APP

2007

Growing a Sustainable Future

Environmental and Social Sustainability Report for Indonesia

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Report Scope

APP is the brand name used throughout this Sustainability Report as a reference to PT. Purinusa Ekapersada, an Indonesian company that operates pulp and paper mills in the Republic of Indonesia, and its five operating companies: PT. Lontar Papyrus Pulp & Paper Industry in Tebing Tinggi; PT. Indah Kiat Pulp & Paper Tbk. with operations in Perawang, Serang and Tangerang; PT. Pindo Deli Pulp And Paper Mills in Karawang; PT. Pabrik Kertas Tjiwi Kimia Tbk. in Sidoarjo; and, PT. Ekamas Fortuna in Malang. (The PT. Ekamas Fortuna mill was not included in APP's initial Sustainability Report, but has been included in this report in the interest of providing greater transparency.) These mills are located on the Indonesian islands of Java and Sumatra.

Sinarmas Forestry (SMF) is the exclusive fiber supplier to APP's mills. It is an affiliated company of Sinarmas Group.

This report is APP's second Sustainability Report, and covers activities during the period January 1, 2007 to December 31, 2007. The cut-off date for performance data for APP and Sinarmas Forestry is December 31, 2007.

This report has been developed based on the main considerations and selected G-3 performance indicators of the GRI framework. As is standard APP practice in sustainability reporting, this report has been verified by an independent, credible, third-party reviewer, Société Générale de Surveillance (SGS), which has adhered to the principles and practitioner requirements for a B+ Application Level GRI Sustainability Report.

SGS is counted among the world's leading inspection, verification, testing and certification companies, with more than 50,000 employees and a network of more than 1,000 offices and laboratories worldwide. The verification for this report was performed by SGS' office in Jakarta, Indonesia.









02 Message from the Chairman

Our Three Commitments

It has been thirty years since APP began operations with a single, small paper mill in East Java, Indonesia. Today, APP has evolved into a recognized leader in the global paper market.

Along with leadership comes responsibility. As stated in our Corporate Mission, all of the companies operating under the APP brand continually strive to improve the quality of life of their employees, provide satisfactory returns to shareholders, and further strengthen the group's foundations so that it can build an even better and sustainable tomorrow for its stakeholders.

This Mission is demonstrated daily through APP's three commitments: to society, to the environment, and to the economy of Indonesia.

Throughout our mills and pulpwood supplier's operations, APP strives to alleviate poverty and support Millennium Development Goals through the creation of jobs, both on-site and in neighboring communities. APP views education as the key to improve livelihoods, and actively supports schools, vocational education, and skills-training programs for youth and adults alike. APP also works to ensure the delivery of basic medical care to rural Indonesians who, through poverty or remoteness of location, would not otherwise be able to access this vital service.

During 2007 APP companies invested nearly US$30 million in social-benefit and environmental programs. But we are not content to make this investment in a vacuum. That is why, during 2007, we commissioned our first-ever Social Footprint Assessment. Scheduled for completion by the end of 2008, this assessment should reveal to us the positive and negative social impacts of our operations, as well as the reach and outcomes of our social programs so that we can continually improve our ability to engage stakeholders and deliver tangible benefits to civil society.

Our commitment to the environment drives our mill and pulpwood supplier operations alike. All of our mills adhere to a strict policy of waste reduction, reuse, and recycling. We have invested heavily in process improvements and initiatives to ensure that our emissions, effluent, and solid waste are well below the levels prescribed by law.

As an industry leader, APP recognizes its responsibility to fight global warming. So that we might have a quantified baseline of our greenhouse gas emissions, APP commissioned its first-ever Carbon Footprint Assessment. We will use the results of this assessment to guide us as we work to further reduce our carbon footprint.

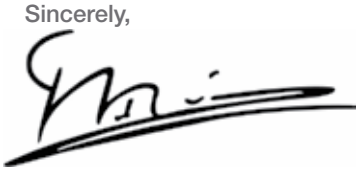
We also have initiated training programs at our mills to prepare them for future certification to the Chain-of-Custody standard of the Programme for the Endorsement of Forest Certification Schemes (PEFC). We continue to drive improvements in the responsible practices employed by SMF on its pulpwood plantations and, together with SMF, are making progress toward protecting large, landscape-scale blocks of natural forest habitat through such multi-stakeholder projects as the Senepis-Buluhala Tiger Sanctuary and the Giam Siak Kecil – Bukit Batu Biosphere Reserve.

But APP and SMF can do nothing to deliver lasting benefits to civil society and the environment if we, ourselves, are not a sustainable enterprise. It is only by ensuring that our mills have a sustainable supply of legal, raw material – fiber from fast-growing, responsibly managed pulpwood plantations – that we can continue to operate, create jobs, and fuel the Indonesian economy. That is why, during 2007, our pulpwood supplier continued to reforest the barren land, scrub land and degraded forest granted to them by concession of the Government of Indonesia, planting nearly 1.5 million seedlings every workday (based on 250 workdays per year). Besides providing APP with a sustainable supply of fiber, these vast plantations serve as carbon stores, and help combat climate change on a global scale.

All of the companies that comprise the APP brand are proud of the continued progress that has been made in delivering tangible benefits to society, the environment, the economy of Indonesia, and shareholders.

As we work toward realizing our vision of being the number-one pulp and paper company in the world, with the highest international standard and the strongest commitment to delivering superior value to customers, shareholders, employees, and the community, we remain firmly grounded in our three commitments. For it is only by making bold, positive strides in the three pillars of sustainability – economic, social and environmental – that we can benefit this and future generations.

Sincerely,



Teguh Ganda Wijaya
Chairman

03 Corporate Overview

Introduction to APP

One of the world's largest pulp and paper companies, APP is recognized internationally for the quality of its paper products. With current annual combined pulp, paper and paperboard capacity in Indonesia of more than seven million tons, APP ranks as the number-one producer in Asia, outside of Japan.

APP's operating companies produce a broad range of printing and writing papers, specialty papers, tissue, and paperboard. In addition, APP's mill operations produce converted paper products such as photocopy paper, office and stationery papers, hygienic tissue and packaging products. APP's products are marketed in more than 65 countries, and APP is a major supplier to customers in Europe, Japan, Oceania, the United States, the Middle East, as well as Indonesia and other countries in Asia.

APP is one of the business arms within the Sinarmas Group, a large Indonesian business conglomerate. APP has five operating companies: PT. Lontar Papyrus Pulp & Paper Industry ("Lontar Papyrus") with one mill; PT. Indah Kiat Pulp & Paper Tbk. ("Indah Kiat") with three mills; PT. Pindo Deli Pulp And Paper Mills ("Pindo Deli") with two mills; PT. Pabrik Kertas Tjiwi Kimia Tbk. ("Tjiwi Kimia") with one mill, and PT. Ekamas Fortuna ("Ekamas Fortuna") with one mill. Together, these companies operate a total of eight mills in Indonesia. The Lontar Papyrus and Indah Kiat Perawang pulp and paper mills are located on the island of Sumatra. The remaining six mills produce paper only and are located on the island of Java.

In 2007, sales for the five APP companies totaled in excess of US$4.3 billion dollars. APP has no joint ventures, and does not make use of subcontractors or outsourcing, obviating the need for including these categories in the scope of this report.

During 2007, APP employed more than 37,000 workers. Mill operations created in excess of 25,000 indirect (part time and temporary) jobs. In addition, through its exclusive fiber supplier, Sinarmas Forestry (SMF), one of Asia's leading forest management companies, APP provided employment for an estimated 6,900 employees and accounted for nearly 1,600 indirect jobs. This brings the estimated total employment of APP to more than 71,000 persons.

The importance of these jobs in a developing economy such as that in Indonesia can best be understood by referencing a recent assessment entitled, "Role and Contribution of PT Indah Kiat Pulp and Paper Industry and PT Arara Abadi Pulpwood Plantation in the Riau Province Social and Economic Development" that was conducted by the Bogor Institute of Agriculture in 2007-2008. This study reported that there is a multiplying effect on jobs

Table I – APP Mill Sales and Production in 2007

Mill	2007 Sales (US$ Thousands)	2007 Production (ADMT[1])
Indah Kiat	1,856,307	3,806,366
Pindo Deli[2]	1,262,999	1,693,243
Tjiwi Kimia	1,153,500	1,335,000
Ekamas Fortuna	69,453	178,923
TOTAL	4,342,259	7,013,532

1. ADMT = Air Dry Metric Ton of annual production where an ADMT is measured at 10% moisture for pulp, 6% for paper.
2. PT. Pindo Deli Pulp And Paper Mills owns 80% of PT. Lontar Papyrus Pulp & Paper Industry. Sales for these entities are consolidated for reporting.

Table II - Distribution of APP Mill Employees, Mill Indirect Jobs and Fiber Supplier Jobs in 2007

Location	Mill Employees	Mill Indirect Jobs	Sinarmas Forestry	Forestry Temporary Employees	TOTAL
Island of Java	26,877	6,041	0	0	32,918
Island of Sumatra	10,712	19,501	5,909	735	36,857
Island of Borneo[1]	0	0	1,054	855	1,909
TOTAL	37,589	25,542	6,963	1,590	71,684

1. This refers to the Indonesian Provinces of East and West Kalimantan

in Indonesia in the supporting and downstream industries from plantation, pulp and paper mill operations. The multiplying effects are as follows:

Plantations: Every one direct employee supports 133,000 jobs in supporting and downstream industries. This equates to a multiplier of thirty-seven (37).

Pulp and Paper Mills: every one direct employee supports 109,000 jobs in supporting and downstream industries. This equates to a multiplier of thirteen (13).

In addition, the study found that for every 100 hectares of pulpwood plantations established, 37 jobs were created in the plantation, pulp and paper industry.

B. APP's Vision

APP's vision is to become the 21st century's number one, international-standard, pulp and paper manufacturer, dedicated to providing superior value to customers, shareholders, employees and the community.

To fulfill this vision, APP has committed itself to being socially, environmentally and economically sustainable in all of its operations. APP keeps this commitment by helping to empower people in the communities in which it operates, initiating conservation programs to protect the environment, using only the most efficient and ecologically sound harvesting technology, adopting best practices in its mill operations, and dedicating itself to company-wide continuous improvement.

C. Corporate Governance

Under Indonesian laws regulating limited liability companies, and in accordance with good corporate governance, private and public companies alike are required to have two boards: a Board of Directors and a Board of Commissioners. The Board of Directors is responsible for operations and management of a company in the best interests of the company and in accordance with the company's purpose and objectives. The Board of Commissioners is responsible for supervising the Directors' policies in running the Company and to give advice to the Directors.

Operating in a Land of Challenges

The world's largest archipelagic state, Indonesia stretches more than three thousand miles along the equator, and encompasses more than 17,500 islands. This nation of islands forms a link between the Indian and Pacific oceans. Indonesia's 233 million people represent myriad cultures, languages, religions and ethnic groups.

Some 45% of all employment in Indonesia is in agriculture, yet this sector accounts for only 16% of the country's gross domestic product. Today, Indonesia ranks 107th out of 177 countries on the United Nation Development Program's (UNDP) Human Development Index and 47th out of 108 countries on the UNDP's Human Poverty Index.

The challenges of conducting business in Indonesia include political turmoil, corruption, poverty, increased pressure on resources due to a high rate of population growth, an under-resourced public education system, pollution, land encroachment and disputes, forest conversion, loss of biodiversity, fire, illegal logging, and inadequate infrastructure.

In support of President Yudhoyono's plan to reduce bureaucracy and root-out corruption from the top down, the Indonesian Ministry of Forestry established a ten-year plan, setting as its priorities:

- **the eradication of illegal logging and illegal timber trading;**
- **the revitalization of the forestry sector;**
- **the rehabilitation of degraded forest and wasteland;**
- **the conservation of high conservation value forests; and**
- **the economic empowerment of forest dwelling communities to increase welfare, education and employment opportunities.**

Appendix IV contains a table detailing the Indonesian units of governance, terms that will be used throughout the report.

It is compulsory for each public company in Indonesia to have an Independent Commissioner, who has the responsibility of supporting and creating a more objective and fair system of governance for minority and other stakeholders in accordance with the principles of good corporate governance. Each public company in Indonesia also must have an Audit Committee.

The Chairman's role encompasses oversight of the overall operations of the business at the highest level, approval of the business strategy for the business as a whole and advising and supporting the company's directors in attaining their medium- and long-term goals. Of the 32 Commissioners that sit on the Board, six (32%) are independent.

The primary mechanism for providing recommendations or guidance to the governing body is based on paragraph (2) of Article 79 of the Limited Liability Companies Law of Indonesia. This law states that the General Meeting of Shareholders (GSM) shall be convened at the request of:

a. 1 (one) or more shareholders who jointly represent 1/10 (one tenth) or more of the total number of shares with voting rights, unless the Articles of Association of the company determine a smaller number; or

b. The Board of Commissioners.

The request for convening a GSM shall be submitted to the Directors by Registered Letter containing the reasons.

There were no changes or improvements to the governance of APP's operating companies during 2007.

Additional information about corporate governance and the operations structure of PT. Purinusa Ekapersada and its five principal operating companies is provided in **Appendices I and II**.

APP, through its operating companies Indah Kiat, Tjiwi Kimia, Pindo Deli, and Lontar Papyrus, participates in three national trade associations: the Indonesian Public Listed Companies Association (AEI); the Indonesian Pulp and Paper Association (APKI); and, the Indonesian Entrepreneur Association (APINDO). Additional information on these associations is contained in **Appendix III**.

D. Sustainability and Corporate Strategy

This Sustainability Report, the second document of its kind issued by APP, is intended to provide a foundation for a basic understanding of APP's sustainability policies, strategies and programs. It is also intended to serve as a point of comparison with past and future reports on APP's efforts toward increased environmental and social responsibility. APP recognizes that, while it made progress during the reporting period, there remain many areas in which the company can and will improve its performance over time. APP believes that by sharing this

information with all interested stakeholders, this report can foster the continuance of a collaborative journey toward continued improvement.

In addition to the summaries contained in the various paper company Annual Reports, this 2007 Sustainability Report provides more specific and detailed evidence of APP's commitment to triple-bottom-line reporting by demonstrating APP's focus on continuous improvement in its economic, environmental and social performance.

In early 2000, APP established a Sustainability & Stakeholder Engagement Department which operates under and reports to the company's highest governing bodies. This department has two key responsibilities: to facilitate productive, ongoing dialogue with APP's broad and diverse global stakeholder base and to develop and execute APP's sustainability strategies. Based on inputs from its global stakeholders, the Sustainability & Stakeholder Engagement Team identifies, analyzes and assesses risks in order to most-effectively improve APP's sustainability strategies and programs. All of APP's sustainability initiatives and their implementation are supported by teamwork of and collaboration between the members of the Sustainability & Stakeholder Engagement Department and the technology, environment and human resources departments of APP and its fiber suppliers.

The numerous third-party certifications earned by APP's production facilities and products, such as OHSAS, ISO 14001, Controlled Wood, PEFC Chain-of-Custody and Eco-label certification, are testimony to APP's compliance with international sustainability standards, codes of conducts, and principles.

In order to assess APP's progress in meeting its sustainability targets, the company's highest governing body evaluates internal standards of expertise and performance benchmarked against international best practices. The Sustainability Team, and other relevant players with responsibility for sustainability programs, are compensated against a set of economic, environmental and social key performance indicators. As is true with its operations, these performance measures are administered on a periodic basis through APP's Management by Olympics program, and are supported by its use of a company-wide Skills Development Activities Program.

APP has developed an internal set of mission and values statements, codes of conduct, and policies relating to economic, environmental, and social performance. These are applied by all departments across the organization. These are based, in large part, on internationally accepted standards, and include policies that address legal-origin verification of the fiber supply using the SGS Timber Legality and Traceability Verification Program, and maintaining the integrity of the chain of custody throughout manufacturing processes using PEFC indicators and enhancements to procurement protocols. (APP's Declaration of Sustainability and Fiber Procurement Policy can be found in **Appendix V**.)

As an environmental-performance baseline, APP strictly adheres to the indicators stated in relevant national standards and legislation. However, when circumstances so warrant, the company applies more stringent standards and indicators. APP has mounted industry-leading voluntary initiatives, such as the correlated Carbon and Social Footprint Assessments of its operations commissioned during 2007.

APP also has established Key Performance Indicators for its sustainability performance. Performance against these indicators is evaluated annually by APP's executive management.

1. APP and Sustainability

APP offers a range of environmentally-sound paper products made from fiber from sustainable resources.

Sustainability Report Award

In recognition of its transparency in reporting and its commitment to social-environmental sustainability, APP was presented with its First Sustainability Reporting Award at the third annual Indonesian Sustainability Report Awards (ISRA) in September 2007.

Seventeen state-owned enterprises and private companies participated in the event. Only eleven companies were selected for consideration by a panel of fourteen judges representing various stakeholders.

The panel included judges selected from the State Ministry for Environment, the State Capital Market Supervisory Agency, the Jakarta Stock Exchange, the National Committee on Governance, the Forum for Corporate Governance, the Indonesian Center for Sustainable Development, the Corporate Forum for Community Development, the Indonesian Business Link and the Indonesian Institute of Accountants.

The winners were selected after a careful evaluation of their 2006 annual reports, including reports on socio-environmental sustainability, through a process which included interviews. The ISRA was first organized in 2005 by the Indonesian Institute of Accountants (IAIKAM), to provide recognition to organizations that routinely report and publish their environmental and/or social practices separately or as integrated annual reports.

The awards also are intended to encourage reporting, increase corporate accountability, emphasize corporate responsibilities to key stakeholders, and heighten awareness of the importance of corporate transparency and disclosure.

These include elemental chlorine free (ECF) paper and a range of paper and paperboard products made with post-consumer recycled waste paper. All of APP's operations are ISO 9001:2000 Quality Management System and ISO14001:2004 Environmental Management System certified, and many have remained so for nearly a decade. Consistent with the tenets of these certifications, APP's mills were early adopters of methods to more effectively build-in management tools for continuous improvement.

All of APP's operations now observe and surpass national air-emission, water-effluent and solid-waste standards. Performance in these critical areas is monitored rigorously by each facility and is verified through periodic third-party audits. APP's paper, tissue and packaging products are manufactured in compliance with product safety regulations for critical and demanding markets in Europe, Japan, and the United States.

All operations have met, and continue to meet, the Indonesia government's occupational safety and health regulations and requirements (SMK3), rigorously maintain the programs recognized by their SMK3 certifications, and conduct annual, third-party audits of performance.

2. Social Responsibility

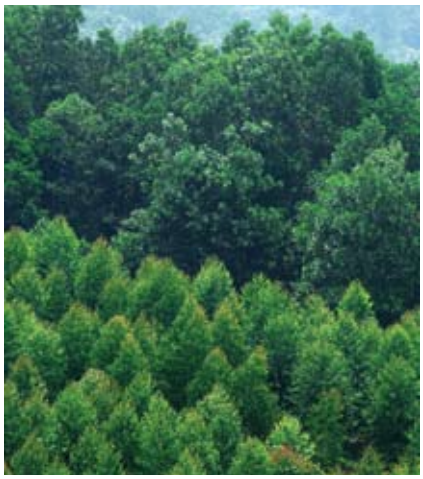
APP's commitment to sustainability encompasses maintenance of its own economic viability, for reasons that have a decidedly social dimension. APP's continued operation is the means of ensuring better, more stable livelihoods for the more than 71,000 employees and indirect workers who depend directly on the company for their income. In addition, APP's continued operations indirectly support thousands of families, many of whom live in remote villages and rural communities.

APP recognizes that its economic, technologic, and manufacturing resources (in particular, its pulp manufacturing operations), stand in marked contrast to the rural and relatively impoverished living standards of neighboring villages. Because the nature and scale of APP's business does not enable the company to offer employment to many community members who are less-educated and relatively unskilled, the company views itself as having an obligation that extends past the mill gate – a commitment to the vitality and sustainability of nearby communities.

APP is committed to mitigating the disparities between mills and communities by implementing myriad education, training, and empowerment programs for local communities. APP also provides much-needed health care and infrastructure improvements that enable local communities to better help themselves.

a. Education

Recognizing that access to quality education is the key to improving livelihoods and to developing a local base of qualified employee recruits, APP invested heavily during 2007



in programs to provide higher-education opportunities for promising high-school students.

Post-Graduate Program Scholarships
APP invested US$29,743 to provide full scholarships to high-potential, high-performing high school students, enabling them to continue their studies at technical institutes domestically and abroad. Thirteen students representing seven APP operations participated in 2007, up from six participants in 2006. By underwriting the costs of higher education for these students, APP hopes to develop them as candidates for lead positions in its operations.

Scholarship – Academy of Pulp & Paper Technology
APP also invested US$7,990 during 2006–2007 to continue its program of underwriting three-year, full scholarships to Akademi Teknologi Pulp & Kertas (Academy of Pulp & Paper Technology) in Bandung and Serang, West Java. With this financial support from APP, 32 high performing high-school students from Perawang, Jambi, Surabaya, Karawang, and Tangerang were enrolled in technical courses of study at the academy. At the completion of their studies, students will be hired by their sponsoring mill, and will serve there for a minimum of three years.

Eka Tjipta Foundation (ETF) Higher-Education Scholarships
Eka Tjipta Foundation (ETF) is a nonprofit organization, founded by the Eka Tjipta Widjaja family, which aims to improve the quality of life and to foster a sustainable society through empowerment programs in education and environmental conservation as well as alternative energy. The Foundation's vision is clearly reflected in its motto "good deeds create good seeds."

One of the major programs sponsored by ETF is the Tjipta Sarjana Bangun Desa Program, which provides higher-education scholarships to under-served students. APP invested US$386,478 in 2007 to provide scholarships to students studying at the university level. The purpose of this program is to provide greater opportunity for youth living in communities surrounding APP's operations by enabling them to continue their studies at the university level and to contribute in the development of their hometown once their studies are completed. The scholarship covers tuition fees, books and a living allowance. Students were selected for the program based on three criteria: a high motivation to study; belonging to a low-income family; and enrollment at a university that had partnered with APP and ETF. In 2007, 1,058 students received scholarships.

b. Health Care

Nursing-Skills Development
Ensuring access to quality health care is essential to improving the quality of life in communities near APP's mills. During 2007, the company invested US$27,967 to improve the practical skills of health-care workers. One hundred seven nursing-school graduates and midwives in Pekanbaru and BSD-Serpong received 30 days of nursing-skill training in the classroom, followed by 60 days of practical training in a hospital setting. These individuals received training in Basic Life Support techniques enabling them to better respond in emergency situations.

3. Sustainable Forest Management

APP continues its strong commitment to sustainable forest management, a commitment that is realized through a close and direct working relationship with its exclusive fiber supplier, Sinarmas Forestry (SMF).

APP and SMF share three goals in their vision of sustainable forestry: to strive for sustainable fiber productivity (growth rate and fiber yield); to provide competitive fiber cost; and to use methods that are environmentally

acceptable and socially compatible. APP and SMF also share a forest conservation goal of leaving intact large areas of natural forest (in addition to the conservation areas required by national regulations) in order to protect the biodiversity of valued ecosystems. These programs, discussed in the fiber supply and conservation sections of this report, entail close cooperation and collaboration with other companies, the scientific community, the government and interested stakeholders.

To support the activities in the pulp and paper business and to better manage all of its own improvement activities, the four largest Sinarmas Forestry (SMF) operations in Riau, Jambi and West Kalimantan also are ISO 14001/2004 certified. These operations manage nearly one million hectares of forest concessions in 2007.

SMF operations in Sumatra continue to push forward using a phased approach toward achieving third-party sustainable forest management certification of their plantations according to the Principles and Criteria for Sustainable Plantation Forest Management of the Ecolabel Institute of Indonesia (LEI). During 2007, SMF's operations in Jambi completed a Gap Analysis prior to undergoing a formal forest certification assessment. APP's other fiber suppliers are preparing for their Gap Analysis assessment.

In past years, some non-governmental organizations (NGOs) have alleged that SMF operations in Riau province, Sumatra, failed to prevent illegally sourced timber, harvested by third party subcontractors, from entering the Indah Kiat Perawang Mill's wood supply chain. APP has maintained that no illegally logged timber was knowingly purchased for its Indah Kiat Perawang Mill, and enforces a strict policy of allowing zero illegal logs in its fiber supply chain.

APP has established a rigorous tracking system to ensure that all wood brought into its two pulp mills in Sumatra is of verified legal and non-controversial origin. Fiberstream integrity is maintained all the way from the forest to the mill through the tracking and documentation requirements of APP's Legal Origin Verification / Chain-of-Custody (LOV/CoC) system. To ensure that this system continues to operate effectively, the system performance and improvements are verified regularly through third-party audits. All fiber purchased from outside sources either must be third-party certified according to a credible sustainable forest management standard (in the case of market pulp) or come from a documented post-consumer waste source (in the case of recycled paper). (See **Appendix VI** for APP's 2007 LOV/CoC Audit Statement Summaries.)

E. APP's Fiber Sources

The Republic of Indonesia owns some 111 million hectares of state forestland (about 58% of the total land mass of the country). Of this area, more than 51.5 million hectares (46%) have been zoned as protected areas and conservation forests. Thirty-one percent of Indonesia's land surface has been classified as production forest in which pulpwood plantations can be established[1]. APP's fiber sources constitute only 2% of the country's classified production forest.

No private ownership of forests is permitted in Indonesia. However, the Indonesian Ministry of Forestry grants licenses (also known as concessions) to private companies for the reforestation, management and harvest of state-owned forestland.

1. Sinarmas Forestry Concessions

As of December 31, 2007, the area of concessions under license to Sinarmas Forestry (APP's exclusive fiber supplier) totaled 2,388,468 hectares. Of the total forest concession area, nearly four-fifths is located on the island of Sumatra, with the balance on the island of Borneo in the Indonesian Provinces of East and West Kalimantan.

Table III - Sinarmas Forestry Concessions as of December 31, 2007 (area in hectares)

			Area Approved for Plantation Development			
Island	Total Area	Set-Aside Area	Subtotal	Planted	Degraded	Barren/Scrub/ Fire Damaged
Sumatra	1,865,848	665,142	1,200,706	639,550	148,936	412,220
Borneo (Kalimantan)	522,620	296,679	225,941	121,034	2,503	102,404
TOTAL	2,388,468	961,821	1,426,647	760,584	151,439	514,624
Percent	100	40	60	32	6	22

A total of 961,821 hectares (or 40%) of the total concession area has been set aside as conservation area, reserves for community use, indigenous species and infrastructure. At the end of 2007, 760,584 hectares (32% of the total concession area) of the remaining 1,426,647 hectares approved for plantation development was established as pulpwood plantations. The balance of this area (28% of the total concession area) was either degraded forest (151,439 hectares) or bare earth, scrub lands, waste lands, or fire-damaged areas awaiting reforestation (514,624 hectares in aggregate).

2. Protection Against Forest Fires

In addition to the normal issues of growth and disease that impact forests, fires pose a real and present danger to the resource itself, to nearby communities, and to Indonesia and neighboring countries in the form of smoke and haze. To address this threat, SMF enforces a strict no-burn policy on licensed concessions. In addition, SMF has put in place a number of proactive programs to prevent or minimize the risk of the occurrence of forest fires. These programs range from use of water-bombing helicopters and firefighting barges by company fire fighters to collaboration with local, regional and national authorities. It also includes the implementation of community awareness and training programs.

3. Community Development and Community Forestry

As is the case with APP's social programs SMF's community development programs are designed to help people live with greater autonomy, prosperity and environmental awareness. SMF's programs focus on the development of community economies and infrastructure. These programs support social and cultural activities and generally incorporate an agricultural dimension. The development and implementation of these programs is built on three key principles: respect for the rights of indigenous peoples; deferring the development of land on which there are unresolved, legitimate land claims until those claims are resolved using a fair and equitable process; and the formulation of plans on a participatory basis.

SMF, together with its plantation partners, act as responsible caretakers of the people's forestland, and support the development of sustainable community woodlots. This focus on small-scale forestry adds a pragmatic dimension to SMF's sustainable forestry management programs, and offers a means of providing for the critical economic needs of forest-dwelling people who would otherwise lack the expertise or experience to manage a forest sustainably. By providing a means of earning livelihoods through the practice of responsible forest management, the establishment of community woodlots also helps minimize the incidence of illegal logging and land-clearing by fire, increases the efficiency of non-productive land, and helps meet the long-term fiber supply needs of the company.

F. APP's Relationship with Stakeholders

1. Stakeholder Identification and Outreach

As a leading actor in the global paper trade, APP recognizes the need to maintain relationships with, and solicit input from, a wide range of stakeholders around the world and in its home nation of Indonesia. APP's stakeholders include, but are not limited to, its global customer base, suppliers, community leaders and community members, non-governmental organizations, local and regional authorities, the government of the Republic of Indonesia, and the media.

In addition, APP maintains open lines of communication with national,

NGO Stakeholder Messages to APP

(The company) will not be sustainable it they don't interact well with local communities. If they fail to make peace with locals, at some time they will be shut down.
– YCBM, Jambi

(The company) has to present a more positive public image, and has to improve its conflict management. It has to be more transparent to the public and the communities concerning the progress of conflict resolution under way.
– NP-SAND (National Park Safety Foundation), Jambi

Conflict management resolution is very important in maintaining the company's social sustainability. APP has been quite open in discussing conflict problems with some stakeholders, but still lacking transparency in communicating its corporate communication mechanism.

Making a transparency policy in conflict resolution and communication mechanism as a corporate tradition will bring the company toward a better future. CAPPA is demanding for the company to build a corporate policy of conflict resolution management to be implemented in all of its operations.
– Kasmadi Kasyim, Board Member, CAPPA (Community Alliance for Pulp and Paper Advocacy)

If APP wants to keep operating as a sustainable business in Indonesia, there must be big changes in the way the company thinks and acts – the company must find a way to live in harmony with forest-dependent people. If there is no change, the conflicts will continue and the company will just be wasting its money – throwing it at one issue after another. The company needs to make an investment into empowering people, developing communities, and improving livelihoods.
– FKD (Regional Communication Forum), Riau

The company should pay more attention to the welfare of communities, and should resolve land conflicts. The ideal situation would be to build a partnership relationship in which the communities could help the company and vice versa.
– WARISAN (Heritage Forest Conservation and Forestry Association), Riau

The Indah Kiat Serang Mill is an asset to the community and FORKLIP supports its existence. But they could, and should, do more social programs for the well-being of the community around their mill, thus improving their relationship with the community.
– FORKLIP (Communication Forum for Intra-industrial and Youth), Serang

regional and local governments, and works closely with them to ensure effective implementation of government policies and programs.

APP and SMF engage stakeholders on an "Open Door" basis to discuss issues that affect its mills, related forest operations and the relevant stakeholder group. According to interviews conducted during the preparation of this report, stakeholders also have access to mill management personnel as needed to discuss emerging issues.

Formal forest and mill-based processes are in place for community and "stakeholder" liaison through the respective mill ISO 14001 programs. However, there are not yet formal, standardized procedures at the corporate level for receiving, handling, responding to and internal reporting of stakeholder comments and complaints.

Ms. Aida Greenbury, Director of Sustainability & Stakeholder Engagement for APP Indonesia, serves as a primary point of contact between the company and its stakeholders. To facilitate productive, ongoing dialogue with APP's broad and diverse global stakeholder base, APP's Sustainability & Stakeholder Engagement Team publishes its "APP Stakeholder Update" on a quarterly basis (more frequently as a topic dictates), and distributes this document to more than 600 individual stakeholders and stakeholder groups worldwide.

Input from stakeholders is solicited through face-to-face meetings, informal surveys, and both written and telephonic communication. APP's Sustainability & Stakeholder Engagement Team travels internationally to conduct "Stakeholder Update" events. These sessions provide forums for the open exchange of ideas, concerns, and solutions between the company and its stakeholders.

During 2007, 16 Stakeholder Update events and meetings were held in Singapore, Hong Kong, China, the United Kingdom, Germany, the Netherlands, Japan, the United States, and Australia, generating a wealth of input that influences the company's policies, strategies, plans and practices. The input gathered at these sessions is reviewed by APP staff and middle management with an eye toward balancing the three tenets of sustainability (economic, social and environmental), and then is passed along with recommendations for action to senior management. Senior

management reviews this information and, based on appropriateness and relevancy, formalizes plans for implementation at the field level. Among the concerns raised by stakeholders in 2007 were: ensuring the legality of APP's fiber supply; the company's progress toward certification of its pulpwood plantations; the company's efforts to protect biodiversity; and the company's progress in ensuring its social license to operate. As detailed elsewhere in this report, APP has programs and policies in place to address each of these concerns.

2. NGO Stakeholder Interviews

As part of the preparation of this report, APP made arrangements for third-party, face-to-face interviews to be held between Nowack-Beer Consulting (a US-based sustainability issues management firm) and eleven individuals representing eight NGO stakeholder groups on the islands of Sumatra and Java. (See **Appendix VII**.)

Interviewed separately and outside the presence of APP and SMF managers, these stakeholders were asked to identify the environmental and social issues of greatest concern to their organizations and to comment on the performance of APP and its fiber supplier in addressing these concerns.

The interviewed NGO stakeholders were quite candid in their comments. While some felt that APP and its fiber supplier had recently begun to make some progress in addressing key issues, all felt that much more needed to be done.

By far, the issue of greatest social concern was that of land-claim disputes arising from the disparity between tribal/historic land tenure and government-issued concession licenses. As one stakeholder put it, "What the government of Indonesia says is 'wasteland' still has value to the people living on it."

APP's fiber suppliers in Riau and Jambi were viewed by more than one stakeholder group as needing improvement in their response to landclaim disputes. However, APP's fiber supplier in Jambi was seen by one interviewee as beginning to build good will with local villagers, though many of its managers still required more training to increase their expertise in conflicts and crises avoidance.

The company was viewed by more than one interviewee as being quick to listen, but rather slow to act on social concerns raised by the villages near its operations. Stakeholders attributed this to a number of factors, including a lack of social awareness, a lack of expertise in social issues, and to the layers of bureaucracy existing within a large organization.

When the company does act to address social-welfare issues, stakeholders reported, its efforts are sometimes inadequate or mismatched to the community's real needs. Acknowledging that local communities make demands on the company based upon a sense of entitlement, stakeholders still expressed a desire that the company increase its social investment, and target it toward empowerment programs rather than on "charity." In addition, more than one interviewee stated that the company should extend its social outreach to the more remote villages surrounding its operations, rather than just focusing spending on nearby communities.

The loss of natural forest cover and illegal logging were among the environmental issues of greatest concern to the stakeholders interviewed. Stakeholder perception of the company's environmental performance was mixed, at best.

APP's fiber supplier in Riau was viewed by the interviewed stakeholders from that area as a poor environmental actor that needs to further improve its environmental conservation initiatives.

One interviewee stated that APP's fiber supplier in Jambi was becoming

APP Responds

APP values the opinions and comments of these and other stakeholders. As a responsible company, as the economic engine of many communities, and as one of the nation's most prominent actors, APP shares the concerns of fellow Indonesians for the conservation of precious natural resources, the enhancement of quality of life and standards of living, the empowerment of citizens, and the harmonious co-existence of industry and commerce with other sectors of society.

Every company, and every individual, possesses varying degrees of competence across a range of pursuits. APP is no exception. APP and its fiber suppliers excel at making pulp and paper and at practicing responsible forestry. Delivering social benefits, empowering citizens, and building strong bonds with the people in remote, rural areas are fields in which we have made continuous improvement and have allocated a great deal of money but cannot, as yet, claim expertise.

During 2007, APP received numerous comments and suggestions from NGOs, customers, and other stakeholders including the social and academic community. APP has responded to these inputs and has incorporated the relevant information into its overall sustainability strategy.

So that we might continue to improve, and so that our community-directed efforts might deliver more robust and long-lasting benefits, APP commissioned its first-ever Social Footprint Assessment (as part of the paper industry's first-ever Carbon-Socio Footprint Assessment). When it is completed in 2009, this independent, third-party assessment will provide a comprehensive review of the social impacts of APP's mill operations and SMF's sustainable pulp plantations. The results of this assessment will serve as foundation upon which APP and SMF can engage in more meaningful dialogue with local communities to heal wounds, resolve conflicts and build partnerships. APP's Social Footprint Assessment also will serve as a guide that will lead the companies to invest more wisely in empowerment programs that improve livelihoods, alleviate poverty, develop communities and mitigate the downstream impacts of subsistence living on the environment.

a responsible environmental actor that is very strict in its environmental practices, particularly in fire prevention. Another stakeholder stated that the company needs to better manage its licensed conservation areas, not just comply with national regulations. A third interviewee stated that the fiber supplier had made some good first steps toward environmental responsibility, but he needs to see evidence of a genuine interest in responsibility within all levels of the company."

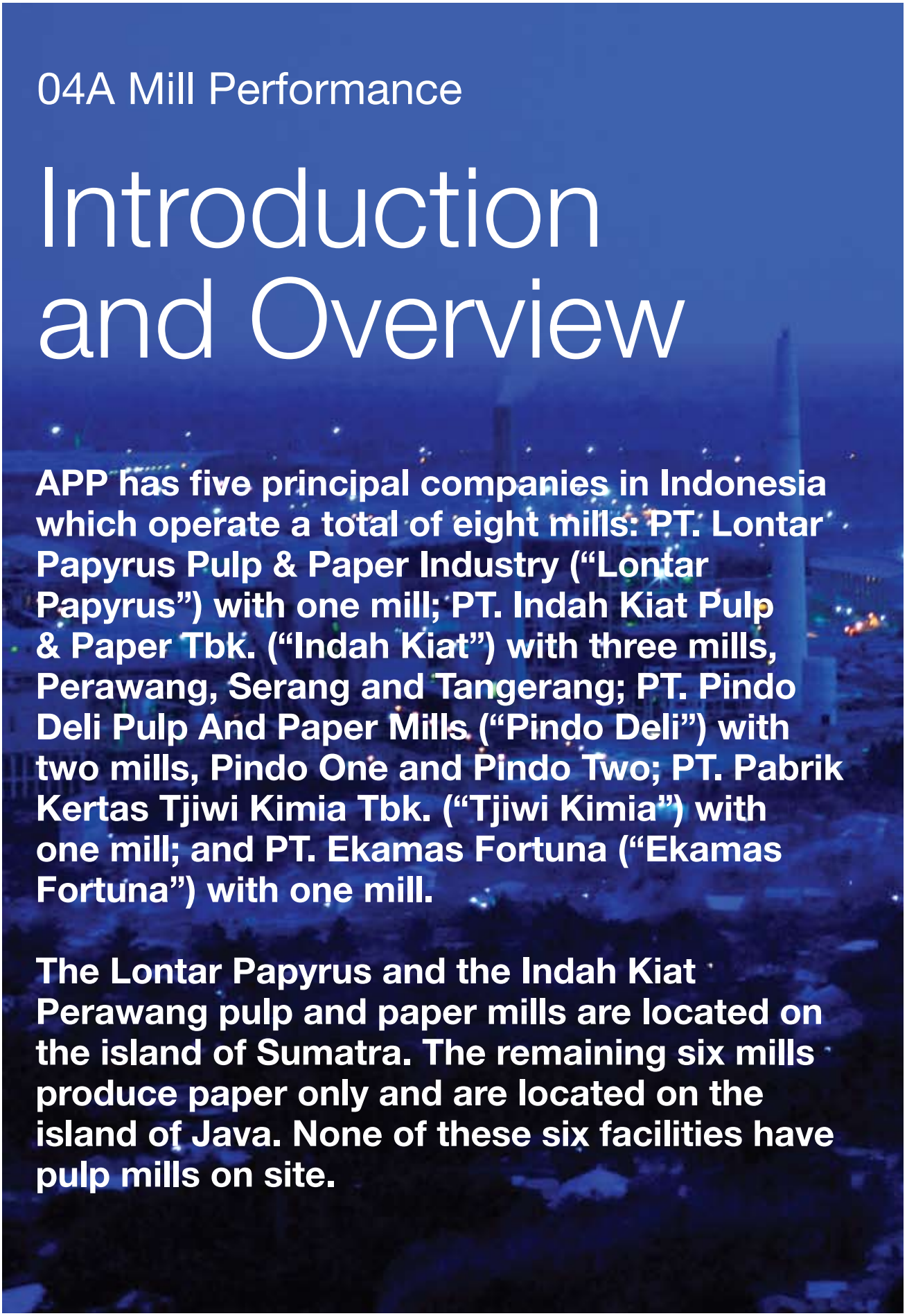
The process of organizing these independent interviews was a first for APP. The results of this process provided valuable insights and will be used along with the results of the Social Footprint Assessment that was commissioned in 2007 in efforts to ensure that the programs in which APP invests in are more effective in alleviating poverty and assuring the sustainability of communities over the long term.

3. Field-level Stakeholder Engagement

During 2007, APP and SMF participated in field-level engagements in its native Indonesia with government agencies, local community officials, community communication forums, local, national and international NGOs, universities, and independent research organizations. Given the large number of engagements, ranging from community meetings to full-day conferences, it is difficult to characterize these sessions except to note that APP's level of engagement in 2007 represented a significant increase when compared to the level of engagement in 2006.

