantations, has proven to be successful only where tree tenure (and more preferably, land tenure) has been legally and clearly provided" (Salmi et al 1999: 17-18).

Phan Huu Thang, of the Ministry for Planning and Investment, also confirms the importance of land allocation for plantation development: "Land allocation is proceeding but is slow and documentation for land tenure is necessary prior to any forest plantation activity. The cost of land allocation is high and this reduces the amount of funding available for plantation establishment" (Phan Huu Thang 1996: 35).

- OTHER LAWS AND INCENTIVES

Forestry and plantation activities are taxed at various points of the operation: resource tax, agricultural land use tax, land rental, export/import tax, value-added tax and enterprise income tax. However, there is also a wide range of tax reductions and exemptions for forestry. The forest and plantation industry is often substantially

protected through the import/export tax structure.

The Vietnamese government offers a number of incentives to the plantation industry, including:

longer land leases for plantations than for other activities;
exemptions from land rent for the first five years; and
a 50 per cent reduction of land rent for the following five years.

However, the industry is lobbying the government for further subsidies, such as:

revenue tax breaks of at least 50 per cent during the first five years;
exemptions from import taxes on equipment, machinery and vehicles for plantation and processing activities; and
low interest and long term loans (WRM 1998).

The Vietnamese government currently taxes export of woodchips. A report for the 5MHRP states that "export taxes on products in which Vietnam has a competitive advantage, such as woodchips, need to be removed" (MARD 2001a).

In January 1999, the government passed a value added tax (VAT) Law which included a zero rate for unprocessed forest products from plantations (Salmi et al 1999: 35).

In May 1997, Vinapimex had more than 15,000 tons of paper unsold because of competition from cheap imports. Later in the year, the government imposed restrictions on importing paper that could be made locally, in order to support the domestic industry (Reuters 30 June 1998).

Vietnam may in the future have to remove such tariff barriers on timber products in order to comply with Asian Free Trade Area regulations. When this happens, lower priced imports will threaten inefficient domestic production – leading either to closures or improved efficiency (cheaper production). Vietnam's plantations will be in direct competition with Australia, Indonesia and New Zealand. MARD predicts that the raw material timber market in the Pacific Rim could be flooded with low-priced wood within five years (MARD 2001a).

In March 1999, after a meeting with foreign investors, the government passed Decree 53 which provides more incentives for foreign investors in Vietnam. The incentives include:

cheaper electricity;
no VAT to be charged on imports that foreign companies need to manufacture goods that are to be exported;
tax on companies transferring profits abroad reduced to five per cent; and
companies that export more than 80 per cent of their products are exempt from land rent (Salmi et al 1999: 32).

These incentives, particularly the last one, are clearly of benefit to wood chip operations in Vietnam which export their products mainly to Japan and Taiwan. The incentives also have the effect of favouring international companies' over local companies in developing the pulp and paper industry in Vietnam.

On 22 July 1992, two months before he announced Programme 327, Vo Van Kiet announced Decision 264-CT. Entitled "On policies encouraging the investment for forestry development", this law allows the state to hand out credits at preferential interest rates (30-50 per cent of the market rate) for short rotation plantations supplying raw material for pulp and paper. Repayment of the loans is only at the end of the production cycle and the interest is simple rather than compound (GOV 1992a).

In October 1999, the government announced another decision providing cheap loans to the plantation industry:

Decision of the Prime Minister No. 211/1999/QD/TTg. Under this decision, the interest rate for loans to establish industrial forest plantations is 0.81 per cent per month. Interest is charged at simple not compound rates and principal and interest is only due when the timber is cut. The loans can be made to individuals, households and forest owning institutions (Salmi et al 1999: 24). The interest rate under this decision is the same as the interest rate charged by the Vietnam Bank for the Poor in mountainous and remote areas – the plantation industry and the poor are treated as equally in need of cheap loans.

3. INTERNATIONAL SUPPORT

International aid agencies are playing an increasing role in establishing plantations in Vietnam. For example, in 1998, forestry consultants Fortech reported that 38,600 hectares of production plantations were to be planted that year with funding from World Food Programme, Sida, Germany's KfW, ADB, World Bank, European Commission and other government aid programmes (Fortech 1998: 8).

However, as Fortech's consultant points out, in spite of a "long history of donor support, there are few plantations in the field – either Government or donor supported – that have survived to full rotation age" (Fortech 1998: 8).

A review of aid to the environmental sector in Vietnam carried out in 1999 points out that "Not all environment ODA necessarily helps the environment" and adds that the environmental implication of many projects have yet to be assessed, and "may produce unwanted side effects" (Carew-Reid et al 1999: 80).

The authors of the report point out that "Tree planting and forest conservation are not necessarily linked in the straightforward and simple way that many policy-makers believe. Focussing on plantation development, therefore, fails to recognise and treat the real causes of natural forest loss" (Carew-Reid et al 1999: 81).

This section looks at some of the international support to the forest sector in Vietnam, particularly focussing on plantation development.

- TROPICAL FORESTRY ACTION PLAN (TFAP)

The World Bank, FAO, UNDP and World Resources Institute dreamed up the Tropical Forestry Action in 1985. Over the next ten years, TFAP studies were produced in 89 countries.

Vietnam's TFAP process started following a visit in November 1988 by Chuck Lankester (then of UNDP, and later to become infamous as Executive Agent at the Mekong Secretariat in Bangkok), and R.D.H. Lowe (of the World Bank). By the time Vietnam's TFAP was produced in December 1991, the TFAP was coming under increasing criticism internationally.

A wide range of NGOs, environmentalist and local community organisations opposed TFAP when the first TFAP reports appeared. Many of the criticisms were compiled by the World Rainforest Movement (1992) and can be summarised in the Vietnamese context as follows:

The TFAP was top down and dominated by international consultants. All the technical reports for Vietnam's TFAP were written by international consultants;

Consultants paid little attention to the 54 different ethnic minority groups, in Vietnam, many practising forms of shifting agriculture differing depending on climate, aspect, culture, tradition, and soil fertility;

The TFAP encouraged investment in commercial forestry, even in countries where almost all the natural forest has been cleared. In Vietnam, one of the TFAP's consultants, Keith Gray argued that an expanded pulp and paper industry was necessary to absorb the raw materials produced by the government's reforestation

plan;

The TFAP fails to address the root causes of deforestation, assuming that deforestation is caused by the rural poor and not by logging, for example;

There is a total failure within TFAP to criticise or even discuss the impact of large scale development projects on forests and on the people living in or near the forests. For example, the TFAPs prepared for Laos, Thailand and Vietnam all failed to investigate the impact of proposed hydropower schemes on people and forests in the region;

International consultants have a vested interest in not criticising either the TFAP or the forestry practices of the country under study. One of the results of the TFAP process is a series of proposed projects, all of which require international consultants, and there are good career opportunities available for the consultant who is prepared to toe the line;

The TFAP has failed to reduce the rate of deforestation. (See Lang 1996a for a more detailed critique of the TFAP process in Vietnam.)

One result of the TFAP process in Vietnam was a "shopping list" of 34 projects, including a review of the pulp and paper sector (US$140,000), industrial plantations development (US$25 million), and identification of sites for industrial plantations (US$150,000). Projects that actually took place include a three year capacity building programme for national forestry planning, funded by Sweden, and the reorganization of the Ministry of Forestry, funded by Germany (FAO 1995: 212). However, out of a total of almost US$200 million requested for investment or aid in the forestry sector, very little was actually committed.

TFAP's influence, rather than in terms of numbers of projects, is better understood as a "foot in the door" of Vietnam's forestry sector for a number of international institutions and consultants. According to the World Bank, the Vietnam government's Programme 327 was a result of Vietnam's TFAP (World Bank 1995: 4).

- FOOD AND AGRICULTURE ORGANISATION (FAO)

FAO was one of the organisations which set up the Tropical Forestry Action Plan in Vietnam (see above). In 1995, an Italian government-funded project started, entitled Country Capacity Strengthening for National Forestry Action Plan Implementation in Vietnam. The US$600,000 project was carried out by FAO (Salmi et al 1999: 120).

FAO is part of the Forest Sector Support Programme under the five million hectare reforestation programme (see above).

In December 1993, a FAO project, titled "Strengthening Re-afforestation Programmes in Asia" (STRAP) started, with US$1,046,340 from the Japanese Government. The project covered Vietnam, Laos, Burma and Bhutan and ended in November 1996. According to FAO's final evaluation mission of the project, "Project activities concentrated on awareness raising of the need for accelerated plantation re-afforestation at national and provincial government levels" (FAO 1996b).

FAO also reports that in Vietnam under the STRAP project, "a widely publicized and well attended industrial plantation workshop . . . led to a major international pulpwood plantation investment" (FAO 1996b). The meeting was held in Pleiku in Gia Lai province in January 1996, however, in reply to my question about the plantation investment, Jim Carle, Senior Forest Officer at FAO in Rome said, "FAO does not have access to the individual country forest plantation development data that may have resulted indirectly as an output outcome by secondary beneficiaries of the project" (Carle 2002).

- PROFOR

The UNDP Programme on Forests (PROFOR) aims "at enhancing the implementation of the IPF Proposals for Action" and puts particular emphasis on public and private partnerships. PROFOR works in Cameroon, Costa Rica, Guyana, Malawi and Vietnam (Salmi et al 1999: 12).

In Vietnam, PROFOR started working in 1998 with Orgut acting as consultant. PROFOR has three components:

"Identifying strategies for sustainable forest management;
Strengthening National Forest Programmes and Forest Partnership Agreement as instruments to promote sustainable forest management;
Developing innovative financing for sustainable forest management" (Orgut 1999).

PROFOR helped prepare programme documents for 5MHRP and its field activities have a "close association" with projects of the 5MHRP (Orgut 1999). PROFOR has established four pilot sites in Vietnam.