In addition to stakeholder relationships at the local level, APP and SMF develop and maintain stakeholder relationships and hold regular discussions at the regional, national and international level. During 2007, these relationships included Indonesia's Ministry of Forestry (Province and District levels), Kementrian Lingkungan Hidup (KLH) – the Ministry of Environment), the Lembaga Ilmu Pengetahuan Indonesia (LIPI, or the Indonesian Institute of Sciences), Balai Besar Konservasi Sumber Daya Alam (BKSDA, or the Natural Resources Conservation Agency), the Center for Biodiversity Conservation at the University of Riau, the Sumatran Tiger Foundation, and the Program for the Endorsement of Certification Schemes (PEFC).

APP has not conducted a recent, comprehensive survey of customers, non-governmental organizations, or government stakeholders, but maintains regular interaction with these groups. Overall these relationships, with a few notable exceptions, are positive and constructive.



04A Mill Performance

Introduction and Overview

APP has five principal companies in Indonesia which operate a total of eight mills: PT. Lontar Papyrus Pulp & Paper Industry ("Lontar Papyrus") with one mill; PT. Indah Kiat Pulp & Paper Tbk. ("Indah Kiat") with three mills, Perawang, Serang and Tangerang; PT. Pindo Deli Pulp And Paper Mills ("Pindo Deli") with two mills, Pindo One and Pindo Two; PT. Pabrik Kertas Tjiwi Kimia Tbk. ("Tjiwi Kimia") with one mill; and PT. Ekamas Fortuna ("Ekamas Fortuna") with one mill.

The Lontar Papyrus and the Indah Kiat Perawang pulp and paper mills are located on the island of Sumatra. The remaining six mills produce paper only and are located on the island of Java. None of these six facilities have pulp mills on site.

Table I – APP Sales in 2007 (US$ Thousands)

Product	Lontar Papyrus	Indah Kiat Perawang	Indah Kiat Serang	Indah Kiat Tangerang	Pindo Deli	Tjiwi Kimia	Ekamas Fortuna	TOTAL
Pulp	295,601	533,460	0	0	0	0	0	829,061
Paper	0	602,234	0	101,400	812,512	853,900	69,453	2,439,499
Packaging	0	0	618,870	0	12,275	32,000	0	663,145
Stationery	0	0	0	0	0	231,900	0	231,900
Tissue	53,760	0	0	0	86,053	0	0	139,813
Chemicals	2,798	343	0	0	0	35,700	0	38,841
TOTAL	352,159	1,136,037	618,870	101,400	910,840	1,153,500	69,453	4,342,259

1. Mills at a Glance

APP's five producing companies had total sales of US$4.3 billion during the 2007 calendar year, with US$2.4 billion in sales of paper and US$830 million in sales of paper pulp. The balance of 2007 sales consisted of packaging, stationery, tissue and chemical products. Sales in 2007 represented a 17% increase over 2006 and a 29% increase over sales attained in 2005.

Taken together, APP's eight mills employed more than 37,500 people during 2007 and accounted for more than 25,000 indirect jobs serving the mills. The number of jobs provided by the five companies has increased by about 25% since 2005, resulting in more than 12,000 additional persons who were employed directly or indirectly by the company.

The Lontar Papyrus and the Indah Kiat Perawang Mills have an exclusive fiber supply arrangement with Sinarmas Forestry (SMF). In 2007, SMF had a total of nearly 7,000 employees throughout Indonesia, and accounted for more than 1,500 indirect jobs which represented an increase of 20% (1,400 jobs) in overall employment effect since 2005.

Taken together, the APP mills and SMF had an estimated total employment in Indonesia of more than 71,000 persons.

Production during 2007 totaled slightly more than seven million tons of pulp, paper, paperboard stationery and tissue products, including more than 2,500,000 metric tons of hardwood pulp, more than 2,800,000 metric tons of paper, more than 1,300,000 tons of paperboard, some 217,000 tons of stationery and more than 113,000 tons of tissue. In total, this represented a 4-5% increase over production levels in 2005 and 2006.

2. Products

APP's five producing companies manufacture products ranging from hardwood market pulp to printing and writing papers, photocopy

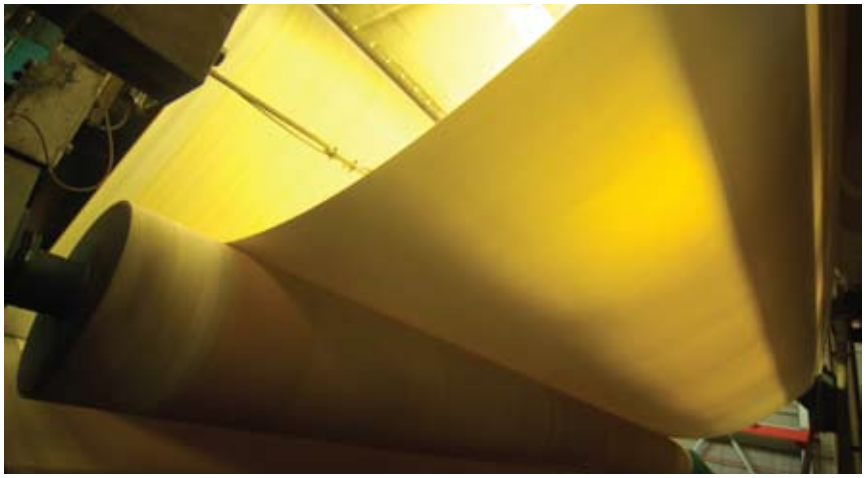


Table II A – APP 2007 Mill Employees and Indirect Jobs

Mill Employment	Lontar Papyrus	Indah Kiat Perawang	Indah Kiat Serang	Indah Kiat Tangerang	Pindo Deli	Tjiwi Kimia	Ekamas Fortuna	TOTAL
Mill Employees	2,186	8,526	5,141	1,137	6,877	12,929	793	37,589
Mill Indirect Jobs	5,776	13,725	1,185	297	4,278	0	281	25,542
TOTAL	7,962	22,251	6,326	1,434	11,145	12,929	1,074	63,131

Table II B – Fiber Supplier Employees and Indirect Jobs

Fiber Supplier Employment	Jambi Province	Riau Province	Subtotal	All Other Provinces	TOTAL
Fiber Supplier Employees	1,606	3,659	5,265	1,698	6,963
Fiber Supplier Indirect Jobs	372	49	421	1,169	1,590
TOTAL	1,978	3,708	5,686	2,847	8,553

paper, a wide range of specialty papers, hygienic tissue and tissue products, office and stationery papers and products and paperboard and packaging products. Four of the mills also produce chemicals for sale on the open market and for on-site consumption. APP's mills are able to produce a range of environmentally friendly papers, including those made with environmentally friendly chemicals as stipulated by Ecolabel criteria, those made with 100% plantation fiber, and a wide range of products containing recycled fiber.

(See Table IV in each mill report section for a listing of major brands. A listing of the environmental credentials for all of APP's key products can be found in **Appendix VIII.**)

Four of APP's mills introduced new products in 2007. The Indah Kiat Serang Mill launched an addition to its Sinarvanda brand of folding boxboard for use in food packaging. The new high-bulk GC-1 line provides better appearance and rigidity with less weight, an important consideration for customers when shipping their products to market.

The Indah Kiat Tangerang Mill introduced two new color sheets that deliver enhanced printing sharpness and two-sided printing without strike-through, key attributes that enable users to reduce their overall paper consumption by printing two-sided materials.

During 2007, Pindo Deli introduced three new products. Golden Coin cup stock was added to the extensive Golden Coin line of offerings, which range from woodfree paper to art board. This new product is certified by the Food and Drug Administrations

Table III – APP Production in 2007 (ADMT[1])

Product	Lontar Papyrus	Indah Kiat Perawang	Indah Kiat Serang	Indah Kiat Tangerang	Pindo Deli	Tjiwi Kimia	Ekamas Fortuna	TOTAL
Pulp	674,081	1,842,755	0	0	0	0	0	2,516,836
Paper	0	665,991	0	103,000	865,410	1,040,000	169,481	2,843,882
Packaging	0	0	1,194,620	0	40,415	78,000	9,442	1,322,477
Stationery	0	0	0	0	0	217,000	0	217,000
Tissue	49,419	0	0	0	63,918	0	0	113,337
TOTAL	723,500	2,508,746	1,194,620	103,000	969,743	1,335,000	178,923	7,013,532

1. ADMT = Air Dry Metric Ton of annual production where an ADMT is measured at 10% moisture for pulp, 6 % for paper.

in the United States, Japan and Korea. Instant Preprint printing papers support better ink coverage and faster ink drying times. Finally, the Sinarlux brand now has a new cast-coated, wet-strength paper targeting beverage label applications.

The Tjiwi Kimia mill introduced three new photocopy paper products targeting various digital and offset printing applications including brochures, magazines and presentation materials.

3. Certification and Verification

APP's eight mills have earned an extensive roster of certifications to enable them to serve a wide range of demanding markets.

a. International Standards Organization (ISO)

All of APP's mills are compliant with ISO 9001 Quality Management System (QMS) standard and with ISO 14001 Environmental Management System (EMS) standard. APP became the first company in Indonesia to pursue ISO registration, more than a decade ago.

b. Indonesian Ministry of the Environment

All of the APP mills operating in Indonesia have complied with AMDAL (Environmental Impact Analysis or EIA) or the UKL/UPL (Environmental Management and Monitoring Plan) regulations which are mandated by national and regional government. The AMDAL and UKL/UPL are environmental licenses required to begin business operations. An AMDAL, or Environmental Impact Analysis, is required for businesses that will have a significant impact on the environment. Business operations which will not have a significant environmental impact are required to prepare and implement an Environmental Management and Monitoring Plan (UKL/UPL) to ensure compliance over time. By obtaining AMDAL and/or UKL/UPL licenses, a company demonstrates that it is operating its business in a manner that is environmentally responsible.

Table IV – New Product Introductions During 2007

Product Brand	Mill	Paper Product	Main Regions Where Brand is Sold
Sinarvanda	Indah Kiat Serang	Food Packaging	Asia, Europe
Sinar Color	Indah Kiat Tangerang	Color Photocopy Paper	Asia
Sinar Tech	Indah Kiat Tangerang	High-opacity Color Paper	Middle East, South America, Southeast Asia
Golden Coin	Pindo Deli	Cup Stock Paperboard	Asia
Instant Preprint	Pindo Deli	Uncoated Printing Paper	Africa, Asia, Middle East, Oceania
Sinarlux	Pindo Deli	Wet-strength Cast-coated Paper	Europe
Excelpro	Tjiwi Kimia	Photocopy Paper	Asia, Europe, Middle East, North & South America, Oceania
Extraprint	Tjiwi Kimia	Photocopy Paper	Europe
Paperline Gold	Tjiwi Kimia	Photocopy Paper	Asia, Middle East

The Ministry of the Environment has an established multi-level certification awards based on meeting certain requirements in its Program for Pollution Control, Evaluation and Rating (PROPER). During 2007, all but one of APP's mills (Ekamas Fortuna) applied for and were again awarded PROPER certificates by the Ministry. The PROPER award is given to mills that produce emissions at levels below those permitted by government standards and which use clean technology, minimize waste, prevent pollution and conserve resources.

c. Occupational Safety and Health

APP has also been a leader in its industry in occupational health and safety. All APP mills are certified as compliant with the Government of Indonesia's Occupational Safety and Health Management standards (SMK3). Indah Kiat Tangerang and the two mills at Pindo Deli are certified as compliant with the OHSAS 18001 standard. This internationally recognized occupational health and safety management system helps management eliminate or minimize risk to employees and other affected parties.

d. Japan's Green Purchasing Law

In 2007, APP's mills continued the successful implementation of controls to qualify their output as compliant with the requirements of Japan's Green Purchasing Law (GPL). This law requires certification of an unbroken chain-of-custody of supply, from the legal sourcing of raw material through mill processes to the sale of finished product to the customer.

e. Product Safety and Ecolabels

Selected paper, tissue and packaging products are compliant with product safety regulations for critical and demanding markets in Europe, Japan and the United States. Pindo Deli's mills have attained product safety certification meeting US Food and Drug Administration standards and the standards set by similar agencies in Korea and Japan. Tjiwi Kimia and the two Pindo Deli mills were the first in Indonesia to certify selected mill products to meet Indonesian, European Union, and Japanese

Ecolabel standards. During 2007, the Pindo Deli mills attained Halal product quality certification for its tissue products, a certification that is very important in Islamic markets.

f. Chain of Custody

After completing a successful third party audit in December of 2007, both Pindo Deli mills were recommended to receive the Chain of Custody (CoC) certification to the Programme for the Endorsement of Certification Schemes (PEFC) standard.

g. Sustainable Forest Management

APP and SMF are working with the Ecolabel Institute of Indonesia (LEI or Lembaga Ecolabel Indonesia), an organization which recently adopted standards for both a regular and a phased approach for full sustainable forest management certification. LEI first produced its principles, criteria and indicators in 1998, based on the International Tropical Timber Organization Guidelines for Sustainable Forest Management. The certification standards for industrial plantations in Indonesia were implemented in 2004. These standards were developed with support from several international organizations. Today, LEI Standard 5000-2, Sustainable Plantation Forest Management Certification, is the only credible national forest certification scheme in place in Indonesia and the standard to which APP's fiber suppliers intend to certify their forest concessions.

4. Fiber Supply Integrity

a. Raw Materials

APP owns no forestland, holds no concessions to government-owned land, and does not conduct any harvest operations.

APP relies on its fiber-supply relationship with Sinarmas Forestry (SMF), for all of the pulpwood fiber required by its two pulp mills on the island of Sumatra. The fiber mix of pulpwood furnished to the pulp mills consists of plantation pulpwood and mixed hardwood (MHW) residues from the development of pulpwood plantations from land that has been designated by the Government of Indonesia for development into pulpwood plantations as an integral part of its Forest Land-use Plan.

The six APP paper mills use a range of raw materials including hardwood paper pulp from the two company mills on Sumatra, post consumer waste (PCW), mill broke (paper and pulp trim and waste), non-fiber fillers, and third-party certified paper pulp purchased on the open market. Virgin fiber from APP's exclusive fiber suppliers accounted for nearly 60% of the total fiber used in the production of APP's paper products during 2007. The balance of fiber consisted of post-consumer recycled waste paper from Indonesia

and offshore markets (23%), mill broke recovered and recycled at the mills and non-fiber fillers (10%), and purchased paper pulp – primarily softwood – certified by the Forest Stewardship Council (FSC) or the Program for the Endorsement of Forest Certification Schemes (PEFC) as originating in responsibly managed forests (10%).

b. Pulpwood Fiber Supply Integrity

For pulpwood fiber, APP's fiber suppliers develop only those lands that have been designated by the Government of Indonesia, under its National Spatial Plan as suitable for pulpwood plantations. All active fiber sources managed by SMF passed the Government-mandated Sustainable Forest Management evaluation conducted in 2006 by Lembaga Penilai Independen (LPI), a Ministry of Forestry-accredited independent auditor.

Once granted a concession, APP's fiber suppliers commission a feasibility study which includes three independent assessments required by National law. Specific Annual Working Plans are then developed for each Fiber Source Management Unit. APP requires its fiber suppliers to comply with all applicable laws and to use work plan and conservation assessment standards that are government-recognized. All of APP's active fiber sources hold valid and legal Annual Working Plans and licenses.

APP believes that it has one of the most stringent pulpwood fiber control systems in Indonesia. In 2003, to verify the integrity of its fiber supply, APP developed and implemented a Legal Origin Verification and Chain of Custody (LOV/CoC) system. This protocol was developed in conformity with the Criteria and Indicators of the LEI Standard for Wood Fibre Material (plantation wood and mixed hardwood residues from plantation development).

Since 2005, the LOV/CoC system has been subjected to annual audits by an independent third party, Société Générale de Surveillance (SGS), which has found no indication of any illegal fiber being harvested or being introduced into the fiber supply at the Lontar Papyrus or Indah Kiat Perawang mills. All of the improvements recommended in the annual audits by SGS have been implemented, and this fact has been noted in each of SGS' annual audit reports. (See **Appendix VI** for 2007 LOV/CoC Audit Statement Summaries.)

In addition, in December 2007, SGS evaluated APP's fiber suppliers in Riau and Jambi against the standards of the SGS "Timber Legality and Traceability Verification" (TLTV) Programme. This assessment was conducted to benchmark the company's performance against the TLTV standards and to identify potential areas of improvement for APP's fiber suppliers as they work toward their goal of obtaining full certification to the TLTV standard.

c. Certified Market Pulp

APP's reliance on paper pulp from third-party certified pulp mills ensures that all of the pulp procured from outside sources originate in forests that are managed sustainably and harvested legally.

d. Recycled Fiber

The fact that nearly one-third of APP's finished-paper product furnish is recycled means that the company is having two significant positive impacts on the environment. First, the use of post-consumer waste fiber reduces the annual forest harvest of virgin fiber. Second by recovering fiber throughout the pulp-and-paper manufacturing process – from the white-water system all the way to trimmings from paper-finishing operations – the mills reduce the amount of solid waste they produce and, in turn, reduce the load on the wastewater treatment system at each mill.

5. Environmental Performance

APP's manufacturing facilities have invested in pulp and paper technology and machinery imported from Scandinavia, Europe, the United States, and Canada. They are generally considered world-class mills. Air emissions and wastewater effluents at the mills meet all Indonesian and most international standards.

Table V – APP Paper Mill Product Furnish

Year	Hardwood Pulp (APP)	Certified Market Pulp	Post-consumer Waste (PCW)	Mill Broke[1] & Fillers	TOTAL
2005	52%	13%	23%	12%	100%
2007	57%	10%	23%	10%	100%

1. Mill Broke is paper and pulp trim or waste that is recycled within the mill.

APP's mills observe, operate in compliance with, and generally outperform the requirements of national laws for the environment. These requirements are built into the operating policies that APP administers and monitors. All of APP's mills have earned certification under the ISO 9001 Quality Management System and ISO 14001 Environmental Management System protocols, and manage their continuous improvement in environmental performance using ISO-based Environmental Management System tools.

The company enforces waste management policies to reduce pollutants. These include a Source Control Policy and a Reduce, Reuse, Recycle Policy. Wastewater plants employ activated sludge along with physical and chemical treatments to prepare wastewater for safe discharge into local waterways.

a. Energy Mix

The Lontar Papyrus and the Indah Kiat Perawang mills are integrated pulp and paper mills which have the capability to produce their own energy. During the last three years, about 85% of the total energy and electricity requirements for these two mills was met using renewable resources. Renewable bio-fuels included black liquor (a recovered chemical byproduct of the pulp-making process), mill wood waste (bark, sawdust and wood yard residues), and purchased palm oil shell residues, all of which are burned to create energy used at the mills.

APP's six paper mills, lacking any pulp-making capability or available renewable resources, rely primarily on fossil fuels for their energy.

b. Water and Fiber Consumption

All of APP's pulp and paper operations have systems in place to carefully monitor and control water and fiber consumption. Each mill tracks its performance against industry-accepted benchmarks and water-consumption guidelines published by organizations such as the World Bank. During the last three years, almost all of APP's mills have made progress in reducing their water and fiber consumption per ton of product. Fresh water use per metric ton of product is in the mid-40 range (measured in cubic meters per air-dry metric ton – m^3/ADMT) for both pulp mills, and is in the 10 to 20 m^3/ADMT range for paper produced at each of the six paper mills. In 2007, all but one of APP's mills operated well within the World Bank guidelines established for water consumption and effluents.

c. Mill Programs and Investments

In April 2007, all of APP's mills in Indonesia initiated a comprehensive Master Improvement Program (MIP) to accelerate the reduction of water consumption and fiber loss per ton of finished product. This MIP is part of a coordinated effort that provides for inter-mill sharing of lessons learned and best practices to leverage experience and achieve results more quickly.

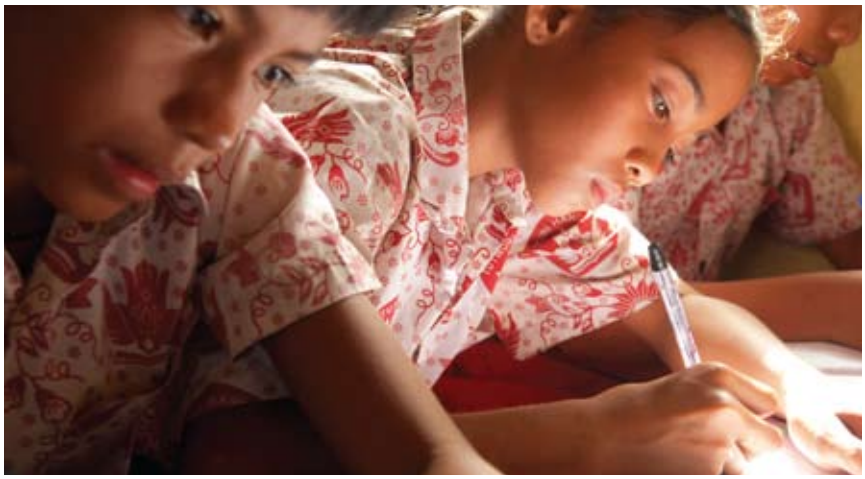
While the final results of the MIP are expected to be reported in September of 2008, metrics through the end of 2007 indicate reductions in the consumption of both water and fiber loss per ton of finished product at all of the mills.

An anticipated added benefit of the MIP will be the reduction in wastewater treatment plant operating costs as the mills' whitewater recovery systems are improved to remove more usable fiber from the wastewater stream.

Specific program elements are discussed in the "Mill Programs and Investments to Reduce Consumption and/or Discharges" section of each mill report.

d. Trend of Environmental Performance

APP periodically benchmarks the performance of its mills against operating and environmental performance standards for competitive paper mills in the United States, Sweden and



Japan. Comparisons are made to relevant government regulations and to performance data published by forest products companies and trade and professional journals.

In addition to the Mill Improvement Program mentioned above, several of APP's mills have undertaken successful projects to further reduce or eliminate their solid waste. These projects include: improved fiber recovery; sale of waste to companies that can reuse the material; and the composting of sludge for use as fertilizer in the forest or for use in neutralizing acidic soils prior to planting. Processes to improve air emissions also have been implemented at every facility.

The "Trends of Performance" section in each of the individual mill reports includes tables that provide specific data on performance in air emissions, wastewater effluent at discharge, and solid waste disposal for the years 2005, 2006 and 2007. Some mills have experienced minor regressions in performance between 2005 and 2007 as a result of external factors such as the need to substitute coal for bio-fuels because of their reduced availability.

Mill performance data for water consumption and water quality at discharge have been compared to World Bank guidelines. These benchmarks were published In December of 2007 by the World Bank International Finance Corporation in their Environmental, Health and Safety Guidelines for Pulp and Paper Mills.

In Indonesia, air-emission standards are set at the national level (Decree from Ministry of Environment, KEP-13/MENLH/3/1995). Water-effluent standards are set at the provincial level, typically by decree by the Governor of each Province. The table presented in each mill profile reflects the applicable Indonesian standard for that mill.

6. Social Performance

During 2007, APP's mills provided financial and in-kind support for a number of programs that delivered social benefits to communities in proximity of its various operations in Sumatra and Java. These social investments included support for education (with program ranging from scholarships and teacher stipends to book giveaways and on-the-job-training); support for community programs and religious activities; income enhancement programs, and investments in infrastructure (roads, schools and sanitation projects).

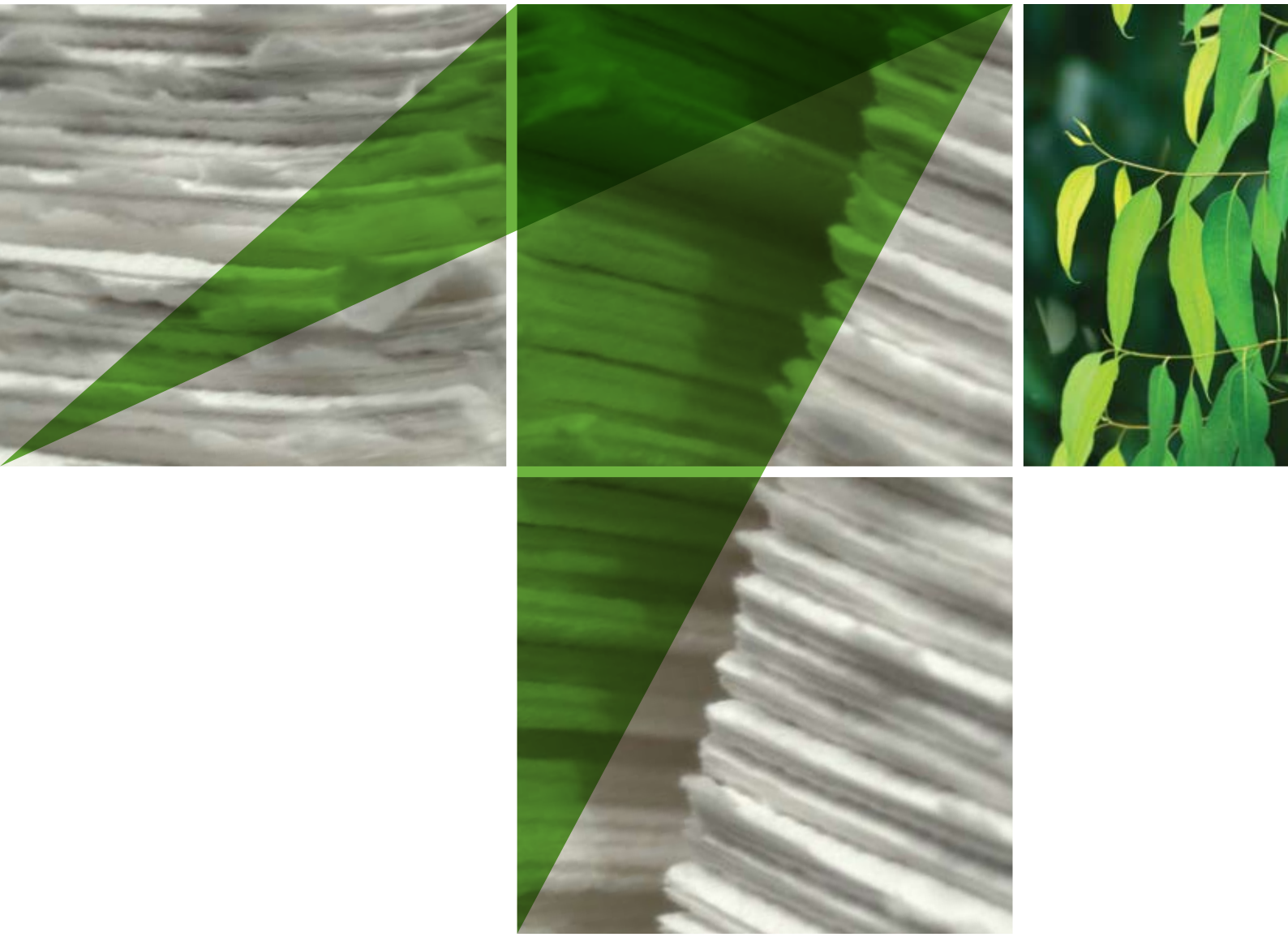
As a integral part of fulfilling their role as good corporate citizens, APP's mills observe, operate in compliance with, and generally outperform the requirements of national laws for sustainability, fiber procurement, environment, and health and safety.

Each mill has a unique set of social conditions and parameters within which it operates. The last section of each mill report provides a detailed look at the specific social programs that were carried out at each mill during 2007.

Each of the eight APP mills is profiled on the following pages. Each has different capabilities, and produces a unique range of paper, paperboard, and finished paper products to serve a variety of markets throughout the world.

In addition, each mill has invested in a distinctive mix of sustainability-driven environmental and social programs. These have been tailored to address the site-specific conditions around each mill operation and to help meet the particular social needs of the communities in and around each mill.

NOTE: Throughout this report, spending in Indonesian Rupiah has been converted to US$ calculated at the interbank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.



lontarpapyrus
pulp and paper products

Lontar Papyrus Mill

Table I – Lontar Papyrus Sales (US$ Thousands)

Product	2005	2006	2007
Pulp	233,069	276,113	295,601
Tissue	51,047	45,839	53,760
Chemicals	2,798	4,545	2,798
TOTAL	286,914	326,497	352,159

1. Mill at a Glance

PT. Lontar Papyrus Pulp & Paper Industry (Lontar Papyrus) is a large integrated pulp and tissue mill located in the remote rural village of Tebing Tinggi in Jambi Province on the island of Sumatra. The mill had sales in 2007 of slightly more than US$350 million, an increase of nearly 8% compared to 2007 and a 20% increase compared to 2006.

Lontar Papyrus provides more than 2,000 jobs and has created employment for almost 6,000 people in the area who provide the mill with needed services. In addition, the mill's exclusive fiber supplier, PT. Wirakarya Sakti (PT. WKS) employs 1,600 workers and has created another 370 indirect jobs in the area. Taken as a whole the Lontar Papyrus mill is responsible for the employment of nearly 10,000 people, and is an important economic engine in Jambi Province.

During 2007, the mill produced about 675,000 tons of bleached hardwood paper pulp which is about 5% above 2005 levels. Tissue production has averaged about 50,000 tons per year for the last three years.

The mill uses an Elemental Chlorine Free (ECF) bleaching process for a growing volume if its paper pulp. This process substitutes chlorine dioxide for elemental chlorine and sodium hypochlorite in the bleaching process. In 2007, 23% of the paper pulp produced at Lontar Papyrus was made using this environmentally preferred process. This is a 1,400% increase in ECF tonnage compared to 2005 production (from 10,900 to 154,400 tons).

The Lontar Papyrus mill includes one pulp-making line, four pulp machines, one tissue machine, one small paper machine, a caustic-soda plant, a wastewater treatment plant and two co-generation facilities that use biomass as fuel. During 2007, the mill generated 85% of its electricity requirements on-site from biomass fuel while about 15% of its total energy requirements were met by using fossil fuels.

2. Products

A portion of the pulp produced at Lontar Papyrus is used on-site to make jumbo rolls of tissue. The balance of pulp is shipped to APP mills on the island of Java (all of which are non-integrated paper mills) or is sold in the open market.

Table II – Lontar Papyrus Employees, Mill Indirect and Fiber Supplier Jobs

Category	2005	2006	2007
Mill Employees	1,986	2,093	2,186
Mill Indirect Jobs	2,601	3,855*	5,776
Fiber Supplier Direct Jobs (PT. WKS[1])	1,573	1,578	1,606
Fiber Supplier Indirect Jobs (PT. WKS)	359	269	372
TOTAL	6,519	7,795	9,940

1. PT. WKS = PT. Wirakarya Sakti, the mill's exclusive fiber supplier
* NOTE: Data correction from 2006 SR which reported 600

Tissue from the Lontar Papyrus mill is sold in jumbo roll form to customers in Asia, Oceania, the United States, and the Middle East. These customers convert the jumbo rolls into finished products, and market them under a variety of brand names. The mill also has a small paperboard machine that is used to produce boxboard for internal consumption.

3. Certification and Verification

The Lontar Papyrus mill has remained certified as compliant with the ISO 9001 Quality Management System (QMS) standard and the ISO 14001 Environmental Management System (EMS) standard for more than a decade. The mill's last QMS re-certification occurred in 2007, and a renewal assessment is scheduled for 2010. The mill's EMS certification was renewed in 2006 and the mill will be re-inspected in 2009. The mill management team holds quarterly EMS project reviews to ensure that continuous improvement projects are on target, and that appropriate corrective measures for identified shortcomings have been implemented.

In 1995, the Lontar Papyrus mill obtained its first AMDAL license upon completing a successful Environmental Impact Assessment. The mill's license will be revalidated in 2008.

In 2003, Lontar Papyrus was first awarded a Green PROPER certificate by the Ministry of the Environment's Program for Pollution Control, Evaluation and Rating (PROPER). The PROPER award is given to mills that produce emissions at levels below those permitted by government standards and which use clean technology, minimize waste, prevent pollution and conserve resources. In 2007, the mill earned the lesser Blue PROPER award, due to delays in installing Continuous Emissions Monitoring (CEM) equipment and inconsistencies in laboratory analysis methodologies being used. (PROPER awards were not issued in 2006.) The mill fully expects to be able to regain its Green PROPER rating in 2008.

Since 1998, the Lontar Papyrus mill has remained continuously certified to the Government of Indonesia's Occupational Safety and Health Management standards (SMK3).

In 2007, Lontar Papyrus continued its successful implementation of controls to qualify its output as compliant with the requirements of Japan's Green Purchasing Law (GPL) so that the mill and its customers would be able to continue selling product in that country. This law

Table III – Lontar Papyrus Production (ADMT[1])

Major Product	2005	2006	2007
Pulp	642,753	677,682	674,081
ECF pulp as percent of total	1.7	16.81	22.9
Tissue	50,823	47,110	49,419
TOTAL	693,576	724,792	723,500

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.

requires certification of an unbroken chain-of-custody of supply, from the legal sourcing of raw material through mill processes to the sale of finished product to the customer.

4. Fiber Supply Integrity

During the last three years, the fiber mix of pulpwood furnished to the pulp mill has consisted of plantation pulpwood and mixed hardwood (MHW) residues from the development of pulpwood plantations. Acacia and Eucalyptus plantation fiber is provided by PT. Wirakarya Sakti from its plantations in Jambi and South Sumatra. PT. Wirakarya Sakti also supplies mixed tropical hardwood originating from degraded and barren land that has been designated by the Government of Indonesia for development into pulpwood plantations as an integral part of its Forest Land-use Plan.

The percentage of plantation pulpwood used at Lontar decreased in 2007 due to the need to meet increased demand for plantation pulpwood at the Indah Kiat Perawang mill in Riau. APP expects that the MHW component of fiber will continue to decrease until it is completely eliminated, in accordance with government regulations.

APP believes that it has one of the most stringent pulpwood fiber control systems in Indonesia.

In 2003, the Lontar Papyrus mill developed and implemented a Legal Origin Verification and Chain of Custody (LOV/CoC) system to ensure the integrity of all of its pulpwood. This protocol was developed in conformity with the Criteria and Indicators of the LEI (Lembaga Ecolabel Indonesia – Indonesian Ecolabel Institute) Standard for Wood Fibre Material (plantation wood and mixed hardwood residues from plantation development). This system has undergone continual improvement in subsequent years, with increases in the robustness of its protocols. (See **Appendix VI** for 2007 LOV/CoC Audit Statement Summaries.)

Since 2005, the LOV/CoC has been subjected to annual audits by an independent third party, Société Générale de Surveillance (SGS), which has found no indication of any illegal fiber being harvested or being introduced into the fiber supply at the Lontar Papyrus mill. All of the improvements recommended in the annual audits by SGS have been implemented, and this has been noted in each of their annual audit reports.

Table IV – Lontar Papyrus Certification Status as of December 31, 2007

Certification	Classification	Scope	First Issued
ISO 9001	QMS	Mill	1995
ISO 14001	EMS	Mill	1997
AMDAL – Government of Indonesia	Environmental Impact Assessment	Mill	1995
Blue PROPER – Government of Indonesia	Pollution Control	Mill	2002-2003
SMK3 – Government of Indonesia	Occupational Safety & Health Management	Mill	1998
Green Purchasing Law (GPL) – Minister of Environment of Japan	Product Legality & Sustainability	All products	2006

In December 2007, SGS evaluated APP's fiber supplier in Riau and Jambi against the standards of the SGS "Timber Legality and Traceability Verification" (TLTV) Programme. The assessment was conducted to benchmark the company's performance against the TLTV standard and to identify potential areas of improvement for APP's fiber suppliers as they work toward their goal of obtaining certification to the full TLTV standard in the near future.

The tissue machine at Lontar Papyrus is furnished with pulp mill fiber and includes a mix of about 20% purchased third-party certified, long-fiber market pulp. As mentioned, all pulpwood fiber entering the mill is subject to the mill's Legal Origin Verification and Chain of Custody system. One hundred percent of the market pulp purchased by the mill is third-party certified as originating in forests meeting either Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification Schemes (PEFC) standard for responsible forest management.

5. Environmental Performance

a. Energy Mix

Because it is an integrated pulp and paper mill, Lontar Papyrus is able to co-generate all but 15% of its energy requirements on-site using bio-fuels which are derived from renewable resources.

During 2005 and 2006, the mill consumed most of the stockpile of bark that had enabled it to operate

Table V – Lontar Papyrus Pulp Furnish

Furnish	2005	2006	2007
Plantation Hardwood Pulpwood	41%	46%	42%
Mixed Tropical Hardwood Pulpwood	59%	54%	58%
TOTAL	100%	100%	100%

Table VI – Lontar Papyrus Tissue Furnish

Furnish	2005	2006	2007
Virgin Hardwood Pulp	77%	78%	82%
Purchased Certified Market Pulp	22%	21%	17%
Mill Broke (pulp & tissue trim or waste)	1%	1%	1%
TOTAL	100%	100%	100%

Table VII – Lontar Papyrus Energy Sources

Renewable Sources	2005	2006	2007
Black Liquor	73.6%	73.5%	72.3%
Bark and Woodyard Residues	24.4%	18.0%	12.3%
Palm Shell	0.7%	1.0%	0.3%
Subtotal renewable sources	98.7%	92.5%	84.9%
Fossil Fuel Sources			
Diesel Oil	1.3%	1.7%	0.9%
Coal	–	5.8%	14.2%
Subtotal fossil fuel sources	1.3%	7.5%	15.1%
TOTAL	100.0%	100.0%	100.0%

NOTE: Percentages are based on the amount of energy generated

as nearly 100% energy self-sufficient. In 2007, it was necessary to substitute increasing volumes of coal to replace the bark bio-fuel.

b. Water and Fiber Consumption

During 2007, the amount of water used per air-dried metric ton of pulp increased by about 4%. This resulted from consumption attributable to preproduction tests during mill upgrade projects.

Water use per ton of tissue paper has nearly doubled since 2005. The tissue machine increases in water were due to operating problems related to the pulp furnish and the frequency of machine cleanup. However, the mill has operated well within the benchmarks set forth in the World Bank International Finance Corporation Environmental (IFC) Guidelines for pulp and tissue in all three years.

Mill fiber consumption for both pulp and tissue has been relatively stable during the last three years.

In April 2007, the mill initiated a comprehensive Master Improvement Project (MIP) to reverse the direction of water consumption and to reduce fiber consumption. In the preliminary analysis of water use and based on other engineering studies, it was determined that there was potential to reduce fiber consumption by targeting improvements in the white water recovery system and in other areas of the operation as well. This MIP is part of a coordinated effort by all of the APP pulp and paper mills in Indonesia, and provides for inter-mill sharing of lessons learned and best practices to leverage experience and achieve results more quickly.

While the final results of the MIP are expected to be reported in September 2008, metrics through the end of 2007 indicate reductions in the consumption of both water and fiber per ton of finished product. An anticipated added benefit to the MIP will be the reduction in wastewater treatment plant costs as the mill's whitewater recovery system is improved to remove more usable fiber from the wastewater stream.

Table VIII – Lontar Papyrus Water and Fiber Consumption

Item	2005	2006	2007	World Bank Standard [4]
Water[1]				
Water – Pulp (m^3/ADMT[2])	40.7	42.0	43.8	20-100
Water – Tissue (m^3/ADMT)	10.9	17.9	21.9	5-40
Fiber				
Pulp (GMT[3]/ADMT)	4.4	4.2	4.3	NA
Tissue (GMT/ADMT)	1.075	1.083	1.071	NA

1. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
2. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
3. GMT = Green Metric Ton where a GMT is the weight of the fiber at the moisture level when delivered to the mill.
4. World Bank IFC Environmental, Health and Safety Guidelines for Pulp & Paper Mills, Dec 10, 2007, page 31 table.

c. Mill Programs and Investments to Reduce Consumption and/or Discharges

During 2007, the mill initiated a range of programs to reduce consumption and discharges, using ISO Environmental Management Systems (EMS) protocols to drive these actions on a timely basis.

One of the more important programs at Lontar Papyrus was the installation of continuous emissions monitoring equipment at the smelt dissolving tank and at the recovery boiler precipitator stacks. (This program had been deferred from the 2000 operating year due to financial constraints at the time, and that deferral is one of the reasons that the mill earned only a Blue PROPER rating in 2007.) The continuous emissions monitoring equipment required an investment of US$470,000[2]. (and a one-time installation cost of US$147,000). The mill installed this equipment in order to have better real-time data with which to control and minimize emissions. This investment was made even though it would not result in any direct cost savings.

A second program completed in early 2007 was the installation of a new chip screening and recovery system in the mill wood yard, at an investment of US$623,446. The annualized savings from this investment amounted to more than US$2 million. An indirect benefit from the improved recovery of fiber in the mill wood yard is a small reduction in the amount of pulpwood needing to be harvested to furnish the mill.

During 2006 and 2007, the Lontar Papyrus mill also initiated a number of targeted projects to increase the efficiency of the mill power plant and to reduce energy costs. These projects included investments and repairs to increase the reliability of the solid-fuel-handling system in order to optimize power plant performance. The total investment during this two-year period was more than US$5 million. The resulting benefits included reduced energy cost, stabilized and higher-efficiency boiler operations, reduced downtime due to higher reliability, and a reduction in air emissions.

The mill expects a payback in less than two years from these projects, and has identified additional opportunities to improve power boiler performance which will be implemented during 2008.

d. Trend of Performance in Reducing Emissions, Effluent and Waste

Air Emissions

Although the mill operated at about 90% below the Indonesian Standards for SO_2 and NO_2, there was an increase in both emissions due to a change in fuel mix and the need to use coal in the multi-fuel boiler. In 2007, about 14% of the mill's energy requirements were provided by coal, up from 6% of the mix in 2006. The coal was needed to replace bark and palm shell that had been used as fuel in past years, due to shortages of both these renewable resources.