A 1999 report produced for PROFOR, entitled, "Study on Financing Strategy for Sustainable Forest Management in Vietnam", states that, "investments (and respective financing needs) in the forestry sector can be divided in two broad categories: (i) investments in productive forestry which should be strictly profitable, and (ii) investments in protective and conservation forestry which need to be subsidised by the state/society at least until adequate means for income generation e.g. from tourism or sales of carbon sequestration or biodiversity services and be put in place" (Salmi et al 1999: 10). In dividing forestry investments in such a way, PROFOR completely excludes existing community level management of forests, as if no one in Vietnam (including local people) had thought of managing forests "sustainably" until PROFOR's experts came along.

PROFOR's promotion of "public private partnerships" appears little more than an attempt to get public subsidies for private companies. In their 1999 report, PROFOR's consultants state that an "adequate volume of state subsidies to private forestry should be secured to compensate private investors for public services (soil and water conservation, etc.) provided by forest investments" (Salmi et al 1999: 41). The same report also states: "There is a need to develop stable and favourable investment climate allowing foreign investors to own and operate companies in forest sector" (Salmi et al 1999: 62).

In sharp contrast to their position on subsidising companies, PROFOR's consultants do not recommend giving subsidies to villagers, but ask instead: "Why should the government pay for the labour of the farmers when they plant trees on their own land?" The consultants argue that farmers can do the work of clearing trees, bushes and scrub and then digging holes and planting trees outside the agricultural cycle, when "the farmers are in reality underemployed" (Salmi et al 1999: 78). In other words, according to PROFOR's consultants, it's fine for the government to pay companies to plant trees, but not to pay farmers, who are anyway sitting around with nothing better to do.

- WORLD FOOD PROGRAMME

The World Food Programme (WFP) supported a plantation programme in Vietnam between 1992 and 1995, during which time 126,000 hectares of plantations were established, mainly of fast-growing exotic tree species. The project aimed to increase "forest cover" on denuded lands for production of fuelwood and small timber poles as well as encouraging soil conservation and sand dune stabilisation to protect farmers fields and villagers (Salmi et al 1999: 122).

Between 1997 and 2001, WFP aimed to plant a further 51,000 hectares (Salmi et al 1999: 20-21). The project cost is US$15.8 million and the plantations are to be in the north west of the country (Salmi et al 1999: 54). Farmers received 500 kilogrammes of rice for every hectare of plantation they establish (Salmi et al 1999: 115).

A 1999 review of aid to the environment sector in Vietnam stated in reference to WFP's project: "While the plantations undoubtedly exist, it is impossible to comment on the programme's economic, social or environmental impacts as there has never been a formal evaluation of any of WFP's projects" (Carew-Reid et al 1999: 83).

- EUROPEAN UNION

The EU is funding a US$23 million social forestry and nature conservation in Nghe An province. In addition to supporting agroforestry initiatives and a nature reserve management plan, the project is to establish a plantation in the buffer zone of the Pumat nature reserve.

- WORLD BANK

The World Bank and the Netherlands government are funding a US$33 million project entitled "Forest development and rural development". The project is to run for five years and started in 1998. Project activities include community development planning, forest management, land allocation, rural infrastructure and agriculture support service. The project works in Dac Lac, Kontum, Binh Phuoc, Dong Nai and Lam Dong provinces.

The World Bank also has a project entitled Northern Mountains Poverty Reduction. The US$100 million project aims to reduce poverty through environmentally sustainable improvement to agricultural production, construction of small-scale rural infrastructure, and improving access to education, health and nutrition (World Bank 2000).

The Bank also has a US$75 million "Barren Hills Afforestation" project. The project aims to "reforest degraded barren hill areas suitable for forestry", improve food security of the rural poor and protect remaining natural forests (World Bank 2000).

- ASIAN DEVELOPMENT BANK

The Asian Development Bank resumed lending to Vietnam on 22 October 1993 (ADB 1994: 5).

In April 1997, the ADB announced a US$33 million interest free loan aimed at reforesting three mountain watersheds. The watersheds feed the Chu River in Thanh Hoa province in the north, the Truc Kinh Reservoir in Quang Tri province in central Vietnam and the Ba River in the Central Highlands provinces of Gia Lai and Phu Yen.

The German consulting firm GFA Terra Systems won a contract worth US$4.8 million to carry out the project (GFA www 1).

The project area covers around 114,000 hectares, which the consultants GFA Terra Systems describe as "barren lands" (GFA www 1). One of the aims of the project is to reduce slash and burn cultivation. The project is planned to be completed in December 2003. The total project cost is US$53.2 million. ADB funds 62 per cent with the remainder coming from the Netherlands and "the beneficiaries, who will contribute 15 per cent through their labor". The project is expected to increase output of fuelwood, timber and agroforestry products (ENS 1997).

GFA Terra Systems describe the project targets as follows:

forestation of 45,000 hectares bare lands;
enrichment planting of 2,000 hectares using indigenous species;
forestation of 12,000 ha with fast-growing species;
agroforestry development with the use of such crops as coffee, cashew, cinnamon on approximately 9,000 hectares; and
pasture improvement on about 12,000 hectares (GFA www 1).

Between April and December 2000, the Asian Development Bank carried out a Technical Assistance titled, "Study on the Policy and Institutional Framework for Forest Resources Management". Among the team's goals was to "assess capacity building needs to implement the National Reforestation Program efficiently" (MARD 2001a).

- SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

On occasion, Sida is remarkably clear about the benefits of its aid. In 1998, Sida produced a brochure celebrating 30 years involvement in Vietnam. One of the articles, titled "Swedish cooperation with Vietnam a win-win deal" starts with the statement:

> "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" (Sida 1998: 24).

Goran Ehren, ABB's representative in Vietnam confirms the importance of Sida to his company: "The Sida-supported project [Bai Bang] definitely opened the doors for ABB and we have become well-known to the ministries" (Sida 1998: 24).

Sweden has been working on forestry projects in Vietnam since the beginning of the 1970s with its involvement in the Bai Bang pulp and paper mill. Sida is among the agencies funding the expansion of the Bai Bang mill. (See section on Bai Bang, below.)

Sweden and Sida's involvement has gradually developed from production-orientated forestry to rural development focussed projects. Between 1991-1995, the Vietnam-Sweden Forestry Cooperation Programme, for example, included credit schemes and livestock management (Carew-Reid et al 1999: 95).

Sida's most recent project is the Mountain Rural Development Programme (MRDP) in Ha Giang, Lao Cai, Yen Bai, Tuyen Quang and Phu Tho provinces in the north of Vietnam. The US$18.1 million project includes the following components: participatory land use planning, land allocation and community forest management; extension and research; market information and business development; rural finance service; human resource development; organisational development; and gender balanced development (Salmi et al 1999: 118).

The consultant for the project is SCC Natur. The programme was due to be completed in 2000, but was extended until the end of 2001 (Samuelsson 2000).

The project provides each village with a credit fund and sets up savings and credit groups. Loans can be used for whatever the borrowers want, but priority is given to loans for agriculture and forestry purposes. Farmers are provided with free seedlings and fertiliser, extension service, forest land allocation and credit for plantations (Salmi et al 1999: 119).

As well as rural development in mountain areas, the project also aims to provide policy support to MARD. Swedish aid officials enjoy close professional relationships with forestry officials in Vietnam, at least partly because of Sweden's long term involvement in Vietnam. Part of the MRDP's policy support activities include funding the International Support Group (ISG) in MARD's International Cooperation Department (Carew-Reid et al 1999: 95). The ISG holds a plenary meeting every year "to serve as an open forum between the donor community, international organisations involved in the agriculture and rural development activities and Vietnamese management agencies" (MARD 2001b).

In April 2000, Sida was reported to be carrying out an evaluation of its work in Vietnam over the last ten years (Samuelsson 2000).

- GERMANY

The German government is involved in funding four projects aimed at reforesting areas of Vietnam. The consultant on all these projects is GFA Terra Systems. Although the focus of the projects is aimed at encouraging local people to plant trees, rather than establishing large scale industrial plantations, some of the projects include components for fast-growing tree species and "encouraging forest plantations".

In addition, GTZ is funded a project entitled Support to the Reform of the Forest Administration System (REFAS). Dorothea Hill of GTZ's office in Vietnam states that GTZ is currently not funding any projects relating to plantations.

The German-funded Social Forestry Development Project (SFDP) in Song Da Watershed aims to improve "the living conditions of the local population in the Song Da region . . . by applying ecologically and economically sustainable land use systems" (Carew-Reid et al 1999: 85). The US$4.5 million, 12-year project started in 1993 and is currently in a hand-over phase. The project has become part of a Debt for Nature swap signed by the governments of Germany and Vietnam in 1996. Under the agreement, Germany will agree to cancel part of Vietnam's debt in return for environmental projects carried out in Vietnam. One of the five projects under the agreement is the reforestation of the Da watershed (Carew-Reid et al 1999: 191).

The SFDP has developed assisted natural forest generation techniques, both with and without farmers' involvement (Carew-Reid et al 1999: 85). The project focusses on the conservation of the natural resources and the improvement of living conditions of the local population (Salmi et al 1999: 123). The project is funded through Germany's technical cooperation agency, GTZ (Gesellschaft fuer Zusammenarbeit) (GFA www 2).

Germany's Bank for Reconstruction, KfW (Kreditanstalt fuer Wiederaufbau), has funded three reforestation projects in Vietnam and is planning two further projects.

The first KfW-funded afforestation project in Vietnam was in Lang Son and Bac Giang provinces and started in November 1995 (Kirchhoff et al no date). The project ran until 1999 and aimed to plant 12,000 hectares of "new forests".

The second KfW-funded project started in 1997. The Afforestation in Ha Tinh, Quang Binh and Quang Tri Provinces project aims to provide financial support to farmers (through savings accounts) for tree planting and tending (GFA www 3). According to a report in the Vietnamese newspaper Nhan Dan in August 1999, the project aims at planting 21,000 hectares of forest land with pine trees for glue and resin and other native trees. However, eucalyptus and acacia seedlings account for approximately one third of seedlings produced in four project nurseries to be planted by farmers (Nhan Dan 11 August 1999).