Despite the less-favorable fuel mix, the mill was able to maintain particulate discharges at fairly constant levels that were significantly below the Indonesian standard. This performance is largely attributable to the presence of an electrostatic precipitator on the mill's multi-fuel boiler.

During 2007, opacity values improved substantially, and are now tracking well below the Government of Indonesia's standards.

In Indonesia, air-emission standards are set at the national level (Decree from Ministry of Environment, KEP-13/MENLH/3/1995). Water-effluent standards are set at the provincial level, typically by decree by the Governor of each Province. The tables presented reflect the applicable Indonesian standard for the Lontar Papyrus mill.

Wastewater Effluent

The mill's discharge of wastewater into the Tungkal River continues to be of higher quality than the water drawn from the river. Despite the trend of continuing increases in BOD, COD and TSS emissions, these parameters remain well below the Indonesian Standard and below World Bank IFC Environmental Guidelines. The rate of water used per ton increased slightly as discussed in the Water and Fiber Consumption section.

During the past three years, the mill did not experience any process spills that were not handled efficiently and within regulations by its wastewater treatment facility.

Solid Waste

During the last three years, Lontar Papyrus provided all its mill sludge

Table IX – Lontar Papyrus Air Emissions

Parameter	2005	2006	2007	Indonesian Standard
SO_2 (mg/m^3)[1]	90.63	49.50	69.02	800
NO_2 (mg/m^3)	81.00	64.68	98.36	1,000
Particulate (mg/m^3)	119.42	164.31	141.47	230
Opacity[2] (%)	31.0	14.2	11.3	40

1. The Indonesian Standard for Air Emissions is measured as milligrams per cubic meter, not kilograms per Air Dry Metric Tons as is common in many countries.
2. Opacity values are based on routine testing, except for 2005 which is based on spot checks.

and has diverted about one-half of its fly ash to PT. Wirakarya Sakti for use as fertilizer in its plantations. This enabled the mill to avoid sending a significant volume of waste to landfill. The mill also has been able to divert about one-half of its fly ash from landfill for use as fertilizer. To date, the mill has not found a more suitable, economic and environmentally appropriate way to dispose of its dregs-and-grit.

Solid waste disposal has been a particular problem at Lontar Papyrus. The mill has an onsite, licensed, solid waste landfill, but the rate of infill of this dump, the reported unwillingness of Ministry of the Environment to issue new landfill licenses, and the unnecessary use of this site for other materials (which wastes landfill capacity) has made this a critical issue for the mill.

Disposal issues are now some of the most pressing issues for pulp and paper mills in Indonesia. APP mills have been conducting research to overcome these issues. One example of this is APP's continuing research into the use of solid waste, such as dregs-and-grit as fertilizer in plantation forests.

As do most mills, Lontar Papyrus manages the disposal of a range of hazardous materials including waste oil, lab chemicals, mercury lamps and catalytic agents. In each case, the mill has an approved method for disposing of the material. For the most hazardous materials, the mill uses authorized and government licensed hazardous waste disposal businesses.

6. Social Performance

a. Safety Performance

During 2007, Lontar Papyrus had 22 reportable safety incidents, down from the 53 incidents reported in 2006. However, the mill's Severity of Accident index nearly tripled from its 2006 level of .53 to 1.49. This increase was largely attributable to a fatality caused by a boiler explosion. There were no accidents resulting in a permanent disability during 2007. The mill's Frequency of Accident

Table X – Lontar Papyrus Wastewater Effluent at Discharge

Parameter	2005	2006	2007	Indonesian Standard	World Bank Standard[2]
BOD (kg/ADMT)[1]	0.28	0.56	0.76	6.1	1.0
COD (kg/ADMT)	6.94	8.36	9.19	14.0	20
TSS (kg/ADMT)	1.6	1.7	1.9	6.0	1.5
pH	7.4	7.6	7.7	6-9	6-9
AOX (kg/ADMT)	0.038	0.033	0.045	None	0.25
Volume (million m^3)[3]	2,416,284	2,595,399	2,685,313	None	None
Rate (m^3/ADMT)	45.2	46.0	47.8	None	50

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
2. World Bank IFC Environmental, Health and Safety Guidelines for Pulp & Paper Mills, Dec 10, 2007. page 26 table 1(a).
3. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.

index decreased from its 2006 levels of 11.78 to 4.26.

b. Sickness and Absenteeism

The sickness rate for mill employees during 2007 remained unchanged from 2006 levels, having declined more than 20% in 2005. The mill's absenteeism rate in 2007 was 33% lower than in 2006 and has shown an 80% reduction since 2005.

c. Social-Benefit Programs

During 2007, the Lontar Papyrus mill provided financial and in-kind support for a number of programs that delivered social benefits to communities in proximity to its operation in Jambi province.

Health

Lontar Papyrus invested US$1,204 during 2007 to deliver medical care to residents of Tebing Tinggi, Brasau, Adi Jaya and Sumber Makmur villages. The mill's funding went to provide free medical treatment for low-income villagers, supplemental food for 523 infants and young children to stave-off malnutrition, and to send two community health center nurses and two mill-clinic practitioners to Basic Life Support Training in Pekanbaru, Riau.

The mill also provided US$2,074 in 2007 to promote healthy living through a health-awareness campaign and support of a school volleyball tournament. One hundred local people attended local workshops featuring facilitators from the National Health Department and the Tanjabbar District Police Department. Topics included safe sex (a session which included the free distribution of condoms), prevention of Dengue fever, drug abuse, and traffic rules. Sixty-five area children participated in the volleyball tournament.

Education

Lontar Papyrus views education as a key to improving the livelihoods and quality of life of people in nearby communities. During 2007, Lontar Papyrus invested US$10,219 in continued support for education in its operating area. This funding provided operational support for an Islamic middle school and high school; scholarships for 37 elementary-, junior-high-, and high-school students; private tutoring for junior-high-school students, as well as for support materials such as composition books, sports supplies, and for transportation to take students to and from school. A total of 4,126 village children benefited from these programs.

Lontar Papyrus also invested US$2,782 to support on-the-job training at its mill site for 19 university students and 29 students enrolled in public and vocational high schools. In addition to training in a wide range of technical and non-technical mill jobs, students received spending money, meals and accommodations at the mill during their three-month-long vocational internships.

Table XI – Lontar Papyrus Solid Waste

Type of Waste	Sludge			Fly Ash			Dregs-and-Grit		
Means of Disposal (%)	2005	2006	2007	2005	2006	2007	2005	2006	2007
Compost (fertilizer)	100%	100%	100%	47%	48%	51%	–	–	–
Landfill	–	–	–	53%	52%	49%	100%	100%	100%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%

Religion

During 2007, the Lontar Papyrus mill invested US$6,947 in support of programs which facilitated religious expression in the four communities near its operation. This funding went toward support of the observance of Islamic holidays and festivals; hygienic mass circumcision of 100 village boys; sacrificial animals; a local women's religious study group; and other activities based on villagers' requests. By assisting villagers in the practice of their faith, the mill helped to solidify the relationship between the company and the community.

Community Activities

Lontar Papyrus provided US$3,556 in funding during 2007 to support a range of village administrative activities, facilities and community events. This funding was used to provide transportation for villagers attending special events; a speed-boat to enable a local health-care worker to reach remote villages; office furniture and supplies for use by village administrators; and support for local sports teams and athletic competitions. This investment delivered benefits to the 15,330 inhabitants of Tebing

Table XII – Lontar Papyrus Employee Safety Performance

Safety Performance		2005		2006		2007
Parameter	Target	Actual	Target	Actual	Target	Actual
Number of Incidents	–	48	–	53	–	22
Severity (SRA[1])	–	0.40	–	0.53	–	1.49
Frequency (FRA[2])	7.12	10.92	7.12	11.78	9.50	4.26

1. SRA = Severity Rate Accident = (Lost Hours X 1,000) / (Total Man Hours)
2. FRA = Frequency Rate Accident = (Total Accidents X 1,000,000) / (Total Man Hours)

Tinggi, Sumber Makmur and Adi Jaya villages.

The mill provided an additional $267 in funding support to organize two Communication Forums, organizations through which villagers gain voice and vote in shaping the direction of their communities. Mill funding was used to establish a Mosque Communication Forum with 30 participants and a Village Communication Forum with ten village stakeholders as participants.

In 2007, Lontar Papyrus also provided US$618 in donations to help struggling villagers meet their most-urgent needs. This funding went to help provide medical care for a hydrocephalus patient, to help meet the basic needs of 96 orphans, and to provide a measure of relief to mourning families.

Income Enhancement

Lontar Papyrus invested US$293,708 during 2007 to continue to provide employment for the local community. Under this program, the mill provides assistance to local work groups in establishing themselves as small legal enterprises. Once the businesses are formally established, the company contracts with them, on a daily or per-unit basis, to provide a variety of services including custodial, landscape maintenance, construction, road rehabilitation, and brick manufacturing. In 2007, Lontar Papyrus contracted with four small businesses managed by local individuals, and with the government-managed Village-Based-Contractor Service, BUMDES, to which it also provides capacity-building assistance. This program provided employment for approximately 90 people in total.

In addition to the contract fees, the mill spent US$16,800 to house contract workers at the mill site.

Lontar Papyrus also invested US$2,714 in its ongoing Entrepreneurship Development Program, which provides skills training and assistance in the establishment and growth of micro-businesses. The mill supported the growth of the Karya Kencana Silk Screening and Tailoring Enterprise, a business comprised of four housewives who expanded their market for silk-screening and tailoring services to include the mill, government institutions, contractors, and businesses in the surrounding community. This micro-business also began to provide catering for Lontar Papyrus' machine employees. If this expansion into a new business sector proves profitable, Karya Kencana will recruit additional employees.

NOTE: Spending in Indonesian Rupiah has been converted to US$ calculated at the inter-bank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.

Table XIII – Lontar Papyrus Employee Sickness and Absenteeism Performance

Attendance	2005		2006		2007	
Parameter	Target	Actual	Target	Actual	Target	Actual
Sickness Rate[1]	0.00900	0.00891	0.00700	0.00695	0.00600	0.00696
Absenteeism Rate[2]	0.00100	0.00099	0.00030	0.00030	0.00030	0.00020

1. Sickness Rate = (Total Sick Days) / (Total Worker Days)
2. Absenteeism Rate = (Total absentee Days) / (Total Worker Days)

Indah Kiat
pulp and paper products

Indah Kiat Perawang Mill

Table I – Indah Kiat Perawang Sales[1] (US$ Thousands)

Product	2005	2006	2007
Pulp	374,299	411,062	533,460
Paper	482,626	569,022	602,234
Chemicals	383	302	343
TOTAL	857,308	980,386	1,136,037

1. Reported data excludes tissue machine at Indah Kiat Perawang operated by Pindo Deli.

Table II - Indah Kiat Perawang Employees, Mill Indirect and Fiber Supplier Jobs

Category	2005	2006	2007
Mill Employees	8,411	8,399	8,526
Mill Indirect Jobs (Indah Kiat Perawang contractors)	8,636	8,240	13,725
Fiber Supplier Direct Jobs (PT. AA[1])	3,704	3,465	3,659
Fiber Supplier Indirect Jobs (PT. AA)	199	57	49
TOTAL	20,950	20,161	25,959

1. PT.AA = PT. Arara Abadi, the mill's exclusive fiber supplier

1. Mill at a Glance

The PT. Indah Kiat Perawang mill (Indah Kiat Perawang) is a large, integrated pulp and paper complex located in the village of Perawang, in Riau Province on the island of Sumatra. The mill had sales in 2007 of slightly more than US$1.1 billion, an increase of nearly 16% compared to 2006 and a 32% increase compared to 2005.

The Indah Kiat Perawang Mill provides more than 8,500 jobs and has created employment for an additional 13,700 people in the area who provide the mill with needed services. In addition, the mill's exclusive fiber supplier, PT. Arara Abadi, employs more than 3,600 workers in the area. Taken as a whole, the Indah Kiat Perawang Mill complex is responsible for the employment of nearly 26,000 people, and is an important economic engine for Riau Province.

During each of the last three years, the mill complex produced a total of approximately 1,900,000 tons of bleached hardwood paper pulp. In 2007, the complex produced 666,000 tons of paper, a 12% increase when compared to 2006 production.

The mill uses an Elemental Chlorine Free (ECF) bleaching process for a growing volume of its market pulp. This process substitutes chlorine dioxide for elemental chlorine and sodium hypochlorite in the bleaching process. In 2007, 36% of the paper pulp produced at Indah Kiat Perawang was made using this environmentally preferred process, double the amount of ECF pulp produced in 2005 or 2006.

The Indah Kiat Perawang Mill complex includes four pulp-making lines, six pulp-drying lines, five paper machines, three chemical plants, ten different co-generation power facilities and three wastewater treatment plants. The mill generates about 90% of its electricity requirements on-site using biomass fuel. Less than 20% of the complex's total 2007 energy requirements were met using fossil fuels.

2. Products

A portion of the pulp produced at the Indah Kiat Perawang Mill is used on-site to make paper products, with the balance shipped to non-integrated APP paper mills on the island of Java or sold in the open market.

Indah Kiat Perawang also produces finished paper products. The four major brands of photocopy paper and one major printing paper brand shown in Table IV are sold to customers in Asia, Africa, Europe and the Middle East, as well as in domestic markets.

3. Certification and Verification

The Indah Kiat Perawang Mill has remained certified as compliant with the ISO 9001 Quality Management System (QMS) standard and the ISO 14001 Environmental Management System (EMS) standard for more than a decade. The last QMS re-certification occurred in 2007, and a renewal the mill's 9001 assessment is scheduled for 2010. The mill's EMS certification also was renewed in 2007, and the mill will be re-inspected in 2010. The mill management team holds quarterly EMS project reviews to ensure that continuous improvement projects are on target, and that appropriate corrective measures for identified shortcomings have been implemented.

In 1995, the Indah Kiat Perawang Mill received its AMDAL license, indicating that it had successfully completed an Environmental Impact Assessment in compliance with national regulations. This license was renewed in 2000.

In 2003, Indah Kiat Perawang was first awarded a Blue PROPER certificate by the Ministry of the Environment's Program for Pollution Control, Evaluation and Rating. This award is given to mills which produce emissions at levels less than the government's standards and which employ clean technology, minimize waste, prevent pollution and conserve resources. The mill's certification was renewed for the most recent award period, October 1, 2006 through September 20, 2007.

Table III – Indah Kiat Perawang Production (ADMT[1])

Major Product	2005	2006	2007
Pulp	1,866,006	1,907,282	1,842,755
ECF[2] pulp as percent of total	17	18	36
Paper	574,030	594,564	665,991
TOTAL	2,440,036	2,501,846	2,508,746

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
2. ECF = Elemental Chlorine Free pulp.

Since 1999, the Indah Kiat Perawang Mill has remained continuously certified to the Government of Indonesia's Occupational Safety and Health Management standards (SMK3).

In 2007, Indah Kiat Perawang continued its successful implementation of controls to qualify its output as compliant with the requirements of Japan's Green Purchasing Law (GPL) so that the mill and its customers would be able to continue selling product in that country. This law requires certification of an unbroken chain-of-custody of supply, from the legal sourcing of raw material through mill processes to the sale of finished product to the customer. For each of the last three years, the mill has contracted Sucofindo, an independent Indonesian auditing firm, to verify that its Acacia pulp products contain only plantation-sourced fiber.

In 2007, the mill's IK brand of printing papers was certified to the Indonesian Ecolabel Standard for product quality.

Since 2006, Indah Kiat Perawang's paper products have been certified as meeting the European Union's Restriction of Hazardous Substances (RoHS) requirements.

4. Fiber Supply Integrity

During the last three years, the fiber mix of pulpwood furnished to the pulp mill has consisted of an increasing percentage of plantation pulpwood and a decreasing percentage of mixed hardwood (MHW) residues from the establishment of pulpwood plantations.

Table IV – Indah Kiat Perawang Brands

Major Mill Brands	Paper Product	Main Regions Where Brand is Sold
ePaper	Photocopy Paper	Africa, Europe, Middle East, South America, Southeast Asia,
IK	Printing & Writing Paper	Asia, Middle East
IK Plus	Photocopy Paper	South East Asia
Paperline	Photocopy Paper	Africa, Eastern Europe
Paperline Global	Photocopy Paper	Asia

Table V – Indah Kiat Perawang Certification Status as of December 31, 2007

Certification	Classification	Scope	First Issued
ISO 9001	QMS	Mill	1995
ISO 14001	EMS	Mill	1997
ISO 9706	Paper Permanence	Woodfree & Photocopy paper	2005
AMDAL – Government of Indonesia	Environmental Impact Assessment	Mill	1995
Blue PROPER – Government of Indonesia	Pollution Control	Mill	2003-2004
SMK3 – Government of Indonesia	Occupational Safety & Health Management	Mill	1999
Green Purchasing Law (GPL) – Minister of Environment Japan	Product Legality & Sustainability	All products	2006
Plantation Fiber-Origin Verification	Product Sustainability	Acacia pulp products	2005
Indonesian Ecolabel	Environmental Friendly products	Printing and Writing paper[1]	2007
Restriction of Hazardous Substances (RoHS): Europe	Product Safety	Paper products	2006

1. IK Brand – Paper machines #2, 3 and 5

Acacia and Eucalyptus plantation fiber is provided by PT. Arara Abadi from its plantations in Riau. PT. Arara Abadi also supplies mixed tropical hardwood residues that originate on degraded or barren land that has been designated by the Government of Indonesia for development into pulpwood plantations as an integral part of its Forest Land-Use Plan.

The percentage of plantation pulpwood used at Indah Kiat Perawang increased substantially during 2007 in response to a moratorium on MHW harvesting called for by the Governor of the Province of Riau. APP and its fiber supplier have honored this moratorium in order to allow time for scientific findings to be used to develop a comprehensive land use policy for the forests of Riau. Whether or not the moratorium is lifted, APP expects that the MHW component of its fiber furnish will continue to decrease until it is completely eliminated, in compliance with government regulations.

APP believes that it has one of the most stringent pulpwood fiber control systems in Indonesia. In 2003, the Indah Kiat Perawang Mill developed and implemented a Legal Origin Verification and Chain of Custody (LOV/CoC) system to ensure the integrity of its fiber supply. This protocol was developed in conformity with the Criteria and Indicators of the LEI (Lembaga Ecolabel Indonesia – Indonesian Ecolabel Institute) Standard for Wood Fibre Material (plantation wood and mixed hardwood residues from plantation development). This system has undergone continual improvement in subsequent years, with increases in the robustness of its protocols.

Since 2005, the LOV/CoC system has been subjected to annual audits by an independent third party, Société Générale de Surveillance (SGS), which has found no indication of any illegal fiber being harvested or being introduced into the fiber supply at the Indah Kiat Perawang Mill. All of the improvements recommended in the annual audits by SGS have been implemented, and this fact has been noted in each of SGS' annual audit reports. (See **Appendix VI** for 2007 LOV/CoC Audit Statement.)

In December 2007, SGS evaluated APP's fiber suppliers in Riau and Jambi against the standards of the SGS "Timber Legality and Traceability Verification" (TLTV) Programme. The assessment was conducted to benchmark the company's performance against the TLTV standard and to identify potential areas of improvement for APP's fiber suppliers as they work toward their goal of obtaining certification to the full TLTV standard in the near future.

The five paper machines at Indah Kiat Perawang are furnished with pulp mill fiber from the on-site pulp lines, third-party certified long-fiber market pulp, recycled mill broke, and fillers to enhance paper properties. As mentioned, all pulpwood fiber entering the mill is subject to the mill's Legal Origin Verification and Chain of Custody system. One hundred percent of the market pulp

Table VI – Indah Kiat Perawang Pulp Furnish

Furnish	2005	2006	2007
Plantation Hardwood Pulpwood	41%	51%	92%
Mixed Tropical Hardwood Pulpwood	59%	49%	8%
TOTAL	100%	100%	100%

Table VII – Indah Kiat Perawang Paper Furnish

Furnish	2005	2006	2007
Virgin Hardwood Pulp	72%	72%	72%
Purchased Certified Market Pulp	7%	5%	5%
Mill Broke (pulp & paper trim or waste)	6%	7%	4%
Non-fiber fillers (finished product)	15%	16%	19%
TOTAL	100%	100%	100%

purchased by the mill is third-party certified as originating in forests meeting either the Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification Schemes (PEFC) standard for responsible forest management.

5. Environmental Performance

a. Energy Mix

More than 80% of the mill's energy sources are based on renewable resources. Changes in the mix of sources during the last three years result from local supply-and-demand factors outside the mill's control.

The amount of bark available to the mill as fuel was less in 2007 than in 2006 and 2005, due in large part to adoption of in-the-field debarking of trees by the mill's fiber supplier. (Previously, the mill performed the debarking operation in its wood yard.) In addition to reducing transportation costs and fuel consumption, in-the-field debarking distributes nutrient-rich mulch which aids the growth of seedlings that are planted after harvest.

The reduction in Cluster Palm Oil[3] (CPO) consumption reflects a constricted supply of this biomass fuel caused by increased regional demand and a growing export market. To provide energy for the new paper machine that started-up in 2007, the mill increased its consumption of coal as a short-term solution

b. Water and Fiber Consumption

In 2007, the amount of water used per air-dried metric ton of pulp increased by about 9%. This resulted from consumption attributable to water tests (flushing and commissioning) that were performed prior to the start-up of upgraded mill equipment. Despite this increase, the mill is well within the benchmarks set forth in the World Bank International Finance Corporation (IFC) Environmental Guidelines for pulp.

Water use per ton of paper declined by 12.6% during the 2005 to 2007 timeframe as the mill continued to make progress in reducing consumption. The mill's performance is well within the World Bank IFC Environmental Guidelines for paper.

The mill's fiber use per ton of pulp and paper products has been flat during the last three years despite a number of paper machine upgrades.

In April 2007, the mill initiated a comprehensive Master Improvement Program (MIP) to accelerate the reduction of water consumption and fiber consumption per ton of finished product. This MIP is part of a coordinated effort by all of the APP pulp and paper mills in Indonesia, and provides for inter-mill sharing of lessons learned and best practices to leverage experience and achieve results more quickly.

While the final results of the MIP are expected to be reported in September 2008, metrics through the end of 2007 indicate reductions

Table VIII – Indah Kiat Perawang Energy Sources

Renewable Sources	2005	2006	2007
Black Liquor	65.6%	66.2%	59.4%
Bark	23.9%	21.0%	21.0%
Sawdust	0.2%	0.2%	0.1%
Palm Shell or Cluster Palm Oil	2.3%	1.5%	0.3%
Subtotal renewable sources	92.0%	88.9%	80.8%
Fossil Fuel Sources			
Diesel Oil	0.2%	0.2%	0.2%
Marine Oil or other Heavy Oil	0.4%	1.4%	1.3%
Gas	–	–	2.3%
Coal	6.0%	8.1%	13.3%
Peat	1.4%	1.4%	2.1%
Subtotal fossil fuel sources	8.00%	11.1%	19.2%
TOTAL	100.0%	100.0%	100.0%

NOTE: Percentages are based on the amount of energy generated

Table IX – Indah Kiat Perawang Water and Fiber Consumption

Item	2005	2006	2007	World Bank Standard[4]
Water[1]				
Water – Pulp (m^3/ADMT[2])	38.0	37.0	40.3	20-100
Water – Paper (m^3/ADMT)	13.5	13.8	11.8	5-40
Fiber				
Pulp (GMT[3]/ADMT)	4.2	4.1	4.1	None
Paper (ADMT/ADMT)	0.72	0.72	0.72	None

1. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
2. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
3. GMT = Green Metric Ton where a GMT is the weight of the fiber at the moisture level when delivered to the mill.
4. World Bank IFC Environmental, Health and Safety Guidelines for Pulp & Paper Mills, Dec 10, 2007, page 31 table 3.

in the consumption of both water and fiber per ton of finished product.

An anticipated added benefit of the MIP will be the reduction in wastewater treatment plant operating costs as the mill's whitewater recovery system is improved to remove more usable fiber from the wastewater stream.

c. Mill Programs and Investments to Reduce Consumption and/or Discharges

During 2007, the mill initiated a range of consumption and discharge reduction programs, using ISO Environmental Management Systems (EMS) protocols to drive these actions on a timely basis.

From an environmental perspective, one of the most significant series of projects focused on reducing the amount of solid waste going to landfill. In a large mill complex producing more than 2.5 million tons of pulp and paper a year, the disposal of nearly 300,000 tons of sludge, fly ash and dregs-and-grit poses a formidable challenge. Since 2005, the mill has

made significant progress in recycling its solid waste, going from recycling only 38% of its solid waste to recycling 64% in 2007. The results by type of solid waste are shown in Table X.

There were several innovative components to Indah Kiat Perawang's solid-waste-management effort. These included the increased use of sludge as fertilizer; the recovery of fiber from sludge and the sale of recovered-fiber pulp; and the development of a fertilizer product, KCa, made by mixing fly ash and dregs-and-grit, two categories of solid waste.

The mill's total 2007 investment in solid-waste-management projects was US$2.5 million, with annual operating costs of US$1.4 million. These projects returned more than US$6.5 million in savings from landfill cost avoidance and recycled sludge sales of more than US$2.1 million.

Sludge Recycled as Fertilizer

One hundred percent recycling of sludge was one of the mill's success stories in 2007. Beginning in 2005, the mill was able to earn government approval for the use of its sludge as fertilizer in forestry operations. Working closely with its fiber supplier, PT. Arara Abadi, the mill was able to field test and prove the sludge to be rich in nutrients that promote growth when applied to newly planted seedlings. Field testing also showed that the sludge provided a moisture lock that protects seedlings from dehydration. The amount of sludge used as fertilizer has doubled from 31% in 2006 to 65% in 2007.

The mill invested roughly US$1.3 million in equipment needed to press and prepare the sludge for use as fertilizer. Annual operating expenses in 2007 were US$1.4 million. The cost avoided by not sending this sludge to landfill was more than US$2.6 million in 2007. PT. Arara Abadi pays for the cost of processing, packaging and transporting the fertilizer, and realizes cost savings from not having to purchase fertilizer.

Recovered Fiber (from Sludge) Recycled as Low-grade Pulp

The Indah Kiat Perawang Mill is able to recover fiber from sludge in its wastewater treatment plants. In 2006, it was found that, after pressing, this recovered-fiber pulp could be used to make a low-quality paper. Indah Kiat Perawang sells this recovered-fiber pulp at cost to a sister company, Indah Kiat Serang. The Indah Kiat Serang Mill uses this pulp to make a low-grade industrial paper

Table X – Indah Kiat Perawang Solid Waste Management (2005 vs. 2007)

	% Sent to Landfill		% Recycled as Fertilizer		% Recycled Other Means	
Waste Material	2005	2007	2005	2007	2005	2007
Sludge	57%	–	43%	65%	–	35%
Fly Ash	83%	41%	17%	55%	–	4%
Dregs-and-Grit	100%	39%	–	61%	–	–

1. SRA = Severity Rate Accident = (Lost Hours X 1,000) / (Total Man Hours)
2. FRA = Frequency Rate Accident = (Total Accidents X 1,000,000) / (Total Man Hours)

for wrapping roll stock and boxes. During the last three years, the Indah Kiat Serang Mill has consumed nearly 150,000 tons of this recycled, low-grade pulp.

The Indah Kiat Perawang Mill also sold recovered-fiber pulp in the marketplace to select buyers. Revenues from the sale of recovered-fiber pulp were more than US$250,000 in 2007. The investment in equipment needed to press and prepare the sludge for shipment was about US$2.6 million, with annual operating expenses in 2007 of roughly US$84,000. The cost avoided by not sending this sludge to landfill in 2007 was US$630,000.

In 2007, the volume of recovered fiber sludge available was reduced by about 6,700 tons, from 36,500 tons in 2006 to about 29,800 tons in 2007.

The mill recycled 100% of its total sludge output in 2007 through the sludge-fertilizer and recovered-fiber pulp programs, and by using a small volume of dried sludge on-site as fuel.

Fly Ash Recycled as Fertilizer and Construction Material

Between 2005 and 2007, the mill reduced by one-half the volume of fly ash it sent to landfill. (Fly ash is the residual material from power boilers.)

The various power boilers at Indah Kiat Perawang produced 158,179 tons of fly ash during 2007. Of this, the non-coal fly ash (more than half of the total volume) was processed with dregs-and-grit to make KCa fertilizer. This fertilizer

Table XI – Indah Kiat Perawang Recovered-fiber Volumes (Tons)

Customer	2005	2006	2007	TOTAL
IK Serang	86,280	33,463	29,131	148,874
Market Sales	5,332	2,052	701	8,085
TOTAL	91,613	36,515	29,832	156,959

Table XII – Indah Kiat Perawang Recovered-fiber Pulp Sales (US$)

Customer	2005	2006	2007	TOTAL
PT. Amerta Nigatama	1,628,958	536,266	42,336	2,194,560
PT. Ekamas Fortuna	120,288	250,152	210,000	$580,440
PT. Sopanusa	242,500	0	0	$242,500
TOTAL	1,991,746	786,418	252,336	3,017,500

is used by PT. Arara Abadi in its pulpwood plantations.

Roughly 2% of the fly ash was sold to PT. Semen Padang as raw material for cement and another 2% was used on-site as construction sub-base material. The remaining 41% of the fly ash was sent to landfill.

Dregs-and-Grit Recycled as Fertilizer

Dreg-and-grit is a residual material from the recausticizing[4] units. The total dregs-and-grit produced in 2007 was 89,959 tons. More than 60% of this waste material (nearly 50,000 tons) was combined with fly ash to make KCa fertilizer for use in forest plantations

The mill's total investment in equipment needed to make KCa fertilizer was about $688,000, with operating costs for this process of approximately US$450,000 in 2007. The program returns cost savings of more than US$2 million in reduced landfill costs. The savings in expenditures for fertilizer have not yet been calculated.

d. Trend of Performance in Reducing Emissions, Effluent and Waste

Air Emissions

Although the mill operated at about 80-85% below the Indonesian Standards for SO_2 and NO_2, there was an increase in both emissions due to a change in fuel mix and the need to use coal. In 2007, about 15% of the mill's energy requirements were provide by coal, up from 6% in 2005.

Despite the less favorable fuel mix, the mill has been able to reduce particulate emissions by 16% since 2005. This has helped reduce opacity, which also has been reduced more than 16%, to levels that are significantly below Indonesian Standards. This was accomplished through targeted maintenance programs and selective investments in equipment. Particulate emissions also were reduced as the mill was able to buy a slightly better grade of coal.

In Indonesia, air-emission standards are set at the national level (Decree from Ministry of Environment, KEP-13/MENLH/3/1995). Water-effluent standards are set at the provincial level, typically by decree by the Governor of each Province. The tables presented reflect the applicable Indonesian standard for the Indah Kiat Perawang Mill.

Wastewater Effluent

The mill's discharge of wastewater into the Siak River continues to be of higher quality than the water obtained from the river. The increases in BOD and COD in 2007 were due to an upgrade project on paper machine number nine which was completed during 2007. This project required a water test (flushing and commissioning) prior to start up. This release of added water to the wastewater treatment plant resulted in higher per-ADMT-of-production values. Despite the upgrade project, the mill operated at less than 50% of Indonesian standards for BOD, COD and TSS during 2007, and has improved its AOX emissions since 2005 as it approaches the World Bank benchmark of performance.

During the past three years, the mill has not experienced any process spills that were not handled efficiently and within regulations by its wastewater treatment facility.

Solid Waste

The solid waste management projects at Indah Kiat Perawang resulted in a significant reduction in the waste material going to landfill. Details of these projects are contained in the section titled "Mill Programs and Investments to Reduce Consumption and/or Discharges."

As do most mills, Indah Kiat Perawang manages the disposal of a range of hazardous materials, including waste oil, laboratory chemicals, batteries and other materials. In each case, the mill has an appropriate method for disposing of the material. For the most hazardous materials, the mill uses authorized and government licensed hazardous waste disposal businesses.

Table XIII – Indah Kiat Perawang Air Emissions (Flue gas from power boilers)

Parameter	2005	2006	2007	Indonesian Standard
SO_2 (mg/m³)[1]	114.6	94.3	141.2	800 mg/m³
NO_2 (mg/m³)	74.4	49.0	97.8	1,000 mg/m³
Particulate (mg/m³)	100.0	97.5	84.2	230 mg/m³
Opacity[2] (%)	17.9	15.2	14.6	35

1. The Indonesian Standard for Air Emissions is measured as milligrams per cubic meter, not kilograms per Air Dry Metric Tons as is common in many countries.
2. Opacity values are based on routine testing.

Table XIV – Indah Kiat Perawang Wastewater Effluent at Discharge

Parameter	2005	2006	2007	Indonesian Standard	World Bank Guidelines[3]
Standard					
BOD (kg/ADMT[1])	2.8	3.3	4.1	8.5	1 kg/ADMT
COD (kg/ADMT)	12.7	12.9	14.7	29.75	20 kg/ADMT
TSS (kg/ADMT)	3.1	3.2	3.7	8.5	1.5 kg/ADMT
pH	7.3	7.1	7.1	6-9	6-9
AOX (kg/ADMT)	0.4	0.3	0.3	None	0.25 kg/ADMT
Rate[2] (m³/ADMT)	46.87	45.03	46.95	85	50 m³/ADMT

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
2. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
3. World Bank IFC Environmental, Health and Safety Guidelines for Pulp & Paper Mills, Dec 10, 2007, page 26 table 1(a).

Table XV – Indah Kiat Perawang Solid Waste

Type of Waste	Sludge			Fly Ash			Dregs-and-Grit		
Means of Disposal	2005	2006	2007	2005	2006	2007	2005	2006	2007
Incinerate	0%	0%	5 %	0%	0%	0%	0%	0%	0%
Compost (fertilizer)	42.6%	31 %	65 %	17.0%	56.5%	55%	0%	15%	61.0%
Sell	–	34%	30 %	–	–	2 %	–	–	–
Landfill	57.4%	35 %	–	83.0%	43.5%	41%	100%	85%	39.0%
Other	–	–	–	–	–	2 %	–	–	–
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%

6. Social Performance

a. Safety Performance

During 2007, the Indah Kiat Perawang Mill complex had 269 reportable safety incidents, down from the 328 incidents reported in 2006. The mill's Severity of Accident index remained virtually unchanged from 2006, while its Frequency of Accident index decreased 14% from 2006 levels to 3.485. There were no fatalities or accidents resulting in a permanent disability during 2007.

Corrective Actions Taken:
The Indah Kiat Perawang Mill reported 269 major safety incidents in 2007. In response, the mill implemented a number of corrective actions to further reduce the incidence and severity of accidents. These included:

- Establishing a Skill Development Activity (SDA) on accident reduction, This SDA involved Department Managers as well as mill workers;
- Instituting a zero-accident competition involving the whole mill by section;
- Requiring all departments to create SMK3 (health and safety) programs to reduce accidents;
- Scheduling regular SMK3 6 K program audits; and,
- Requiring self-inspection of all affected mill operations.

b. Sickness and Absenteeism

During 2007, the sickness rate for Indah Kiat Perawang Mill employees was 7% higher than the rates in 2006 and 2005. The mill's absenteeism rate in 2007 remained nearly constant with the 2006 level.

c. Social-Benefit Programs

During 2007, the Indah Kiat Perawang Mill provided financial and in-kind support for programs that delivered a broad range of social benefits to communities in proximity to its operations.

Health Services: Floating Clinic
During 2007, the Indah Kiat Perawang Mill invested US$8,683 to continue operation of its Floating Health Care Clinic which, this year, served some 1,300 villagers living in five remote communities along the Siak River.

The program's physician, nurse, pharmacy assistant, and medical assistant travel by speedboat to visit each of the five communities once each month and deliver vital health care and medicines.

Table XVI – Indah Kiat Perawang Employee Safety Performance

Safety Performance	2005		2006		2007	
Parameter	Target	Actual	Target	Actual	Target	Actual
Number of Incidents	–	337	–	328	–	292
Severity (SRA[1])	0.2423	0.0204	0.02187	0.02197	0.01799	0.02190
Frequency (FRA[2])	6.530	4.380	3.807	4.487	3.660	3.485

1. SRA = Severity Rate Accident = (Lost Hours X 1,000) / (Total Man Hours)
2. FRA = Frequency Rate Accident = (Total Accidents X 1,000,000) / (Total Man Hours)

Education Programs

The mill puts a high value on academic and vocational education as a means of improving the long-term quality of life in the communities surrounding the mill.

On-the-Job Training

The Indah Kiat Perawang Mill invested US$29,110 in support of an on-the-job training program that exposed 150 high school and university students to the work-place environment at the mill. Open to students from all of Riau Province's higher education institution, the program provided technical assistance and training, accommodations, meals, and work-incident insurance to participants.

University Preparation Program

The Indah Kiat Perawang Mill committed US$8,796 in support of a tutorial program designed to prepare students to take the Public University Enrollment Examination. Five hundred Siak District students majoring in science took a trial enrollment examination to enter the program. The thirty top-scoring students

Table XVII – Indah Kiat Perawang Employee Sickness and Absenteeism Performance

Attendance	2005		2006		2007	
Parameter	Target	Actual	Target	Actual	Target	Actual
Sickness Rate[1]	–	0.01063	–	0.01062	–	0.01141
Absenteeism Rate[2]	–	0.00070	–	0.00098	–	0.00099

1. Sickness Rate = (Total Sick Days) / (Total Worker Days)
2. Absenteeism Rate = (Total absentee Days) / (Total Worker Days)
NOTE: Indah Kiat Perawang did not report targets for employee sickness and absenteeism performance.

received a 45-day intensive training course to prepare them for the actual Public University Enrollment Examination. Of those participating in the intensive training, ten were successful in passing the examination.

The program offered by the mill is similar to one run by the Siak District Government. However, participation in the government's program is limited to higher-performing students. The program offered by the Indah Kiat Perawang Mill provides an opportunity for lower-performing students to improve their chances of entering the public university.

University Scholarship Program
The Indah Kiat Perawang Mill invested US$3,135 in support of a scholarship program for 34 university students who had completed its University Preparation Program and passed the Public University Enrollment Examination. Under the terms of the program, the company awards scholarships for up to nine semesters to eligible students. To continue receiving scholarship funding from semester to semester, students must to maintain a grade-point average of 2.5.

School Bus
The Indah Kiat Perawang Mill spent US$4,798 in 2007 to provide bus transportation to enable 150 rural elementary and junior high school students to attend classes. The bus supplied by the mill makes morning, mid-day, and afternoon trips along the Minas-Perawang road.

Training: Community Skill Development Center
In 2007, the Indah Kiat Perawang Mill invested US$276,396 toward the ongoing construction of its Community Skill Development Center. Now 80% completed, the Center will ultimately consist of offices, a classroom, mess hall, sanitation facilities, and a prayer facility, as well as a cattle barn, food garden, aquaculture ponds, and horticulture cultivation gardens.

The Indah Kiat Perawang Mill will maintain the facilities, and, in conjunction with the Siak-sub-district branch of the National Farming Department, will conduct skills training in agriculture and aquaculture for community groups, and provide other technical assistance to motivated members of the community.

Community Support: Religious Events Program
The Indah Kiat Perawang Mill committed US$7,422 during 2007 in support of local religious activities and events. The funding was used to provide 23 preachers, facilities, transportation and food services for events held at 51 mosques near the mill. Some 5,000 persons participated in these religious events.

Infrastructure: Community Electricity
Providing access to electrical power is an essential component of improving economics and quality of life in rural Indonesia. During 2007, the mill continued to maintain an electrical relay station, voltage regulator and other equipment necessary to supply two Megawatts of electrical current from the company's generator to the surrounding community. This electrical power is distributed through government-owned transmission lines. The local utility manages the distribution, monitors usage, and bills the company for the power consumed by the community.

More than 2,400 families in four villages benefit from the program, and consume 90% of the energy supplied to the grid by the Indah Kiat Perawang mill. Most of this electricity is used for lighting and household purposes during evening hours, although mill management is encouraging villagers to use this electric power in home-scale enterprises that would generate income.

The mill's investment in the Community Power program has totaled US$182,307 since the program's inception in 2005.

NOTE: Throughout this report, spending in Indonesian Rupiah has been converted to US$ calculated at the interbank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.

Indah Kiat
pulp and paper products

Indah Kiat Serang Mill

Table I – Indah Kiat Serang Sales (US$ Thousands)

Product	2005	2006	2007
Packaging	452,800	500,920	618,870
TOTAL	452,800	500,920	618,870

Table II – Indah Kiat Serang Employees and Mill Indirect Jobs

Category	2005	2006	2007
Mill Employees	5,010	5,095	5,141
Mill Indirect Jobs	956	914	1,122
TOTAL	5,966	6,009	6,263

1. Mill at a Glance

The PT. Indah Kiat Serang mill (Indah Kiat Serang) is a large non-integrated paper mill located in the village of Serang, in Banten Province on the island of Java. The mill had sales in 2007 of slightly more than US$618 million, an increase of nearly 24% compared to 2006 and a 37% increase compared to 2005.

The Indah Kiat Serang Mill provides more than 5,000 jobs and has created employment for more than 1,100 people in the area who provide the mill with needed on site services. Taken as a whole, the Indah Kiat Serang Mill is responsible for the employment of more than 6,200 people, contracts locally for off-site services, and is an important economic engine for the communities in and around the village of Serang.