Another KfW-funded project is titled Afforestation in Bac Giang, Quang Ninh and Lang Son Provinces. The project aims to reforest about 13,500 hectares of land, and introduce sustainable forest management. The reforestation is to be carried out by local people (GFA www 4) from 29 communes (Kirchhoff et al no date).

The five year project started in 1999. Activities of the project include: participatory land use planning at village level; training local extension workers; providing households with seeds and other inputs for plantations; promoting "forest plantation"; and providing finance to farm households for afforestation (Salmi et al 1999: 117).

Under the project, farmers receive a maximum of four hectares: two hectares for afforestation and/or two hectares for natural regeneration. When farmers plant trees and tend natural regeneration, they receive credits into a savings account created in their name. The savings account receives interest. Farmers are allowed to withdraw certain amounts of money from their accounts at certain times providing the planted trees or regenerated forest meet the criteria for quality laid down by the project (Kirchhoff et al no date).

- FINLAND

The Vietnam-Finland Forestry Sector Cooperation Programme aims to introduce and disseminate sustainable forest management as an alternative to shifting cultivation. Project activities include community development, reviewing the land allocation status at commune level, and capacity building. Phase 1 of the project started in 1996. Phase 2 started in 1999 and will run until 2003. The total project budget is US$5.7 million. Enso Consulting is acting as consultant on the project. (See report on Thailand.)

The Finnish government is also funding a micro-credit project, the Vietnam-Finland Credit Scheme for Sustainable Multi-purpose Farm Forestry, in Bac Kan province. The project started in August 1997, and aims to provide cheap credit to farmers in Cho Don district who have been allocated forest land. The credit can be used for agroforestry, tree planting, fruit trees, non-timber forest products development or other purposes providing they do not destroy forest (Salmi et al 1999: 109).

- AUSTRALIA

Australia is funding a "carbon sink" project in Vietnam, through the government's International Greenhouse Partnerships (IGP) Programme. (See Lang 2001 for a more detailed critique of this project.) Launched in May 1998, and working from within the Department of Industry, Science and Resources, the IGP Programme aims "to reduce greenhouse gas emissions through projects overseas" that will in future be considered as carbon off-set projects under the Kyoto protocol (IGP www 1).

The US$242,000 IGP project in Vietnam aims to establish fast-growing tree plantations. The project is to be carried out by the Commonwealth Scientific and Industrial Research Organization (CSIRO) with the Research Centre for Forest Tree Improvement of Vietnam. According to Nick Minchin the Australian Minister for Industry, Science and Resources, CSIRO "will increase the carbon dioxide uptake of planted forests [sic] in Vietnam through the use of genetically improved planting stock" (Minchin 2001).

CSIRO will supply acacia and eucalyptus seeds and will establish four seedling orchards, each covering five hectares, two in Quang Tri province in central Vietnam and two in Binh Thuan province in the south.

Seedlings from these orchards will be planted over a total area of 8,250 hectares on a range of sites in Vietnam (IGP 2001).

CSIRO estimates that the plantations will remove "an extra 21,500 tonnes of CO2" from the atmosphere per year compared to other tree plantations. The calculation is based on a 15 per cent increase in volume growth, which CSIRO expects from using improved tree seeds (IGP 2001).

CSIRO also anticipates developing predictive models for "other major plantation species", and argues that "such a capability will assist in the successful growth of plantations, enabling higher yields from the forests [sic] planted and greater carbon sequestration in the longer term" (IGP 2001) Even assuming plantations are useful in absorbing carbon dioxide, the logic is flawed – higher yield plantations make no difference if the trees are cut after five years to produce short-lived commodities like woodchips, pulp and paper. Similarly, if local communities decide to cut down the trees for their own use or in order to return the land to its previous use, any carbon absorption would be lost.

Australia funded another project in Vietnam, in the Long Xuyen Quadrangle, near the border with Cambodia in the Mekong delta. The project started in 1991. In order to avoid breaching the US-led trade and aid embargo with Vietnam, Australia funded the project through the UN-backed Mekong Secretariat, then based in Bangkok. The project aimed to investigate the potential of reforesting 70,000 hectares of seasonally flooded acid sulphate soils.

Initially, the project planned to plant eucalyptus "for commercial wood production" and melaleuca "to address environmental issues" (Mekong Secretariat 1991: 105). The project established research trials including eucalyptus, acacia and melaleuca working with local communities (Carew-Reid et al 1999: 97). Villagers were employed to help establish the trial plantations, improving the popularity of the project locally.

The three year project was extended by two years and finished in 1996. According to Scott Poynton, an Australian forester who worked on the project, by 1996 "successful models had been developed that were environmentally, socially, technically and economically appropriate to the Quadrangle's unique inundating acid sulphate soils environment" (Carew-Reid et al 1999: 97). However, since 1996, nothing more has happened and many of the trial plantations established have been cut down. Poynton gives several reasons for this failure to follow up the project: "The project was located in the deep Delta region, far removed from the main action in Ha Noi, and remote from where people normally think of when they consider Vietnam's urgent forestry issues. . . . few people in MARD actually new about the project at the time and even fewer would recall it now. . . . Donors failed to catch on to the exciting work of the project. Perhaps its outputs – a model – were too scanty for meaningful advertising" (Carew-Reid et al 1999: 97).

- NETHERLANDS

The Dutch government part-funded an ADB-Vietnam Forestry Sector Project which started in 1998. The project aims to carry out reforestation and natural forest regeneration, allocation of forest land to households and making forest protection agreements, agroforestry, improving agricultural production and income generation on non-forest land and improving village infrastructure. The project works in 50 communes in Gia Lai, Phu Yen, Quang Tri and Thanh Hoa provinces (Salmi et al 1999: 114).

The Netherlands has taken a lead role in negotiations among international aid agencies on the Five Million Hectare Reforestation Programme.

- JAPAN

In 1997, the Japan International Cooperation Agency (JICA) granted equipment and technical assistance to Vietnam for plantation development in the northwest of the country (Sizer 2000: 8).

In 2001, a US$6 million, Japanese government-funded project started in Quang Nam province, aimed at planting 4,000 hectares in coastal areas (Saigon Times 9 March 2001).

4. VIETNAM'S PULP AND PAPER INDUSTRY

There are three large state owned pulp and paper mills in the Vietnam, Bai Bang (55,000 tons per year) in Vinh Phu province in the north of Vietnam, Dong Nai (20,000 tons per year) and Tan Mai (48,000 tons per year) both in Dong Nai province in the south. In addition there are almost 100 small scale pulp and paper mills around the country (Pesonen 1995: 17). These are based on Chinese technology in the north and on German, British, French and Taiwanese technology in the south (Flashtec 1995). Today, Vietnam's pulp and paper mills produce a total of about 360,000 tons of paper and board a year (PPI 1999).

The supply of raw materials is becoming an increasing headache for the Vietnamese pulp and paper industry, a situation which is made worse by the export of wood chips to Japan and Taiwan. Mills have been forced to close for several months in recent years due to shortage of materials.

Many Vietnamese pulp and paper mills operate at well under capacity resulting in many mills running at a loss. Production costs in 1994 of a ton of Vietnamese paper were US$200 higher than European or US costs, and cheap paper has been dumped on the Vietnamese market from Eastern Europe and Russia (VN 1994a: 1).

The following section looks at some of the pulp and paper and wood chip mills in the country. Bai Bang is considered in some detail, partly because more information is available on this project, but also because of its importance in the Vietnamese context.

- BAI BANG PULP AND PAPER MILL

When SIDA launched the Bai Bang pulp and paper mill project in 1974, World Wood, a timber trade magazine, reported the estimated cost as US$170 million (World Wood 1974: 3). Bai Bang turned out to be Sweden's longest running and most expensive aid project ever. In total, Sida contributed about US$1 billion to the 55,000 tons a year pulp and paper mill – making it possibly the most expensive pulp and paper mill in the world per ton of paper produced. The mill sources its raw materials from a total area of 1.2 million hectares. Large areas of natural forests have been cleared to supply the mill, sometimes to be replaced with plantations. Despite the massive input of Swedish money and expertise, the mill only reached its designed output in 1995, fifteen years after first paper machine started operation.

The mill still relies on pulp imports to run at capacity. In 1996, imported pulp accounted for one third of the mill's expenditure (Blower et al 1999: 54). Meanwhile, import tarrifs on paper ensure that sales from the mill do not face competition from cheap imports. The price of paper produced at Bai Bang is up 10 to 20 per cent above the international price of paper (Blower et al 1999: 120).

The project was the subject of huge debates in Sweden, especially during the 1970s and 1980s. However, in 1999, Sida published an evaluation of the project that concluded that "Bai Bang has proved to be an example of a sustainable development cooperation project" (Blower et al 1999: 165) and even that the "associated forestry operation are ecologically sustainable" (Blower et al 1999: 170). Nevertheless, there are still serious problems associated with supplying raw material to the mill, which are only likely to be made worse by the currently

proposed expansion of the mill. Meanwhile, Bai Bang's promoters have never commissioned detailed studies of the impacts of fast-growing tree plantations on people and forests in the area of the mill.

The origins of the project

Sweden's support for Bai Bang mill originated in its opposition to the US war in Vietnam. During the late 1960s, the Swedish Prime Minister, Olof Palme, together with a large section of the Swedish public, was opposed to US involvement in Vietnam and saw Swedish aid to Vietnam as a way of expressing this opposition. As Rolf Ekeus, then an official in Palme's Social Democratic Party, said later, "A Western power was bombing the poor country to smithereens, the least we could do was to help them rebuild" (Jerve et al 1999: 26). The former secretary-general of the Vietnamese Communist Party, Do Muoi, indicated how important the aid was to Vietnam when he told researchers in 1998, that Sweden was a source of support during "the years of black tears" (Jerve et al 1999: 29).

Initially, Sweden wanted a three year aid programme, but Vietnam insisted on project aid. Once Sweden agreed, Vietnam presented a shopping list of potential projects. Projects included:

Techniques for reforestation in hilly terrain;
A pulp mill;
A furniture factory;
Fishing vessels and cargo ships;
Harbour development;
Steel mills;
Aid to promotion of exports; and
A 350 MW hydroelectric power plant (Jerve et al 1999: 40).

Eventually the two sides agreed on a pulp and paper mill. A paper mill was not at the top of Vietnam's development plans, but Vietnam wanted to exploit its forests and Sweden had the technology to build a state-of-the-art pulp and paper mill (Jerve et al 1999: 48). An agreement to build the pulp and paper mill was signed in August 1974 (Jerve et al 1999: 54).

The consulting firm, Jaakko Poyry, played a significant role in the history of the mill. Poyry's initial involvement, acting as SIDA's consultants, was a study produced in July 1971 (Jerve et al 1999: 58). Poyry's report assessed various options for the forest industry and concluded that a paper mill would be a better option than a plywood factory (Jerve et al 1999: 60). Initially Vietnam wanted to build a mill with an annual capacity of 100,000 tons but Poyry's report concluded that this was too large given the administrative and technical constraints (Jerve et al 1999: 50).

The consultants' role

In October 1972, SIDA commissioned Poyry to carry out a pre-feasibility study of a 50,000 tons a year pulp and paper mill. The report stated that the forest area that the Vietnamese government had assigned to the mill was too small (Jerve et al 1999: 62).

Jaakko Poyry won a further contract to produce a feasibility study in April 1973. According to Jouko Virta, chairman of Jaakko Poyry consulting, Poyry's feasibility study recommended 14 conditions which had to be met before the construction of the mill commenced (Virta 1996). Magnus Spangenberg, Poyry's consultant responsible for writing the feasibility study, repeatedly stressed the need for further assessment of the project before it went ahead. Poyry's feasibility study, completed in April 1974, concluded that "the feasibility of the project as such will be unsatisfactory [sic]" (Jerve et al 1999: 67).

However, SIDA was determined to go ahead quickly, and in 1973 had hired another consulting company, WP-System AB, to coordinate the planning process. WP-System agreed, on condition "that we can safely see the continuation of our undertaking all through the whole construction period of the project" (Jerve et al 1999: 92). In October 1974, SIDA hired WP-System as project manager for the Bai Bang project (Jerve et al 1999: 90). Another Swedish company, Silviconsult won the contract to coordinate the associated forestry programme (World Wood 1977b: 35).

WP-System won the contract to build Bai Bang in a deal with SIDA – without the contract going out to tender (Jerve et al 1999: 126). WP-System was formed in 1968 (Jerve et al 1999: 112) and had never planned and built a pulp and paper mill anywhere in the world. The company had to hire a forest industry specialist as Project Director in Stockholm (Jerve et al 1999: 98).

Under its contract with SIDA, WP-System had no responsibility to keep within a fixed budget and there was also no penalty mechanism for delays in completing the contract (Jerve et al 1999: 90). The cost of the mill increased, and in January 1977 SIDA calculated that the total cost would be US$263.75 million – almost US $100 million more than their estimate three years early (World Wood 1977a: 3) (World Wood 1974: 3).

Nguyen Trong Khanh, who would become General Director of the mill, summed up the problems of cost overruns and delays in an interview with researchers in 1998: "There was no strict control, and SIDA too easily accepted requests from WP-System to prolong or to get new funds" (Jerve et al 1999: 91).

A small army of international consultants arrived in Vietnam and lived in the "Swedish Camp", near the mill, in housing built by Swedish carpenters (Jerve et al 1999: 96). At one point there were more than 600 foreigners, including family members, in the project area (Jerve et al 1999: 198). Consultants were provided with housing for their families, tennis courts, a swimming pool, schools for their children and a hospital (Usher 1993). The Swedes nicknamed the Camp "Valhalla", after the home of the gods in Norse mythology (Jerve et al 1999: 100).

Mat Silaste, who visited the project in 1980, reported, "The visitor gets the impression of the boy's summer camp rather than serious mill construction. Most of the expatriate personnel are wearing all kind of funny shorts and driving with motorcycles around with an arrogant air. It looks very childish and forms a complete contrast with the local people and disrespect to the local culture and customs. Do we act this way at home also?" (Jerve et al 1999: 114)

About 40 per cent of the funds allocated by Sweden throughout the project, went on Swedish workers at the project site and consultancy headquarters in Sweden (Jerve et al 1999: 269).

However, consulting firms were not the only ones to benefit from Sweden's aid. Five Swedish companies won contracts to work on the design. By the end of 1975, 160 engineers and technicians in Sweden had worked on the design and engineering work for the project (Jerve et al 1999: 98) Two of the sub-contractors that WP-System hired to do design work, Celpap and Ola Hellgren Ingenjorsbyran, were created in order to work on the Bai Bang job (Jerve et al 1999: 101).

Approximately 80 per cent of the goods and services procured for Bai Bang were bought in Sweden (Jerve et al 1999: 264). The largest machinery orders were for two paper machines at around US$10 million to AB Karlstad Mekaniska Werkstad. Other Swedish companies involved were Beckers, Saab-Scania, Kockums, Volvo, Atlas-Copco, NJA, Asea and Platzer Bygg AB (World Wood 1976: 3). Swedish trucks were shipped out to Vietnam to carry materials from the port of Haiphong to the construction site, 100 kilometres inland (Jerve et al 1999: 96). Not only Swedish companies benefitted: a French company supplied the boiler for the power plant; Japanese, West German and Italian companies supplied components for the pulp mill and chemical plant; and Finnish, Swiss, Italian and West German companies supplied components to the paper mill and processing unit

(Jerve et al 1999: 103).

However, within a few years, the problems of using a consultant with no experience of building a pulp and paper mill became impossible to ignore. In 1979, SIDA's Industry Division produced a report which criticised WP-System's lack of expertise in the forestry industry. The Industry Division organised a series of meetings with representatives of various forestry companies including Jaakko Poyry, with a view to setting up a consortium to work on Bai Bang (Jerve et al 1999: 123). Per Gundersby, of Jaakko Poyry, had recently returned from working on a pulp and paper project in Brazil. Gundersby visited Vietnam in June 1979 and set about forming a consortium to take over from WP-System. The consortium included Celpap and Angpanneforeningen (two of WP-System's sub-contractors – and two of Jaakko Poyry's main competitors in Sweden) and Sodra Skogsagarna (Jerve et al 1999: 123). Scanmanagement, as the consortium was named, was 60 per cent owned by Jaakko Poyry (Virta 1996).

SIDA announced a tender in July 1979, with less than a month to the deadline (Jerve et al 1999: 124). Scanmanagement won the tender. According to Jouko Virta, of Jaakko Poyry consulting, a condition of Poyry's involvement was that the contract for the forestry element of the Bai Bang project should go to the Jaakko Poyry Group (Virta 1996). Interforest AB, a Swedish subsidiary of Jaakko Poyry, subsequently won the forestry contract.

The first paper machine was completed in December 1980, the second in March 1982 and the pulp mill in September 1982 (Hamilton 1982: 12) (Jerve et al 1999: 106). The first few years after completion were a fiasco. Vietnam did not have enough qualified technicians to run the mill, and spare parts and chemicals had to be imported, which the Vietnamese government could not afford (Sayer 1991: 239). Vietnam was supposed to meet the demand for foreign currency by exporting paper, and SIDA was actively involved in promoting this export trade to Korea, Taiwan and Japan (Virta 1996).

Despite the problems, the project continued to be a good deal for the consultants. SIDA depended on Scanmanagement to assess the need for international experts. Scanmanagement "naturally wanted to maximise his own role and income" according to Sida's 1999 Bai Bang Evaluation Report (Jerve et al 1999: 270). To address the issues of bias in consultant's reports, SIDA hired yet more consultants to work on advisory groups and review missions. However, as Sida's evaluation notes, the members of these groups and missions had the same background and education as Scanmanagement and SIDA staff – almost all were Swedes from the forestry or paper industry (Jerve et al 1999: 270).

In 1984, Sigvard Bahrke was appointed as Bai Bang project director at Scanmanagement. Bahrke was the former General Director of a large parastatal forestry company (ASSI) and a member of SIDA's board (Jerve et al 1999: 226). In the mid-1980s, when SIDA was looking to phase out its involvement in the mill, Bahrke played an important role in persuading SIDA's board to continue funding the project and to maintain Scanmanagement's involvement (Jerve et al 1999: 230). In 1986, SIDA's Review Mission even included a former member of Scanmanagement (Jerve et al 1999: 252).

The "forced labour" debate

Sweden was represented at the official opening of the mill in 1982 by Roine Carlsson, Minister without Portfolio. After the ceremony, a journalist asked him whether it mattered that forced labour was used on a Swedish aid project. Carlsson replied, "it is an internal matter for the Vietnamese how the labour force to Bai Bang is recruited" (Jerve et al 1999: 182). The remark was published in Swedish newspapers and triggered off a long debate in Sweden about labour conditions on the Bai Bang project.

A study carried out in 1985 investigated the working conditions in the forestry brigades cutting forests to supply the mill. The report is shocking, and documents forced labour, poorly paid workers uprooted form their families and villages, ill health, poor housing, poor education, and "deplorable" child care facilities (Larsson and Birgegard: 1985). One of the ironies of the project is that forestry workers interviewed in the study had received no paper from the project (Larsson and Birgegard 1985: 23).

Although the report was submitted to SIDA in January 1985, SIDA did not publish it until 1987 (Jerve et al 1999: 234). In December 1986, one of the writers of the report, Katarina Larsson wrote two articles in the Swedish newspaper Dagens Nyheter, entitled "The betrayal of the forestry workers" and "Manipulation as a working method". She pointed out that SIDA had attempted to stop the report she wrote with Birgegard and showed how their criticism had been suppressed (Jerve et al 1999: 189).

In 1987, Professor Rita Lilgestrom, headed a team of researchers which carried out a socio-economic study on Bai Bang. The report concluded that the workforce employed was not "forced labour" as it is usually understood, but that the conditions for the forest workers were "gruelling" (Jerve et al 1999: 168).

Another study from 1987 conducted by Adam Fforde argued that migration to the forest areas was part of a centuries old tradition of emigration to avoid overcrowding in the Red River delta, and that although conditions for forest workers may have been bad, they were not actually forced to work in forestry brigades (Blower et al 1999: 103).