During each of the last three years, the mill has produced a total of about 1,100,000 tons of packaging paper and paperboard. The Indah Kiat Serang Mill is one of the largest purchasers and users of post consumer waste (PCW) in Indonesia, with its products averaging 70% recycled fiber content.

The Indah Kiat Serang Mill includes five paper machines (with a sixth machine in the planning stage), three converting lines, a co-generation plant, an incinerator and two wastewater treatment plants. The mill generates virtually all of its electricity requirements on-site from Indonesian-sourced coal.

2. Products

The Indah Kiat Serang Mill produces nearly a dozen branded industrial paper and paperboard products including linerboard and medium, corrugated boxboard, coated boxboard, paper tubes and industrial papers. Finished paper and paperboard are sold in sheet and roll form to converters and customers in North and South America, Asia, and Europe and in domestic markets.

During 2007, Indah Kiat Serang introduced a new high-bulk version of Sinarvanda targeting display and food packaging applications. The paperboard products shown in Table IV are the three largest selling brands for the mill.

3. Certification and Verification

Since 1995, the Indah Kiat Serang Mill has remained certified as compliant with the ISO 9001 Quality Management System (QMS) standard and since 2004 with the ISO 14001 Environmental Management System (EMS) standard. The mill's last QMS re-certification occurred in 2007 and the mill will be subject to a re-certification audit in 2010. The mill's EMS certification was also renewed in 2007 and will be subject to a re-certification audit in 2010. The mill's management team holds quarterly EMS project reviews to ensure that continuous-improvement projects are on target, and that appropriate corrective measures for identified shortcomings have been taken.

In 1992, the mill obtained its first AMDAL license verifying that it had successfully conducted the required environmental impact assessment for its operations. The mill's license will be revalidated in 2008.

In 1998, the Indah Kiat Serang Mill was awarded its first Blue PROPER certificate by the Ministry of the Environment's Program for Pollution Control, Evaluation and Rating.

Table III – Indah Kiat Serang Production (ADMT[1])

Product	2005	2006	2007
Packaging (Indah Kiat Serang)	1,147,137	1,117,644	1,194,620
TOTAL	1,147,137	1,117,644	1,194,620

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 6% moisture for paper.

Table IV – Indah Kiat Serang Brands

Major Mill Brands	Paper Products	Main Regions Where Brand is Sold
SinarBoard	Ivory Paperboard	Asia
SinarRoyal	Art board	Asia, North America, South America
Sinarvanda	Folding Boxboard	Asia, Europe

The PROPER award is given to mills that produce emissions at levels below those permitted by government standards and which use clean technology, minimize waste, prevent pollution and conserve resources. The mill's certification was renewed for the most recent award period, October 1, 2006 through September 30, 2007.

The Indah Kiat Serang Mill was first certified to the Government of Indonesia's Occupational Safety and Health Management standards (SMK3) in 2002, but has not renewed the certificate since 2005.

During 2007, Indah Kiat Serang continued its successful implementation of controls to qualify its output as compliant with the requirements of Japan's Green Purchasing Law (GPL) so that the mill and its customers would be able to continue selling product in that country. This law requires certification of an unbroken chain-of-custody of supply, from the legal sourcing of raw material through mill processes to the sale of finished product to the customer.

The Indah Kiat Serang Mill also holds six product-safety certifications for paper and paperboard products sold in the United States and Europe. All of these product-safety certifications were renewed in 2007 and will be subject to renewal again in 2008 and 2009.

During 2007, the Indah Kiat Serang Mill, together with GFS (Global Forestry Service), conducted PEFC training in 2007 to prepare for a PEFC Chain-of-Custody Certification audit in 2008.

4. Fiber Supply Integrity

The five paper machines at Indah Kiat Serang are furnished with pulp that consists of an average of 75% virgin hardwood pulp from APP's sister companies on the island of Sumatra and purchased long-fiber market pulp. Fillers are used to enhance paper properties.

All hardwood pulp entering the mill is made with fiber subjected to APP's Legal Origin Verification and Chain of Custody system in place at both pulp mills on Sumatra. This protocol was developed in conformity with the Criteria and Indicators of the LEI (Lembaga Ecolabel Indonesia – Indonesian Ecolabel Institute) Standard for Wood Fibre Material (plantation wood and mixed hardwood residues from plantation development).

One hundred percent of the long-fiber market pulp purchased by the mill is third-party certified as originating in forests meeting either the Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification (PEFC) standard for responsible forest management.

In addition to the inspection required to support the mill's third-party certification, Indah Kiat Serang conducts its own quality-control check on all incoming consumer waste. The mill purchased more than 1.1 million tons of seven different grades of paper waste during 2007. This furnish was sourced primarily in Indonesia, with the balance originating in the European Union and the United States.

5. Environmental Performance

a. Energy Mix

The mill's primary source of energy is coal primarily because

Table V – Indah Kiat Serang Certification Status as of December 31, 2007

Certification	Classification	Scope	First Issued
ISO 9001	QMS	Mill	1995
ISO 14001	EMS	Mill	2004
AMDAL – Government of Indonesia	Environmental Impact Assessment	Mill	1992
Blue PROPER – Government of Indonesia	Pollution Control	Mill	1994-1995
SMK3 – Government of Indonesia	Occupational Safety & Health Management	Mill	2002
Green Purchasing Law (GPL) – Minister of Environment Japan	Product Legality & Sustainability	All products	2006
Food Packaging Direct Contact – BfR: Germany	Product Safety	Paperboard	2003
Food Packaging Direct Contact – FDA: USA	Product Safety	Paperboard	2005
Restriction of Hazardous Substances (RoHS): Europe	Product Safety	Paper and Paperboard	2006
CONEG[1]: USA	Product Safety	Paper and Paperboard	2000
EN[2] 71, Part 3 and Part 9: EU	Product Safety	Paperboard	2005
ASTM[3] F963-03: USA	Product Safety	Paperboard	2005

1. The Coalition of Northeastern Governors, Toxic in Packaging Materials Clearinghouse Certificate of Compliance.
2. The European Standard 71 for toys and toy packaging.
3. The American Society for Testing and Materials for toys and toy packaging.

the current boiler is unable to burn bio-mass fuels.

b. Water and Fiber Consumption

In 2007, the amount of water required to make an air-dried metric ton of finished product reflected improvement from 2006 levels. It has been within the benchmarks in the World Bank International Finance Corporation Environmental Guidelines for recovered paper mills producing corrugated medium and packaging paper for the last three years.

The mill's rate of fiber consumption also increased gradually during the last two years. This was due primarily to a higher usage level and more variable quality of the PCW used, and also to a slightly higher level of de-inking operations. Both of these factors contributed to a higher level of "contraries" and non-recoverable fiber being rejected.

In April 2007, the mill initiated a comprehensive Master Improvement Program (MIP) to accelerate the reduction of water consumption and reverse the direction of fiber consumption per ton of finished product. This MIP is part of a coordinated effort by all of the APP pulp and paper mills in Indonesia, and provides for inter-mill sharing of lessons learned and best practices to leverage experience and achieve quicker results.

While the results of the MIP are expected to be reported in September 2008, metrics through the end of 2007 indicate a reduction in the consumption of water per ton of finished product. However, the previously noted issues relating to fiber consumption – higher PCW usage levels, more variable PCW quality, and a slightly higher level of de-inking operations – will prevent the MIP process efficiencies from being achieved fully. An anticipated added benefit of the MIP will be the reduction in wastewater treatment plant operating costs as the mill's white water recovery system is improved to remove more usable fiber from the wastewater stream.

c. Mill Programs and Investments to Reduce Consumption and/or Discharges

During 2007, the mill initiated a range of consumption and discharge reduction programs, using ISO Environmental Management Systems protocols to drive these actions on a timely basis. Key projects included a new reject-plastic recycling operation, plus relatively small investments to reduce energy and fresh-water

Table VI – Indah Kiat Serang Paper Furnish

Furnish	2005	2006	2007
Virgin Hardwood, Purchased Market Pulp and Post Consumer Waste Paper	75%	76%	74%
Non-fiber Fillers	23%	24%	25%
Other	2%	–	1%
TOTAL	100%	100%	100%

1. Includes all pulp and paper recycled within the mill.

Table VII – Indah Kiat Serang Energy Sources

Fossil Fuel Sources			
Coal	99.3%	98.9%	99.7%
Diesel and Heavy Oil	0.7%	1.1%	0.3%
TOTAL	100%	100%	100%

NOTE: Percentages are based on the amount of energy generated.

Table VIII – Indah Kiat Serang Water and Fiber Consumption

Item	2005	2006	2007	World Bank Guidelines[4]
Water[1]				
Water – Paper (m^3/ADMT[2])	8.4	10.0	8.6	1.5-10
Fiber				
Paper (GMT[3]/ADMT)	1.040	1.053	1.058	None

1. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
2. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
3. GMT = Green Metric Ton where a GMT is the weight of the fiber at the moisture level when delivered to the mill.
4. World Bank IFC Environmental, Health and Safety Guidelines for Pulp & Paper Mills, Dec 10, 2007, page 31 table 3, recovered paper mill, corrugated medium and packaging paper.

consumption, and to increase wastewater fiber recovery. These projects have resulted in significant cost and resource savings.

Reject Plastic Recycling

The Indah Kiat Serang Mill purchases about one million tons per year of waste paper. The bales of waste paper include a significant quantity of plastic and other trash that is rejected when the waste paper is re-pulped. Historically, these rejects had been disposed of through on-site incineration. However, in order to avoid the cost of incinerating the plastic component of these rejects, and to help meet one of Indah Kiat Serang Mill's social program goals for 2007, the mill established a new business venture to sort, process and remanufacture the plastic reject material. An increasing percentage of plastics – currently about 22% – is now recycled and is used to make core plugs for paper rolls and LDPE, HDPE, PE and PP plastic seeds for sale to molders who make various types of plastic products. The total investment for this new business was US$917,000. During its ten months of operation in 2007, the mill reported sales of more than US$260,000 and a cost avoidance of US$30,000 in estimated incineration costs. Most importantly, the mill hired and trained people from the local community. This operation currently employs 43 individuals who were previously unemployed or underemployed.

Energy Consumption at PM #3 and PM #6

During 2007, the mill invested US$15,000 in new power factor correction equipment to reduce energy costs, in part as an offset to higher energy costs. The savings, which have exceeded expectations, are now running at a monthly rate of US$150,000.This has enabled the mill to attain per-ton targets consistent with Ecolabel programs standards.

Fresh Water Consumption

During 2007, the Indah Kiat Serang Mill also made an investment of US$12,000 in equipment that is expected to reduce water use per ton by 18% on two of its five paper machines. This has yielded annualized savings of nearly US$500,000, and has enabled the mill to meet its water-consumption reduction targets.

Wastewater Fiber Recovery

In 2007, the mill expanded the treatment capacity of the #2 Wastewater Treatment Plant at a total capital investment of US$53,000. Total savings from this improvement are tracking at an annual rate of US$335,000, due to the reduced loading on the primary clarifier, the recovery of additional fiber, and a reduction in wastewater treatment costs.

d. Trend of Performance in Reducing Emissions, Effluent and Waste

Air Emissions

Although the mill power boiler's air emissions were running at 2% of Indonesian Standards for SO_2 and NO_2 in 2007, there was an increase in both emissions levels due to an unfavorable change in the sulfur content of available coal. During 2007, the mill could only purchase lower-energy-value, higher-sulfur coal than had been previously used. Use of this coal required a higher loading on the boiler, reducing boiler efficiency and increasing the level of SO_2 and NO_2 emissions.

The Indah Kiat Serang Mill's incinerator feedstock includes plastic rejects, which are sorted out from the volumes of PCW consumed at the mill. Both the SO_2 and particulate increases in 2007 resulted from higher loadings of reject plastic. Despite this increase, SO_2 values were less than 10% of Indonesian government standard in 2007, and particulate emissions were less than 50% of the government standards. As discussed above, an increasing volume of plastic trash is now recovered in a form suitable for recycling, reducing the volume incinerated.

In Indonesia, air-emission standards are set at the national level (Decree from Ministry of Environment, KEP-13/MENLH/3/1995). Water-effluent

Table IX – Indah Kiat Serang Power Boiler Air Emissions (Flue gas from power boilers)

Parameter	2005	2006	2007	Indonesian Standard
SO_2 (mg/m^3)[1]	17.58	13.12	18.19	800
NO_2 (mg/m^3)	3.45	3.79	10.77	1000
Particulate (mg/m^3)	17.78	23.81	17.44	350
Opacity[2] (%)	4.98	4.09	4.18	35

1. The Indonesian Standard for Air Emissions is measured as milligrams per cubic meter, not kilograms per Air Dry Metric Tons as is common in many countries.
2. Opacity values are based on routine testing except for Pindo Deli which is based on spot checks.

Table X – Indah Kiat Serang Incinerator Air Emissions (Flue gas from incinerator)

Parameter	2005	2006	2007	Indonesian Standard
SO_2 (mg/m^3)[1]	3.39	8.57	16.37	250
NO_2 (mg/m^3)	28.96	41.88	21.78	300
Particulate (mg/m^3)	10.73	13.73	24.40	50
Opacity[2] (%)	3.76	4.03	4.45	10

1. The Indonesian Standard for Air Emissions is measured as milligrams per cubic meter, not kilograms per Air Dry Metric Tons as is common in many countries.
2. Opacity values are based on routine testing.

standards are set at the provincial level. At the Indah Kiat Serang Mill, water-effluent standards are set at the District level of government. (See **Appendix IV,** Indonesia's Units of Governance for a better understanding of the relationship between Provinces and Districts.) The tables presented reflect the applicable Indonesian standard for the Indah Kiat Serang Mill.

Wastewater Effluent

The mill's discharge of wastewater to the Ciujung River continues to be of higher quality than the water drawn from the river.

The mill operated at less than 7% of Indonesian standards for BOD, COD and TSS during each of the last three years.

During the past three years, the mill did not experience any process spills that were not handled efficiently and within regulations by its wastewater treatment facility.

Solid Waste

Solid waste management presents a continuing challenge for the Indah Kiat Serang Mill. Although it is able to sell its fly ash for use as a construction material, and can incinerate its plastic rejects, it is still evaluating alternatives to sending its sludge to the current licensed on-site landfill.

As do most mills, Indah Kiat Serang manages the disposal of a range of hazardous materials, including waste oil, lab chemicals, batteries and mercury lamps. In each case, the mill has an appropriate method for disposing of the material. For the most hazardous materials, the mill uses authorized and government licensed hazardous waste disposal businesses.

6. Social Performance

a. Safety Performance

During 2007, the Indah Kiat Serang Mill had 23 reportable safety incidents, down from 29 incidents in 2006. The mill's Severity of Accident index dropped by more than 95% from the 2006 level to 2.43, due primarily to the fact that there no fatalities occurred during the year. There were two accidents in which workers lost fingers during 2007. Despite these unfortunate incidents, the mill's Frequency of Accident index also declined from 2005 and 2006 levels to 2.43.

The Indah Kiat Serang Mill reported no major safety incidents or related corrective actions during 2007.

Table XI – Indah Kiat Serang Water Effluent at Discharge

Parameter	2005	2006	2007	Indonesian Standard
BOD (kg/ADMT[1])	0.17	0.22	0.32	9.6
COD (kg/ADMT)	1.47	1.82	1.78	25
TSS (kg/ADMT)	0.39	0.51	0.42	9.2
pH	7.52	7.42	7.41	6-9
Volume (million m^3)[2]	10,413,391	10,711,460	10,893,529	None
Rate (m^3/ADMT)	9.08	9.58	9.12	None

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 6% moisture for paper.
2. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
NOTE: There are no World Bank discharge benchmarks for non-integrated paper mills

Table XII – Indah Kiat Serang Solid Waste

Type of Waste				Sludge			Fly Ash			Plastic Rejects
Means of Disposal	2005	2006	2007	2005	2006	2007	2005	2006	2007	
Incinerate	0.1%	0.1%	0.1%	–	–	–	100%	100%	100%	
Compost (fertilizer)	–	–	–	–	–	–	–	–	–	
Sell	–	–	–	100%	100%	100%	–	–	–	
Landfill	99.9%	99.9%	99.9%	–	–	–	–	–	–	
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	

b. Sickness and Absenteeism

The sickness rate for mill employees during 2007 was 2% higher than in the 2006. The mill's absenteeism rate, however, has shown consistent improvement and was below the mill's target for each of the last three years.

c. Social-Benefit Programs

During 2007, the Indah Kiat Serang Mill provided financial and in-kind support for a number of programs that delivered social benefits to communities in proximity to its operations.

Education Support Programs

The Indah Kiat Serang Mill puts a high value on education as a means of improving the long-term quality of life in the communities surrounding the mill.

Scholarship Programs

During 2007, the mill continued its support of the Serang Care Scholarship Program with funding to underwrite the costs of tuition, books, school supplies, and uniforms for children of employee families. Scholarships are awarded once each semester to families with elementary-, junior-high-, and senior-high-school students. Indah Kiat Serang conducts a mill-wide informational outreach to inform employees of the available scholarships. Funding for the Care Scholarship Program during the 2006/2007 school year was US$23,546, with a total of 2,294 students benefiting from the program. Funding for the Care Scholarship Program during the 2007/2008 school year was US$21,740, with a total of 2,123 students benefiting from the program.

The mill also continued its Career Scholarship Program, in which four high-achieving students each receive three-year scholarships (tuition plus living expenses) to the Bandung Academy of Pulp and Paper Technology (ATPK – Akademi Teknologi Pulp dan Kertas). Program participants were selected through a screening process that includes testing in Chemistry, Physics, Math and English, an interview before a group

Table XIII – Indah Kiat Serang Employee Safety Performance

Safety Performance		2005		2006		2007
Parameter	Target	Actual	Target	Actual	Target	Actual
Number of Incidents	–	30	–	29	–	23
Severity (SRA[1])	292.25	47.86	147.0	108.26	–	2.43
Frequency (FRA[2])	17.87	5.59	2.58	3.74	–	2.29

1. SRA = Severity Rate Accident = (Lost Hours X 1,000) / (Total Man Hours)
2. FRA = Frequency Rate Accident = (Total Accidents X 1,000,000) / (Total Man Hours)

of Indah Kiat Serang and ATPK representatives, and psychological testing. After their three years of study, program participants are hired by the Indah Kiat Serang Mill and work there for a minimum of three years.

In 2007, the Indah Kiat Serang Mill invested US$13,434 in its Career Scholarship Program.

Adult Education Program
The Indah Kiat Serang Mill invested US$11,848 in an on-site adult-education program for mill employees. The program provides participants with junior-high-school- and senior-high-school-equivalent education, increasing the knowledge and skills of employees and broadening their world-view. During 2007, 198 adults were enrolled in the program (60 in the junior-high program and 142 in the senior-high program). One hundred percent of the graduating class – 66 adult students – successfully completed their course of study in 2007 (up from 97% in 2006).

Clean & Healthy Environment Competition
In 2007, the mill invested US$1,285 in support of the Clean & Healthy Environment program, designed to encourage maintenance of schools in a manner that is clean, free from hazards and conducive to learning. The program, in which students and teachers work to keep their schools clean, safe and orderly, also was intended to promote pride and positive attitudes. Thirty-four elementary schools in the Kragilan sub-district took part in the competition. A jury comprised of mill representatives visited each school three times during the competition before deciding the winners and awarding prizes.

Composition Book Giveaway
The Indah Kiat Serang Mill provided composition books to the students of 25 schools in five nearby sub-districts that suffered flood damage in February, 2007. In conjunction with the Eka Tjipta Foundation, the Indah Kiat Serang Mill distributed nearly 100,000 composition books to some 10,000 students. The mill invested US$21,324 to provide these much-needed school materials.

Table XIV – Indah Kiat Serang Employee Sickness and Absenteeism Performance

Attendance		2005		2006		2007
Parameter	Target	Actual	Target	Actual	Target	Actual
Sickness Rate[1]	0.00079	0.00105	0.00078	0.00095	0.00078	0.00097
Absenteeism Rate[2]	0.00027	0.00022	0.00022	0.00024	0.00022	0.00020

1. Sickness Rate = (Total Sick Days) / (Total Worker Days)
2. Absenteeism Rate = (Total absentee Days) / (Total Worker Days)

Junior Achievement Program

With core funding from the Eka Tjipta Foundation, the Indah Kiat Serang Mill continued its Junior Achievement Program to help build teamwork skills and encourages the development of an entrepreneurial spirit among high-school students. A total of 1,372 students from ten academic and vocational high schools took part in the 2007 program. Student companies successfully operated a range of businesses including an automotive repair shop, food and beverage shops, and vending stalls where people could purchase vouchers for cellular-phone airtime.

Food Aid for Flood Victims

The Indah Kiat Serang Mill, in cooperation with the Eka Tjipta Foundation, provided food aid and drinking water to 251 families in three villages of the Carenang sub-district that had been impacted by the February, 2007 flood. These families were among those most marginalized by society.

Community Spirit Program

To build community spirit and foster good relations between the community and the mill, Indah Kiat Serang provided organizational support and prize money for 10-kilometer race in the Kragilan sub-district. Held August 12 during the Independence Day Commemoration, the race featured runners from the mill and from the community at large competing for a total of US$1,066 in cash awards.

Support of Religious Activities

The Indah Kiat Serang Mill contributed a total of US$2,452 in support of the community's celebration of Idul Adha (a Muslim Holiday). This funding was used to provide 46 goats (one for each mosque in the area) for ritualistic slaughter. The meat from sacrificed animals was distributed to an estimated 1,840 people after Idul Adha Morning Prayer.

The mill provided an additional US$15,999 to support events related to the celebration of six Muslim holidays. Some of the funding was used to bring well-known national preachers to Banten Province. The program helps build positive relations between the community and the mill, and provides an opportunity for community leaders to work with mill representatives on a program that is of great importance to the people of Banten Province.

NOTE: Throughout this report, spending in Indonesian Rupiah has been converted to US$ calculated at the interbank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.

Indah Kiat
pulp and paper products

Indah Kiat Tangerang Mill

Table I – Indah Kiat Tangerang Sales (US$ Thousands)

Product	2005	2006	2007
Paper	80,242	82,691	101,400
TOTAL	80,242	82,691	101,400

Table II – Indah Kiat Tangerang Employees and Mill Indirect Jobs

Category	2005	2006	2007
Mill Employees	1,186	1,161	1,137
Mill Indirect Jobs	198	266	297
TOTAL	1,384	1,427	1,434

1. Mill at a Glance

The PT. Indah Kiat Tangerang mill (Indah Kiat Tangerang) is a small non-integrated paper mill located in the village of Tangerang in Banten Province on the island of Java. The mill had sales of slightly more than US$100 million in 2007, an increase of nearly 23% compared to 2006 and a 26% increase compared to 2005.

The Indah Kiat Tangerang mill provides more than 1,100 jobs and has created employment for nearly 300 additional people in the area who provide the mill with needed services. Responsible for the employment of nearly 1,500 people, the Indah Kiat Tangerang Mill provides an important economic engine for the villages in and around Tangerang.

In 2007, the mill produced 103,000 tons of paper products. The Indah Kiat Tangerang Mill produces printing and writing and photocopy papers in more than 100 colors.

The Indah Kiat Tangerang Mill has three paper machines, three converting lines, a co-generation plant, and a wastewater treatment plant.

2. Products

Indah Kiat Tangerang produces a range of branded color photocopy, printing and writing and specialty papers marketed throughout the world.

During 2007, Indah Kiat Tangerang introduced Sinar Tech, a new high-smoothness, high-opacity color paper, and Sinar Color photocopy paper. Both offerings found ready acceptance in key markets in Asia, South America and the Middle East.

3. Certification and Verification

The Indah Kiat Tangerang Mill has remained certified as compliant to the ISO 9001 Quality Management System (QMS) standard since 1995. The last QMS re-certification was in 2007 and the mill will be re-inspected in 2010.

Indah Kiat Tangerang has remained compliant with the ISO 14001 Environmental Management System (EMS) standard since 1996, and was also the first mill in Indonesia to be ISO 14001 certified. The mill's last EMS certification was renewed in 2005 and the mill will be re-inspected in 2008.

The mill management team holds quarterly EMS project reviews to ensure that continuous improvement projects are on target, and that appropriate corrective measures for identified shortcomings have been implemented.

In 1995, the mill received its first AMDAL license. The AMDAL process ensures that businesses with significant environmental footprints, such as paper mills, have prepared an Environmental Impact Assessment as required by national law. Indah Kiat Tangerang's license was revalidated in 2006.

The Indah Kiat Tangerang Mill was awarded its first Green PROPER

Table III – Indah Kiat Tangerang Production (ADMT[1])

Product	2005	2006	2007
Paper	98,800	94,600	103,000
TOTAL	98,800	94,600	103,000

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 6% moisture for paper.

Table IV – Indah Kiat Tangerang Brands

Major Mill Brands	Paper Products	Main Regions Where Brand is Sold
Paperline	Color Photocopy, Color Wood-free paper, Fancy Jumbo Block	Asia, North America
Sinar Spectra	Color Photocopy and Color Wood-free paper, Fancy Jumbo Block	Asia, Africa, Middle East
Spectra Color	Color Photocopy, Jumbo Block, Construction and Origami paper	Europe

certificate by the Ministry of the Environment's Program for Pollution Control, Evaluation and Rating for the period October 1, 2006 through September 30, 2007. This Green level award is given to mills which produce emission at levels of less than 50% of the government standards and which employ clean technology, minimize waste, prevent pollution and conserve resources. The mill had been certified at the Blue PROPER level since 2002, indicating compliance with the government's base-level standards and initiatives.

During 2007, the Indah Kiat Tangerang Mill became the second APP operation to attain OHSAS 18001 certification. This internationally recognized occupational health and safety management system helps management eliminate or minimize risk to employees and other affected parties. Certification to the OHSAS 18001 standard also ensures conformance with company occupational, health and safety policies and demonstrates such conformance to others.

The Indah Kiat Tangerang Mill has remained continuously certified to the government of Indonesia's Occupational Safety and Health Management standards (SMK3) since 1998.

In 2007, Indah Kiat Tangerang continued its successful implementation of controls to qualify its output as compliant with the requirements of Japan's Green Purchasing Law (GPL) so that the mill and its customers would be able to continue selling product in that country. This law requires certification of an unbroken chain-of-custody of supply, from the legal sourcing of raw material through mill processes to the sale of finished product to the customer.

The Indah Kiat Tangerang Mill, together with Global Forestry Service (an independent consulting firm) conducted PEFC Chain-of-Custody standard training during 2007 in preparation for a PEFC Certification audit in 2008.

4. Fiber Supply Integrity

During the last three years, the three paper machines at Indah Kiat Tangerang have been furnished with an average of 50% hardwood pulp from one of APP's sister companies on the island of Sumatra, 6% third-party certified long-fiber market pulp, 12-13% recycled mill broke, and 30% non-fiber materials to enhance paper properties.

All hardwood pulp entering the mill is made with fiber subjected to APP's Legal Origin Verification and Chain of Custody system in place at both pulp mills on Sumatra. This protocol was developed in conformity with the Criteria and Indicators of the LEI (Lembaga Ecolabel Indonesia – Indonesian Ecolabel Institute) Standard for Wood Fibre Material (plantation wood and mixed hardwood residues from plantation development).

One hundred percent of the market pulp purchased by the mill is third-party certified as originating in forests

Table V – Indah Kiat Tangerang Certification Status as of December 31, 2007

Certification	Classification	Scope	First Issued
ISO 9001	QMS	Mill	1995
ISO 14001	EMS	Mill	1996
AMDAL – Government of Indonesia	Environmental Impact Assessment	Mill	1995
Blue PROPER – Government of Indonesia	Pollution Control	Mill	2002-2003
Green PROPER – Government of Indonesia	Pollution Control	Mill	2006-2007
OHSAS 18001 – International Occupational Health and Safety Assessment Series	Occupational Safety & Health Management	Mill	2007
SMK3 – Government of Indonesia	Occupational Safety & Health Management	Mill	1998
GPL – Minister of Environment of Japan	Product Legality & Sustainability	All products	2006

meeting either the Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification Schemes (PEFC) standard for responsible forest management.

5. Environmental Performance

a. Energy Mix

The Indah Kiat Tangerang Mill is dependent on fossil fuels to generate energy. The mix of sources used during the last three years reflects the changing supply/demand balance of alternative fuels in the area.

During 2007, the mill was successful in using a small amount of its own sludge as fuel. For a complete discussion of this program, please see to Section 5c., titled “Mill Programs and Investments to Reduce Consumption and/or Discharges.”

b. Water and Fiber Consumption

During 2006, one hundred percent of the mill’s output was switched to colored paper products. This change in production required more frequent wash-ups, resulting in a 15% increase in per-ton water use. During 2007, the mill instituted corrective measures including changing the color sequence and applying other process efficiencies. As a result, the mill was able to reduce the rate of water consumption to a level 2% below the 2005 rate.

During the past three years, the amount of water required to make a ton of finished product has been at the low end of the benchmarks set forth by the International Finance Corporation Environmental Guidelines for specialty paper.

The rate of fiber use per air-dried metric ton of finished product increased slightly in 2006, but showed improvement in 2007 with a 2.5% reduction per ton of finished product when compared to 2005 fiber consumption.

In April 2007, the Indah Kiat Tangerang Mill initiated a comprehensive Master Improvement Program (MIP) to accelerate the reduction of water and fiber

Table VI – Indah Kiat Tangerang Paper Furnish

Furnish	2005	2006	2007
Virgin Hardwood Pulp	53%	51%	51%
Purchased Certified Market Pulp	7%	7%	6%
Mill Broke (pulp & paper trim or waste)	10%	12%	13%
Non-fiber Materials	30%	30%	30%
TOTAL	100%	100%	100%

consumption per ton of finished product. This MIP is part a coordinated effort by all of the APP pulp and paper mills in Indonesia and provides for inter-mill sharing of lessons learned and best practices to leverage experience and achieve results more quickly.

While the final results of the MIP are expected to be reported in September 2008, metrics through the end of 2007 indicate reductions in the consumption of both water and fiber per ton of finished product. An anticipated added benefit of the MIP will be the reduction in wastewater treatment plant costs as the mill's whitewater system is improved to remove more usable fiber from the wastewater stream.

c. Mill Programs and Investments to Reduce Consumption and/or Discharges

During 2007, the mill initiated a range of consumption-reduction programs using the ISO Environmental Management Systems protocols to drive these actions on a timely basis. Key projects included a new sludge incineration program, reductions in water and fiber consumption as part of the Master Improvement Program (MIP), and reductions in electricity consumption.

Sludge Incineration

During 2007, the IK Indah Kiat Tangerang Mill successfully piloted and commercialized a program to mix mill sludge with coal in its power boiler, eliminating the major cost and nuisance of transporting sludge to a nearby cement factory. After a six-month pilot, the mill achieved an optimal ratio of sludge to coal consistent with meeting all relevant pollution standards for air and solid waste emissions. As a result, the mill is now able to burn all of its sludge in a mixture with coal. Annual cost savings estimated at US$40,000 have been realized by eliminating the cost of transport.

Water and Fiber Savings

The mill realized annualized savings of nearly US$52,000 during 2007 from the implementation of a program to reduce water consumption and fiber loss. Savings were achieved by changing the color-run

Table VII – Indah Kiat Tangerang Energy Sources

Source	2005	2006	2007
Natural Gas	78.2%	44.8%	55.6%
Coal	9.4%	35.7%	35.1%
Diesel Oil	12.4%	19.5%	8.8%
Sludge	–	–	0.5%
TOTAL	100.0%	100.0%	100.0%

NOTE: Percentages are based on the amount of energy generated

Table VIII – Indah Kiat Tangerang Water and Fiber Consumption

Item	2005	2006	2007	World Bank Guidelines[3]
Water[1]				
Water – Paper (m^3/ADMT[2])	18.9	21.9	18.6	10-300
Fiber				
Paper (ADMT/ADMT)	0.79	0.80	0.77	None

1. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
2. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
3. World Bank IFC Environmental, Health and Safety Guidelines for Pulp & Paper Mills, Dec 10, 2007, page 31 table 3, paper mill, specialty paper.

sequence and by re-using 50% of the process water in the new sequence. Fresh water consumption rates during the first six months of operation were reduced by 25%. As an added benefit, the fiber-loss rate was reduced by more than 9% through the addition of a filtering station before recycling the process water.

Electricity Savings

Indah Kiat Tangerang reduced its energy consumption by 20% during 2007 through a series of small equipment changes. These included installing "Auto Off" switches on the re-winder, cutter, and cut-size machines in the finishing /converting operations; changing all paper machine main drives from DC to AC motors; and installing an inverter on the cleaner and washer pumps. The cost of these changes in 2007 was US$250,000. The estimated annualized savings from these investments is US$2,138,016.

d. Trend of Performance in Reducing Emissions, Effluent and Waste

Air Emissions

The Indah Kiat Tangerang Mill's average annual air emissions showed substantial improvement in 2007 as compared to 2006, and with the exception of SO_2 emissions, as compared to 2005 as well. The mill's emissions have been 93 to 99 percent below the applicable government standards in each of the last three years.

In Indonesia, air-emission standards are set at the national level (Decree from Ministry of Environment, KEP-13/MENLH/3/1995). Water-effluent standards are set at the provincial level, typically by decree by the Governor of each Province. The tables presented reflect the applicable Indonesian standard for the Indah Kiat Tangerang Mill.

Wastewater Effluent

The mill operated at less than 95% of Indonesian standards for BOD, less than 80% of COD and less than 85% of TSS during the last three years. Savings from the MIP to reduce water and fiber consumption will first be reflected in the full-year numbers in 2008.

During the past three years, the mill has not experienced any process spills that were not handled efficiently and within regulations by its wastewater treatment facility.

Solid Waste

During 2007, the mill realized a significant improvement in managing its solid waste. As a result of a successful pilot project, the mill is

Table IX – Indah Kiat Tangerang Power Boiler Air Emissions (Flue gas from power boilers)

Parameter	2005	2006	2007	Indonesian Standard
SO_2 (mg/m^3)[1]	8.3	10.7	12.0	800
NO_2 (mg/m^3)	13.7	25.7	9.8	1000
Particulate (mg/m^3)	14.4	10.4	9.3	230
Opacity[2] (%)	8.3	5.0	5.0	35

1. The Indonesian Standard for Air Emissions is measured as milligrams per cubic meter, not kilograms per Air Dry Metric Tons as is common in many countries.
2. All reported values are based on periodic testing.

Table X – Indah Kiat Tangerang Water Effluent at Discharge

Parameter	2005	2006	2007	Indonesian Standard
BOD (kg/ADMT)[1]	0.22	0.27	0.27	5.0
COD (kg/ADMT)	1.82	1.81	1.84	10.0
TSS (kg/ADMT)	0.65	0.62	0.71	5.0
pH	7.00	6.83	6.95	6-9
Volume (million m^3)[2]	4,950	5,530	5,270	None
Rate (m^3/ADMT)	18.7	21.8	19.1	50

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 6% moisture for paper.
2. Water use measured is for production of paper and excludes water used in offices, at R&D and provided to local communities.
NOTE: There are no World Bank discharge benchmarks for non-integrated paper mills

Table XI – Indah Kiat Tangerang Solid Waste

Type of Waste			Sludge			Fly Ash
Means of Disposal (%)	2005	2006	2007	2005	2006	2007
Incinerate	–	–	83%	–	–	–
Landfill	–	–	–	–	–	–
Other (PT. Indocement)	100%	100%	17%	–	–	–
Other (PT. Technotama)	–	–	–	100%	100%	100%
TOTAL	100%	100%	100%	100%	100%	100%

now able to incinerate 100% of its sludge by mixing it with coal in the power boiler instead having it transported to a cement producer. The mill continues to send its fly ash to PT. Technotama, a waste-management agency that recycles the fly ash in the manufacture of building materials.

As do most mills, Indah Kiat Tangerang also manages the disposal of a range of hazardous materials, including waste oil, lab chemicals, batteries and mercury lamps. In each case, the mill has an appropriate method for disposing of the material. For the most hazardous materials, the mill uses authorized and government licensed hazardous waste disposal businesses.

6. Social Performance

a. Safety Performance

During 2007, the Indah Kiat Tangerang Mill had five reportable safety incidents, one more than in 2006, but still below the seven incidents reported in 2005. The mill Severity of Accident index remained at 0.0078 for a second year, and, at 1.47, the mill's Frequency of Accident index was slightly higher than the index level for 2006. There were no fatalities in 2007, however, one accident resulted in a permanent disability, the loss of a finger in a converting machine.

Traffic accidents outside the facility were the source of the mill's major safety incidents. To reduce the number of accidents, the mill conducts periodic briefings and short trainings on traffic safety for all employees.

b. Sickness and Absenteeism

The sickness rate for Indah Kiat Tangerang mill employees during 2007 was more than 20% higher in 2007 than in the preceding two years. The mill's absenteeism rate showed a 9% improvement between 2005 and 2007.

c. Social-Benefit Programs

During 2007, the Indah Kiat Tangerang Mill provided financial and in-kind support for a number of programs that delivered social benefits to communities in proximity to its operations.

Health & Environment Programs
During 2007, the Indah Kiat Tangerang Mill undertook a number of health

Table XII – Indah Kiat Tangerang Employee Safety Performance

Safety Performance		2005		2006		2007
Parameter	Target	Actual	Target	Actual	Target	Actual
Number of Incidents	–	7	–	4	–	5
Severity (SRA[1])	–	0.030	–	0.0078	–	0.0078
Frequency (FRA[2])	–	2.100	–	1.170	–	1.470

1. SRA = Severity Rate Accident = (Lost Hours X 1,000) / (Total Man Hours)
2. FRA = Frequency Rate Accident = (Total Accidents X 1,000,000) / (Total Man Hours)

and environmental programs to benefit the people of four "kampungs" (sub-villages) surrounding the mill.

To combat the spread of dengue fever, the mill provided three rounds of chemical fogging in each of the kampungs during 2007.

In cooperation with two local community health centers, the mill provided supplemental food for 550 village children under five years of age who were at risk of malnutrition. The mill and nearby health centers also partnered in a "Healthy Children Competition" to raise villager awareness of the importance of health care to the proper development of children under five years of age. In this competition, a panel comprised of health-care professionals evaluated the general health and developmental skills of village infants and toddlers. Indah Kiat Tangerang also sponsored a Red Cross blood-donation event in which 203 people participated.

As part of its health-oriented programs, the Indah Kiat Tangerang Mill sponsored a mass-circumcision program for local Muslim boys. The rite of male circumcision is practiced widely by followers of Islam.

Indah Kiat Tangerang also provided funding for the Cisadane Festival in celebration of Environment Day.

The total expenditures by the mill on these health and environment programs in 2007 were US$1,540.

Education Support Programs

Providing greater access to education is one of the paths to enhancing the quality of life in rural Indonesia. During 2007, the Indah Kiat Tangerang Mill invested a total of US$9,610 in education programs. The mill provided scholarships and financial assistance to ten elementary school students, two junior high school students, and two senior high school students identified as having high achievement in school. The mill also provided a scholarship for one student (the child of a mill employee) to study at the Pulp & Paper Institute in West Java.

During 2007, Indah Kiat Tangerang also provided on-the-job training for 120 high school students and 24 university students. Students received training in technical or non-technical skills corresponding to their area of study in school. Training was provided in administration, data processing, welding, lathe operation, construction, machine operation and landscaping, among other areas.

Table XIII – Indah Kiat Tangerang Employee Sickness and Absenteeism Performance

Attendance		2005		2006		2007
Parameter	Target	Actual	Target	Actual	Target	Actual
Sickness Rate[1]	–	0.012	–	0.012	–	0.014
Absenteeism Rate[2]	–	0.001	–	0.001	–	0.001

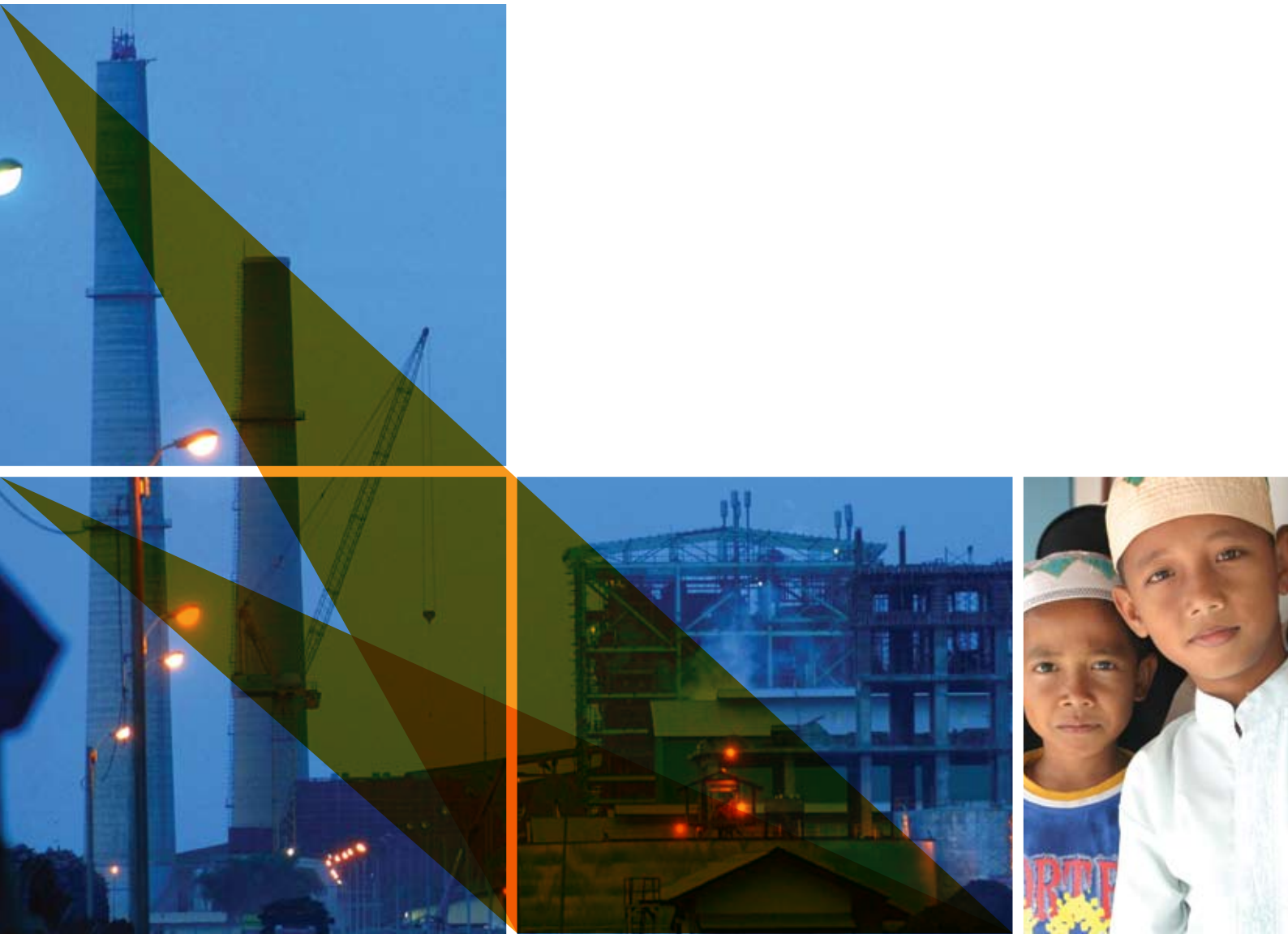
1. Sickness Rate = (Total Sick Days) / (Total Worker Days)
2. Absenteeism Rate = (Total absentee Days) / (Total Worker Days)
NOTE: Indah Kiat Tangerang did not report targets for employee sickness and absenteeism performance.

Indah Kiat Tangerang provided composition books to one kindergarten, six elementary schools, one secondary school, and four social foundations that suffered flood damage in February, 2007. In conjunction with the Eka Tjipta Foundation, which provided core funding, the Indah Kiat Tangerang Mill distributed composition books to an additional twenty elementary schools impacted by the flood. Indah Kiat Tangerang also distributed composition books, used books and magazines to street children in neighboring kampungs. The second-hand books and magazines were collected by Indah Kiat Tangerang Mill employees.

Sanitation Rehabilitation Program

In an effort to reduce the incidence of Dengue Fever in the area, the Indah Kiat Tangerang Mill partnered with local villagers to reconstruct 100 meters of a 200-meter-long sanitary sewer that had historically caused flooding during the rainy seasons. The mill provided building materials valued at US$1,576, and 20 villagers provided the labor for the reconstruction project. While mill management acknowledged that the project suffered from a lack of community and government support, it views the project as a meaningful step in encouraging community members to take greater responsibility for their living environment.

NOTE: Throughout this report, spending in Indonesian Rupiah has been converted to US$ calculated at the interbank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.



Pindo Deli
paper products

Pindo Deli Mills

Table I – Pindo Deli Sales (US$ Thousands)

Product	2005	2006	2007
Paper	634,918	707,773	812,512
Tissue	66,572	75,433	86,053
Packaging	12,848	12,040	12,275
TOTAL	714,338	795,246	910,840

Table II – Pindo Deli Employees and Mill Indirect Jobs

Category	2005	2006	2007
Mill Employees	7,309	7,099	6,877
Mill Indirect Jobs	148	201	4,278
TOTAL	7,457	7,300	11,155

1. Mills at a Glance

Located in the village of Karawang, in West Java Province on the island of Java, PT. Pindo Deli Pulp and Paper Mills (Pindo Deli) operates two non-integrated paper mills The two mills had sales in 2007 of slightly more than US$900 million, an increase of nearly 15% compared to 2006 and a 27% increase compared to 2005.

The Pindo Deli mills provide more than 6,800 jobs and have created employment opportunities in the surrounding area for an additional 4,200 people who provide the mills with needed services. Responsible today for the employment of nearly 11,100 people, the two Pindo Deli mills provide an economic engine for the village of Karawang and the surrounding communities.

During the last three years, Pindo Deli increased its total output from 857,000 to 970,000 tons of paper products. During 2007, the mills produced 865,000 tons of paper, 64,000 tons of tissue and 40,000 tons of paperboard.

Together, the Pindo Deli mills have 12 paper machines, 37 converting lines, and two wastewater treatment plants. Also on-site are two co-generation plants owned and operated by PT. Dian Swastika Sentosa, the exclusive supplier of power and steam to Pindo Deli. Pindo Deli One operates a de-inking plant and a calcium carbonate plant. Pindo Deli Two operates a pallet factory, a corrugated box plant and a caustic soda plant. The company also operates a tissue machine within the Indah Kiat Perawang mill complex.

Because they are non-integrated mills located in an urban setting, the mills rely on fossil fuels for their energy requirements.

2. Products

Pindo Deli produces nearly two dozen branded paper products, including photocopy paper, printing and writing paper, tissues (facial, towel, napkin and toilet), cast-coated paper and board, carbonless and thermal papers, art paper, art paperboard, and specialty papers such as embossed, release-base and security paper. Table IV shows the ten leading brands and the main regions in which these products are sold.

During 2007, Pindo Deli introduced three new products: Golden Coin cup stock, Instant Preprint printing paper and Sinarlux, an improved wet-strength cast-coated paper. Market

Table III – Pindo Deli Production (ADMT[1])

Product	2005	2006	2007
Paper	753,074	820,842	865,410
Tissue	57,271	61,585	63,918
Packaging	46,608	39,746	40,415
TOTAL	856,953	922,173	969,743

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 5-6% moisture for paper.

reception has been strong for these new offerings.

3. Certification and Verification

The Pindo Deli mills have earned a wide array of certifications, enabling them to compete in demanding markets the world over.

Pindo Deli Mills One and Two have been certified since 1996 and 1997, respectively, as compliant with the ISO 9001 Quality Management System (QMS) standard, and since 2001 and 1999, respectively, as compliant with the ISO 14001 Environmental Management System (EMS) standard. The last QMS re-certification occurred in 2005 and the mills will be re-inspected in 2008. The mills' last EMS certification was renewed in 2005 and a renewal assessment is scheduled for 2008. The mill management team holds quarterly EMS project reviews to ensure that continuous improvement projects are on target, and that corrective measures for identified shortcomings have been implemented.

Between 2004 and 2006, Pindo Deli attained ISO 9706 certification for five of its key product lines (as shown in Table V). The ISO 9706 Standard for Permanent Paper signifies that these products have a rated level of permanence that is preferred by libraries and museums for documents, books or other records requiring stipulated permanence.

In 1992, Pindo Deli One was first licensed as meeting government requirements for an Environmental Management and Monitoring Plan. This license was last revalidated in 2006. Pindo Deli Two was licensed in 1997 and its license was last renewed in 2005. The Caustic Soda plant received its first license in 1999 and this license will be revalidated in 2008.

Pindo Deli Two was first awarded a Green PROPER certificate in 2002 by the Ministry of the Environment's Program for Pollution Control, Evaluation and Rating. The Green PROPER award is given to mills which produce emissions at levels of less than 50% of the government's standards and which employ clean technology, minimize waste, prevent pollution and conserve resources. The mills' certification was renewed for the most recent award period, from October 1, 2006 through September 30, 2007.

In 2005, PT. Pindo Deli Pulp and Paper Mills became the first APP operation to attain OHSAS 18001

Table IV – Pindo Deli Brands

Major Mill Brands	Paper Products	Main Regions Where Brand is Sold
Bola Dunia	Photocopy Paper	Southeast Asia
Golden Coin	White & Color Printing & Writing Paper, Brief Card, Art Paper, Art Board	Africa, Asia, Middle East, North America
Impression 2000	Carbonless Paper	Asia, Middle East, North America
Livi	Tissue Products	Africa, Asia, Europe,
Nice	Tissue Products	Africa, Asia
Office Print	Photocopy Paper	Europe, Southeast Asia
Office Print Copy	Photocopy Paper	Europe, Southeast Asia
Paseo	Tissue Products	Africa, Asia, Middle East, Oceana
Sinarlux	Cast-coated Paper	Europe
Sinarlux 8000	Cast-coated Paperboard	Europe

certification. This internationally recognized occupational health and safety management system standard helps management eliminate or minimize risk to employees and other affected parties. Compliance with the OHSAS 18001 standard ensures conformance with company occupational, health and safety policies, and demonstrates such conformance to others.

The Pindo Deli mills have remained certified as compliant with the Government of Indonesia's Occupational Safety and Health Management standards (SMK3) since 2005 at Pindo Two and since 2006 at Pindo One.

In 2007, both mills continued their successful implementation of controls to qualify their output as compliant with the requirements of Japan's Green Purchasing Law (GPL) so that the mills and their customers would be able to continue selling product in that country. This law requires certification of an unbroken chain-of-custody of supply, from the legal sourcing of raw material through mill processes to the sale of finished product to the customer.

During 2007, Pindo Deli achieved product safety certification for its cup stock base from the US Food and Drug Administration (USFDA) and from similar agencies in Korea and Japan. Seven other product lines at the two mills are USFDA-certified, with the earliest of these certifications dating back to 2004. Selected mill products also have been Ecolabel certified to Indonesian, European Union and Japanese standards. In March of 2007, Pindo Deli also was certified compliant to the European Union sensory analysis standard, DIN EN 1230-1, for its cast-coated paper and paperboard coming in contact with foodstuffs.

During 2007, the Pindo Deli mills attained Halal product quality certification for its tissue products, a certification that is very important in Islamic markets.

Table V – Pindo Deli Certification Status as of December 31, 2007

Certification	Classification	Scope	First Issued
ISO 9001	QMS	Mill 1 / Mill 2	1996/1997
ISO 14001	EMS	Mill 1 / Mill 2	2001/1999
ISO 9706	Product permanence	Cast-coated and Photocopy paper	2004
		Instant Preprint	2005
		Art Board and Uncoated paper	2006
UKL/UPL – Government of Indonesia and Karawang Regency	Environmental Management and Monitoring Plan	Mill 1 / Mill 2 / Caustic Soda Plant	1992/1997/ 1999
Green PROPER - Government of Indonesia	Pollution control	Mill 2	2002-2003
OHSAS 18001 – International Occupational Health and Safety Assessment Series	Occupational Safety & Health Management	Mills	2005
SMK3 – Government of Indonesia	Occupational Safety & Health Management	Mills	2005 & 2006
GPL – Minister of Environment of Japan	Product legality & sustainability	All products	2006
FDA – USA	Product safety	Cast-coated paper & Paperboard	2004
		Napkin Tissue and Brief Card	2005
		Art Board	2006
		Towel Tissue, Cup Stock, Printing paper and Corrugated boxboard	2007
FDA – Korea	Product safety	Cup Stock base	2007
FDA – Japan	Product safety	Cup Stock base	2007
DIN Sensory Analysis – European Union	Product Safety	Cast-coated paper & Paperboard	2007
Ecolabel – Indonesian Standard	Product quality	Uncoated paper	2006
Ecolabel – European Union Commission	Product quality	Photocopy and Graphic paper	2006
Ecomark – Japanese Standard	Product quality	Color Brief Card	2007
Halal – Religious Standard	Product quality	Tissue products	2007
Woolworth Quality Assurance	Product safety based on HACCP[1]	Tissue products	2007

1. HACCP = Hazard Analysis and Critical Control Point, an international defined protocol.

In 2007, the mills' tissue products were certified to Woolworth's Quality Assurance Standard. This Australian company's product safety system is based on the internationally recognized Hazard Analysis and Critical Control Point protocol.

Pindo Deli, together with Global Forestry Service (an independent consulting firm), conducted PEFC training early in 2007 to prepare the mills for the mill's PEFC certification audit. After the audit was completed in December of 2007, the auditor recommended that both mills be certified compliant to the PEFC standards.

4. Fiber Supply Integrity

The 12 paper machines at Pindo Deli are furnished with an average of 75-80% hardwood pulp from APP's sister companies on the island of Sumatra, 5-7% third-party-certified long-fiber market pulp, 10-15% recycled mill broke, and 18-21% non-fiber fillers to enhance paper and paperboard properties.

All hardwood pulp entering the mill is made with legal and non-controversial fiber subjected to APP's Legal Origin Verification and Chain of

Custody system in place at both pulp mills on Sumatra. This protocol was developed in conformity with the Criteria and Indicators of the LEI (Lembaga Ekolabel Indonesia – The Indonesian Ecolabelling Institute) Standard for Wood Fibre Material (plantation wood and mixed hardwood residues from plantation development).

One hundred percent of the market pulp purchased by the mill is third-party certified as originating in forests meeting either the Forest Stewardship Council (FSC) or the PEFC standard for responsible forest management.

5. Environmental Performance

a. Energy Mix

In 2006, the mill implemented a contingency plan and installed a new coal-fired boiler which came on line during 2007. This installation was necessary because of delay in the construction of a new natural-gas pipeline from South Sumatra to West Java.

b. Water and Fiber Consumption

Since 2005, the mills have reduced by 16% the amount of water required to make an air-dried metric ton of finished product. This has been accomplished through a series of small projects focused on waste reduction and fiber recovery, which, in turn, reduces water use. During each of the last three years, the amount of water required to make a ton of finished product has been at the low end of the benchmarks set forth in the World Bank International Finance Corporation Environmental Guidelines for paper.

The mills' rate of fiber use has been reduced by more than 12% since 2005, a result of targeted fiber recovery projects that have been an integral part of the effort at both mills to reduce water consumption.

In April of 2007, the mill initiated a comprehensive Master Improvement Program (MIP) to accelerate the reduction of water and fiber consumption per ton of finished product. This MIP is part of a coordinated effort by all of the APP pulp and paper mills in Indonesia and provides for inter-mill sharing of lessons learned and best practices to leverage experience and achieve results more quickly.

While the final results of the MIP are expected to be reported in September 2008, metrics through the end of 2007 indicate reductions in the consumption of both water and fiber per ton of finished product. An anticipated added benefit of the MIP will be the reduction in wastewater treatment plant costs, as the

Table VI – Pindo Deli Paper Furnish

Furnish	2005	2006	2007
Virgin Hardwood Pulp	80-85%	75-80%	73-80%
Purchased Certified Market Pulp	5-10%	8-10%	5-7%
Mill Broke[1]	10%	10-12%	10-15%
Non-fiber Fillers	18-20%	18.5-20.5%	18.5-21%
TOTAL	100.0%	100.0%	100.0%

1. Includes all pulp and paper recycled within the mill.

Table VII – Pindo Deli Energy Sources

Source	2005	2006	2007
Fossil fuel oil	0.8%	2.0%	2.2%
Fossil fuel coal	–	0%	25.5%
Fossil fuel gas	99.2%	98.0%	72.3%
TOTAL	100.0%	100.0%	100.0%

NOTE: Percentages are based on the amount of energy generated

Table VIII – Pindo Deli Water and Fiber Consumption

Item	2005	2006	2007	World Bank Standard[4]
Water[1]				
Water – Paper (m^3/ADMT[2])	20.0	19.5	16.8	5-40
Fiber				
Paper (GMT[3]/ADMT)	0.91	0.86	0.80	None

1. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
2. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
3. GMT= Green Metric Ton where a GMT is the weight of the fiber at the moisture level when delivered to the mill.
4. World Bank IFC Environmental, Health and Safety Guidelines for Pulp & Paper Mills, Dec 10, 2007, page 31 table 3 for uncoated printing and writing paper.

mills' whitewater recovery system is improved to remove more usable fiber from the wastewater stream.

c. Mill Programs and Investments to Reduce Consumption and/or Discharges

During 2007, the mill initiated a wide range of programs using ISO Environmental Management Systems (EMS) protocols to drive its improvement programs on a timely basis. Key projects included Chemical Oxygen Demand (COD) reduction in the wastewater treatment plant, energy savings and the increased substitution of calcium carbonate for fiber.

COD Reduction

The goal of Pindo Deli's COD Reduction project was to reduce the cost of water treatment in the wastewater treatment plant by reducing the COD load. During 2007, Pindo One changed its biological treatment process from contact stabilization to a conventional plug flow system. This action has decreased the COD of effluent from level of 180 ppm (average in 2006) to 125 ppm (average in 2007), a 30% reduction in the COD concentration.

Pindo Deli Two adopted a new carbon-based nutrient to enhance the microorganism level of activity and reduce odor. This action has generated other positive impacts i.e. less chemical treatment cost and less bio-sludge generation. As a result, Pindo Deli Two reduced its wastewater treatment plant chemical costs by US$100,000 per year and its annual sludge-handling costs by nearly US$4,500.

Energy Reduction

Pindo Deli made a concerted effort in 2007 to reduce energy use and associated costs through targeted projects addressing electricity and steam usage on paper machines 8, 9 and 12, on the cast-coating line, in the tissue mill, in the corrugated box plant, and in the caustic soda plant. Taken as a whole, it is estimated that these projects will reduce energy costs by US$8.6 million per year.

Calcium Carbonate Substitution for Fiber

During 2007, both Pindo Deli mills continued efforts to reduce fiber cost and enhance paper product performance by substituting calcium carbonate for fiber. To date, the mill has spent more than US$3 million to install needed presses and related equipment to realize improved paper performance attributes while reducing the fiber loading. Results for this project will begin to be tracked in 2008.

d. Trend of Performance in Reducing Emissions, Effluent and Waste

Air Emissions

During the last two years, Pindo Deli has reduced SO_2 emissions by two-thirds to a level that is less than 1% of the Indonesian standard. This has resulted from a tight focus on measurement and regular maintenance in each power generation plant to ensure efficiency as the volume of product and the demand for power increased during the last three years.

While NO_2 emissions increased in this same period, due to the installation of a coal boiler at Pindo One, these emissions are still at less than 2% of the government standard.

Despite the addition of the coal boiler, the mill was able to reduce its particulate emissions to a level that was 12% lower than the 2005 level and less than 4% of Indonesia's government standard. This improvement was attributable to the newly installed state-of-the-art electrostatic precipitator which was a part of the coal boiler investment.

In Indonesia, air-emission standards are set at the national level (Decree from Ministry of Environment, KEP-13/MENLH/3/1995). Water-effluent standards are set at the provincial level, typically by decree by the Governor of each Province. The tables presented reflect the applicable Indonesian standard for the Pindo Deli mills.

Wastewater Effluent

The mills' discharge of wastewater to the Citarum River was about 15% higher in COD than the upstream water obtained from the river.

The two mills have achieved significant reductions in their wastewater effluents during the past two years (ranging from 33 to 50%) as discussed in the "Mill Programs and Investments to Reduce Consumption and/or Discharges" section. Savings are being realized from the 2007 MIP projects to further reduce water and fiber consumption, and these savings will first be fully reflected in the 2008 numbers.

During the past three years, the mill did not experience any process spills that were not handled efficiently and within regulations by its wastewater treatment facility.

Solid Waste

Pindo Deli continued to make steady progress throughout 2007 in managing its solid waste. The mill now has three government-approved users of sludge – PT. Sumber Berkah, PT. Kalimas Sakt and PT. Sinar Indah Kertas – all of which continue to conduct reutilization trials. Located in the nearby village of Tangerang, these companies are manufacturers of lower quality paperboard for the domestic market. At year-end, the mill sent 400 tons of fly ash that had been stored in its silo for delivery to PT. Holcim Cement and PT. Holcim Beton, approved buyers in the construction-materials business.

As do most mills, Pindo Deli manages the disposal of a range of hazardous materials including waste oil, lab chemicals, batteries and mercury lamps. In each case, the mill has an appropriate method for disposing of the material. For the most hazardous materials, the mill uses authorized and government licensed hazardous waste disposal businesses.

6. Social Performance

a. Safety Performance

During 2007, the Pindo Deli mills had 241 reportable safety incidents, down 25% from the 320 incidents reported in 2006. However, the mill's Severity of Accident index increased from 0.327 in 2006 to 0.618 in 2007. This is attributable to two on-the-job deaths in 2007; one resulting from a fall into the mill broke tank, and the other from a falling-object incident that occurred when the sling on a crane gave way. There were no accidents that resulted in any permanent disability during 2007.

The mill has taken corrective actions including the erection of a barrier around Paper Machine 12, increased worker education, and improved equipment maintenance.

Table IX – Pindo Deli Power Boiler Air Emissions (Flue gas from power boilers)

Parameter	2005	2006	2007	Indonesian Standard
SO_2 (mg/m^3)[1]	12.89	6.23	4.13	≥800 mg/m^3
NO_2 (mg/m^3)	7.77	9.28	18.16	≤1000 mg/m^3
Particulate (mg/m^3)	8.42	12.89	7.44	≤230 mg/m^3
Opacity[2] (%)	<5%	<5%	<5%	≤35%

1. The Indonesian Standard for Air Emissions is measured as milligrams per cubic meter, not kilograms per Air Dry Metric Tons as is common in many countries.
2. Opacity values are based on routine testing except for Pindo Deli which is based on spot checks.

Table X – Pindo Deli Wastewater Effluent at Discharge

Parameter	2005	2006	2007	Indonesian Standard
BOD (kg/ADMT)[1]	0.75	0.55	0.42	≤5 kg/ADMT
COD (kg/ADMT)	2.05	1.41	1.04	≤10 kg/ADMT
TSS (kg/ADMT)	0.77	0.59	0.52	≤5 kg/ADMT
pH	7.24	7.14	7.12	6-9
Volume (million m^3)[2]	13.57	13.82	14.18	None
Rate (m^3/ADMT)	15.96	14.78	14.48	None

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 6% moisture for paper.
2. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
NOTE: There are no World Bank discharge benchmarks for non-integrated paper mills.

Pindo Deli's Frequency of Accident index decreased from 2006 levels to 8.051 in 2007.

b. Sickness and Absenteeism

The sickness rate for mill employees during 2007 was 35% lower than in 2006 and 2005. The mill's absenteeism rate reflected an improvement of more than 12% over the prior two years.

c. Social-Benefit Programs

During 2007, the Pindo Deli mills provided financial and in-kind support for a number of programs that delivered social benefits to communities in proximity to its operations.

Mobile Clinic Program
Pindo Deli invested US$5,715 during 2007 to bring medical care to some 4,300 patients in four nearby villages through its Mobile Clinic program. Under the program, clinics were held at eight service-delivery locations four times a month on a rotating basis. The mill provided medicine, an ambulance, and physician services. In 2007, Pindo Deli increased the number of physicians on staff so that it could better serve patients who previously had been seen only by a medical assistant.

Community Support and Disaster Relief
During 2007, the Pindo Deli mills supplied food and drink to 1,211 residents in five neighboring villages that required assistance in meeting their basic needs. Pindo Deli also supplied food, cooking oil, medicines, and composition books to families in Karawang that were impacted by flooding early in the year.

The mill provided audio facilities for several mosques surrounding its operations. Pindo Deli also participated in and provided financial support for the area's commemoration of Indonesia's Independence Day and Muslim Holiday.

Pindo Deli invested at total of US$14,625 in community support and disaster relief during 2007.

Income Enhancement Program
Pindo Deli invested US$613 during

Table XI – Pindo Deli Solid Waste

Type of Waste			Sludge			Fly Ash
Means of Disposal (%)	2005	2006	2007	2005	2006	2007
Reutilization Trials	2%	12%	43 %	NA	NA	47.6%
Landfill	98%	88%	57 %	NA	NA	–
Other[1]	–	–	–	NA	NA	52.4%
TOTAL	100%	100%	100%	NA	NA	100%

1. Silo storage while awaiting sale to approved buyer.

Table XII – Pindo Deli Employee Safety Performance

Safety Performance	2005		2006		2007	
Parameter	Target	Actual	Target	Actual	Target	Actual
Number of Incidents	400	453	400	320	289	241
Severity (SRA[1])	0.745	0.850	0.500	0.327	0.294	0.618
Frequency (FRA[2])	9.400	13.278	9.030	10.935	9.842	8.051

1. SRA = Severity Rate Accident = (Lost Hours X 1,000) / (Total Man Hours)
2. FRA = Frequency Rate Accident = (Total Accidents X 1,000,000) / (Total Man Hours)

Table XIII – Pindo Deli Employee Sickness and Absenteeism Performance

Attendance	2005		2006		2007	
Parameter	Target	Actual	Target	Actual	Target	Actual
Sickness Rate[1]	0.01300	0.01492	0.01100	0.01589	0.01100	0.00994
Absenteeism Rate[2]	–	0.06666	–	0.06656	–	0.05765

1. Sickness Rate = (Total Sick Days) / (Total Worker Days)
2. Absenteeism Rate = (Total absentee Days) / (Total Worker Days)
NOTE: Pindo Deli did not report targets for employee absenteeism performance.

2007 to continue its rice-farming support program. The mill made available 82.7 hectares of land surrounding the mill for use as rice fields by local farmers on a low-cost lease basis.

Infrastructure Projects

During 2007, Pindo Deli invested US$2,552 in infrastructure projects to benefit the people of Adiarsa Timur and Adiarsa Barat, two villages located near the mill. This funding provided materials and labor for the construction of a sanitation facility, the renovation of the Taqwa Mosque, the construction of a village road, and the procurement materials for the rehabilitation of an Islamic school.

NOTE: Throughout this report, spending in Indonesian Rupiah has been converted to US$ calculated at the interbank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.

Tjiwi Kimia
paper products

Tjiwi Kimia Mill

Mill at a Glance

The PT. Pabrik Kertas Tjiwi Kimia Tbk. mill (Tjiwi Kimia) is a large non-integrated paper mill located in the Regency of Sidoarjo in the province of East Java on the island of Java. The mill had sales in 2007 of slightly more than US$1.1 billion, an increase of nearly 21% compared to 2006 and a 25% increase compared to 2005.

Tjiwi Kimia mill provides more than 12,900 jobs and is an economic engine for the communities in and around the village of Sidoarjo.

In 2007, the mill produced 1,335,000 tons of paper goods, consisting of 1,040,000 tons of paper products, 217,000 tons of stationery products and 78,000 tons of corrugated box products. Tjiwi Kimia operates 12 paper machines, 137 converting lines, a coal-fired co-generation plant, a fluidized bed incinerator for waste, a chemical plant (producing caustic soda, and various chlorine and hypochlorite products), two de-inking plants, a pallet factory, a corrugated box plant and two wastewater treatment plants.

2. Products

Tjiwi Kimia produces a range of coated and uncoated printing and writing papers, cast-coated paper and board, carbonless paper and a wide range of value-added office and stationery products. Tjiwi Kimia also prints books and brochures and is among the largest publishers in Indonesia. The mill's leading branded paper products are sold in North America, the Middle East and Asia.

During 2007, Tjiwi Kimia introduced two new photocopier branded products, Excelpro and Extraprint, into key markets in Europe, North America and Asia. The mill also introduced an improved Paperline Gold photocopy paper.

3. Certification and Verification

The Tjiwi Kimia mill has remained certified as compliant with the ISO 9001 Quality Management System (QMS) standard and the ISO 14001 Environmental Management System (EMS) standard since 2001. The last QMS re-certification was in 2007 and a renewal assessment is scheduled for 2010. The mill's EMS certification was renewed in 2007 and a re-assessment is also scheduled for 2010. The mill management team holds quarterly EMS project reviews to ensure that continuous improvement projects are on target and that appropriate corrective measures for identified shortcomings have been implemented.

Table I – Tjiwi Kimia Sales (US$ Thousands)

Product	2005	2006	2007
Paper	670,600	700,500	853,900
Stationery	204,700	194,900	231,900
Packaging	23,800	26,800	32,000
Chemicals	27,100	29,200	35,700
TOTAL	926,200	951,400	1,153,500

In 1999, Tjiwi Kimia first met UKL/UPL requirements and was awarded a license for its Environmental Management and Monitoring Plan. In 2005, the mill also obtained an AMDAL license after preparing the required Environmental Impact Assessment for the mill operations. Both of these licenses were issued by the government of the Province of East Java.

In 2002, Tjiwi Kimia was first awarded a Blue PROPER certificate by the Ministry of the Environment's Program for Pollution Control, Evaluation and Rating. The PROPER award is given to mills that produce emissions at levels below those permitted by government standards and which use clean technology, minimize waste, prevent pollution and conserve resources. The mill's PROPER certification was renewed for the most recent award period, from October 1, 2006 through September 30, 2007.

Tjiwi Kimia has remained certified as compliant with the Government of Indonesia's Occupational Safety and Health Management standards (SMK3) since 1998.

In 2007, Tjiwi Kimia continued its successful implementation of controls to qualify its output as compliant with the requirements of Japan's Green Purchasing Law (GPL) so that the mill and its customers would be able to continue selling product in that country. This law requires certification of an unbroken chain-of-custody of supply, from the legal sourcing of raw material

Table II – Tjiwi Kimia Employees and Mill Indirect Jobs

Category	2005	2006	2007
Mill Employees	13,260	13,065	12,929
TOTAL	13,260	13,065	12,929

Table III – Tjiwi Kimia Production (ADMT[1])

Product	2005	2006	2007
Paper	949,000	974,000	1,040,000
Stationery	223,000	181,000	217,000
Packaging	77,000	78,000	78,000
TOTAL	1,249,000	1,233,000	1,335,000

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 6% moisture for paper.

Table IV – Tjiwi Kimia Brands

Major Mill Brands	Paper Products	Main Regions Where Brand is Sold
Inspira	Uncoated Offset Paper	North America
Paperline Gold	Photocopy Paper	Asia, Middle East
Paperline Multi Purpose	Photocopy Paper	North America

Table V – Tjiwi Kimia Certification Status as of December 31, 2007

Certification	Classification	Scope	First Issued
ISO 9001	QMS	Mill	1995
ISO 14001	EMS	Mill	1998
UKL/UPL – Province of East Java	Environmental Management and Monitoring Plan	Mill	1999
AMDAL – Province of East Java	Environmental Impact Assessment	Mill	2005
Blue PROPER – Government of Indonesia	Pollution control	Mill	2002-2003
SMK3 – Government of Indonesia	OH&SM	Mill	1998
GPL – Minister of Environment of Japan	Product legality & sustainability	All products	2006
Ecolabel – Indonesian Standard	Product quality	Uncoated paper	2006
Ecolabel – European Union Commission	Product quality	Exercise book, Notebook and Loose Leaf	2006
Ecomark – Japanese Standard	Product quality	Notebook	2005

through mill processes to the sale of finished product to the customer.

Selected mill products have also been Ecolabel certified to Indonesian, European Union and Japanese standards.

4. Fiber Supply Integrity

The 12 paper machines at Tjiwi Kimia are supplied with a fiber furnish which is predominately paper pulp. During the last three years, the mill has made steady progress in increasing the non-fiber filler content.

While the mill does not track and record the mill-wide mix of hardwood and softwood pulp consumed, it does track the mix carefully on a product-line basis.

All hardwood pulp entering the mill is made with fiber subjected to APP's Legal Origin Verification and Chain of Custody system in place at both of APP's pulp mills on Sumatra. This protocol was developed in conformity with the Criteria and Indicators of the LEI (Lembaga Ecolabel Indonesia – Indonesian Ecolabel Institute) Standard for Wood Fibre Material (plantation wood and mixed hardwood residues from plantation development).

One hundred percent of the purchased long-fiber market pulp is certified and meets either the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification (PEFC) requirements for sustainable forest management.

5. Environmental Performance

a. Energy Mix

Tjiwi Kimia is dependent on Indonesia-sourced coal as the primary fuel source for its energy generation.

b. Water and Fiber Consumption

The amount of water required at Tjiwi Kimia to make a ton of finished product was reduced in 2007 as compared to 2006 levels. In all three years, the amount of water required to make a ton of finished product has been at the low end of the benchmark in the World Bank International Finance Corporation Environmental Guidelines for paper.

Table VI – Tjiwi Kimia Paper Furnish

Furnish	2005	2006	2007
Virgin Hardwood Pulp, Purchased Market Pulp and Post Consumer Waste Paper	75%	76%	74%
Non-fiber Filler	23%	24%	25%
TOTAL	98%	100%	99%

1. Includes all pulp and paper recycled within the mill.

Table VII – Tjiwi Kimia Energy Sources

Sources	2005	2006	2007
Coal	96.7%	96.2%	95.8%
Natural Gas	1.8%	1.5%	2.3%
Fuel Oil	1.5%	2.3%	1.9%
TOTAL	100.0%	100.0%	100.0%

In April 2007, the mill initiated a comprehensive Master Improvement Program (MIP) to accelerate the reduction of water and fiber consumption per ton of finished product. The MIP is being implemented at Tjiwi Kimia as part of its Skill Development Activity (SDA process, and is part of a coordinated effort by all of the APP pulp and paper mills in Indonesia and provides for inter-mill sharing of lessons learned and best practices to leverage experience and achieve results more quickly.

The SDA process focuses on a combination of changes in operating practices, enhanced maintenance and small, targeted capital investments.

While the final results of the MIP are expected to be reported in September 2008, metrics through the end of 2007 indicate reductions in the consumption of both water and fiber per ton of finished product.

An anticipated added benefit of the MIP will be the reduction in wastewater treatment plant costs as the mill's whitewater recovery system is improved to remove more usable fiber from the wastewater stream.

c. Mill Programs and Investments to Reduce Consumption and/or Discharges

During 2007, the mill initiated a wide range of programs using the ISO 14001 Environmental Management Systems (EMS) protocols, in conjunction with the SDA methodology, to drive these actions on a timely basis. Key projects included reducing water consumption, reducing fiber losses and reducing steam and electricity consumption.

Water Consumption

During 2007, the mill instituted a number of changes in operating practices and enhanced maintenance in order to reduce water use, which, in turn, reduced energy costs. Key changes included recycling water and substituting wastewater for fresh water in several key places in the manufacturing processes, changing the sequence of color runs to minimize water use, and installing a new screen for recycling wastewater. Water consumption was reduced by 14% in 2007 as compared to 2006. Annualized savings are estimated at more than US$500,000.

Fiber Loss Reduction

The mill also instituted a number of changes in operating practices and enhanced maintenance in order to reduce the loss of fiber during papermaking. This included replacing seals and repairing clarifiers (to optimize the recycling of wastewater which contains fiber) as well as installing new screens and a new filtration system. Annualized savings from these projects are estimated at about US$500,000.

Energy Consumption

Reducing steam and electricity use was a key focus in 2007. This was accomplished by implementing specific changes in operations (e.g., increasing power plant steam outlet temperature by 10ºC), and enhanced maintenance (e.g., periodic checks

of groove depth in press rolls) along with targeted investments such as the purchase of a new inverter and a pulley in a blower motor. These, along with the active promotion of a higher level of awareness among employees, enabled the mill to save more than US$1.5 million on an annualized basis.

d. Trend of Performance in Reducing Emissions, Effluent and Waste

Air Emissions

Since 2006, Tjiwi Kimia has reduced SO_2 emissions by more than 90% to a level that is less than 1% of the Indonesian Standard. This has resulted from a tight purchasing focus on selecting coal with low-sulfur content.

The mill's NO_2 emissions increased during 2007, due to a one-time failure of equipment, which upset the air-to-fuel balance.

Particulate emissions in 2007, though higher than in 2006, were less than 20% of the government standard and were 19% lower in 2007 than in 2005. The mill's coal-fueled power boiler incorporates an electrostatic precipitator, and the mill has a targeted maintenance program to ensure that it can continue to maintain a level of emissions that is well below the allowable standard.

In Indonesia, air-emission standards are set at the national level (Decree from Ministry of Environment, KEP-13/MENLH/3/1995). Water-effluent standards are set at the provincial level, typically by decree by the Governor of each Province. The tables presented reflect the applicable Indonesian standard for the Tjiwi Kimia mill.

Wastewater Effluent

The mill's discharge of wastewater into a branch of the Brantas River continues to be of higher quality than the water obtained from the river.

Improvements during the last three years in wastewater effluents – BOD, COD and TSS – have resulted largely from projects to reduce fiber losses, improve wastewater quality and reduce wastewater treatment costs. The section entitled "Mill Programs and Investments to Reduce Consumption and/or Discharges" describes these projects in more detail.

Savings from the MIP/SDA projects to further reduce water consumption and fiber loss that were implemented in mid-to-late 2007 will first be reflected in the full-year numbers for 2008.

During the past three years, the mill did not experience any process spills that could not be handled efficiently and within regulations by its wastewater treatment facility.

Table VIII – Tjiwi Kimia Water and Fiber Consumption

Item	2005	2006	2007	World Bank Guidelines[4]
Water[1]				
Water – Paper (m^3/ADMT[2])	8.4	10.0	8.6	5-40
Fiber				
Paper (GMT[3]/ADMT)	0.878	0.886	0.872	None

1. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
2. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
3. GMT = Green Metric Ton where a GMT is the weight of the fiber at the moisture level when delivered to the mill.
4. World Bank IFC Environmental, Health and Safety Guidelines for Pulp & Paper Mills, Dec 10, 2007, page 28 tables 1(i) & 1(j), paper mill, uncoated and coated printing and writing paper.

Table IX – Tjiwi Kimia Power Boiler Air Emissions (Flue gas from power boilers)

Parameter	2005	2006	2007	Indonesian Standard
SO_2 (mg/m^3)[1]	410.4	53.6	31.0	750
NO_2 (mg/m^3)	25.8	57.4	74.4	850
Particulate (mg/m^3)	30.0	12.7	24.4	150
Opacity[2] (%)	NA	NA	NA	20

1. The Indonesian Standard for Air Emissions is measured as milligrams per cubic meter, not kilograms per Air Dry Metric Tons as is common in many countries.
2. Opacity values are based on routine testing.

Table X – Tjiwi Kimia Water Effluent at Discharge

Parameter	2005	2006	2007	Indonesian Standard
BOD (kg/ADMT)[1]	0.23	0.23	0.17	5
COD (kg/ADMT)	0.53	0.51	0.44	10
TSS (kg/ADMT)	0.13	0.07	0.12	5
pH	7.04	7.00	7.00	6-9
Volume (million m^3)[2]	10.46	12.38	11.52	None
Rate (m^3/ADMT)	7.96	10.04	8.19	None

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 6% moisture for paper.
2. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities (i.e., only water for paper machines is included).

NOTE: There are no World Bank discharge benchmarks for non-integrated paper mills.

Table XI – Tjiwi Kimia Solid Waste

Type of Waste						
	Sludge			Fly Ash		
Means of Disposal (%)	2005	2006	2007	2005	2006	2007
Incinerate	–	40%	–	–	–	–
Sell	–	–	100%	100%	100%	100%
Landfill	100%	60%	–	–	–	–
TOTAL	100%	100%	100%	100%	100%	100%

Solid Waste

Tjiwi Kimia continued to make steady progress in managing its solid waste in 2007. The mill now sells 100% of its mill sludge to a nearby government approved newsprint producer which mixes the sludge into its furnish to make a domestic grade of paper. The mill continues to sell its fly ash to a government-approved construction company that makes cement bricks, paving blocks and roof tiles.

As do most mills, Tjiwi Kimia manages the disposal of a range of hazardous materials including waste oil, lab chemicals, batteries and mercury lamps. General non-hazardous wastes on-site are segregated into their recyclable components in partnership with a local recycling co-operative, which also takes responsibility for disposing of any residues at a licensed municipal facility.

In each case, the mill has an appropriate method for disposing of the material. For the most hazardous materials, the mill uses authorized and government licensed hazardous waste disposal businesses.

6. Social Performance

a. Safety Performance

During 2007, the Tjiwi Kimia mill had 167 reportable safety incidents, up from the 155 incidents reported in 2006. The mill's Severity of Accident index increased to 11.56 from 7.95 in 2006, and its Frequency of Accident index also increased from 2006 levels to 53.65. Four mill employees were killed in car accidents outside the mill gate and 12 employees suffered permanent disabilities due to accidents during the year.

Tjiwi Kimia reported no major safety incidents or related corrective actions during 2007.

b. Sickness and Absenteeism

The sickness rate for mill employees during 2007 was markedly lower in 2007 than in the previous two years. The mill's absenteeism rate in 2007 remained constant with 2006 performance, which reflected a 46% reduction from the 2005 rate.

c. Social-Benefit Programs

During 2007, the Tjiwi Kimia mill provided financial and in-kind support for a number of programs that delivered social benefits to communities in proximity to its operations.

Health Care/AIDS Awareness Program

During 2007, Tjiwi Kimia participated in a number of programs to help

Table XII – Tjiwi Kimia Employee Safety Performance

Safety Performance		2005		2006		2007
Parameter	Target	Actual	Target	Actual	Target	Actual
Number of Incidents	–	169	–	155	–	167
Severity (SRA[1])	–	22.05	–	7.95	–	11.56
Frequency (FRA[2])	–	79.12	–	49.89	–	53.65

1. SRA = Severity Rate Accident = (Lost Hours X 1,000) / (Total Man Hours)
2. FRA = Frequency Rate Accident = (Total Accidents X 1,000,000) / (Total Man Hours)

ensure the health and welfare of people living near the mill.