Sida's 1999 Bai Bang Evaluation Report states that the debate in Sweden about forced labour did lead to some improvements in the living standards for forestry workers, by stimulating the provision of loans, improved housing, health and education. However, the evaluation states that the reforms associated with allocation of land to farmers and the higher incomes this has generated had a much more important impact on improving living standards (Blower et al 1999: 103).

Raw material supply

One of Jaakko Poyry's recommendations in their 1974 feasibility study, was that a full resource inventory should be completed before construction of the mill was commenced (Virta 1996). However, one of the more obvious problems during the early stages of the project was that Vietnam was at war. What seemed to the Swedish side like reasonable requests for technical information necessary to build the mill and make sure it would function in the future, were issues of national security to the Vietnamese side (Jerve et al 1999: 33-34).

In 1972, Nguyen Van Kha, Vice Chairman of the State Planning Commission instructed the Directorate of Forests to set aside 100,000 hectares for tree plantations to supply Bai Bang (Jerve et al 1999: 49). These plantations, however, were not established and it was not until 1984/5 that Jaakko Poyry carried out the first inventory of forests and plantations to supply the mill. A second inventory in 1986/7 confirmed the seriousness of the raw material shortage (Cossalter 1988: 7).

Several factors contributed to the problems of raw material supply to the mill. Some could not be foreseen, such as the loss through flowering of large areas of bamboo stands. Bamboo is a grass and flowers at long intervals after which the stems rot and cannot be used as raw material fibre. When the bamboo flowered, however, instead of allowing bamboo to regenerate, the local authorities decided to burn the areas and establish plantations. However, many of these plantations failed (Jerve et al 1999: 151).

Other problems included wastage of up to 45 per cent of standing volume, due to poor harvesting techniques and transport losses, and wood was also required for non-industrial (fuelwood, construction wood) and industrial (two other pulp and paper mills) uses in the region. In addition a large quantity of timber from the region was sold in the area around Hanoi (Cossalter 1988: 4). Local demand for non-industrial wood meant that of 10 logs

harvested perhaps only one or two would eventually arrive at the mill (Ohlsson and Byron no date: 12).

The Bac Yen Union of Forestry and Industry was created in 1979 to supply the Bai Bang pulp and paper mill, originally from an area of 200,000 hectares of forest land in Ha Tuyen province (Larsson and Birgegard 1985: 6). In 1983, the raw material area, which supplies the mill was expanded considerably, to include a gross area of 1.2 million hectares in Ha Tuyen, Hoang Lien Son and Vinh Phu provinces.

In June 1986, SIDA started a new forestry project, the Plantation and Soil Conservation Project. Interforest AB, a subsidiary of Jaakko Poyry, won the contract to oversee the project, which aimed to:

supply the mill with raw material;
increase production of fuelwood for local needs;
contribute to the ecological balance;
engage the local population in tree growing (Cossalter 1988: Annex 1); and
"to reduce the pressure being put on the newly established industrial plantations by local people" (Shanks 1994: 83).

The project aimed to produce monoculture plantations of eucalyptus and acacia (Shanks 1994: 83) to supply the Mill with raw materials. The project aimed to establish 6,500 hectares per annum of fast growing species (Stahl 1990: 13).

Eucalyptus camaldulensis was selected, not on the basis of extensive trials, but because the demand for the raw material was urgent. As one consultant explained:

> "It is often necessary to start large scale plantations without having complete and reliable local information about what to plant. Industries cannot be left standing with little or no wood while the foresters wait for perfect information . . . In this the Vinh Phu plantations are no exception" (Stahl 1990: 8).

In practice trial plantations had been established, but tree cutting and collection of leaf litter for fuel was a major problem in many plantations soon after they were established (Shanks 1994: 83) (Cossalter 1998: 1). The choice of Eucalyptus camaldulensis as a lead species relied heavily on a species trial established in 1979, but cutting by the local villagers, grazing of buffaloes, termite attacks and weed competition meant that the plots were seriously damaged or had disappeared entirely within five years. In addition measurements were irregular and data was lost. According to a consultant, "In 1984 the only data available on this trial were the measurements at age 1 and 2 in all four sites and the measurements at age 5 in Thanh Ba which was the site with the poorest potential" (Stahl 1990: 24).

A similar fate befell a trial established in 1985, involving three provenances of Eucalyptus camaldulensis, and seven other species. Cutting and damage caused by buffaloes meant that the trial could not be statistically evaluated (Stahl 1990: 26).

These problems, illustrate an important aspect of plantation development in Vietnam. Land which foresters and government officials often assume to be "empty" or "barren" is often not at all empty, but is used for a variety of purposes important to the communities living there. Although there may be little or no tree cover, the "bare hills" are of great value for fodder and fuel and for temporary crop production (Shanks 1994: 82). Conflicts are therefore common, when such land is earmarked for industrial plantations. Plantations are destroyed through grazing or are simply cut down by villagers (Ohlsson and Byron no date: 12).

In 1995, for example, a trial plantation of clonal Eucalyptus camaldulensis in Gia Thanh commune, Vinh Phu province was damaged in its fourth year through cutting by villagers (Nguyen Sy Huong 1995: 12).

Further problems included the fact that attempts to set up village plantations were often unsuccessful at least partly because villagers were given poor quality seedlings which had been rejected for industrial plantations. Much of the land available to villagers for planting was infertile, compacted and highly eroded (Midgley 1989: 36).

The difficulties associated with the establishment of large scale industrial plantations eventually led to a change of direction in SIDA's aid. Swedish contributions to the Bai Bang pulp and paper mill finished on 1 July 1990 (SIDA 1989: 38) and in June 1991, the Plantation and Soil Conservation Project was terminated, to be replaced by the Swedish-Vietnamese Forestry Cooperation Programme (Stahl 1990: 18). Interforest won a new contract with SIDA.

The Forestry Cooperation Programme covered five provinces (the existing raw material area, plus Ha Giang and Lao Cai) and aimed to help enable farming families and organisations to plant trees on land recently allocated under the 1988 Land Law (Shanks 1994: 85). (See section on Land Law, above.) Instead of the target driven social forestry afforestation projects under the Plantation and Soil Conservation Project which involved seedling distribution and centrally controlled nurseries, the new project focussed on farm-level forestry. Projects were started in a few pilot communes and villages in each province. Community nurseries were established to supply a wide range of species to farmers (Shanks 1994: 89). Meanwhile the mass seedling delivery system was maintained, outside the farm-level forestry project pilot villages. In some cases, both systems existed side by side (Shanks 1994: 91-92).

These SIDA-funded projects did not prevent large scale logging in natural forest both in the "raw material area" and in neighbouring provinces to meet the demand for raw materials to feed the mill. In 1993, Le Thac Can, of the National Environmental Research Programme in Vietnam, carried out an independent study which reported that in the 10 years since the mill was completed, more than 80,000 hectares of mostly natural forest had been cleared to supply the mill (Le Thac Can et. al. 1993). Since 1990, farmers and companies were allowed to sell bamboo and wood to the mill. According to Le Thac Can, this led to rapid depletion of bamboo and trees from village woodlots and still further deforestation (Le Thac Can et. al. 1993).

Nguyen Xuan Xuyen of the Union of Vinh Phu Paper Pulp Companies argues that private companies supplying Bai Bang had "seriously damaged forests since they operate as brokers between sellers and producers and unfairly exploit local people by classifying their products at lower standards, and therefore at lower prices than their actual value. They evade taxes and even supply fake goods" (Nguyen Xuan Xuyen 1996: 85). In 1996, the Vinh Phu Paper Raw Material Company became the sole provider of logs to Bai Bang, sourcing wood from forest enterprises and private growers – including forest enterprise workers planting on forest enterprise land and private farmers (Blower et al 1999: 39).

In the mid-1990s, pulp had to be imported to keep the mill going. In 1995 around 30 per cent of the raw material supplied to the Mill was in the form of imported pulp, leading to an increase in paper production costs (VN 1995: 2).

A 1994 report states that:

> "Bai Bang Paper mill has been in operation for 14 years and has been operating at a fraction of its capacity. The Mill was running at a loss. This is all the more remarkable given the fact that during more than 10 years they have received government subsidies and SIDA aid, 45,000 hectares of plantations assisted by SIDA have been established (costing US$680 per hectare) and the paper industry presently benefits from a total ban on paper imports, up from 40 per cent import tax in previous years" (Frankefort 1994: 23).

In 1996, Nguyen Ngoc Lung of the Department for Forestry Development, pointed out that even with the massive investment in plantation development at Bai Bang, the mill still relied on "a large volume of bamboo which is collected from nearby natural forest areas" (Nguyen Ngoc Lung 1996: 5).

Sida's 1999 evaluation of Bai Bang states that, "doubts still remain about the commercial viability of plantations. At current log prices and growth rates, non-subsidised interest rates are too high to make plantation investments viable. Enterprises need tax exemptions for the first and second rotations to ensure viability" (Blower et al 1999: 49).

The impact of establishing fast-growing tree plantations on communities living in the area is one aspect of the Bai Bang project that has never been studied in any detail. In February 1973, SIDA officials noted in a draft internal memorandum that 85,000 "forest-dwelling slash-and-burn cultivators" would be prevented from using the forest because of the commercial forestry operations. However, the Vietnamese government insisted this was an internal affair and did not permit SIDA to investigate further (Jerve et al 1999: 56). SIDA accepted this position and re-wrote the draft memorandum to replace the figure of 85,000 people, with "an unknown number of persons" who would be affected (Jerve et al 1999: 70).

Part of Sida's 1999 Bai Bang Evaluation Report included research carried out in 1997 by Mandy Thomas, an anthropologist at the University of Western Sydney, on the social impact of the project. Thomas concluded that the mill has had a "very positive impact on the immediate locality", by providing secure employment and economic, educational and social benefits for its workers. The total number of jobs created by the mill is around 25,000, including forest workers, material supply companies and other businesses. She points out however, that "The mill cannot be said to have had more than a marginal influence on living standards more broadly, even at the district level". Thomas states that the government's land allocation programme and the "benefits of forestry development projects are responsible for the significant improvements in living conditions" (Thomas 1997).