Tjiwi Kimia conducted an outreach campaign to raise awareness of the importance of proper health care. In addition, the mill organized a blood drive for which 637 mill employees volunteered.

Tjiwi Kimia continued its participation (begun in 2002) in a large-scale HIV/AIDS and Drug Addiction awareness campaign. This campaign had a reach of more than 80,000 persons at the mill, in local schools, in the surrounding communities, and at other APP mill sites. During 2007, the mill provided a keynote speaker and was an exhibitor at Indonesia's 3rd National Symposium on HIV/AIDS (held in February), conducted an AIDS prevention workshop for program trainers, and offered seminars on reproductive health for women and on the correlation of healthy sexual relationships with workplace productivity. The mill also distributed educational materials throughout the nearby city of Surabaya. Tjiwi Kimia's 2007 investment in health-care-related programs was US$29,314.

Education Support Programs

During 2007, Tjiwi Kimia invested US$12,654 in programs designed to provide local villagers greater access to education and enhanced learning experiences.

The mill provided scholarships to enable two orphaned children to attend school, and provided financial support to 11 schools in the mill area. Tjiwi Kimia also provided composition books to 12 elementary schools and one soccer school, and distributed writing paper to 26 schools and public institutions

In a program intended to stimulate interest in learning and careers, Tjiwi Kimia offered plant tours to student groups, providing them a first-hand opportunity to experience the papermaking process.

Tjiwi Kimia also reached out to 12,600 students in 15 area high schools through its Economics for Life Program. Conducted in cooperation with the Eka Tjipta Foundation, Indonesian Junior Achievement and the East Java Province Education Service, this program provided technical assistance and entrepreneurial skills training to students, and gave them the opportunity to create and run their own food-service and handicraft businesses.

Community Activity Programs

The Tjiwi Kimia mill invested US$17,328 during 2007 in support of community activities.

Table XIII – Tjiwi Kimia Employee Sickness and Absenteeism Performance

Attendance	2005		2006		2007	
Parameter	Target	Actual	Target	Actual	Target	Actual
Sickness Rate[1]	–	0.01000	–	0.00610	–	0.00460
Absenteeism Rate[2]	–	0.00120	–	0.00070	–	0.00070

1. Sickness Rate = (Total Sick Days) / (Total Worker Days)
2. Absenteeism Rate = (Total absentee Days) / (Total Worker Days)
NOTE: Tjiwi Kimia did not report targets for employee sickness and absenteeism performance.

The mill provided financial support for two special religious events, the Maulid of Prophet Muhammad SAW and the Isro Mi'roj, in which some 3,000 persons took part. It also provided funding to eight local mosques in support of Safari Jum'at (Friday Prayer) and a priest's wages.

In addition, Tjiwi Kimia provided underwriting for some of the sports activities of the local youth organization, in which 250 children participated. The mill also subsidized the maintenance costs of a soccer field located in a nearby village, enhancing the athletic experiences of local youth.

Community Beautification Program

In support of the government's efforts to raise environmental awareness, and to enhance the quality of life in the Kedung Bocok village, Tjiwi Kimia invested US$8,528 during 2007 to plant and maintain 3,000 Sengon trees in the area around the mill. The first reforestation program ever attempted by the mill, this tree planting effort involved more than 100 Tjiwi Kimia employees and was led by the mill's General Affairs Department Manager. Mill employees now maintain the trees with periodic applications of fertilizer

Income Enhancement Programs

To enhance livelihoods and enable villagers to live more autonomously, Tjiwi Kimia actively supported the creation of entrepreneurial opportunities for individuals and small businesses to generate income through the provision of services to the mill and its employees.

Tjiwi Kimia invested US$8,884,810 in its Partnership Program during 2007, enabling locals to develop skills in product assembly, pallet making, transportation and construction, and then to earn income by providing small-business support to the mill. Some 3,250 workers benefited from this program.

The mill also invested US$368 in continued support of Rombong Biru (a small-scale food vendor program). Through this ongoing program, 18 individuals have the opportunity to earn income by preparing lunches and selling food to workers at the mill site.

NOTE: Throughout this report, spending in Indonesian Rupiah has been converted to US$ calculated at the interbank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.

ekamas fortuna
industrial paper manufacturing

Ekamas Fortuna Mill

1. Mill at a Glance

The Ekamas Fortuna mill is a small- to medium-scale, non-integrated industrial paper mill located near the city of Malang, in the village of Gampingan in East Java Province on the island of Java. The mill had sales of US$69.5 million in 2007, an increase of about 31% compared to 2006 and 2005 sales.

The Ekamas Fortuna mill provides roughly 800 direct jobs and has created employment in the surrounding area for an additional 280 people who provide the mill with needed services. Responsible for the employment of more than 1,000 people, the Ekamas Fortuna mill serves as the economic engine for the nearby communities.

The mill produced a total of around 180,000 tons of industrial paper, paperboard and packaging per year for each of the past three years. Ekamas Fortuna purchases more than 170,000 tons per year of waste paper, most of it procured locally, and its products contain more than 95% recycled fiber on average.

The Ekamas Fortuna mill includes two paper machines, 21 converting lines, a steam generation plant, and a wastewater treatment plant. Electrical power is drawn from the PLN national electricity distribution network.

2. Products

Ekamas Fortuna produces a range of branded industrial paper and paperboard products that includes corrugating medium, kraft liner, core board, chipboard, paper cores and tubes and laminating papers. These products are sold in Southeast Asia under the Ekamas Fortuna brand.

3. Certification and Verification

The Ekamas Fortuna mill has been certified since 2003 as compliant with the ISO 9001-2000 Quality Management System (QMS) standard. A re-assessment of compliance to these standards will take place in 2008. The first-stage audit to assess Ekamas Forfuna's compliance with the ISO 14001-2004 Environmental Management System (EMS) standard was performed during 2007. (The certificate was awarded in 2008.) A full re-certification audit of compliance to this standard will be performed in 2011. Ekamas Fortuna's management team holds quarterly EMS project reviews to ensure that continuous improvement projects are on target, and that appropriate corrective measures for identified shortcomings have been implemented.

The Ekamas Fortuna Mill has been licensed as meeting the requirements for a comprehensive Environmental Management and Monitoring Plan as required by the government of Indonesia and the Malang Regency.

4. Fiber Supply Integrity

The two paper machines at Ekamas Fortuna are furnished with an average of 95% waste paper, 3% unbleached softwood market pulp, and use a small amount of recovered-fiber pulp from Indah Kiat Perawang Mill in Riau. All unbleached market pulp entering the mill must meet the Forest Stewardship Council (FSC) Controlled Wood standard or the Programme for the Endorsement of Certification Schemes (PEFC) Non-Controversial Wood standard.

The mill conducts its own quality-control checks on all incoming waste. Paper-machine and converting-machine waste and other paper trim and waste are not measured directly but included as waste paper in the mill furnish calculations.

5. Environmental Performance

a. Energy Mix

Ekamas Fortuna is dependent on fossil fuels to generate energy. The mix of sources used during the last three years reflects the 2005 commissioning

Table I – Ekamas Fortuna Mill Sales (US$ Thousands)

Product	2005	2006	2007
Paper & Packaging	52,724	52,940	69,453
TOTAL	52,724	52,940	69,453

Table II – Ekamas Fortuna Mill Employees and Mill Indirect Jobs

Category	2005	2006	2007
Mill Employees	789	781	793
Mill Indirect Jobs	96	193	281
TOTAL	885	974	1,074

Table III – Ekamas Fortuna Mill Production (ADMT[1])

Product	2005	2006	2007
Paper	174,278	169,780	169,481
Packaging	11,071	11,292	9,442
TOTAL	185,349	181,072	178,923

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 6% moisture for paper.

Table IV – Ekamas Fortuna Brands

Major Mill Brands	Paper Products	Main Regions Where Brand is Sold
Ekamas Fortuna	Corrugating Medium	Southeast Asia
Ekamas Fortuna	Chipboard	Southeast Asia

of coal-fired steam generation equipment in response to a changing supply/demand balance and cost. Coal is sourced from the adjacent Indonesian Province of Kalimantan.

b. Water and Fiber Consumption

Although it has varied from year to year, in each of the past three years the amount of water required to make a ton of finished product has been at the high end of, but within, the benchmarks set forth in the World Bank International Finance Corporation Environmental Guidelines for recovered paper. During 2007, the mill began work on water-consumption reduction projects that should show improvement in 2008.

The rate of fiber use per ADTP increased slowly during the past three years, as virgin unbleached kraft pulp has been displaced by additional locally-sourced wastepaper in the furnish.

In April 2007, the mill initiated a comprehensive Master Improvement Program (MIP) to accelerate the reduction of water consumption and fiber loss per ton of finished product. This MIP is part of a coordinated effort by all of the APP pulp and paper mills in Indonesia, and provides for inter-mill sharing of lessons learned and best practices to leverage experience and achieve results more quickly. Details of these programs follow in section (c).

While the final results of the MIP are expected to be reported in September 2008, metrics through the

Table V -- Ekamas Fortuna Certification Status as of December 31, 2007

Certification	Classification	Scope	First Issued
ISO 9001	QMS	Mill	2003
ISO 14001	EMS	Mill	First Audit 2007
UKL/UPL – Government of Indonesia and the Regency of Malang	Environmental Management and Monitoring Plan	Mill	2000

end of 2007 indicate reductions in the consumption of both water and fiber loss per ton of finished product.

An anticipated added benefit of the MIP will be the reduction in wastewater treatment plant operating costs as the mill's whitewater recovery system is improved to capture more usable fiber from the wastewater stream. Several specific program elements are discussed in the "Mill Programs and Investments to Reduce Consumption and/or Discharges" section of this report.

c. Mill Programs and Investments to Reduce Consumption and/or Discharges

During 2007, the mill initiated a wide range of programs using ISO 14001 Environmental Management Systems (EMS) protocols to drive these actions on a timely basis. Key projects were initiated to reduce the use of water and steam.

Water Consumption

In 2005, the Ekamas Fortuna mill began a series of projects to reduce water consumption, reduce fiber loss and reduce COD. The first of these was the installation of a new supplementary settling tank. The capital expenditure of US$111,000 resulted in annual savings of US$180,000, and provided dramatic reductions in COD. In 2007, the mill made a US$250,000 investment in Krofta water and wastewater treatment technology to address fresh water consumption levels. This investment in technology has further reduced water consumption and COD, and is expected to generate savings of about US$65,000 per year.

Steam Consumption

During 2007, the mill invested US$260,000 in four press units to reduce the water content of the paper sheet into the pre-dryer section, with a consequent reduction in steam consumption. This investment is anticipated to result in annual savings in excess of US$135,000 by reducing the mill's energy consumption and associated costs.

d. Trend of Performance in Reducing Emissions, Effluent and Waste

Air Emissions

Although the mill power boiler's air emissions for 2007 are approximately 80% below the Indonesian Standards for SO_2 and 90% below the Indonesia standard for NO_2, the mill experienced an increase in both types of emissions due to an unfavorable change in the sulfur content of the available coal. The mill had no alternative to buying high-sulfur coal.

Particulate levels for 2005 and 2006 were probably under-recorded due to an inappropriate sampling point location, now corrected. However, the increased particulate emissions now being recorded are still at levels less than one-half of the relevant national standards.

In Indonesia, air-emission standards are set at the national level (Decree from Ministry of Environment, KEP-13/MENLH/3/1995). Water-effluent standards are set at the provincial level, typically by decree by the Governor of each Province. The tables presented reflect the applicable Indonesian standard for the Ekamas Fortuna mill.

Wastewater Effluent

The mill discharges wastewater to the Lesti River. The mill met the much stricter provincial wastewater emission standards in 2006 and 2007 and operated at less than 25% of the Indonesian National Standards for permitted BOD, COD and TSS levels. The mill has been successful in reducing its wastewater emissions by two-thirds to three-quarters of 2005 levels.

During the past three years, the mill did not experience any process spills that could not be handled efficiently and within regulations by its wastewater treatment facility.

Solid Waste

Solid waste management represents an ongoing area of challenge for Ekamas Fortuna mill. During 2007, the mill completed a two-year trial to recycle 100% of its sludge in order to capture the fiber contained in that material.[5]

The mill is currently able to sell only a small portion of its waste ash for use in construction, and continues to evaluate alternatives to landfill for the remaining ash. Plastic and glass waste is removed from the incoming wastepaper raw material and is currently sent to landfill for disposal.

Table VI – Ekamas Fortuna Paper Furnish

Furnish[1]	2005	2006	2007
Northern Unbleached Kraft Pulp	3.8%	3.8%	2.9%
Perawang Recovered Fiber Pulp	0.2%	0.2%	0.3%
Imported Waste Paper	34.4%	34.4%	34.2%
Local Waste Paper	61.6%	61.6%	62.7%
TOTAL	100.0%	100.0%	100.0%

1. Data reported Includes all pulp and paper recycled within the mill.

Table VII – Ekamas Fortuna Energy Sources

Sources	2005	2006	2007
Coal	29.3%	97.8%	94.0%
Diesel Oil	58.7%	1.6%	4.6%
Marine and Other Heavy Fuel Oil	12.0%	0.6%	1.4%
TOTAL	100.0%	100.0%	100.0%

NOTE: Percentages are based on the amount of energy generated.

Table VIII – Ekamas Fortuna Water and Fiber Consumption

Item	2005	2006	2007	World Bank Standard[3]
Water[1]				
Water – Paper (m^3/ADMT[2])	8.4	10.1	9.0	1.5-10
Fiber				
Paper (Waste and Pulp to Paper Product)	1.039	1.046	1.050	None

1. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
2. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 10% moisture for pulp, 6% for paper.
3. World Bank IFC Environmental, Health and Safety Guidelines for Pulp & Paper Mills, Dec 10, 2007, page 31 table 3, paper mill – recovered paper.

Table IX – Ekamas Fortuna Air Emissions (Flue gas from power boilers)

Parameter	2005	2006	2007	Indonesian Standard
SO_2 (mg/m^3)[1]	56.3	10.26	123.8	800
NO_2 (mg/m^3)	6.6	30.6	70.1	1,000
Particulate (mg/m^3)	28.9	41.6	107.1	230

1. The Indonesian Standard for Air Emissions is measured as milligrams per cubic meter, not kilograms per Air Dry Metric Tons as is common in many countries.

As is the case with most paper mills, Ekamas Fortuna manages the disposal of hazardous materials such as waste oil, batteries and mercury lamps. The mill has an appropriate method for disposing of each material. For the most hazardous materials, the mill uses authorized and government licensed hazardous waste disposal businesses.

6. Social Performance

a. Safety Performance

During 2007, the Ekamas Fortuna mill had 52 reportable safety incidents, more than double the level of its target performance indicator. The mill exceeded its Severity of Accident and Frequency of Accident index targets during the reporting year, and both metrics were notably higher in 2007 than in the previous two years. While there were no fatalities during the year, there was one accident resulting in a permanent disability (the loss of two fingers). In addition, there was an increase in traffic accidents outside the mill in which commuting employees were involved.

However, the mill reported no major safety incidents or related corrective actions during 2007.

b. Sickness and Absenteeism

The sickness rate of mill employees during 2007 was 2% higher than 2006 but 9% lower than 2005 levels. The mill's absenteeism rate, however, showed a 25% reduction in 2007 as a result of new regulations which made absenteeism a metric in determining wage increases, promotions, and monthly bonuses.

c. Social-Benefit Programs

During 2007, the Ekamas Fortuna mill provided financial and in-kind support for a number of programs that delivered social benefits to communities in proximity to its operations.

Health Care & Sustenance

The physical well being of villagers is of great importance to Ekamas Fortuna. During 2007, the mill allocated $5,331 in health care and sustenance assistance.

Table X – Ekamas Fortuna Water Effluent at Discharge

Parameter	2005	2006	2007	Indonesian Standard
BOD (kg/ADMT[1])	2.98	1.1	1.01	2.8
COD (kg/ADMT)	8.22	2.77	2.42	6.0
TSS (kg/ADMT)	4.14	1.14	0.89	2.8
pH	7.12	7.35	7.26	6-9
Volume (million m^3)[2]	1,467.2	1,744.4	1,633.6	NA
Rate (m^3/ADMT)	8.3	10.1	8.9	NA

1. ADMT = Air Dry Metric Tons of annual production where an ADMT is at 6% moisture for paper.
2. Water use measured is for production of pulp and paper and excludes water used in offices, at R&D and provided to local communities.
3. Indonesian Standards are quoted in ppm and values given in kg/ADMT are calculated on the basis of permitted volumetric and concentration discharge parameters.
4. National Standards translate to 10 kg / ADMT for BOD / 20kg/tonne ADMT for COD / 10 kg / ADMT for TSS.
   Provincial Standards translate into 2.8 kg/ADMT for BOD / 6.0 kg / ADMT for COD / 2.8 kg / ADMT for TSS.

NOTE: There are no World Bank discharge benchmarks for non-integrated paper mills.

Table XI – Ekamas Fortuna Solid Waste

Type of Waste	Sludge			Fly/Bottom Ash			Rejects (plastic, glass)		
Means of Disposal (%)	2005	2006	2007	2005	2006	2007	2005	2006	2007
Landfill	100%	50%	–	100%	98%	96%	100%	100%	100%
Recycling[1]	–	50%	100%	–	2%	4%	–	–	–
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%

1. Two-year trial to recycle sludge to use recovered fiber in the paper mill. Ash is recycled for use as bricks and paving stones.

The company provided practitioners and medical supplies to deliver free medical check-ups to some 500 villagers who might otherwise be without access to health care. It also sponsored a blood drive in conjunction with the local Red Cross, in which 104 mill employees participated.

Ekamas Fortuna also provided five tons of rice and other staples to some 450 local villagers.

Education

Demonstrating its commitment to education as a means of bringing long-term benefit to families living near the mill, Ekamas Fortuna allocated US$5,331 during 2007 in support of learning.

The mill provided educational and living-expense support for 50 orphaned children living in local villages, as well as support for the children of former employees of the mill. The mill also supported educational activities for families living nearby.

Ekamas Fortuna provided full support for needy students who participated in the mill's on-the-job training program, and provided facilities and spending money for the balance of the 45 high school and university participants.

The mill also provided financial support and facilities for university students who were implementing community development programs in surrounding communities.

Vocational Training

Ekamas Fortuna mill allocated US$3,200 in 2007 to support skills training of villagers and the encouragement of entrepreneurial enterprises.

The company's funding supported the on-the-job training at the mill for 25 students from a local vocational high school and 20 students from universities in the Malang District. This on-the-job training was intended to expose the students to a real-world work environment and to help prepare them for future careers in commerce and manufacturing.

In addition, 20 villagers living near the mill received training in the assembly of "designer" shopping bags, and the manufacturing of bricks and paving stones using sludge from the papermaking process. In addition to delivering a social benefit, this skills-building program also delivered an environmental benefit by creating viable building materials from a manufacturing byproduct.

Table XII – Ekamas Fortuna Employee Safety Performance

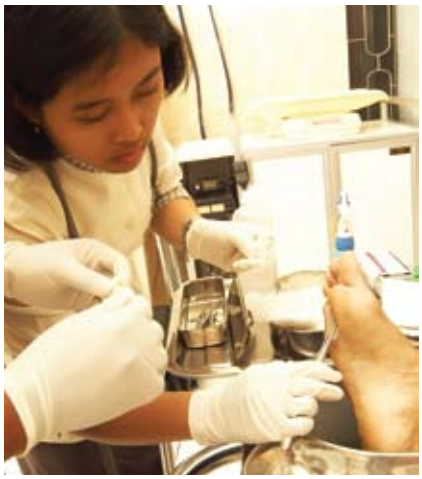
Safety Performance		2005		2006		2007
Parameter	Target	Actual	Target	Actual	Target	Actual
Number of Incidents	24	30	24	35	24	52
Severity (SRA[1])	11.53	51.19	11.53	52.08	11.53	78.10
Frequency (FRA[2])	11.53	14.42	11.53	17.25	11.53	23.07

1. SRA = Severity Rate Accident = (Lost Hours X 1,000) / (Total Man Hours)
2. FRA = Frequency Rate Accident = (Total Accidents X 1,000,000) / (Total Man Hours)

Table XIII – Ekamas Fortuna Employee Sickness and Absenteeism Performance

Attendance		2005		2006		2007
Parameter	Target	Actual	Target	Actual	Target	Actual
Sickness Rate[1]	–	0.00740	–	0.00660	–	0.00670
Absenteeism Rate[2]	–	0.00300	–	0.00200	–	0.00150

1. Sickness Rate = (Total Sick Days) / (Total Worker Days)
2. Absenteeism Rate = (Total absentee Days) / (Total Worker Days)
NOTE: Ekamas Fortuna did not report targets for employee sickness and absenteeism performance.



Support for Religious Activities

The villagers living in proximity to the Ekamas Fortuna mill are highly religious. While largely Islamic, the community also reflects Christian and Buddhist beliefs.

Ekamas Fortuna helped to build bonds with the community through its support of local and regional religious activities. In 2007, the mill allocated US$7,730 to support the activities of the faithful.

During 2007, the mill provided financial support for the local mosque and for secular schools. It also provides funding for a number of Religious Fairs that are held at the village, sub-district, and district levels.

The rite of male circumcision is widely practiced by followers of Islam. The Ekamas Fortuna mill provided much-needed funding for a mass circumcision event for the children of villagers and former employees.

Community Projects

Community projects included the provision of clean water for villagers, the provision of sports supplies for village teams, underwriting the purchase of stationery supplies by the local government office, and financial support for the village's celebration of Indonesia's national holiday.

The mill also participated in the Malang District's "Clean River" program which focused community attention on the value of maintaining the quality of the local waterway.

Community Empowerment

Recognizing that partnerships with local individuals encourage the entrepreneurial spirit and lead to improved livelihoods, Ekamas Fortuna provided opportunities for village residents to benefit financially from the mill's presence in their community.

During 2007, mill management encouraged the opening of food stalls on the mill site, enabling local villagers to earn income through the sale of meals to workers. In addition, the mill partnered with local small businesses to provide product transportation, waste management services, and the operation of parking lots.

Ekamas Fortuna also employed roughly 60% of local villagers in mill sub-operations during 2007. These tasks included sorting recycled paper and the manufacture of pallets.

The mill also participated in capacity building and support for youth organizations in Gampingan and Sumberejo villages.

The mill allocated a total of $1,066 in these empowerment activities during 2007.

Infrastructure Improvements

During 2007, Ekamas Fortuna allocated US$31,989 in infrastructure improvements and community projects to benefit the villages in the Malang District which surround the mill. Some 12,000 individuals benefited from these projects.

Infrastructure improvements included road construction and repairs, the rehabilitation of the elementary schools at Gampingan village, repairs to the community health center and public buildings, and funding to build the village border. These projects contributed to an increase in the quality of service delivered by the government to the community. Paving stones made from sludge were used in several of the construction projects, adding the environmental benefit of recycling of mill byproducts.

NOTE: Throughout this report, spending in Indonesian Rupiah has been converted to US$ calculated at the interbank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.

05 APP's Fiber Supply

Table I – Sinarmas Forestry Forest Concession Area

SMF Forest Concession Area as of June 30, 2006

Province	Total Area	Set-Aside Area	Area Approved for Plantation Development			
			Subtotal	Planted	Degraded	Barren/Scrub/ Fire Damaged
Riau	656,718	278,450	378,268	272,793	41,160	64,315
Jambi	345,072	115,745	229,327	155,621	48,001	25,705
South Sumatra	674,811	196,084	478,727	88,617	6,000	384,110
Subtotal Sumatra	1,676,601	590,279	1,086,322	517,031	95,161	474,130
	100%	35%	65%	31%	6%	28%
West Kalimantan	299,700	196,576	103,124	33,131	–	69,993
East Kalimantan	183,300	88,300	95,000	73,247	–	21,753
Subtotal Kalimantan	483,000	284,876	198,124	106,378	–	91,746
	100%	59%	41%	22%	0%	19%
TOTAL	2,159,601	875,155	1,284,446	623,409	95,161	565,876
Percentage	100%	41%	59%	29%	4%	26%

SMF Forest Concession Area as of December 31, 2007

Province	Total Area	Set-Aside Area	Area Approved for Plantation Development			
			Subtotal	Planted	Degraded	Barren/Scrub/ Fire Damaged
Riau	826,195	346,708	479,487	295,105	94,891	89,491
Jambi	364,842	122,350	242,492	185,893	48,894	7,705
South Sumatra	674,811	196,084	478,727	158,552	5,151	315,024
Subtotal Sumatra	1,865,848	665,142	1,200,706	639,550	148,936	412,220
	100%	36%	64%	34%	8%	22%
West Kalimantan	299,700	196,576	103,124	40,601	–	62,523
East Kalimantan	222,920	100,103	122,817	80,433	2503	39,881
Subtotal Kalimantan	522,620	296,679	225,941	121,034	2,503	102,404
	100%	57%	43%	23%	–	20%
TOTAL	2,388,468	961,821	1,426,647	760,584	151,439	514,624
Percentage	100%	40%	60%	32%	6%	22%

A. Introduction and Overview

APP owns no forestland, holds no forest concession licenses to government-owned land, and does not conduct any harvest operations. APP relies on its exclusive fiber-supply relationship with Sinarmas Forestry (SMF), one of Asia's leading forest management companies, for all of the pulpwood fiber for its two pulp mills on the island of Sumatra.

This relationship allows APP to be assured of its fiber supply and enables the company to enforce stringent policies on sustainability and purchasing (including legal, non-controversial fiber origin) and to honor its responsibility to the people in the local communities in and around its operations.

SMF is comprised of four large forestry companies and a number of smaller partner plantation-forest licensees. The four major companies are: PT. Arara Abadi (PT. AA) and PT. Satria Perkasa Agung (PT. SPA) in Riau Province; PT. Wirakarya Sakti (PT. WKS) in Jambi Province (all on the Island of Sumatra); and PT. Finnantara Intiga (PT. FI) in West Kalimantan Province on the Indonesian side of the island of Kalimantan.

SMF is committed to the principles of sustainable forestry and to complying with APP's fiber procurement policies. SMF's primary business is the production of plantation pulpwood fiber by planting and nurturing fast-growing species on land licensed by the Government of Indonesia.

As of December 31, 2007, SMF held valid licenses to 2,388,468 hectares of forest concessions in Indonesia. Of this area, 40% (961,821 hectares) is set aside for conservation, indigenous-species protection and preservation, community use and related infrastructure needs. The SMF set-aside area has been increased by nearly 87,000 hectares in the last 18 months.

During 2007, SMF provided more than 6,900 direct jobs and created employment for an additional 1,600 people who provided needed services in and around the SMF concessions. Taken as a whole, APP's fiber suppliers are responsible for the employment of more than 8,500 people, and are an important economic engine in the rural areas where they operate in Riau, Jambi and Kalimantan.

The four major SMF companies are certified to, and have remained compliant with, the ISO 14001 Environmental Management System standard. The two largest operations, PT. Arara Abadi and PT. Wirakarya Sakti, have been ISO 14001 compliant for more than a decade.

As reported in the 2005-2006 APP Environmental and Social Sustainability Report for Indonesia, SMF's companies continue to implement sustainable forest management practices. The majority of the species planted for pulpwood fiber are *Acacia mangium*, *Acacia crassicarpa*, and *Eucalyptus pellita*. As of December 31, 2007, there were about 760,000 hectares of plantation forest dedicated to APP's pulp and paper mills, a key to ensuring that APP's mills will have a sustainable fiber supply. Equally important are the well-funded SMF Research and Development programs, designed to increase fiber yield through continuous research and development as well as through the development and application of leading technologies.

Fire prevention and protection are the other critical component of SMF's efforts to protect its set-aside areas and fast-growing pulpwood plantations from destruction by fires on concession lands or adjacent areas. These efforts resulted in an 86% reduction in forest area that experienced fire damage during 2007 as compared to 2006.

B. Sustainable Forest Management

The practice of sustainable forestry requires a commitment to the

principles of responsible plantation forest management in achieving a sustained fiber yield through economically, environmentally and socially sound forestry practices. For APP's customers, sustainable forest management means that the company will be able to supply their needs today, and for as long as they need paper.

SMF only develops land that has been designated by the Government of Indonesia, under its National Spatial Plan, as land suitable for pulpwood plantations. All active fiber sources managed by SMF passed the Government-mandated Sustainable Forest Management evaluation conducted in 2006 by Lembaga Penilai Independen (LPI), a Ministry of Forestry-accredited independent auditor. In its assessments, LPI evaluates a company's sustainable forest management practices and examines the social, economic and environmental factors that form the foundation of its sustainability.

Once granted a concession, APP's fiber suppliers commission a feasibility study and a long-term management plan, both of which are required by Law. Specific Annual Working Plans are then developed for each Fiber Source Management Unit. APP requires its fiber suppliers to comply with all applicable laws and to use work plan and conservation assessment standards that are government-recognized. All of APP's active fiber sources hold valid and legal Annual Working Plans and licenses.

For more detailed information on SMF's sustainable forest management certification activities, see section D. Environmental Performance, subsection 1. Certification.

A portion of the pulpwood plantation operations of APP's fiber suppliers were established on degraded lowland in Sumatra during a time period dating from the early 1990s to the present. The prevalent view was that this usage represented a sound way to bring non-productive land (which is classified as production forest according to Indonesia's national spatial policy, and as unsuitable for community or agricultural use) into commercially productive use, according to the regional and national development plan.

Some concern has recently been raised by certain groups regarding the carbon dioxide (CO_2) emissions caused by water-level management during harvesting and planting activities in these areas. APP acknowledges that increasing global concerns about greenhouse-gas-related issues must be taken very seriously. It has, therefore, asked its pulpwood suppliers for evidence both of their plantation water table management strategies and of their working practices for minimizing such CO_2 emissions from lowland plantation forestry operations.

Forestlands (especially lowlands/peatlands) that are designated for production forestry in Indonesia are rapidly being degraded because of a lack of responsible management, sustained social and economic pressures, and the use of slash-and-burn land-clearing practices. The best solution to developing such areas while preserving the greater natural forest depends on active forest management and on creating buffers to prevent encroachment and illegal occupation of the land.

APP's fiber suppliers are committed to responsible management of lowlands by:

- Developing plantations or reforesting degraded peatlands designated by the government for production forestry;
- Ensuring responsible water management in peatlands to enable an environment for tree growth while, at the same time, limiting peat subsidence;
- Providing proactive fire prevention and suppression management with active participation of local communities;
- Setting aside natural peat swamp forests of unique and special merit for permanent conservation and carbon storage;

- Preserving and/or enhancing forest areas of special merit that have been identified and set aside for conservation; and
- Developing areas zoned for production forestry that either have been previously logged or are degraded forestlands.

C. APP's Sustainable Fiber Supply

As of December 31, 2007, SMF held valid licenses for 2,388,468 hectares of forest concessions in Indonesia. Of this area, 40% (more than 960,000 hectares) is set aside for conservation, indigenous-species protection and preservation, community use and related infrastructure needs. The SMF set-aside area has been increased by nearly 87,000 hectares in the last 18 months.

In 2007, APP's fiber suppliers planted a total area of 236,000 hectares of fiber plantations. Of this, 133,000 hectares were first-rotation plantings and 103,000 hectares were second- and third-rotation plantings. The seedlings were planted at an average density of 1,666 plants per hectare. SMF continues to plant seedlings at an average of 1.5 million plants per workday.

To support the future growth of APP's business, SMF's operations acquired licenses to an additional 228,000 hectares of forest concessions during the last 18 months, primarily on the island of Sumatra.

As mentioned in the introduction to this section, APP's fiber suppliers replant their forest concession areas with fast growing tree species – primarily *Acacia mangium*, *Acacia crassicarpa*, and *Eucalyptus pellita*. These species are achieving growth rates ranging from 10-35m^3/hectare/year in mean annual increment (MAI). As of December 31, 2007, 760,584 hectares of plantation forest have been dedicated to supplying APP's pulp and paper mills, a key to ensuring that APP's mills will have a sustainable fiber supply. Based on existing pulp mill capacity of 2.7 million tons per year, a wood input of 11.6 million green metric tons per year is required. At current average yields, a plantation area of 640,000 hectares of even-age-rotation forest is needed to provide this volume of fiber. In addition, it is standard practice to provide a 20% buffer as a contingency for weather damage or other natural losses.

SMF's companies are engaged in what is termed intensive silviculture – harvesting followed almost immediately by replanting. In this type of silviculture, careful attention is paid to the impact on animals such as insects, microbia, birds and larger mammals. These impacts are minimized by providing conservation set-asides that provide sanctuary and that help maintain the biodiversity of the area within the plantation landscape. In addition, conservation set-asides within the plantation forest provide wildlife corridors and/or buffer areas adjacent to permanently protected natural forests such as national parks, critical watersheds and wildlife reserves.

SMF ensures that all fiber entering APP's pulp mills in Sumatra fulfill the requirements of APP's stringent Fiber Procurement policy. This policy:

1. Ensures that wood suppliers maintain compliance with all relevant regional, national and international regulations for sustainable forestry and land-use management;
2. Ensures that a multi-stage environmental and social assessment is conducted prior to plantation development. The environmental assessment will meet or exceed the standard required by national law;
3. Ensures that wood is properly checked and verified for legal origin and integrity of the chain of custody before it enters the mill, and that companies and mills maintain systems and procedures to reasonably ensure that wood coming from illegal sources is rejected before it enters the mill;

4. Requires that wood suppliers comply with relevant universal human-rights regulations and undertake community relations programs based upon participatory assessment and planning principles, involving all relevant stakeholders; and
5. Ensures that wood suppliers who are found in breach of relevant legal requirements and provisions of the policy shall be immediately warned and, for repeated violations, have their contracts terminated.

Through its rigorous implementation of these policies, SMF helps APP ensure that its fiber supply is legal and sustainable, and will remain so over the long term. (See **Appendix V** for the text of APP's Fiber Procurement Policy.)

D. Environmental Performance

1. Certification

a. ISO 14001 Environmental Management Systems Certification

The four largest SMF operations are certified to, and have remained compliant with, the ISO 14001 Environmental Management System standard. The two largest operations, PT. Arara Abadi and PT. Wirakarya Sakti, manage nearly 600,000 hectares of active forest concessions and have been ISO 14001 compliant for more than a decade.

PT. Wirakarya Sakti and PT. Satria Perkasa Agung were first certified as ISO 14001-compliant in 1999. Their last inspection occurred in 2006, and both PT. WKS and PT. SPA will be subjected to full re-certification audits in 2009. PT. Arara Abadi was first certified as ISO 14001-compliant in 1998, was most recently re-certified in 2006, and had its renewal assessment in 2007. In West Kalimantan, PT. Finnantara Intiga was first certified as ISO 14001-compliant in 2003, was re-certified during 2007, and is scheduled for a renewal assessment in 2010.

Taken together, these four ISO 14001-compliant forestry companies account for nearly one million hectares of forest concession area, as of the end of 2007. The companies' management of an additional 200,000 hectares was undergoing assessment at year-end. SMF's remaining companies are expected to obtain ISO 14001 certification covering their operations on all other forest management units under concession.

b. Legal Origin Verification and Chain of Custody Certification

All of APP's fiber suppliers providing pulpwood to the Perawang and Jambi mills are subject to rigorous scrutiny and protection protocols to ensure that the pulpwood supplied is from legal sources and that no illegally harvested fiber enters the mill wood yard. The protocols for this Legal Origin Verification and Chain of Custody (LOV/CoC) verification were developed in conformity with the Criteria and Indicators of the LEI (Lembaga Ekolabel Indonesia – The Indonesian Ecolabelling Institute) Standard for Wood Fibre Material (plantation wood and mixed hardwood residues from plantation development).

APP believes that it has one of the most stringent pulpwood fiber control systems in Indonesia. Since 2005, the integrity of APP's LOV/CoC system has been verified annually by an independent third-party auditor, Société Générale de Surveillance (SGS), which has found no indication of any illegal fiber being harvested or being introduced into the fiber supply at the Indah Kiat Perawang or Lontar Papyrus pulp mills. All of the improvements to the system recommended in annual audits by SGS have been implemented, and this fact has been noted in each of SGS' annual audit reports.

In addition, in December, 2007, SGS evaluated APP's fiber suppliers in Riau and Jambi against the standards of the SGS "Timber Legality and Traceability Verification" (TLTV) Programme. The assessment was

Table II – Sinarmas Forestry Certification Status as of December 31, 2007

Province/Company	Certification / Standard	Scope	First Issued
Riau / PT. Arara Abadi	EMS / ISO 14001-2004 standard	299,975 ha.	1998
Riau / PT. Arara Abadi	Legal Origin Verification / Chain of Custody to LEI[1] standard	Plantation wood / residues from plantation development	2005
Riau / PT. Satria Perkasa Agung	EMS / ISO 14001-2004 standard	76,017 ha.	1999
Riau / PT. Satria Perkasa Agung	Legal Origin Verification / Chain of Custody to LEI standard	Plantation wood / residues from plantation development	2007
Riau / PT. Sekato Pratama Makmur	Legal Origin Verification / Chain of Custody to LEI standard	Plantation wood / residues from plantation development	2007
Riau / PT. Bukit Batu Hutani Alam	Legal Origin Verification / Chain of Custody to LEI standard	Plantation wood / residues from plantation development	2007
Jambi / PT. Wirakarya Sakti	EMS / ISO 14001-2004 standard	293,812 ha.	1997
Jambi / PT. Wirakarya Sakti	Legal Origin Verification / Chain of Custody to LEI standard	Plantation wood / residues from plantation development	2005
Jambi / PT. Wirakarya Sakti	Controlled Wood to FSC standard	191,130 ha.	2007
West Kalimantan/ PT. Finnantara Intiga	EMS / ISO 14001-2004 standard	299,700 ha.	2003
West Kalimantan / PT. Finnantara Intiga[2]	OS&HM to Government of Indonesia SMK 3 standard	Golden Flag Award	2003

1. Lembaga Ekolabel Indonesia – The Indonesian Ecolabelling Institute.
2. Forest Management Unit Sintang.

conducted to benchmark the company's performance against the TLTV standard and to identify potential areas of improvement for APP's fiber suppliers as they work toward their goal of obtaining full TLTV compliance certification in the near future.

c. LEI Sustainable Plantation Forest Management Certification

In 1998, The Indonesian Ecolabelling Institute (LEI) first produced its principles, criteria and indicators for sustainable forest management based on the International Tropical Timber Organization Guidelines for Sustainable Forest Management. The LEI certification standard for industrial plantations was developed in 2001 with support from several international organizations, including the US Agency for International Development, and The Nature Conservancy.

During 2006, LEI developed phased approach certification standards for sustainable production forest management, including plantation forest management. LEI Sustainable Plantation Forest Management certification is a voluntary program based on the principles of transparency, independence, non-discrimination, and accountability.

Today, the LEI certification standard for sustainable forest plantation management is the only credible, national, forest-certification scheme in place in Indonesia, and is the standard to which APP's fiber suppliers intend to certify their forest concessions.

Beginning in early 2007, APP's fiber suppliers began preparations for the LEI Sustainable Plantation Forest Management certification process. APP will use LEI's phased approach which consists of six steps:

1. Application & public announcement;
2. Pre-assessment & public consultation;
3. Work plan development;
4. Work plan implementation;
5. Periodic evaluation; and
6. Final Assessment & Certification Decision.

There are three levels of requirements to achieve full LEI Sustainable Plantation Forest Management certification:

Level 1: Systems. The first level requires that a good environmental management and monitoring system is in place and is in use. ISO 14001 EMS is the most common system used for recording, monitoring, and taking corrective actions for any activities that may have an environmental impact.

Level 2: Legality and Traceability. The next level requires proof of timber legality and traceability of the wood supply, meeting a rigorous third-party standard of performance.

Level 3: Sustainable Plantation Forest Management Assessment. The final level or stage in the process is the achievement of full certification against the LEI national standard. The LEI standard covers a full range of sustainable environmental and social principles, criteria and indicators which are assessed by an auditor through field surveillance.

During 2007, PT. WKS (APP's fiber supplier located in Jambi province in Sumatra) conducted a gap analysis prior to undergoing formal forest certification assessment of its 293,812 hectares of plantation forests. In September 2007, PT. WKS successfully completed Step 2 of the LEI process, pre-assessment and public consultation. In 2008, PT. TUV International Indonesia, an accredited, independent certification body, will assess the production, ecological and social aspects of PT. WKS' forest management practices against LEI Standard 5000-2. PT. WKS expects to receive its Assessment Report and Certification Decision in the last half of 2008.

APP's other fiber suppliers are currently in the process of conducting internal gap analyses against LEI Standard 5000-2 to prepare for certification assessments using both full and the phased-approach certification processes.

The management of forestland to the stringent environmental and social criteria of internationally acknowledged certification systems is not easily implemented in a developing, transitional economy such as that of Indonesia. Recognizing that this effort will take time, APP continues to drive and support the efforts of its fiber suppliers to attain the goal of credible, third-party forest-management certification.

2. Forestry Practices

APP's fiber suppliers plant and reforest concessions approved by the government and delineated for use as pulpwood plantations, using balanced practices in addressing the three pillars of sustainability – social, environmental and economic considerations.

In the fiber suppliers' nurseries, only minimal applications of biodegradable pesticides and fungicides are used. These herbicides are on the approved list in the Green Book of the Agriculture Department of Indonesia. Further, according to ISO14001 standard, with which APP's' fiber suppliers are compliant, the nurseries are equipped with effluent treatment facilities that are tested regularly.

In the field, APP's fiber suppliers use minimal applications of biodegradable herbicides, which are certified to be ecologically friendly according to national regulations. Herbicides are applied only once during the first year of plantation development, in combination with manual weeding. These minimal amounts of chemicals dissolve into the plantation forest soil when it rains.

Since SMF's plantations are sustainably managed, one of the key

parameters monitored is nutrient balance. SMF makes judicious use of fertilizer (containing macro- and micro-nutrients), applying it only when necessary to boost initial growth in certain soils.

Riparian zones (areas adjacent to streams and rivers) are included in conservation set-asides and are protected as mandated by the government. In addition, APP's fiber suppliers monitor the impact of their activities on area rivers and streams on a regular basis.

The bark of harvested trees is often delivered to the APP mills for use as a bio-fuel to reduce the consumption of fossil energy. Leaves, branches, roots and other residues are left on the ground to protect the soil naturally and to serve as organic nutrient material as they decompose.

To reduce its use of commercial fertilizers, SMF's two leading fiber suppliers have partnered with APP's Indah Kiat Perawang and Lontar Papyrus pulp mills to recycle mill sludge, a pulp-making byproduct, as fertilizer in the forest plantations.

In Riau Province, PT. Arara Abadi (PT. AA) conducted field tests to assess the viability of using the mill sludge. The tests showed that this material was rich in nutrients that would promote growth when applied to newly planted plantation seedlings. These tests demonstrated that the sludge fertilizer also provides a moisture lock that protects seedlings from dehydration. Based on these positive test results, PT. AA was able to nearly double the amount of mill sludge used as fertilizer in its plantations from 38% of the Indah Kiat Perawang Mill's total sludge volume in 2006 to 64% in 2007.

The mill made the needed investments to be able to press and prepare the sludge for use as fertilizer, and saved US$2.6 million in 2007 by not having to send this sludge to landfill. While PT. AA pays for the cost of processing, packaging and transporting the fertilizer to its concessions, it will realize savings from not having to purchase fertilizer.

A similar program was put in place by PT. WKS, using sludge generated at the Lontar Papyrus mill. In this case, the forestry company has been using 100% of the mill sludge as fertilizer for the last three years. Both programs were approved by the Indonesian government after satisfactorily completing the required field tests and registration.

3. Forestry Research and Development

Sinarmas Forestry's Research and Development (R&D) missions are:

- to enhance competitiveness by adopting world-class standards and environmentally friendly practices;
- to improve plantation productivity through the development and application of leading technology; and
- to conduct research to overcome problems encountered in existing plantations.

The company's R&D groups continue to focus on their stated objective, to produce cost-competitive pulpwood. Research projects undertaken in pursuit of this objective cover a wide range of activities.

In January 2007, PT. Arara Abadi was granted a Plant Variety Protection Certificate (patent) for *Eucalyptus pellita* 05 (EP05) from the Department of Agriculture of Republic of Indonesia. (See **Appendix IX** for a copy of the certificate)

Research conducted by PT. AA during 2007 included trials on tree improvement, including genetic gain trials, progeny trials, silviculture trials such as spacing, site preparation, natural regeneration, and the use of alternate fertilizers including coppicing fertilizer options. PT. AA's R&D department has successfully produced superior planting materials for clonal forestry. A special facility has been established to produce superior clones for operations. This facility has successfully reduced contamination rates, increased multiplication rates, and improved both survival and nursery rates to adequately supply these plants for the district nurseries. To reduce the investment required, PT. AA's R&D department has developed advanced mini-cutting techniques, which supply superior planting materials to the plantation at a lower cost. To conduct the research, PT. AA's R&D department operates four laboratories, a biotechnology laboratory, a microbiology laboratory, a soil laboratory and a wood technology laboratory. Of particular interest is the company's research on molecular markers, which is conducted in the R&D Biotechnology Laboratory. The goal of this work is to shorten the breeding cycle and to speed-up the production of superior planting materials for use in operations.

During 2007, PT. WKS launched its Highly Intensive Eucalyptus Plantation Project. The goal of this three-year project is to triple the mean annual increment (MAI) of selected superior Eucalyptus clones in different soil types while moving from manual to mechanized methods of silviculture. The initial effort during 2007 was on a small scale, and was staged with the consideration of using this new methodology in community forestry programs. Parameters to be studied include stocking density, access, light and air circulation, soil mineral content, alternative cover crops, fertilizer and cost. Results at the end of the first year were encouraging, but, as this species grows on a six-year rotation, it will be three years before definitive results can be determined.

Both companies (PT. AA and PT. WKS) have conducted research into the possible use of alternative species such as *Anthocepalus cadamba*, *Cratoxyllum sp*, *Dyera costulata*, *Eugenia sp*, *Fragraea crenatula*, *Hibiscus similes*, *Khaya anthotheca*, *Lophopetalum multinervium*, *Shorea leprosula* and *Shorea selanica*. These different species were evaluated for use as fiber sources as well as for enrichment of local ecosystems.

4. Fire Prevention and Protection

SMF has in place, and strictly enforces, a "No-Burn" Policy. There are negative environmental, social and financial consequences to the burning of forests, even of degraded forest areas. Fiber is so valuable that SMF brings wood residues from site preparation and harvesting processes to APP's mills for use as bio-fuel, which helps the mills increase their self-sufficiency in energy.

APP and its fiber suppliers continue to work hand-in-hand with government agencies to protect forest concessions and surrounding lands from the ravages of wildfires. SMF's forest operators have Fire Management Plans in place for each concession area. Execution of these plans relies on early detection and rapid response, including the use of dedicated helicopters and fireboats as well as of trained fire fighters.

SMF's fire-fighting capacity was strengthened during 2007. Its operating companies now maintain substantial fire-prevention and suppression teams with more than 600 trained fire officers. These teams use the latest satellite data, provided

Table III – SMF Forest Concession Fire Experience (area in hectares)

	Total burnt area	
Province	2006	2007
Riau	3,060	1,257
Jambi	2,344	1,410
South Sumatra	13,407	0
West Kalimantan	1,361	24
East Kalimantan	50	131
TOTAL	20,222	2,822

by Singapore's National Environment Agency twice daily, to plot "hotspots." This enables firefighting teams to respond promptly when fires break out, and to report their progress through a centralized system.

As an example of actions taken in 2007 to strengthen the forestry company's fire response, PT. WKS invested US$250,000 (plus operating costs) to build four fire towers in four different districts of its concessions. These towers enhance the ability of its fire rangers to monitor hot spots, which aids early detection of fires to minimize losses. Based on the value derived from the investment in the first four towers, each of the remaining PT. WKS districts have budgeted funds to build a tower in 2008.

The results of these investments and management actions can be seen in the dramatic 85% reduction in forest area that experienced fire damage during 2007 as compared to 2006.

E. Social Performance

1. Overview

Sinarmas Forestry employees are predominately local hires from the rural areas of the provinces where the forest concessions are located. Because SMF concessions cover an extensive area (2.4 million hectares), their companies operate in and around a significant rural population. One of the endemic problems in these areas is poverty. SMF recognizes that this is a pivotal issue and has implemented a number of social-benefit programs in addition to its role as a significant employer.

During 2007, SMF provided more than 6,900 direct jobs and created employment for an additional 1,600 people who provided needed services in and around the SMF concessions. Taken as a whole,

Table IV – Sinarmas Forestry Employees And Temporary Jobs

Province	2005 Employment			2006 Employment			2007 Employment		
	Direct	Temp.	Total	Direct	Temp.	Total	Direct	Temp.	Total
Riau	3,704	199	3,903	3,465	57	3,522	3,659	49	3,708
Jambi	1,573	359	1,932	1,578	269	1,847	1,606	372	1,978
South Sumatra	301	168	469	489	324	813	644	314	958
Subtotal Sumatra	5,578	726	6,304	5,532	650	6,182	5,909	735	6,644
West Kalimantan	464	37	501	616	200	816	433	426	859
East Kalimantan	232	92	324	262	336	598	621	429	1,050
Subtotal Kalimantan	696	129	825	878	536	1,414	1,054	855	1,909
TOTAL	6,274	855	7,129	6,410	1,186	7,596	6,963	1,590	8,553

APP's fiber suppliers are responsible for the employment of more than 8,500 people, and are an important economic engine in the rural areas where they operate in Riau, Jambi, South Sumatra and in East and West Kalimantan Provinces.

In addition, SMF, through its operating companies, provides educational support, skills training and income-enhancement programs, delivers community health services, and supports local religious activities, infrastructure improvements and other community needs.

The following two sections provide a more-detailed description of the types of social programs that were funded during 2007 by PT. Arara Abadi and PT. Wirakarya Sakti, two of SMF's major companies in Sumatra.

2. PT. Arara Abadi

During 2007, PT. Arara Abadi made significant investments in programs that promoted educational opportunity, enhanced income, supported community culture, provided greater access to health care, and raised the quality of life in villages surrounding its operations.

a. Educational Support

During 2007, PT. AA invested a total of US$38,678 in programs to support the education of more than 1,400 children in 16 villages surrounding its plantation.

These funds were used to provide stipends to 66 non-permanent teachers in 39 community schools in 25 neighboring villages. PT. AA also provided US$5,171 for repairs to a local school building, and US$3,919 for computers, printers, and furniture to further support teaching and learning.

To provide greater access to basic education, PT. AA invested US$3,696 to underwrite the school fees for more than 1,200 students in grades 1-9. It also invested US$16,479 to provide scholarships to 109 junior high school, senior high school, and university students.

In addition, PT. AA worked in conjunction with the local vocational training center and other similar organizations to provide skills development programs for local youth. PT. AA's investment in these skills development programs was US$7,505.

b. Skills Training and Income Enhancement

Community Training and Skill Development Center

PT. AA invested US$61,207 during 2007 in the construction and operation of a Community Training Center. Funds were used to finalize construction, begun in 2005, of the Training Center's main building and other facilities, and to set up a pilot fruit orchard with thirteen types of fruiting plants and trees.

Now nearing completion, the Center provides local people with training in cultivation, harvesting, and marketing of food crops, as well as in aquaculture techniques. The Center's orchard and produce gardens produce quality seeds that are distributed to the 520 farmers living near PT. AA's plantation.

Plant Cultivation Capacity Building

PT. AA also invested US$7,505 in 2007 to implement a capacity-building program for farmers in development and Pelalawan Districts. This funding was used to provide instruction in plant cultivation and honey harvesting, and to underwrite the costs of seeds that would be provided to program participants.

This year, 99 farmers who completed three days of training in fruit cultivation were provided with prime fruit seeds for planting. An additional 21 villagers were trained in honey harvest management, and some 200 elementary school students received training through an "Introduction to Plant Cultivation" curriculum.

Acacia and Eucalyptus Nursery Program

PT. AA also continued its Acacia and Eucalyptus Nursery Program in partnership with the Bunut Abadi Microfinance Organization, a community cooperative in Pinang Sebatang Barat village. This program provides high-quality seedlings for the company, helps develop entrepreneurial and managerial skills, and generates much-needed income for local families.

PT. AA's 2007 investment of US$10,662 helped this organization double the size of its seedling nursery to four hectares, to build its own office on-site, and to increase its production of seedlings to 950,000 per month. The organization made a profit of US$6,930, benefiting the cooperative's 157 participants and their families.

c. Community Health Services

During 2007, PT. AA invested US$3,157 to provide healthcare services and medicine to 12 villages that surround its plantation. In addition to health exams, medication and health education for some 1,105 people, this investment provided supplementary food for children less than five years of age. Health care services were provided in public halls or village administrative offices that were readily accessible to the community.

d. Support for Religious Activities

During 2007, PT. AA contributed a total of US$138,193 toward the construction of a mosque, operation of a school and the provision of

prayer kits (which included a prayer rug, religious books, and a microphone) in several village surrounding PT. AA's operations, i.e.: Pinang Sebatang Barat, Batu Gajah, Melibur, Bukit Batu, Belantaraya, and Kesuma.

PT. AA also contributed US$20,866 in support of religious events and lectures featuring nationally known preachers from Pekanbaru, the capital of Riau Province. By bringing well-educated preachers to four local villages, PT. AA helped foster greater religious understanding among the local people. An estimated 3,800 villagers attended these religious activities.

PT. AA contributed US$63,717 to provide each of the 199 villages near the plantation with a cow for ritual slaughter during Idul Adha, the Muslim holiday. An estimated 5,950 villagers shared the meat from these sacrificed animals.

In addition, PT. AA committed US$13,932 in support of free and hygienic circumcision of 455 underprivileged Muslim boys in 24 villages near its pulpwood plantations.

e. Support of Community Needs

During 2007, PT. AA invested US$31,954 to help meet a wide range of needs in villages near its pulpwood plantations. This funding was used to supply fuel for a village generator, to provide public transportation, to provide care for orphans, and to support art and cultural activities in the community.

PT. AA provided an additional $16,823 for equipment, facility improvements, and event organization in direct support of sports, art, and cultural programs for approximately 3,250 young people in the area.

f. Infrastructure Improvements

PT. AA invested a total of US$231,934 in infrastructure improvement projects designed to improve the quality of life and promote development in 85 neighboring villages. These projects include the provision of water tanks to ensure a clean water supply, improvements to sanitation systems, the construction and repair of public facilities, and the construction and maintenance of roads, bridges and ditches. The company engaged local stakeholders in the planning of these projects, and hired local contractors, providing additional job opportunities in the community. Some 31,400 people benefited from these infrastructure projects.

3. PT. Wirakarya Sakti

PT. Wirakarya Sakti (PT. WKS) made extensive investments during 2007 in programs that increased educational opportunity, enhanced income, provided greater access to health care, and raised the quality of life in villages surrounding its operations.

a. Scholarship Programs

During 2007, PT. WKS invested US$12,795 in support of basic-

education scholarships for elementary and junior high school student from low-income families. A total of 400 students from 64 schools in 41 villages and 5 regencies received needed assistance, making it possible for them to continue their elementary and secondary school education.

PT. WKS also committed US$5,331 in scholarship support to help offset the costs of a university education. Under this program, 50 local students enrolled in Jambi University and Batanghari University each received US$107 to help defray costs.

b. Community Health Service

During 2007, PT. WKS invested US$21,643 in a variety of health service programs to benefit the communities near its pulpwood plantation.

The company provided free medical services to more than 3,600 patients, vector fogging to combat the spread of dengue fever, and community health supervision. PT. WKS also provided underwriting for the hygienic mass circumcision of 150 local boys.

c. Income Enhancement Programs

Rice Farming

In 2007, PT. WKS continued its support of community rice farming along the banks of the Pangabuan River by providing technical assistance in conjunction with the Farming Assistance Officer of the local government. Men and women from 133 families in the villages of Senyerang, Sei Rambai and Teluk Nilau participated in the program which creates income opportunities, develops fiscal responsibility and improves market skills.

Farmers from each village were organized into Rice Farmer Associations, and each farmer works one hectare of rice field. At harvest time, each Association markets its farmers' crops. In 2007, the second year of the rice farming program, the farmers doubled the productivity of their fields, and were able to repay the US$17,059 in start-up funding provided by PT. WKS in 2006. In addition, the cooperation of the farmers in this program has improved relationships and has provided impetus for the formation of a Community Fire Protection Guard.

Fish Farming

PT. WKS also invested US$16,242 during 2007 in support of an aquaculture program to provide economic opportunity and sustenance to the people of four villages along the Batanghari River, in the Pemayang sub-district. Each of the 77 families participating in the program managed its own fishpond, harvested and marketed the fish to other villagers, and earned approximately US$128. The profits from the aquaculture operations were split three ways, with 60% going toward ongoing management, 20% toward village development, and 20% returned to the company to repay the capital it provided to purchase fish stocks and to manage the ponds sustainably.

By providing ongoing income streams and food for the villagers, the aquaculture program has reduced the dependence of these villagers on the forest for subsistence, and has contributed to a decrease in deforestation stemming from illegal logging and conversion to agriculture.

d. Infrastructure Improvements

During 2007, PT. WKS invested US$137,272 toward infrastructure improvements in 54 villages in 11 sub-districts. The funding was used for a wide range of new-construction and repair projects, and included work on 50 places of worship, 16 schools, roads and bridges, a traditional marketplace, a health facility, a soccer field, and local government offices. These infrastructure improvements were identified through a stakeholder-based Community Development Diagnostic Study conducted by PT. WKS.

NOTE: Throughout this report, spending in Indonesian Rupiah has been converted to US$ calculated at the interbank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.





06 APP's Conservation Initiatives

A. Overview

APP recognizes its responsibility as a steward of the land in Indonesia from which its fiber is sourced, and its responsibility to its customers to ensure the legal and non-controversial origin of the fiber contained in its finished products. Although APP does not hold any forest concession licenses or own any forests, it has launched a number of forest conservation initiatives together with SMF, government agencies and civil society organizations. Among these projects is a new Conservation Value Toolkit for Indonesia, designed to be used by APP's fiber suppliers in field assessments before developing a plantation management Work Plan. This new Toolkit was field-tested during 2007.

Flagship Conservation Programs comprise another important dimension of APP's and SMF's conservation efforts. The mission of these Flagship Conservation Programs is to identify, protect and manage areas of significant and representative biodiversity habitat, cultural significance and ecosystem services for the present and long-term benefit of the people of Indonesia. During 2007, APP and SMF worked together on four major projects: the Giam Siak Kecil – Bukit Batu Biosphere Reserve; the Taman Raja Conservation Area; the Senepis – Buluhala Tiger Sanctuary; and the Kutai Orangutan Conservation Group. (See **Appendix X** for a listing of the Working Group members for the four Flagship Conservation Initiatives.)

B. APP Conservation Value Forest Toolkit for Indonesia

In 2003, Indonesia's Ministry of Forestry established protocols for a Micro-Delineation Process for the assessment of degraded forestland prior to development into pulpwood plantations. This assessment provides for the identification and allocation of land for protected riparian zone habitat, buffer zones for protected areas, conservation set-asides, local community use, flora and fauna gene-pool conservation, and pulpwood plantation forests.

While this new process provided useful guidance for concession owners, APP felt that it did not address the needs of all of its stakeholders. Working with SMF, APP developed a more stringent assessment protocol, called the Conservation Value Forest (CVF) Toolkit for Indonesia. The objective of developing a CVF Toolkit assessment protocol was to build on existing government regulations by assessing the forest area in the context of the entire landscape, supporting conservation management planning, and supplying additional information for monitoring purposes. The new process also provides a mechanism for public comment.

During 2007, SMF field-tested the CVF Toolkit. Eight recruits were trained by staff at the Pusat Pendidikan Lingkungan Hidup (Center for Environmental Education) of Riau University in techniques for conducting social and biodiversity assessments. The training also included four field-based assessments and an evaluation of each individual's performance. Teams were then established to conduct ten field assessments of fiber-supplier forest areas in Sumatra to identify the key social and environmental values present and to provide objective input for developing a management plan for the 80,000 hectare forest management unit. (**Appendix XI** contains a listing of the IUCN species identified by the CVF survey teams.)

Table I: CVF Toolkit Assessment Costs – 2007

Activity	Expenses (US$)
CVF assessment of 6 FMUs[1]	12,185
Boundary markings & survey	26,261
Making signage of FCA	5,684
Salary & travel expenses of CVF team	54,155
TOTAL	98,296

1. FMU = Forest Management Unit

While much work remains to be done to fine-tune the Toolkit, several benefits have been realized from the pilot assessments conducted during 2007. The use of the CVF Toolkit has raised awareness of the importance of biodiversity and social considerations among SMF's local and district teams. In addition, the feedback process with district managers and within key departments has helped the SMF forestry staff see the landscape context of potential plantation and natural forest areas.

Using the results of the CVF survey, PT. Arara Abadi's Forestry Environmental Department conducted its annual Biodiversity Survey (flora, fauna and wildlife monitoring). To ensure consistent tracking of any changes, protected monitoring points were established and are surveyed each year. The results of these surveys were used to prepare the 2008 Management Plan for this Forest Management Unit to ensure the protection of the species identified while allowing for an appropriate level of commercial activity. These plans were submitted to Government of Indonesia's Forestry Department at the District and Province levels for review and approval.

In total, SMF invested more than US$100,600 in the CVF Toolkit project during 2007. To support the further development and use of this Conservation Value Forest Toolkit in 2008, APP and SMF will work to verify the results of the pilot assessments, to validate the Toolkit through an independent evaluation, and to guide APP's fiber suppliers in maintaining and improving upon the implementation of APP's environmental policies.

C. Giam Siak Kecil – Bukit Batu (GSK-BB) Biosphere Reserve

A Biosphere Reserve is a UNESCO concept for a landscape-level approach to conservation that combines conservation forests as core protected areas with zones where sustainable development is fostered by enterprises and local dwellers. Governance systems for these reserves are often highly innovative.

During 2007, a multi-stakeholder process to establish a biosphere in Riau was initiated by SMF. Partners in this partnership included the Forestry Service (Province and Regency level), the Lembaga Ilmu Pengetahuan Indonesia (LIPI, or the Indonesian Institute of Sciences), Balai Besar Konservasi Sumber Daya Alam (BKSDA, or the Natural Resources Conservation Agency) and the Center for Biodiversity Conservation at the University of Riau, as well as APP and SMF.

The proposed GSK-BB Biosphere Reserve, in the peat-swamp forest of Giam Siak Kecil – Bukit Batu in Riau, would encompass two wildlife reserves totaling nearly 100,000 hectares. SMF, together with its partners, has contributed more than 72,000 hectares from its licensed production forest area in Riau, Sumatra. This area of permanent, natural forest will serve as an ecological corridor between the two wildlife reserves. The core conservation area in the proposed Biosphere will total more than 172,000 hectares.

During the fourth quarter of 2007, PT. Arara Abadi (APP's fiber supplier in Riau), in cooperation with LIPI, funded a US$24,500 biodiversity study to create baseline data for an initial management plan for the proposed Biosphere Reserve landscape. PT. Arara Abadi funded a US$34,000 socio-economic study, also conducted

by LIPI during 2007. This collaboration is believed to be one of Indonesia's first private sector partnerships for the conservation of such a unique and vital natural resource. (A list of the IUCN fauna and flora that were found by the LIPI survey of the proposed 177,000-hectare Biosphere Reserve is included in **Appendix XII**.)

During 2007, SMF and its forestry operations invested a total of nearly US$79,000 in consulting services and operational costs associated with this project.

For 2008, the agreed-upon benchmarks for the GSK-BB Biosphere Reserve project are:

- Development of a landscape level management plan;
- Formalization of key strategic partnerships to implement multi-stakeholder management:
- Submission of the project to UNESCO for recognition under its Man and the Biosphere program; and
- Assessing the carbon footprint within the 72,000 hectares contributed by SMF and its partners for permanent conservation.

D. Taman Raja Conservation Area

Taman Raja is a forest concession consisting of more than 16,400 hectares in Jambi Province, Sumatra. When granted this concession, one of APP's fiber suppliers conducted its required micro delineation assessment and recognized that more than 6,800 hectares were inhabited by several local communities. This same area of the concession included a number of small palm oil farms. An additional 3,600 hectares had been deforested by illegal logging prior to the granting of the concession. The remaining 6,000 hectares of natural forest appeared to have vital biodiversity and social values.

In 2007, SMF established a collaborative agreement for a Taman Raja Conservation Area project. Group Members included APP, the Sumatran Tiger Foundation, the Community Alliance for Pulp and Paper Advocacy (CAPPA), the Forum Komunikasi Daerah (FKD, a local Communication Forum), two local foundations, a Village Chief, The Natural Resources Conservation Agency (BKSDA), and SMF.

During 2007, a conservation management-planning framework was developed and agreed upon by the Project Group members, in keeping with the goal of protecting what will become a 9,000-plus hectare upland nature preserve in Jambi Province, Sumatra.

SMF invested US$17,059 during 2007 to develop the management-planning framework document and for a Social and Biological Survey of the proposed reserve. (A list of IUCN endangered species found in the Taman Raja Conservation Area is included in **Appendix XIII**.)

The key milestones for the Taman Raja Conservation Area project for 2008 are:

- Developing the Conservation Area initial landscape-approach Management Plan; and
- Establishing a formal partnership with international stakeholders and local NGOs to support monitoring and implementation of the management plan.

E. Senepis Buluhala Tiger Sanctuary

A flagship conservation initiative of APP and SMF, the Senepis Buluhala Tiger Sanctuary project, calls for the establishment of a 106,000-hectare wildlife sanctuary in a production forest that still supports a viable population of the Sumatran Tiger. APP and SMF have been ardent

supporters of this globally important initiative, and provided US$26,800 in funding during 2007 for the development of an initial Management Plan. SMF provided funding for an additional US$5,100 of operational cost.

Project Working Group members include the Yayasan Penyelamatan dan Konservasi Harimau Sumatra (Foundation of Sumatran Tiger Conservation and Protection), the Riau Province Forestry Service, BKSDA (The Natural Resources Conservation Agency), the Forestry Service of Rokan Hilir and Dumai Regencies, the Wildlife Conservation Society – Indonesia, PT. Arara Abadi, PT. Diamond Raya, and PT. Suntara Gajapati.

In late 2007, the Working Group approved the initial Management Plan and started the implementation of the Senepis Buluhala Tiger Sanctuary Program. The Plan detailed the unique habitat requirements of the Sumatran Tiger, put forth practical actions that will be required to ensure the long-term viability of the current tiger population, and identified risks and opportunities at the landscape level.

The initial Management Plan set forth three key objectives:

- *Slowing down, or halting, the rate of encroachment within the remaining habitat.* This effort will require improvements in law enforcement; formulation of a collaborative management authority; securing designated protected status for the remaining habitats; and the erection of physical barriers to deter the most-aggressive land speculators;
- *Enhancing the remaining tiger habitat to attract the prey species on which the Sumatran Tigers feed*; and
- *Monitoring the impacts of the planned management efforts with accurate and scientific techniques, and sharing this information transparently with all stakeholders.*

Milestones identified for 2008 include:

- Completion of the Definitive Management Plan;
- Implementation of the Plan;
- Obtaining special protection status for the forest area; and
- Identification of enrichment plant needs.

F. Kutai Orangutan Conservation Group

Kutai National Park (200,000 hectares) in East Kalimantan is one of the last remaining strongholds of the Bornean Orangutan (*Pongo pygmaeus*). In 1997, the park experienced extensive loss due to El Niño-related fires that swept through Kalimantan. The monoliths of standing dead wood rising 40 meters above the regenerating understory are testimony to the rich forest that once stood there, and, with support of private companies, will stand again.

In 2007, APP's fiber supplier PT. Surya Hutani Jaya (PT. SHJ), approached SMF with a request to help solve an ongoing problem –

Orangutan migration into a plantation concession adjoining the southern boundary of the Kutai National Park. SMF initiated an investigation with PT. SHJ into options for a solution to the challenge that would ensure the survival of the Orangutan, as well as provide for the economic viability of the plantation.

As a first step, SMF approached park officials and initiated the formation of a Working Group, to include Kutai National Park officials, civil society groups, BKSDA (The Natural Resources Conservation Agency), private sector companies, the Center of International Forest Research (CIFOR) and The Nature Conservancy (an international NGO). This Working Group was convened to discuss options on how the Park could best be managed to support the identified Orangutan population.

The initial engagement highlighted three broad concerns for the park:

- Occupation and forest encroachment by local and migrant communities;
- Threats from ongoing mining and adjoining land uses; and
- Threats from illegal activities including poaching, wildlife trading and illegal logging.

The challenge faced by this national park is similar to those faced by many parks in Indonesia – rampant poverty in the area results in land encroachment and illegal logging as people struggle to find sources of income and sustenance. Coupled with the growing needs of local communities for land development and the ever-more-urgent need for coal, which is being mined in East Kalimantan, the challenges that the Working Group are addressing are significant.

Key activities planned for 2008 include:

- Identifying total Orangutan populations within and adjoining the plantation area;
- Initiating investigations on the root causes for the Orangutan migrations into the plantation area;
- Initiating discussions with other land owners and groups with similar challenges to develop collaborative approaches to the protection of the Orangutan populations, based on the identified opportunities and threats; and
- Initiating discussions and next steps on a landscape-level management solution for this Orangutan population.

During 2007, SMF and APP invested a total of more than US$220,000 in the ongoing development of its Conservation Value Toolkit and four Flagship Conservation Programs. This figure excludes the employment-related costs of managers and staff involved in these forest conservation initiatives.

NOTE: Throughout this report, spending in Indonesian Rupiah has been converted to US$ calculated at the interbank rate effective 12/31/2007. 1 Indonesian Rupiah = 0.0001066 US Dollar. 1 US Dollar = 9,379.00 Indonesian Rupiah.

Glossary Of Terms

AOX (Absorbable Organic Halogens)
Measure of the total amount of halogens (chlorine, bromine and iodine) bound to dissolved or suspended organic matter in pulp or paper mill wastewater.

Archival Paper
Paper made in accordance with ISO-9706, containing an alkali reserve to provide characteristics of permanence.

Biodegradable
Waste material composed primarily of constituent parts that occur naturally, are able to be decomposed by bacteria or fungi, and are absorbed into the ecosystem. Paper is normally biodegradable.

Biodiversity
Refers to the variety of life on three levels: the variety of ecosystems (ecosystem diversity), the variety of species (species diversity) and the variety within species (genetic diversity).

Biomass
Biological material that can be used as fuel or for industrial production.

Biosphere
Part of the earth and atmosphere capable of supporting living organisms.

Black Liquor
An aqueous by-product (consisting of lignin residues, hemicelluloses, and the inorganic chemicals) that is concentrated and burned to create energy and to recover the chemicals in the pulping process for re-use.

Bleached Pulp
Pulp whose natural brightness has been improved using chemicals.

Bleaching
Process using chlorine or other inorganic chemical compounds to whiten the color of the pulp used in papermaking.

BOD (Biochemical Oxygen Demand)
A parameter that identifies the amount of organic compounds found in wastewater that can be decomposed by biological organisms, consuming the oxygen dissolved in the receiving waters as a result. It is often used to gauge the effectiveness of wastewater treatment plants.

Carbon Footprint
A measure of the impact human activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide.

Carbon Storage and Carbon Sinks
Trees and other plants absorb carbon dioxide from the atmosphere. Through a process called photosynthesis, plants store this carbon as cellulose, starches, and sugars. This carbon remains stored (or "bound") until it is released through the burning or decomposition of the wood fiber. A young forest, composed of growing trees, binds carbon dioxide more efficiently than does a mature forest and acts as a repository, or "sink," by storing that carbon for years to come.

Chain of Custody (CoC)
The step-by-step monitoring process through which products are traced from their origin to the final end product. In the case of paper, the chain of custody stretches from the forest or pulpwood plantation to the finished paper product.

COD (Chemical Oxygen Demand)
A parameter that identifies the amount of organic compounds found in wastewater. It is used as a measure of water quality.

Chlorine Dioxide (ClO_2)
A heavy, reddish-yellow gas used in solution as a bleaching agent and disinfectant.

Commercial Forest
Forestland that supports the growth of commercial volumes of timber within an acceptable timeframe and is designated for such a purpose.

De-Inking
Removal of printing ink and impurities from recovered paper to produce recycled fiber pulp with improved whiteness and purity.

Ecolabel
In general terms, an Ecolabel is a special seal or mark displayed on a product signifying that it is has an environmentally beneficial property or properties. The "Ecolabel" referred to in this document is a mark that is awarded following an audit process conducted by an accredited, independent body against a set of environmental standards and criteria. A range of Ecolabeling schemes exists in various countries. However, the Ecolabel standard recognizes reciprocal systems and is supported by its strong international network.

Elemental Chlorine
Chlorine gas (Cl_2), often used as a bleaching agent in pulp manufacture, and for water purification.

Elemental Chlorine Free (ECF)
A bleaching process that substitutes chlorine dioxide for elemental chlorine and sodium hypochlorite in the bleaching process. The acronym ECF is used often to describe paper bleached using this process.

Environmental Management System (EMS)
The part of an overall management system that includes structure, planning activities, responsibilities, practices, procurements, processes and resources for developing, implementing, achieving, reviewing and maintaining an environmental policy. An example of an EMS certification system is ISO-14001.

Fly Ash
One of the residues generated in the combustion of coal. Fly ash is generally captured from the chimneys of coal-fired power plants before release into the atmosphere. Bottom ash is removed from the bottom of the furnace.

High Conservation Value Forest (HCVF)
The concept of High Conservation Value Forests was developed by the Forest Stewardship Council (FSC) and first published in 1999. Over time, this phrase has taken on a more general meaning, referring to forests that contain natural habitats which possess areas that are considered to be of outstanding significance or critical importance.

ISO-14001
An international Environmental Management System standard that specifies rigorous requirements that must be met before a facility can be certified as compliant.

Legal Origin of Fiber Verification
Protocols and systems established to verify that fiber delivered to a pulp mill facility has been legally harvested.

Mill Broke
Paper trimmings and other paper scrap from the manufacture of paper recycled internally in a paper mill.

Non-controversial Fiber Verification
Protocols and systems established to verify that fiber delivered to a pulp mill facility does not come from controversial sources. Depending on the verification protocols, controversial sources can include areas of high conservation values, areas where land-tenure is in dispute, and areas in which civil rights are threatened by forest operations or operators.

NO_2 (Nitrogen Oxides)
Chemical compounds that occur when fuels containing nitrogen are burned. Nitrogen oxides contribute to acid rain and can contribute to producing the ozone in photochemical smog.

pH
The measure of the acidity or alkalinity of a solution.

Recycled Content
The portion of a product that is made from recycled materials diverted from the waste stream; usually stated as a percentage by weight.

Recycled Material

1. **Mill Broke** – Paper trimmings and other paper scrap from the manufacture of paper recycled internally in a paper mill.
2. **Pre-consumer Waste** – Material that was discarded before it was ready for consumer use.
3. **Post-consumer Waste** – Discarded used consumer items (magazines, directories, office paper) collected for recycling from homes and businesses with the intention of incorporating these materials into new products.

Recycled Product
A product made exclusively, or in part, from materials diverted from the waste stream.

Riparian Zone
Land area which borders a body of water, usually a river or stream.

Silviculture
The cultivation and management of forests and woodlands.

Sodium Hypochlorite
Bleaching chemical produced by mixing sodium hydroxide and elemental chlorine. Mills are eliminating the use of this chemical from bleaching processes because it produces quantities of persistent organo-chlorine compounds as by-products.

SO_2 (Sulfur Dioxide)
Chemical compound produced when boilers burn fuel that contains sulfur, typically coal and oil in the paper industry. Sulfur dioxide contributes to acid rain and can contribute to producing the ozone in photochemical smog.

Sustainable Development
According to a definition used by the World Bank, sustainable development is "a process of managing a portfolio of assets to preserve and enhance the opportunities people face." Sustainable development includes economic, environmental, and social sustainability, which can be achieved by rationally managing physical, natural, and human capital.

Sustainable Forest Management
Management that maintains and enhances the long-term health of forest ecosystems for the benefit of all living things while providing environmental, economic, social and cultural opportunities for present and future generations.

Sustainable Forest Management (SFM) Certification
A market-based instrument aimed at promoting sustainable forest management. SFM Certification typically takes into account a balance of environmental, economic and social values. The more-credible SFM Certification schemes require the independent assessment of forest management practices according to internationally and/or nationally accepted standards.

TSS (Total Suspended Solids)
The amount of solids in wastewater effluent which is often used as a measure of water quality.

Virgin Fiber
Wood fiber that has not previously been used in the manufacture of paper or board.

Wood-free Paper
Bleached coated or uncoated printing and writing paper that contains no more than 10% ground wood or mechanical pulp. Also commonly referred to as "free sheet."

Appendix I:
Governance Structure

1. PT. Purinusa Ekapersada

Board of Directors:

President Director
Teguh Ganda Wijaya

Director
Drs. John Ferdinand Pandelaki

Director
Suresh Kilam

Director
Arthur Tahya

Board of Commissioners:

President Commissioner
Muktar Widjaja

Commissioner
Hajjah Ryani Soedirman

Commissioner
Letjen TNI (Purn.) Soetedjo

Commissioner
Agustian Rachmansjah Partawidjaja

The structure of the Board of Directors and Board of Commissioners of the company has remained unchanged since the APP Sustainability 2006 Report.

2. PT. Indah Kiat Pulp & Paper Tbk.

a. The structure of the Board of Directors and Board of Commissioners of the company had remained unchanged since the APP Sustainability 2006 Report until June 28, 2007.

b. On June 29, 2007, the company appointed a new Board of Directors and Board of Commissioners, as follows:

Board of Directors:

President Director
Yudi Setiawan Lin

Vice President Directors
Linda Suryasari Wijaya Limantara
Hendra Jaya Kosasih
Suresh Kilam
Lin Shun Keng

Directors
Didi Harsa
Raymond Liu, Ph.D
Ir. Buyung Wahab, MM
Baharudin
Agustian Rachmansjah Partawidjaja

Corporate Secretary
Agustian Rachmansjah Partawidjaja

Board of Commissioners

President Commissioner
Teguh Ganda Wijaya

Vice President Commissioner
Ir. Gandi Sulistiyanto Soeherman

Commissioners
Indah Suryasari Wijaya Limantara
Arthur Tahya
Frenky Loa
Hasanuddin The

Independent Commissioners
Mas Achmad Daniri
Prof. Dr. Teddy Pawitra
Kamardy Arief
Letjend. TNI (Purn.) Soetedjo
Ramelan, SH.

c. On September 6, 2007 one of the Independent Commissioners, Prof. Dr. Teddy Pawitra, resigned from his position and was replaced by Drs. Pande Putu Raka, M.A., and the replacement is valid to date.

d. The Audit Committee membership of the company had remained unchanged since the SR Report 2006 until 25 November 2007.

e. As part of continuously maintaining Good Corporate Governance, on November 26, 2007 the company

formed a new Audit Committee, as follows:

Audit Committee:

Chairman
Drs. Pande Putu Raka, MA

Member
Drs. Rusli Prakarsa

Member
Dr. Aditiawan Chandra

Audit Committee's Role in the company:

- The Audit Committee holds routine meetings with management to review the company's Quarterly Financial Statements. The Audit Committee also participates in developing the company's Annual Budget.
- Routine meetings with the Internal Auditor of the Company are held to discuss its findings to enhance internal control.

3. PT. Pabrik Kertas Tjiwi Kimia Tbk.

a. The structure of the Board of Directors and Board of Commissioners of the company had remained unchanged since the SR Report 2006 until June 28, 2007.

b. On June 29, 2007, the company appointed a new Board of Directors and Board of Commissioners, as follows:

Board of Directors:

President Director
Yudi Setiawan Lin

Directors
Linda Suryasari Wijaya Limantara
Hendra Jaya Kosasih
Lu Ho-Chang
Suresh Kilam
Raymond Liu, Ph.D
Ir. Buyung Wahab, MM.
Agustian Rachmansjah Partawidjaja

Corporate Secretary
Agustian Rachmansjah Partawidjaja

Board of Commissioners:

President Commissioner
Teguh Ganda Wijaya

Vice President Commissioner
Ir. Gandi Sulistiyanto Soeherman

Commissioners
Indah Suryasari Wijaya Limantara
Arthur Tahya
Drs. John Ferdinand Pandelaki

Independent Commissioners
Prof. Dr. Teddy Pawitra
Letjend.TNI (Purn.) Soetedjo
Kamardy Arief
Ramelan, SH

c. On September 6, 2007 one of the Independent Commissioners, Prof. Dr. Teddy Pawitra, resigned from his position and was replaced by Drs. Pande Putu Raka, M.A., and the replacement is valid to date.

d. The Audit Committee membership of the company had remained unchanged since the SR Report 2006 until November 25, 2007.

e. As part of continuously maintaining Good Corporate Governance, on November 26, 2007 the company formed a new Audit Committee, as follows:

Audit Committee:

Chairman
Drs. Pande Putu Raka, MA

Member
Drs. Rusli Prakarsa

Member
Dr. Aditiawan Chandra

Audit Committee's Role in the company:

- The Audit Committee holds routine meetings with the management to review the Company's Quarterly Financial Statements. The Audit Committee also participates in developing the Company's Annual Budget.
- Routine meetings with the Internal Auditor of the Company are held to discuss its findings to enhance internal control.

4. PT. Pindo Deli Pulp and Paper Mills

a. The structure of the Board of Directors and Board of Commissioners of the company had remained unchanged since the SR Report 2006 until August 28, 2007.

b. On August 29, 2007, the company appointed a new Board of Directors and Board of Commissioners, as follows:

Board of Directors:

President Director
Tsai Huan Chi

Vice President Directors
Hendra Jaya Kosasih
Linda Suryasari Wijaya Limantara
Indah Suryasari Wijaya Limantara

Directors
Suhendra Wiriadinata
Huang Hua Ching

Board of Commissioners:

President Commissioner
Teguh Ganda Wijaya

Commissioners
Yudi Setiawan Lin
Arthur Tahya
Drs. John Ferdinand Pandelaki
Suresh Kilam

Independent Commissioners
Letjend. TNI (Purn.) Soetedjo
Drs. Pande Putu Raka
Prof. Dr. Wahjudi Prakarsa

The above formation is valid to date.

f. The Audit Committee membership of the company had remained unchanged since the SR Report 2006 until March 28, 2007.

g. As part of continuously maintaining Good Corporate Governance, on March 29, 2007 the company formed a new Audit Committee, as follows:

Audit Committee:

Chairman
Drs. Pande Putu Raka, MA

Member
Drs. Kamardy Arief

Member
Dr. Aditiawan Chandra

Audit Committee's Role in the company:

- The Audit Committee conveys the Committee Audit Charter to the management.