The expansion of Bai Bang

In April 2000, the mill employed 3,500 people and the town of Bai Bang has grown to a population of 23,000. The mill includes a 28 MW coal-fired power station, which sells surplus electricity to the state (Lang 2000). In 2001, the mill produced 72,840 tons of paper, more than 30 per cent above its designed capacity (VN Panorama www 1). Protected from cheap imports of paper the mill runs at a profit, even though its paper costs more to produce than paper on the international market.

In December 2001, work on expanding Bai Bang was reported to be about to start (paperloop.com 7 December 2001). The plant is to be expanded from a capacity of 55,000 tons of paper a year to 100,000 tons. At the same time, annual pulp capacity will be increased from 48,000 tons to 61,000 tons. This represents the first stage of a plan to increase the mill's annual paper capacity to 200,000 tons and pulp capacity to 150,000 tons (Vietnam Panorama www 1). The cost of the works is estimated at US$50 million (Tran Doan An 2001).

Funding for the expansion of the mill from Scandinavia. In 2000, Vinapimex obtained US$42 million in loans from three Nordic banks to fund the rebuilding of the mill (pponline.com 29 September 2000).

Rolf Samuelsson, Sweden's First Secretary, Development Cooperation in Hanoi, said in April 2000, that Sida was involved in discussions about the expansion of Bai Bang. He said, "it is a commercial venture, commercial interests from Sweden, but there are certain credits provided I understand, not for only Swedish companies, there are others who have shown an interest" (Samuelsson 2000).

On 21 November 2001, the Nordic Development Fund agreed a US$6.3 million loan towards the expansion of the mill (NDF www 1).

On 30 November 2001, the Swedish Government agreed to provide a preferential credit of US$12.5 million to fund the first phase of the expansion (Vietnam Panorama www 1).

Vinapimex has signed contracts with Voith Paper and China's Sinochem to rebuild the plant. Elof Hansson and Marubeni won contracts to supply equipment. Hansson leads a group of supplier companies which includes Metso Paper, Kvaerner Chemetics, Kvaerner Pulping, Purac, and AF-IPK (paperloop.com 2 December 2001). (See section on Elof Hansson, below.)

- VIET TRI PAPER MILL

Viet Tri is a 25,000 tons a year paper mill producing kraftliner and coated wrapping paper in Phu Tho province, in the north of Vietnam. The mill imports its raw material (Tran Doan An 2001). In September 2000, several Korean banks granted loans to help finance a US$26 million industrial paper expansion at Viet Tri. Daewoo, which provided the paper machine, helped Vinapimex to negotiate and guarantee the loans (pponline.com 29 September 2000).

In December 2001, Vinapimex had almost completed the installation of a new 25,000 tons a year packaging paper machine at its Viet Tri mill (paperloop.com 17 December 2001).

- TAN MAI PAPER COMPANY

Tan Mai Paper Company in Dong Nai province, is a state-owned business belonging to Vinapimex. The mill's paper capacity has expanded from 10,000 tons a year in 1990, to 48,000 tons a year in 2000. Newsprint production accounts for 50 to 60 per cent of the company's capacity. Equipment suppliers to the mill include ABB, Thermo Black Clawson, Allimand, Valmet, Ahlstrom and Sund Defibrator (Tan Mai www 1). In 1995, Trang Hoai Nghia, vice manager of production at Tan Mai, said that there was a problem getting spare parts for machinery as much of it was installed as part of aid projects from overseas (US, Sweden, France). He said it took up to three months to obtain spare parts (Trang Hoai Nghia 1995).

In 1991, a Swedish-funded environmental survey of the mill was carried out (Trang Hoai Nghia 1995).

The mill originally used pine from Lam Dong province as raw material. Because there was not enough pine to supply the mill, machinery in the mill was adjusted to utilise eucalyptus as raw material. Trang Hoai Nghia added that problems securing raw material for the mill were made worse by the foreign-funded wood chip mills in Vietnam, which export chips to Japan, Taiwan and Korea (Trang Hoai Nghia 1995).

In its review of the year 2000, Pulp and Paper International reported that Tan Mai recently started a new 20,000 tons a year paper line, which relies on imported raw material (Tran Doan An 2001).

In June 2001, Tan Mai Paper Company posted a US$1.1 million loss in the first four months of the year, as a result of its dependence on imported raw materials. The company bought up pulp at the end of 2000, when the price was high. In early 2001, the price fell, causing the company to lose about US$70 for each ton of paper produced. In 1999, Tan Mai Paper made a loss of US$960,000, which the company also blamed on the cost of importing raw materials (Saigon Today 19 June 2001).

- DONG NAI PAPER MATERIAL COMPANY

Dong Nai Paper Material Company is a subsidiary of Vinapimex. The Director of the company is Ninh Due Yen (Saigon Times 29 August 2001).

The company has plantations in Dong Nai, Binh Phuoc, Dac Lac, Kontum and Binh Thuan provinces, supplying raw material to its 14,000 tons a year pulp and paper mill in Dong Nai province (VNA 2001c). In August 2001, Saigon Times reported that the Company had made an agreement with plantation owners in Lam Dong province to grow 3,000 hectares of pine (Saigon Times 29 August 2001).

Swedish experts provided advice on the rehabilitation of Dong Nai pulp and paper mill (Blower 1999: 80).

In December 2001, Vinapimex abandoned plans to rebuild its paper machines at its Dong Nai mill and decided instead to install another machine (paperloop.com 6 December 2001).

- KONTUM PULP AND PAPER MILL

In August 2001, the government approved a Vinapimex feasibility study on a project to establish plantations to supply a new paper mill in Kontum province in the Central Highlands. The government agreed to fund seven per cent of the US$240 million project. The remainder is to come from international official development assistance. The government will purchase land-use rights and finance construction of roads, research facilities, health clinics and schools. The project is to be exempt from land tax for the first tree cycle. The plantations are to be managed by the Dong Nai Paper Material Co (see above) (Vietnam Economy 2001).

To supply raw material to the mill, Vinapimex has already started planting trees and aims to establish an area of 125,000 hectares of fast-growing tree plantations. In addition, according to the feasibility study, Vinapimex plans to use 38,000 hectares of natural forest to supply the mill

The new pulp and paper mill is to be built at Dakto, in Kontum province. According to sources in Vietnam, there has been some Finnish involvement in the project. At a seminar organised by Kvaerner and Vinapimex in Ho Chi Minh City in December 2001, a Kvaerner representative presented "specific calculations" for building the mill in Kontum (Saigon Times 2001).

- MANG YANG PULP AND PAPER COMPANY

The Mang Yang Pulp and Paper Company is managed by the Gia Lai Province People's Committee. The company was established in 1991. In 1992, the company received funding from SIDA to establish a 500 hectare eucalyptus "model pulpwood plantation". Consultants from the Vietnam-Sweden Forestry Cooperation Programme provided advice on forestry economic analysis, climate and soil analysis and marketing (Truong Ngoc Thanh 1996: 71).

In November and December 1993, two New Zealand consulting firms, Forenco and ANZDEC, produced a report on site identification and feasibility of joint venture industrial plantations in Vietnam (Bannan 1996: 78). The consultants looked at three potential sites in Thanh Hoa, Binh Dinh and Gia Lai provinces and concluded that Gia Lai province and particularly the Mang Yang area, was the most suitable. Forenco produced a feasibility report for a 20,000 hectare industrial plantation project in Gia Lai province (Bannan 1996: 78-79). Since the report was completed in February 1994, Forenco has arranged meetings with investors from Japan, Indonesia, New Zealand, Malaysia, Singapore and Thailand. However, although representatives from the Thai company visited the site in December 1995, they did not invest in the project (Bannan 1996: 79).

Forenco also produced a feasibility study of the Asia Tech plantation project in Laos. (See report on Laos.)

Between 1992 and 1996, the Mang Yang company established 3,000 hectares of plantations (Gia Lai Planning and Investment Department 1996: 101). The Mang Yang company plans to sell its wood to the Quy Nhon woodchip mill, which is about 150 kilometres away (Truong Ngoc Thanh 1996: 74-75). The proposed pulp mill in Kontum (see above) would provide another market for Mang Yang's wood.

- MUC SON PAPER ENTERPRISE

The Muc Son Paper Enterprise, in Thanh Hoa province, produces plain or dyed packaging paper. Vinapimex plans to build a 50,000 tons a year packaging paper mill at Thanh Hoa. In 2001, the project was reported to be delayed (Tran Doan An 2001).

- BINH DUONG

In 1998, New Toyo of Singapore started up a 20,000 tons a year tissue paper mill in Binh Duong province in the south of Vietnam (Tran Doan An 1999).

In May 2000, the Vietnam News Agency announced the opening of a 720 tons a year paper mill in Binh Duong province. The Taiwanese Daily Full Company funded the US$25 million mill. The mill supplies high-quality paper for domestic use and for export. The project is one of 130 Taiwanese projects, with an investment capital of US$430 million, operating in Binh Duong province in 2000 (VNA 2000a).

- HAIPHONG PAPER COMPANY (HAPACO)

Hapaco was one of the first five companies listed on Vietnam's stock market. Based in the northern port city of Haiphong, the company produces tissue paper for the domestic market and exports fake bank notes, which are used in religious ceremonies, to Taiwan. In 2000, the company made a net profit of US$600,000, with a total revenue of US$5.2 million (Reuters 12 January 2001).

The tissue paper project was planned in 1996 as joint venture between Vinapimex and the Korean company Ssangyong Paper Co. Later the project was to be a joint venture with Korea's Daewoo, Hansol and Vinapimex, but the joint venture fell through when Daewoo failed to contribute funds, because of the Korean parent company's financial problems. In October 2000, Hapaco dropped the joint venture plan and instead invested US $4.7 million in a new packaging mill and a new tissue machine. Hapaco raised the money instead through a convertible bond issue. The tissue machine was supplied by a Chinese company. The chairman of Hapaco is Dong Hien Vu (pponline.com 11 October 2000).

- CAU DUONG

At the end of 2001, Vinapimex was reported to be gearing up to start tests on a new 10,000 tons a year tissue mill at its Cau Duong mill, nine kilometres from Hanoi. The unit was supplied by Daewoo of Korea. Cau Duong is primarily a plywood mill producing 5,000 square metres a year (paperloop.com 7 December 2001).

- LE HOA PAPER COMPANY

Established in 1995, the Le Hao Paper Company produces paper for students, note books, photocopy paper and a range of large sized paper formats. The company uses reels of plain paper bought from local suppliers as raw material. Le Hao Paper Company employs about 100 people. In 2001, the company received funding through the IFC's Mekong Project Development Facility (MPDF) to move to the Tan Tao Industrial Zone and to upgrade its equipment (MPDF 2001a).

IFC rated the project under Environment Category B, which would normally mean that IFC would make information about the project publicly available. However, because the project is funded through MPDF the Environmental Review Summary will only be locally available (although IFC manages the MPDF) (MPDF 2001a).

- NDK PAPER PULP MANUFACTURING

NDK was established in May 2001, to produce pulp, paper and act as a consultant to the paper industry. The company's head office is in Ho Chi Minh City (MPDF 2001b).

NDK received a loan from the IFC-managed Mekong Project Development Facility (MPDF) to build a pulp mill in Nhon Trach Industrial Park in Dong Nai province. The 15,000 tons a year mill is to use recycled paper as raw material (MPDF 2001b).

The director of the company, Dr. Nguyen Dang Khanh, spent three years studying paper processing technology in Sweden (MPDF 2001b).

As with the Le Hoa Paper Company (see above) IFC side-steps the need to make reports on the project public, because the funding is through the MPDF.

- SAIGON PAPER COMPANY

The Saigon Paper Company has a capacity of 10,000 tons a year. In June 2001 a new 3,600 tons a year carton paper assembly line came into operation. The company was established in 1997 and specialises in carton and sanitary paper. Saigon Paper plans to expand into pulp production in the future. The director is Cao Tien Vi (Saigon Times 14 June 2001).

- QUY NHON PLANTATION FOREST COMPANY

The Quy Nhon Plantation Forest Company, in Binh Dinh province, is a US$14 million, Japanese-owned project aimed at planting 13,000 hectares of acacia and eucalyptus trees (see also Nissho Iwai below). The plantation is to supply a 50,000 tons a year wood chip mill for export to Japan. The project was licensed in 1994, but by 2001 had only received 62 per cent of the land for the plantations. The general director of the operation, Kironobu Ohara, told the Vietnam Investment Review that "The land problem is increasing the risks for projects in plantations and wood processing projects which normally require huge, long-term capital investment but produce slow returns" (VIR 2001).

The Quy Nhon Plantation Forest Company is owned by three Japanese investors: Oji Paper (51 per cent); Nissho Iwai (39 per cent); and Dai Nippon (10 per cent) (Akira Hatakeyama 1996: 67).

The company describes the land it is planting as "short fine-leaved grasses, shrubs and scattered coppice of big trees within the family Dipterocarpaceae. The natural forest has been converted into shrub and grassland as a result of previous deforestation" (Akira Hatakeyama 1996: 68). The company admitted in 1996 that "the proposed sites include plots of cultivated land already owned by local people" and that "damage caused by cattle is very serious and unavoidable" (Akira Hatakeyama 1996: 69).

- NISSHO IWAI

In 2001, in conjunction with the Vietnam Forestry Corporation, Nissho Iwai completed a 140,000 tons a year particle board factory at Vung Ang Port in Ha Tinh province. To supply the factory, 40,000 hectares of plantations have been established in Nghe An, Ha Tinh and Quang Binh provinces. Another 10,000 hectares has been planted at the Bac To plantation in Quang Ngai province. The Vietnam Forestry Corporation plans to establish a further 30,000 hectares of plantations in Quang Ninh and Lang Son provinces to feed to factory (Vietnam News 28 February 2001).

In June 2001, the Saigon Times reported that Nissho Iwai planned to set up a new US$1.5 million wood chip plant. Nissho Iwai will take a 60 per cent stake in the operation and a state-owned forest product exporting agency would own the remaining 40 per cent. The wood chip plant is due to start operations in 2002. All its products will be exported to Oji Paper, a Japanese company (see below) (Saigon Times 12 June 2001).

Nissho Iwai also plans to increase capacity in an existing wood chip mill by 15 per cent to 150,000 tons a year. Nissho Iwai's wood chip production target for the year 2002 is 400,000 tons – up from 130,000 tons in 2000 (Saigon Times 12 June 2001).

- OJI PAPER

Oji Paper, Japan's second largest paper manufacturer, started to establish trial plantations at two forest enterprises in Song Be province in the south of Vietnam in 1991. The aim was to establish species and provenance trials leading to a US$5.7 million industrial plantation covering 13,000 hectares to supply wood chips for export (VN 1994a: 1). The trial plantation project was run in conjunction with the Forest Science Institute of Vietnam, and is the initial stages of a joint venture between Oji Paper Company Limited and the Ho Chi Minh City office of the Japanese trading house Nissho Iwai Corporation (VN 1994a: 1). The joint venture company was named the Dong Phu Plantation Forest Company of Vietnam.

The land allocated for the trial plantations was previously forested, and a significant proportion of site preparation costs went on clearing the existing vegetation. Once the trial was planted, termites proved to be a problem and destroyed 14 per cent of trees in the first year. Termites were eradicated through spraying DDT, a practice in accordance with the joint venture company's guidelines, drawn up especially for the establishment of Acacia and Eucalyptus plantations in Vietnam (Dong Phu 1994: 8).

However, the cost of land in Song Be province increased dramatically during the species and provenance trials, and the site of the commercial plantation has been relocated. In May 1995, the Vietnamese government gave approval for the plantation to be established in Binh Dinh province (Saigon Times 18-24 May 1995). (See section on Quy Nhon Plantation Company, above.) Soils and climate are quite different in Song Be province and Binh Dinh province, therefore making the Song Be trials irrelevant. Oji Paper plan to retain the trials in Song Be to provide a seed nursery for future plantations in Vietnam.

- ITOCHU CORPORATION

Itochu Corporation (formerly C. Itoh & Co.) is one of Japan's largest general trading companies. According to reports in 1993, the company acquired 5,000 hectares of state owned land in Vung Tau province in southeast Vietnam, with the aim of establishing a wood chip supply to Japan. Itochu set up a joint venture with Southern Forest Resource, a Hong Kong speciality trader, which was to carry out the planting and wood chipping operations. Acacia was planned to be planted at a rate of 1,000 hectares per year, and the first harvest was to be in 1997. Chips are to be processed in Vietnam and sold by Itochu Corporation to Chuetsu Pulp Industry Co. Ltd. a medium sized Japanese paper manufacturer which is part of the Oji Paper group.

In 1992, Itochu traded the first exports of wood chips from Vietnam to Japan, with shipments of over 25,000 tons of wood chips. By 1998 Itochu aimed to import around 80,000 tons from Vietnam (Nihon Keizai Shimbun 1993).

- VIJACHIP

Vijachip is a woodchip mill in Danang. The mill is a joint venture between a Japanese company and a Vietnamese state company. The wood chips are exported to Japan. At a presentation in 1996, Toyotaro Fujiwara of Vijachip stated that "We have invested 1.2 million dollars to create 4,600 ha of plantation" (Toyotaro Fujiwara 1996: 58). He complained that his company could not afford to pay the 15 per cent tarrif on exports of wood chips, imposed by the Vietnamese government in July 1995 (Toyotaro Fujiwara 1996: 58).

- BA RIA-VUNG TAU PROVINCE

Two wood chip mills operate in Ba Ria-Vung Tau province: the Vinh Hung company (a company with Taiwanese involvement) and the VICO company (Vietnam-South Korean Paper Joint Venture). Both wood chip mills produce for export, mainly to Japan (Ngo Duc Hiep 2000: 7).

The problems associated with wood chip mills for local communities is illustrated by the Xuyen Moc State Forest Enterprise. Although the Xuyen Moc SFE has made a profit for a number of years (Vu Hoai Minh et al 2000: annex 2: 15), because wood from the SFE is exported it does not help village-level shortages of wood (Ngo Duc Hiep 2000: 4). As a result, a report produced by consultants for PROFOR explains, "the local people, especially the poor, exploit wood in the remaining natural forests" (Ngo Duc Hiep 2000: 9). Instead of serving local communities' needs, the SFE is serving the needs of woodchip mill operators and feeding the demand for timber in South Korea and Taiwan.

- KIEN TAI

The Kien Tai project is a joint venture between the Taiwanese consortium Central Trading and Development (CT&D) and the Vietnamese provincial authority of Kien Giang province, to establish 60,000 hectares of fast growing Eucalyptus trees for export as wood chips to Taiwan (Holmes 1994: 12). The joint venture was established in June 1991, and was one of the first joint ventures to start establishing plantations in Vietnam (Dinh Trung Chanh 1996: 60).

The site consists of acid sulphate soils in the Mekong delta, and serious problems were created when the company started planting. Because the area floods, the company dug mounds for the trees and thus exposed the yellow sulphite layer in the soil. During the wet season, flooding and run off from the site led to the acidification of local canals, killing fish and making the water unfit for drinking.

Floods in the region are up to two metres deep each year, and after three years many of the trees had either stopped growing, died, or fallen over. Far from the land being put into productive use, the soil structure has been damaged, and local water courses poisoned.

- FOREST PLANTATIONS AND MDF PRODUCTION

The Vietnam State General Company for Forestry (Vinafor) plans to build a factory to produce 54,000 cubic metres a year of medium density fibreboard (MDF). By 2005, Vinafor plans to establish plantations covering approximately 26,000 hectares to supply raw material to the factory (Salmi et al 1999: 116). In January 2001, the Vietnam News Agency announced that the factory would be "officially put into operation by the end of the year" (VNA 2001a).

Two factories producing MDF have been opened in recent years in Gia Lai. The Vietnam Forestry Corporation plans others in Hoa Binh, Dong Nai and Quang Ngai provinces. The deputy general director of Vinafor, Pham Trong Minh told Ha Noi Moi newspaper in early 2001, that "raw materials for these factories is in desperately short supply" (Vietnam News 28 February 2001).

Pham Trong Minh added "The biggest challenge is the lack of land for forestation. . . . Of bare land areas, about 10 per cent is especially suitable for forestry and accessible to transport routes. However, some of this has been occupied by immigrants who have built farms and planted tea, coffee and other cash crops" (Vietnam News 28 February 2001).

5. CONSULTANTS, COMPANIES AND RESEARCH ORGANISATIONS

- GFA TERRA SYSTEMS

GFA Terra Systems is a German consulting firm, with its headquarters in Hamburg. Founded in 1982, the current company is the result of a merger between GFA Agrar and LUSO Consult, and is part of the GFA LUSO Group. GFA Terra Systems works in the fields of agriculture, forestry and rural development. The company is divided into five regional departments covering: Africa; Asia; Europe; Latin America and the Caribbean; and Maghreb and the Middle East (GFA www 5).

GFA has worked on three KfW-funded reforestation projects in Vietnam, and the ADB's Forestry Sector Project. (See section on International Support, above.)

- JAAKKO POYRY

Jaakko Poyry is the world's largest forestry and engineering consulting firm. (See report on Thailand for a profile of Jaakko Poyry.)

Jaakko Poyry played an important role in the development of the Bai Bang pulp and paper mill and held the majority share of the consortium, Scanmanagement, that won the lucrative SIDA-funded contract to run the mill. (See section on Bai Bang, above.)

In addition to Bai Bang, Jaakko Poyry won the following contracts in Vietnam between 1980 and 1992:

1992: Agroforestry development and extension (Sida-funded);
1992: Part of Tropical Forestry Action Plan (FAO-funded);
1991: Cogido and Cogivina Paper Mills – Environmental project;
1990: Ministry of Forestry – Rural and environment project;
1987: Bai Bang – Plantation and Soil Conservation project (Sida-funded);
1987: Bai Bang – Transport project (Sida-funded);
1987: VPSU-Vipimex – Soil conservation training course;
1985: Cogido and Cogivina Paper Mills – rehabilitation of mills;
1982: Ministry of Forestry – Technical assistance in the development of forestry organisations;
1980: Ministry of Light Industry – Technical Assistance in the development of a pulp and paper mill project (Jaakko Poyry no date).

- ORGUT

Orgut has worked as consultant on several forestry projects in Vietnam, including the following:

Support to the Social Forestry and Nature Conservation Project in Nghe An Province: EU funding, started in 1997.
The UNDP Global Programme on Forests (PROFOR): UNDP funding, started in 1998. Orgut assisted MARD in designing the project and has a long-term Field Adviser (Hans Warfvinge) as well as national consultants working on the project.
Orgut provides consultancy services to MARD relating to meetings in the International Support Group.
Vietnam-Sweden Forestry Cooperation Programme: Sida funding, 1991-994.
Orgut consultants worked on the Vietnamese Forestry Sector Review (1989-1991), part of Vietnam's TFAP.

- ELOF HANSSON

Elof Hansson is the biggest Swedish trading firm, with its headquarters in Gothenburg. In 2001, the company finalised a contract to supply equipment to the expansion of the Bai Bang pulp and paper mill. Elof Hansson prepared a bid representing Swedish industry for the expansion of the Bai Bang mill (Sida 1998: 21).

Elof Hansson has also negotiated an agreement between Sunds Defibrator (represented by Hansson) and a group of Vietnamese businesses. Sunds Defibrator is looking to win contracts on 40 fibreboard mills proposed by the Ministry of Agriculture and Rural Development for remote areas of Vietnam. According to Sida, "Plantation forestry to support the fiber board factories will be modeled after the plantations created in the Swedish-supported forestry program connected to the Bai Bang project" (Sida 1998: 21).

The Elof Hansson group employs more than 400 people and total business volume is more than US$700 million (Elof Hansson www 1)

Elof Hansson produces no goods of its own, but deals in imports and exports of forest products (pulp, paper and timber), industrial products (machinery, building materials and steel) and consumer products (home electronics and electrical household appliances) (Elof Hansson www 1) (Wolsfeld no date).

Elof Hansson founded the company in Hamburg in 1987 and moved to Sweden in 1914 at the start of World War I. From the start, the company sold pulp overseas, including to Japan and Latin America. Through its contacts with agents, banks and customers, in these countries, the company was well positioned to "create new opportunities for manufacturers of typical Swedish export products," according to the company's web-site. Since 1945, the company has established new markets in China, India, Africa, the Middle East and Eastern Europe (Elof Hansson www 1).

Through a subsidiary in New York, Elof Hansson Inc, the company became one the leading exporters of North American pulp, exporting mainly to Europe, Latin America and the Far East (Elof Hansson www 1).

The company supplied about 500,000 tons of pulp and 500,000 tons of paper and board each year. The company has subsidiaries in New York, Jakarta, Hong Kong, London, Shanghai, Beijing, Sydney, Chennai, Tokyo, Buenos Aires, Sao Paulo and Mexico City. Elof Hansson sells paper and board in almost 100 countries. The biggest paper and board sales units of the group are in Gothenburg and New York. The Paper Division in Gothenburg is divided into four marketing units:

Latin America
Africa (except French West Africa) and Middle East
French West Africa

Asia and Australia (Elof Hansson www 1).

The company's president in Thomas Pettersson.

In Vietnam, the company has offices in Ho Chi Minh City and Hanoi which sell pulp and paper machinery in Vietnam, Laos and Cambodia (Elof Hansson www 1).

In 1995, Elof Hansson was accused of being involved in a price fixing cartel on imported Japanese fax paper sold in the US from August 1991 to March 1992 (US Department of Justice 1995).

- COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION (CSIRO)

CSIRO's Division of Forest Research began in 1921 as the Australian Government's Commonwealth Forestry Bureau, and was incorporated within CSIRO in 1975. The organisation has played an important role in promoting fast-growing tree plantations in the Mekong region. (See Lang 1996b and 2000 for profiles of CSIRO.)

In 1989 Stephen Midgley of CSIRO travelled to Vietnam, Laos and Cambodia on a technical advisory visit for the Australian Tree Seed Centre. Midgley recommended that Australia should continue to provide technical literature, and establish seed orchards in Vietnam. "It would seem logical that Australia, with the appropriate scientific expertise and genetic material, could make a unique contribution in this regard," he wrote (Midgley 1989: 29).

- AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH (ACIAR)

ACIAR was established in 1982, "to mobilize Australia's research expertise to help solve problems limiting agricultural production in developing countries" (ACIAR 1991: 3). ACIAR contracts scientific organisations in Australia to set up collaborative research projects on problems of "mutual interest" with counterparts in other countries. It also aims to allocate funds to conduct research to benefit from Australia's tree genetic resource "that gives Australian scientists a comparative advantage in the search for appropriate species for the reforestation effort in degraded tropical environments" (Boland and Turnbull 1989: 13).

- COMMONWEALTH DEVELOPMENT CORPORATION (CDC)

Established in 1948, as the Colonial Development Corporation, CDC's duty was to carry out projects "for developing resources of colonial territories" (Competition Commission www 1). In 1963 CDC became the Commonwealth Development Corporation and its remit was expanded to apply to the Commonwealth countries. Its remit was later further expanded to cover overseas countries generally and its role was redefined as being "to assist overseas countries in the development of their economies" (Competition Commission www 1). (See report on Thailand for a profile of CDC.)

In Vietnam, CDC has shares in the following companies:

Vietnam Sucrerie Bourbon Tay Ninh (Sugar mill and refinery); and
Vietnam Advanced Building Systems Ltd (Pre-engineered steel building production) (CDC no date b).

- CENTRE TECHNIQUE FORESTIER TROPICAL (CTFT)

The CTFT is a department of the French foreign aid agency Centre de Cooperation Internationale en Recherche Agronomique pour la Developpement, and has its origins in French colonial tropical forestry agencies. (National Research Council 1991: 119). In 1916, France set up a programme to cover France's needs

for aviation-quality timbers from the tropics. In 1923, the Colonial Forestry Service was established. In 1924, a colonial forestry research institute at Nogent-sur-Marne was established. The CTFT had its roots in the Section Technique Forestiere at Nogent (Bedel and Brown 1998).

In 1948, the CTFT was established to undertake research in tropical forestry. Its mandate was to undertake research on colonial forestry and timber, partly to help meet the demand generated by post-second world war reconstruction. The centre worked on several industrial projects, including work on sawn timber production in Cameroon and plywood in Gabon. In 1963, the Burea des Etudes Techniques (BET) was established within the CTFT leading to the involvement in many projects in former colonies, including forest inventories, training programmes, plantations projects, paper mills and silvicultural studies (Bedel and Brown 1998).

In 1984, CTFT was incorporated into CIRAD (Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement) as a new department (Bedel and Brown 1998).

CTFT concentrates on a small range of mainly industrial species, including eucalyptus, Pinus caribaea, Tectona grandis, Gmelina arborea, Acacia mangium and A. auriculiformis (National Research Council 1991: 119). CTFT (along with CSIRO and other forestry research institutions) carried out research in the early 1970s into the pulping of mixed tropical hardwoods, research that was to have a major impact on both the pulp and paper industry and forest cover in the tropics.

In Vietnam, in the mid-1990s, CTFT was acting as technical advisor on an ambitious joint venture between a French company, VMH, and Liksin, a Vietnamese printing and paper company. The total proposed investment was US$17 billion, which would have included new pulp mills, establishment of new port facilities, as well as a huge expansion in raw material plantations. The project planned to establish 200,000 hectares of Eucalyptus plantations in the south and central highlands of Vietnam. The CTFT input began in early 1990 and involved the establishment of a research and training centre, in collaboration with the Forest Science Institute of Vietnam (Midgley 1989: 51).

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