- Routine meetings with the Internal Auditor of the Company are held to discuss its findings to enhance internal control.

5. PT. Lontar Papyrus Pulp & Paper Industry

a. The structure of the Board of Directors and Board of Commissioners of the company had remained unchanged since the SR Report 2006 until November 15, 2007.

b. On November 16, 2007, the company appointed a new Board of Directors and Board of Commissioners, as follows:

Board of Directors:

President Director
Lin Fu Li

Vice President Directors
Hendra Jaya Kosasih
Linda Suryasari Wijaya Limantara
Indah Suryasari Wijaya Limantara

Directors
Suresh Kilam
Lin Shun Keng
Ir. Buyung Wahab, MM
Arthur Tahya

Board of Commissioners:

President Commissioner
Teguh Ganda Wijaya

Vice President Commissioner
Drs. John Ferdinand Pandelaki

Commissioner
Sukirta Mangkudjaja

Independent Commissioners
Letjend. TNI (Purn.) Soetedjo
Drs. Pande Putu Raka
Prof. Dr. Wahjudi Prakarsa

The above formation is valid to date.

c. The Audit Committee membership of the company had remained unchanged since the SR Report 2006 until March 28, 2007.

d. As part of continuously maintaining Good Corporate Governance, on March 29, 2007 the company formed a new Audit Committee, as follows:

Audit Committee:

Chairman
Drs. Pande Putu Raka, MA

Member
Drs. Kamardy Arief

Member
Dr. Aditiawan Chandra

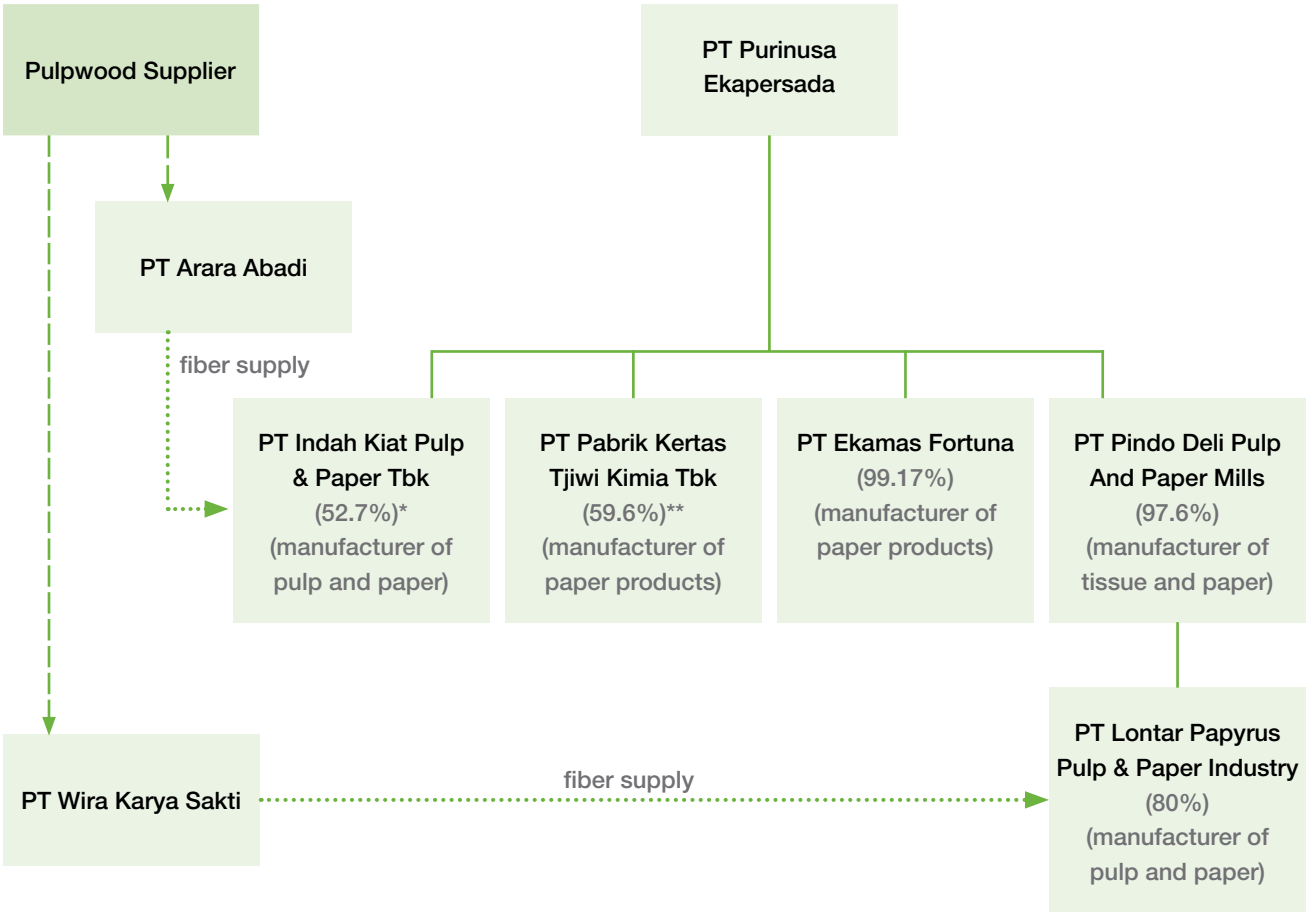
Audit Committee's Role in the company:

- The Audit Committee conveys the Committee Audit Charter to the management.

- Routine meetings with the Internal Auditor of the Company are held to discuss its findings to enhance internal control.

Appendix II:

Operational Structure



Management Control
Supply Chain
Shares Ownership Control (owned more than 50% shares)

* PT. Purinusa shares interest in PT. Indah Kiat Pulp & Paper Tbk has slightly changed to 52.7% as of 30 Juni 2006 to end of December 2007. This change happened because PT. Indah Kiat Pulp & Paper Tbk is public company.

** PT. Purinusa shares interest in PT. Pabrik Kertas Tjiwi Kimia Tbk has slightly changed to 59.6% as of end of December 2007. This change happened because PT. Pabrik Kertas Tjiwi Kimia Tbk is public company.

Appendix III:

Association Memberships

APP (under the name of Indah Kiat, Tjiwi Kimia, Pindo Deli, and Lontar Papyrus) is enrolled in the following organizations:

1. AEI = Asosiasi Emiten Indonesia = Indonesian Public Listed Companies Association

Mr Yan Partawidjaya is The Chief of Agribusiness compartment in this organization.

AEI is a non-profit organization consists of public companies listed in Jakarta Stock Market (BEJ), Surabaya Stock Market (BES), and on other stock markets.

AEI was established at December 1988 to answer the rising challenge of the booming stock market trend in Indonesia at the 80s. This association aims to develop conducive and professional market environment among public companies, and to motivate other private companies to join the stock market trading. Other reason of the establishment of this association is to provide a forum to solve stock market problem together. (See also http://www.asosiasi-emiten.or.id/)

2. APKI = Asosiasi Pulp dan Kertas Indonesia = Association of Indonesian Pulp and Paper

Teguh Ganda Wijaya
Vice Chairman I

Soebardjo Head of
Raw Material Committee

Suresh Kilam Vice President 3

Diki Wljaya Vice President I

Suresh Kilam Head of
Paper Marketing Committee

Subarjo Head of
Raw Material Committee

3. APINDO = Asosiasi Pengusaha Indonesia = Indonesian Entrepreneur Association

Indra Widjaja as Special Member/ member of honor

G. Sulistiyanto as Special Member/ member of honor

APINDO was established on January 31, 1952. Its vision is to create a conducive atmosphere for industrial sector development by:

- developing good relations among industrial communities especially in corporate level
- representing Indonesian business society in labor organizations
- protecting, defending and empowering all business people especially members of the association

APINDO International Network :

- ILO (Jakarta, Manila, Bangkok dan Jenewa)
- International Organization of Employers (IOE) Jenewa
- International Confederation of Trade Union, in Belgium
- All members of ACE (SNEF, MEF, ECOT, ECOP)
- Nippon Keidanren International Cooperation Center (NICC) Japan
- Korean Employers Federation (KEF)
- Confederation of Norwegian Business and Industry (NHO), Norway
- Australian Chamber of Commerce and Industry (ACCI)
- Global Remuneration Organization (GRO) America
- American Compensation Association (ACA)

(See also: www.apindo.or.id)

Appendix IV:

Indonesia's Units of Governance

Unit of Governance	Name in Bahasa Indonesia	Size of Governance Unit
Sub-village or Hamlet	Kampung	20-30 households
Village	Dusun	50+ households
Commune (local government unit)	Desa	5-10 Dusun
Sub-District	Kecamatan	10-15 Desa
District	Kabupaten / Kota	10+ Kecamatan
Province	Propinsi	5-40 Kabupaten
National Government	Pemerintah Pusat Indonesia	32 Propinsi

Adapted from: www.aisaforestnetwork.org/glossary.html

Appendix V:
Policy Documents

Declaration of Sustainability

One of the world's largest pulp and paper companies, APP is recognized internationally for the quality of its paper products. With current annual combined pulp, paper and packing grades capacity of more than seven million tons in Indonesia, APP ranks as the number-one producer in Asia, outside of Japan. Headquartered in Jakarta, APP currently has multiple manufacturing facilities in Indonesia and markets its products in more than 65 countries on six continents.

Our vision is to become the 21st Century's premiere, world-class pulp and paper manufacturer – a company dedicated to providing superior value to customers, shareholders, employees and the community.

To fulfil this vision, APP has committed itself to being socially, environmentally and economically sustainable in all its operations. APP will keep this commitment by helping to empower the people in the communities where we operate, initiating conservation programs to protect the environment, using only the most efficient and ecologically sound harvesting technology, adopting best practices in our mill operations, and dedicating ourselves company-wide to continuous improvement.

This statement has been developed as part of APP's commitment to sustainability and good governance in all its operations. The meaning of sustainability to APP is the balance of economic, environmental and social interests.

On *environmental sustainability,* we believe that continuous improvements in raw material sourcing and utilization, process efficiency, waste minimization and supply chain management are core disciplines in achieving a better environment. Using national protocols as the baseline, we believe in protecting high conservation value areas of forest identified to be home to endangered species of wildlife and plants or that is important to local communities.

On *social sustainability*, we are committed to respecting and protecting human rights and will enforce this commitment within our own operations and our supply chain. Our long-term aim is to contribute to active development of the communities in which we operate. We will endeavour to make our operations transparent to stakeholders respecting the cultural contexts in which we operate.

On *economic sustainability*, we have a responsibility to our employees and their families, our customers and the communities who depend on APP for their incomes and livelihoods. The responsible development of the pulp and paper industry is integral to the future prosperity of the communities and countries in which we operate.

To achieve sustainability, APP commits to the following:

- Compliance with national legislation and relevant international regulations;
- Maintaining robust standards for fiber suppliers through APP's Fiber Procurement Policy covering environmental standards, conservation principles and social impact;
- Continuing investment in recycling technology and promoting efficient uses of recyclable resources;
- Continuing to explore innovative ways of recycling the waste products that arise from papermaking;
- Minimizing pollution from operations and benchmarking processes against international best practice, as well as continuing to minimize

energy use and its resulting environmental impacts;

- Improving the safe handling and storage of raw materials, process intermediates, chemicals, products and waste;
- Introducing the best available technology that ensures maximum efficiency, but also enables progress toward the goal of supporting local communities through employment opportunities and development programs;
- Implementing detailed operational unit guidelines to manage emergency and social conflict situations, should these arise; and
- Investing further in employees through training and education.

These commitments have been developed by listening to our stakeholders and consulting experts in a variety of professional fields. This has taken place with the recognition that the balance of the three sustainability pillars – environmental, social and economic – can only be achieved with an equal weighting of each.

This statement is supported by APP's technical documents and relevant certifications. Should you need further information on APP's Sustainability, please do not hesitate to contact us or go to our website – www.asiapulppaper.com.

Jakarta, 2004
APP
Sinarmas Pulp and Paper Products

Last Updated: December 2006

Fiber Procurement Policy

APP is committed to purchasing wood fiber for pulp-making operations from sustainably managed forestry sources, which conserve areas of outstanding habitat and operate in harmony with local communities. To implement this commitment, APP will:

- Ensure that wood suppliers maintain compliance with all relevant regional, national and international regulations for sustainable forestry and land use management;
- Ensure that a multi-stage environmental assessment process is conducted prior to plantation development. The environmental assessment process will meet or exceed the standard required by national law;
- Ensure that wood is properly checked and verified as to legal origin and chain of custody before it enters the mill;
- Maintain systems and procedures to reasonably ensure that wood coming from illegal sources shall be rejected before it enters the mill;
- Expect that wood suppliers comply with relevant universal human rights regulations;
- Expect that wood suppliers undertake community relations programs based upon participatory assessment and planning principles, involving all relevant stakeholders;
- Ensure that wood suppliers who are found in breach of relevant legal requirements and the provisions of the policy shall be immediately warned and, for repeated violations, have their contracts terminated.

Jakarta, 2004
APP
Sinarmas Pulp and Paper Products

Last Updated: December 2006

Appendix VI:
Audit Statement Summaries

AUDIT STATEMENT

Verification of Origin & Chain of Custody

Organisation: Address:	**PT Lontar Papyrus Pulp & Paper Industry** Desa Tebing Tinggi Kecamatan Tungkal Ulu Kab. Tanjung Jabung Barat Jambi, Indonesia	Reference# Audit Dates	SGS/IND/08-02/WKS 03 - 08 December 2007

SCOPE OF ASSESSMENT

Evaluation against the Criteria and Indicators of the LEI Standard (2007) of wood fibre raw material (plantation wood & mix hardwood residues from plantation development) into Lontar Papyrus Pulp Mill from all fibre sources supplied by PT Wirakarya Sakti, including PT Rimba Hutani Mas (RHM), in Sumatra, Indonesia. PT Wirakarya Sakti is under the Sinarmas Forestry Management.

SUMMARY OF FINDINGS

1. Verification of Origin: The assessment resulted in finding no evidence of illegal material produced by PT Wirakarya Sakti. This includes its own concession areas and joint venture agreement areas audited under this assessment.

2. Chain-of-Custody Systems: PT Wirakarya Sakti's internal management system correctly ensures the integrity of the Chain-of-Custody of pulpwood from the above mentioned sources through the company's mill and no evidence of any illegal material entering the current supply system was found.

RECOMMENDATIONS

- Consistent monitoring need to be conducted to ensure that all equipment used within the operation (especially the heavy machinery) has obtained the necessary licenses and permits from the authority (Indicator 2.2.2).
- All elements of RKL & RPL compliance must be maintained and improved especially with the waste management at the camp site, handling of fuel and oil and other chemicals to ensure water and soil conservation (Indicator 3.1.2)
- Ensuring Contractor's compliance to health and safety aspects of forest operation (Indicator 3.2.1).
- Improvement required in ensuring compliance to manpower regulation. (Indicator 3.2.2).

NOTICE

This statement is valid for the time of the audit and does not represent an ongoing verification. It does not represent a certificate of legality or an eco certification of forests managed by PT Wirakarya Sakti.

PT SGS Indonesia

PT SGS INDONESIA SGS BKT JAKARTA

PT SGS Indonesia Cilandak Commercial Estate #108C Jl. Raya Cilandak KKO Jakarta 12560 Indonesia t +62 (0)21 781 8111 f +62 (0)21 781 8222 www.sgs.com
Member of the SGS Group

AUDIT STATEMENT

Verification of Origin & Chain of Custody

Organisation: Address:	**PT INDAH KIAT PULP & PAPER TBK** Jl. Raya Minas - Perawang Km. 26 Desa Pinang Sebatang, Kecamatan Tualang, Kabupaten Siak 28772 Riau, Indonesia	Reference#	SGS/IND/08-01 AA
		Audit Dates	9 - 15 December 2007

SCOPE OF ASSESSMENT

Evaluation against the Criteria and Indicators of the LEI Standard (2007) of wood fibre raw material (plantation wood & mix hardwood residues from plantation development) into Indah Kiat Pulp & Paper Mill from all fibre sources supplied by PT Arara Abadi, including PT Sekato Pratama Makmur (SPM), PT Satria Perkasa Agung (SPA), & PT Bukit Batu Hutani Alam (BBHA), in Sumatra, Indonesia. PT Arara Abadi is under the Sinarmas Forestry Management.

SUMMARY OF FINDINGS

1. Verification of Origin: The assessment resulted in finding no evidence of illegal material produced by PT Arara Abadi. This includes its own concession area and joint venture agreement areas audited during this assessment.

2. Chain-of-Custody Systems: PT Arara Abadi's internal management system correctly ensures the integrity of the Chain-of-Custody of pulpwood from the above mentioned sources through the company's mill and no evidence of any illegal material entering the current supply system was found.

RECOMMENDATIONS

- The contract / agreement between PT Arara Abadi and partner / joint venture companies need to be better formalized..
- Consistent monitoring need to be conducted to ensure integrity of conservation areas identified throughout the concession (Indicator 1.2.1)
- Permit for all machinery must be consistently obtained prior to utilization in the field (Indicator 2.2.2).
- Wood Stock Report (LHP) must be better managed in a timely manner to support Chip-wood Tax (PSDH) administration, the issuance of Transport Document (Faktur Angkutan) and transportation of the logs to the mill (Indicator 2.3.1).
- RKL and RPL reports must consistently reflect actual condition and results of the monitoring activities (Indicator 3.1.2)
- Effective monitoring need to be improved to ensure compliance to the environmental regulation pertaining to waste management, chemical, water and soil protection (Indicator 3.1.2).
- Ensuring Contractor's compliance to health and safety aspects of forest operation.

NOTICE

This statement is valid for the time of the audit and does not represent an ongoing verification. It does not represent a certificate of legality or an eco certification of the forests managed by PT Arara Abadi.

PT SGS Indonesia

PT SGS INDONESIA SGS SKI JAKARTA

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Appendix VII:

Stakeholder Interviews for This Report

Banten Province (Java)

FORKLIP
Forum Komunikasi Lintas Industri dan Permuda (Communication Forum for Intra-industrial and Youth)

Contact:
Mr. Endang Arista, Chairman

Address:
Sub-district Kragilan, Serang, Banten

Riau Province (Sumatra)

FKD Riau
Forum Komunikasi Daerah (Regional Communication Forum)

Contact:
Mr. Harry Oktavian

Address:
Jl. Paus Perum Vila Indah Pauas Blok C. 36, Pekanbaru

FKKM Riau
Forum Komunikasi Kehutanan Masyarakat (Communication Forum on Community Forestry)

Contact:
Mr. Aiden Yusti

WARISAN
(Forest Conservation & Forestry Association)

Contact:
Mr. Indra

Address:
Jlm. Umbran Sari, Rumbai, Pekanbaru

Jambi Province (Sumatra)

CAPPA
Community Alliance for Pulp and Paper Advocacy

Contact:
Mr. Rivani Noor

Address:
Jl. Sk Rd Syahbuddin, LRg Alamanda No. 91

NP-SAND
National Park Safety Foundation

Contact:
Mr. Doni Pasaribu

Address:
Jl. A. Hasan Lrg. Muhajirin No. 42 RT 21 Kel. Simp. IV Sipin, Kec. Telanai Pura – Jambi

YCBM
Yayasan Citra Bina Mandiri (a conflict-resolution NGO)

Contact:
Mr. Pahrin Siregar

Address:
Jl. A. Hasan, Lrg. Muhajirin No. 42 RT 21 Kel. Simpang IV Sipin, Kec. Telanaipura, Jambi

FKD Jambi
Forum Komunikasi Daerah (Regional Communication Forum)

Contact:
Mr. Edi Zuhdi

Address:
Jl. SK. RD. Syahbudin no. 91, Lrg. Alamanda, Kel. Mayang Mangurai Kec. Kota Baru, Jambi 36126

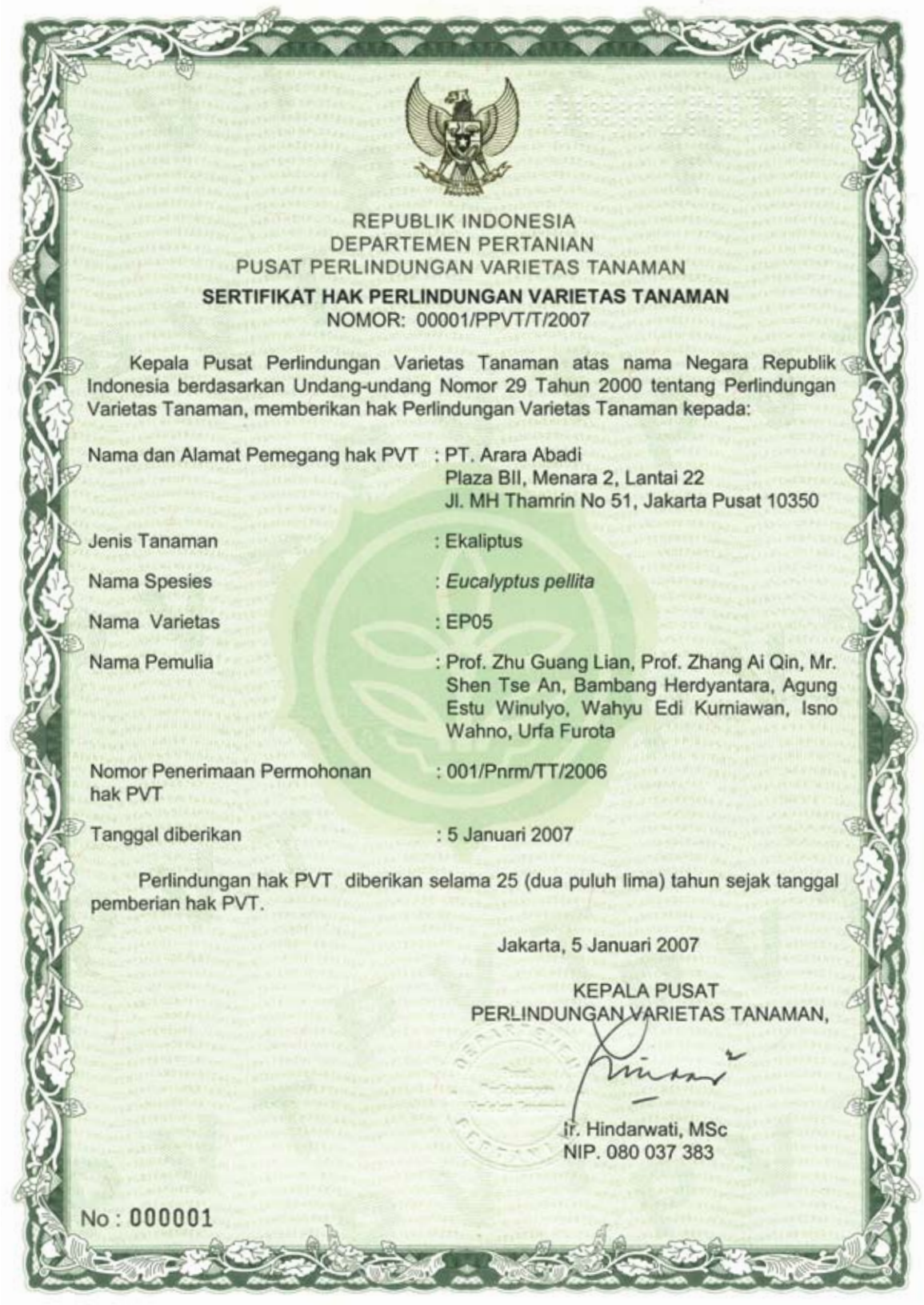
Appendix VIII:

APP Product Environmental Credentials

Paper, Tissue and Paperboard Products	ISO 14001	SFM Certification		Chain of Custody (CoC)		Ecolabel	ECF Capable	Recycled Content
		Long-fiber Pulp[2]	Short-fiber Pulp	Legal Origin / CoC	CoC Third-party Audited			
Coated P&W[1]	√	FSC/PEFC	LEI[3]	√	√	√	√	√
Uncoated P&W[1]	√	FSC/PEFC	LEI[3]	√	√	√	√	√
Photocopy	√	FSC/PEFC	LEI[3]	√	√	√	√	√
Color Photocopy	√	FSC/PEFC	LEI[3]	√	√		√	√
Art Paper	√	FSC/PEFC	LEI[3]	√	√		√	√
Carbonless	√	FSC/PEFC	LEI[3]	√	√		√	
Cast-coated Paper	√	FSC/PEFC	LEI[3]	√	√		√	√
Tissue	√	FSC/PEFC	LEI[3]	√	√		√	
Brief Card	√	FSC/PEFC	LEI[3]	√	√		√	√
Color Brief Card	√	FSC/PEFC	LEI[3]	√	√	√	√	√
Paperboard	√	FSC/PEFC	LEI[3]	√	√		√	√
Triplex Board	√	FSC/PEFC	LEI[3]	√	√		√	√
Art Board	√	FSC/PEFC	LEI[3]	√	√		√	√
Cast-coated Board	√	FSC/PEFC	LEI[3]	√	√		√	√
Containerboard	√	FSC/PEFC	LEI[3]	√	√		√	√
Boxboard	√	FSC/PEFC	LEI[3]	√	√		√	√
Exercise Book	√	FSC/PEFC	LEI[3]	√	√	√	√	√
Tablet	√	FSC/PEFC	LEI[3]	√	√	√	√	√
Loose Leaf	√	FSC/PEFC	LEI[3]	√	√	√	√	√
Envelope	√	FSC/PEFC	LEI[3]	√	√		√	√

1. P&W stands for Printing and Writing papers, often referred to as Woodfree, and used in digital and traditional printing presses as well as in office and stationery products.
2. All long-fiber pulp is purchased on the open market and must be FSC or PEFC certified.
3. LEI Phased Approach Sustainable Forest Management certification is underway at all of APP's fiber suppliers.

Appendix IX: Plant Variety Protection Certificate for *Eucalyptus pellita* 05 (EP05)



REPUBLIK INDONESIA
DEPARTEMEN PERTANIAN
PUSAT PERLINDUNGAN VARIETAS TANAMAN

SERTIFIKAT HAK PERLINDUNGAN VARIETAS TANAMAN
NOMOR: 00001/PPVT/T/2007

Kepala Pusat Perlindungan Varietas Tanaman atas nama Negara Republik Indonesia berdasarkan Undang-undang Nomor 29 Tahun 2000 tentang Perlindungan Varietas Tanaman, memberikan hak Perlindungan Varietas Tanaman kepada:

Nama dan Alamat Pemegang hak PVT	: PT. Arara Abadi Plaza BII, Menara 2, Lantai 22 Jl. MH Thamrin No 51, Jakarta Pusat 10350
Jenis Tanaman	: Ekaliptus
Nama Spesies	: *Eucalyptus pellita*
Nama Varietas	: EP05
Nama Pemulia	: Prof. Zhu Guang Lian, Prof. Zhang Ai Qin, Mr. Shen Tse An, Bambang Herdyantara, Agung Estu Winulyo, Wahyu Edi Kurniawan, Isno Wahno, Urfa Furota
Nomor Penerimaan Permohonan hak PVT	: 001/Pnrm/TT/2006
Tanggal diberikan	: 5 Januari 2007

Perlindungan hak PVT diberikan selama 25 (dua puluh lima) tahun sejak tanggal pemberian hak PVT.

Jakarta, 5 Januari 2007

KEPALA PUSAT
PERLINDUNGAN VARIETAS TANAMAN,

Ir. Hindarwati, MSc
NIP. 080 037 383

No : 000001

Appendix X:

Conservation Initiative Working Group Members

1. Giam Siak Kecil – Bukit Batu Biosphere Reserve

Ir. A. Rachman Sidik
Director for Balai Besar Konservasi Sumber Daya Alam (BKSDA), Riau province. free translation of BKSDA is Natural Resources Conservation Agency

Ir. Haris Surono
General Manager, Sinarmas Forestry Flagship Conservation Program

Prof. Enny Sudarmonowati
contact person for biological and socio-economic studies, Indonesian Institute of Sciences (LIPI)

Mr. Ahmad Muhammad
Center for Biodiversity Conservation, Natural Science, University of Riau

Mr. J. Saragih
Forest Service, Siak Regency

Mr. Heribertus Hariadi
Forest Service, Bengkalis Regency

Ms. Erni Yanti
Forest Service, Riau province
Mr. Didik Purwanto, PT Arara Abadi

To date the project working group contains: Director of BKSDA, Riau, as chairperson, and Vice Chair person is a representative from Sinarmas, Mr. Haris Surono.

2. Taman Raja Conservation Area

Mr. Waldemar Hasiholan
Executive Director, Sumatran Tiger Foundation

Mr. Edi Zuhdi
Forum Komunikasi Daerah (FKD -Local Communication Forum)

Mr. Sudirman, SH,
Pusat Studi Hukum dan Kebijakan Otonomi Daerah (Law and Regional Regulation Study Center)

Mr. Pahrin Effendi Siregar
Yayasan Citra Bina Mandiri (Citra Bina Mandiri Foundation)

Mr. Rivani Noor
Community Alliance for Pulp and Paper Advocacy

Mr. Haris
Lubuk bernai Village Chief

Dr. Yusrizal
University of Jambi

Ir. Agung Setyabudi
BKSDA, Jambi

Mr. Agus Wahyudi
PT Rimba Hutani Mas

SOURCE: Memorandum of Understanding, December 12, 2006, Taman Raja collaborators

3. Senepis – Buluhala Tiger Sanctuary

Mr. T. Izmet
Agriculture and Forest Service, Dumai City

Ir. Haris Surono
Sinarmas Forestry

Mr. Omita
PT Diamond Raya Timber

Ms. Dwi Yani Kusumaningrum
BKSDA, Riau

Ir. M. Apif
Forest Service Riau Province

Mr. Haryo Wibisono
Wildlife Conservation Society Indonesian Program

Mr. Bastoni
Yayasan Penyelamatan dan Konservasi Harimau Sumatra (Foundation of Sumatran Tiger Conservation and Protection)

Mr. Didik Purwanto
PT Arara Abadi

Mr. Triharyanto
PT Ruas Utama Jaya

Mr. Halimuntara Gajapati

SOURCE: Surat Penugasan No. 86/2007, BKSDA, Provinsi Riau, August 2007
(BKSDA assignment letter)

4. Kutai Orangutan Conservation Group

Chairman

Ir. Agus Budiono
M/SC. (Head of Kutai National Park)

Vice Chairman

Ir. Haris Surono Wardi Atmodjo, MM
(Sinarmas Forestry)

Secretary

Edy Purwanto, S. Hut
(Kutai National Park)

Members

Paramitha Ananda
(BOS Foundation) –BOS : Borneo Orangutan Survival

Nardinyono
(The Nature Conservancy)

M. Danang Anggoro, S.Si., M.Si.
(BKSDA – The Natural Resources Conservation Agency)

Irfanni, SP.
(PT Surya Hutani Jaya)

Anwar Rosyadi, S. Hut
(Sinarmas Forestry)

Mardian
(PT. Indominco Mandiri)

Roy. A. Mewengkang
(PT. Badak NGL)

Godwin Limberg
(CIFOR)
Hermansyah (PT. Pertamina)

Nurul. M. Karim
(PT. Kaltim Prima Coal)

M. Eduardsyah
(PT. Pupuk Kaltim)

Dr. Chandra Dewana Boear
(PPHT Unmul – Tropical Forest Research Center of Mulawarman University)

Yudi Purnomo
(PT. Sumalindo Hutani Jaya)

Dr. Sri Suci Utam
(UNAS –National University)

SOURCE: Assignment Letter of Head of Kutai National Park No. PT.774/BTNK-1/2007 dated Sept 6th 2007

Appendix XI:
IUCN Red List Species From Conservation Value Forest Survey

Scientific Name	Local Name	IUCN Category*
Mammals		
Petaurista elegants	Spotted Giant Flying Squirrel	Least concern
Helarctos malayanus	Malayan Sun Bear	Vulnerable
Macaca nemestrina	Pig-tailed Macaque	Vulnerable
Elephas maximus sumatranus	Sumatran Elephant	Endangered
Phantera tigris	Sumatran Tiger	Critical endangered
Tragulus sp.	Mouse Deer	Least concern
Maccaca fascicularis	Long-tailed Macaque	Near threatened
Muntiacus muntjak	Deer	Least concern
Cynocephalus veriegatus	Flying Lemur	Least concern
Felix bengalensis	Leopard Cat	Least concern
Hystrix brachyuran	Porcupine	Vulnerable
Presbytiss frontata	White-fronted Leaf-monkey	Data deficient
Felis viverrina	Fishing Cat	Vulnerable
Tragulus napu	Greater Mouse-deer	Endangered
Hylobates agilis	Owa/Ungko	Endangered
Phalanger sp.	Pukang/Kuskus	Vulnerable
Cervus indicus	Rusa	Least concern
Cervus unicolor	Sambar	Least concern
Hylobates syndactylus	Siamang	Endangered
Tapirus indicus	Malayan Tapir	Endangered
Manis javanica	Malayan Pangolins	Vulnerable
Ratufa bicolor	Black Giant Squirrel	Vulnerable
Lutra sumatrana	Hairy-nosed otter	Data deficient
Presbytis melalophos	Leaf Monkey	Least concern
Felis marmorata	Clouded Tiger Cat	Least concern
Presbytis frontata	White-fronted Surili	Data deficient
Tapirus indicus	Asian Tapir	Vulnerable
Lariscus insignis	Three-striped Ground Squirrel	Least concern
Anthracoceros malayanus	Asian Black Hornbill	Least concern
Loriculus galgulus	Blue-crowned Hanging Parrot	Least concern

Scientific Name	Local Name	IUCN Category*
Birds		
Elanus caeruleus	Black-winged Kite	Least concern
Gallus gallus	Domestic chicken	Least concern
Gracula religiosa	Hill Mynah	Least concern
Bubo sumatranus	Barred-eagle Owl	Least concern
Leucopsar rothschildi	Bali Starling	Least concern
Egretta garzetta	Little Egret	Least concern
Dinopium sp.	Burung Pelatuk	Least concern
Spizaetus cirrhatus	Changeable Hawk-eagle	Least concern
Spilomis cheela	Crested Serpent Eagle	Least concern
Cirus aeruginosus	Marsh Harrier	Least concern
Chloropsis cochinchinensis	Blue-winged Leafbird	Least concern
Alcedo atthis	Kingfisher	Vulnerable
Buceros rhinoceros	Hornbill Rhinoceros	Near threatened
Fregata andrewsi	Christmas Island Frigate Bird	Least concern
Cairina Sculata	White-winged Duck	Endangered
Ciconia stromi	Storm's Stork	Endangered
Mycteria cinerea	Milky Stork	Vulnerable
Leptoptilos javanicus	Lesser Adjutant	Vulnerable
Centropus sinensis	Crow Pheasant	Least concern
Accipiter trivirgatus	Crested Goshawk	Least concern
Anthracoceros malayanus	Black Hornbill	Near threatened
Haliastur Indus	Brahminy Kite	Least concern
Alcedo meninting	Blue-eared Kingfisher	Least concern
Cynogale benettii	Otter Civet	Endangered
Hemigalus derbyanus	Banded Palm Civet	Least concern
Egretta alba	Great White Egret	Least concern
Argusianus argus	Great Argus	Near threatened
Reptiles		
Varanus sp.	Monitor Lizard	Vulnerable
Crocodylus sp.	Crocodile	Vulnerable
Tomistoma schlegellii	False gavial	Endangered
Testudinidae sp.	Turtle	Vulnerable
Chitra indica	Narrow-headed Soft-shell Turtle	Vulnerable
Naja sp.	Spitting Asian Cobra	Vulnerable
Python molurus	Indian Rock Python	Endangered
Amyda cartilaginea	Asiatic Soft-shell Turtle	Vulnerable
Crocodylus porosus	Saltwater Crocodiles	Least concern

* IUCN Red List Categories

Extinct
Extinct in the wild
Critically endangered
Endangered
Vulnerable
Data deficient
Near threatened
Least concern

The IUCN Red List Categories (and Criteria) are intended to be an easily and widely understood system for classifying species at high risk of global extinction. The general aim of the system is to provide an explicit, objective framework for the classification of the broadest range of species according to their extinction risk.

The categories are listed in rank order of the risk of extinction of a species.

Appendix XII:
IUCN Red List Species From Survey of Proposed Giam Siak Kecil – Bukit Batu Biosphere Reserve

Scientific Name	Local Name	IUCN Category*
Big Mammals		
Elephas maximus	Asian Elephant	Endangered
Helarctos malayanus	Malayan Sun Bear	Deficient data
Hylobates agilis	Agile Gibbon	Least concern
Macaca fascicularis	Long-tailed Macaque	Least concern
Macaca Nemestrima	Pig-tailed Macaque	Vulnerable
Panthera Tigris	Sumatran Tiger	Endangered
Tapirus Indicus	Malayan Tapir	Vulnerable
Trachypithecus cristatus	Silver-leaf monkey	Least concern
Birds		
Anthracocerus malayanus	Black Hornbill	Least concern
Ardea Sumatrana	Great-billed Horn	Least concern
Heliopais personata	Masked-fin Foot	Vulnerable
Leptoptilos javanicus	Lesse Adjutant	Vulnerable
Mycteria cinerea	Milky Stork	Vulnerable
Platysmurus leucopterus	Black Magpie	Least concern
Rhyticeros corrugatus	Wrinkled Hornbill	Vulnerable
Treron fulvicollis	Cinnamon-headed Green Pigeon	Least concern
Trichastoma rostratum	White-chested Blabber	Least concern
Reptiles		
Crocodylus porosus	Salt Water Crocodile	Vulnerable
Tomistoma schlegelii	False Gavial	Deficient data
Fish		
Scleropages formosus	Golden Dragonfish	Endangered

* IUCN Red List Categories

Extinct
Extinct in the wild
Critically endangered
Endangered
Vulnerable
Data deficient
Near threatened
Least concern

The IUCN Red List Categories (and Criteria) are intended to be an easily and widely understood system for classifying species at high risk of global extinction. The general aim of the system is to provide an explicit, objective framework for the classification of the broadest range of species according to their extinction risk.

The categories are listed in rank order of the risk of extinction of a species.

FLORA

Species	Family	Local Name	IUCN Category*
Aglaia ignea	*Meliaceae*	Pasak Lingau	Near threatened
Anisoptera costata	*Dipterocarpaceae*	Mersawa	Endangered
Gonystylus bancanus	*Thymelaeaceae*	Ramin	Vulnerable
Shorea parvifolia	*Dipterocarpaceae*	Meranti	Endangered
Shorea teysmanniana	*Dipterocarpaceae*	Meranti Bunga	Endangered
Shorea uliginosa	*Dipterocarpaceae*	Meranti Batu	Vulnerable
Sloanea sp.	*Bombacaeae*	No local name	Endangered
Vatica rassak	*Dipterocarpaceae*	Rasak	Endangered
Vatica umbonata	*Dipterocarpaceae*	Rasak	Endangered

SOURCE: Laporan Akhir : Keanekaragaman Hayati Suaka Marga Satwa Giam Siak Kecil Blok Tasik Betung dan Hutan Konservasi PT. Arara Abadi Blok Bukit Batu, Riau by LIPI in cooperation with SMF and APP

SOURCE: Final Report of Biodiversity of Tsik Betung Block, Giam Siak Kecil Bisophere Reserve and Bukit Batu Block, PT. Arara Abadi Conservation Forest, Riau Province by LIPI in cooperation with SMF and APP

Appendix XIII:
IUCN Red List Species From Survey of Taman Raja Conservation Area

Scientific Name	Local Name	IUCN Category*
Big Mammals		
Helarctos malayanus	Malayan Sun Bear	Data deficient
Neofelis nebulosa	Clouded Leopard	Vulnerable
Manis javanica	Malayan Pangolin	Near threatened
Macaca nemestrina	Pig tailed Macaque	Vulnerable
Buceros rhinoceros	Hornbill Rhinoceros	Near threatened
Buceros bicornis	Great Hornbill	Near threatened
Argusianus argus	Great Argus	Near threatened

SOURCE: Kolaborasi Pengelolaan Taman Raja
SOURCE: Taman Raja Management Working Group

* IUCN Red List Categories

Extinct
Extinct in the wild
Critically endangered
Endangered
Vulnerable
Data deficient
Near threatened
Least concern

The IUCN Red List Categories (and Criteria) are intended to be an easily and widely understood system for classifying species at high risk of global extinction. The general aim of the system is to provide an explicit, objective framework for the classification of the broadest range of species according to their extinction risk.

The categories are listed in rank order of the risk of extinction of a species.

Appendix XIV:
Global Reporting Initiative (GRI) Index

The Global Reporting Initiative's Sustainability Reporting Guidelines provide an internationally recognized framework for corporate reporting on sustainability initiatives. This report was prepared using the latest 2006 version of the guidelines known as the G-3 Guidelines. The table below provides an index or cross reference to the page or pages on which each topic or indicator (Standard Disclosure) is addressed.

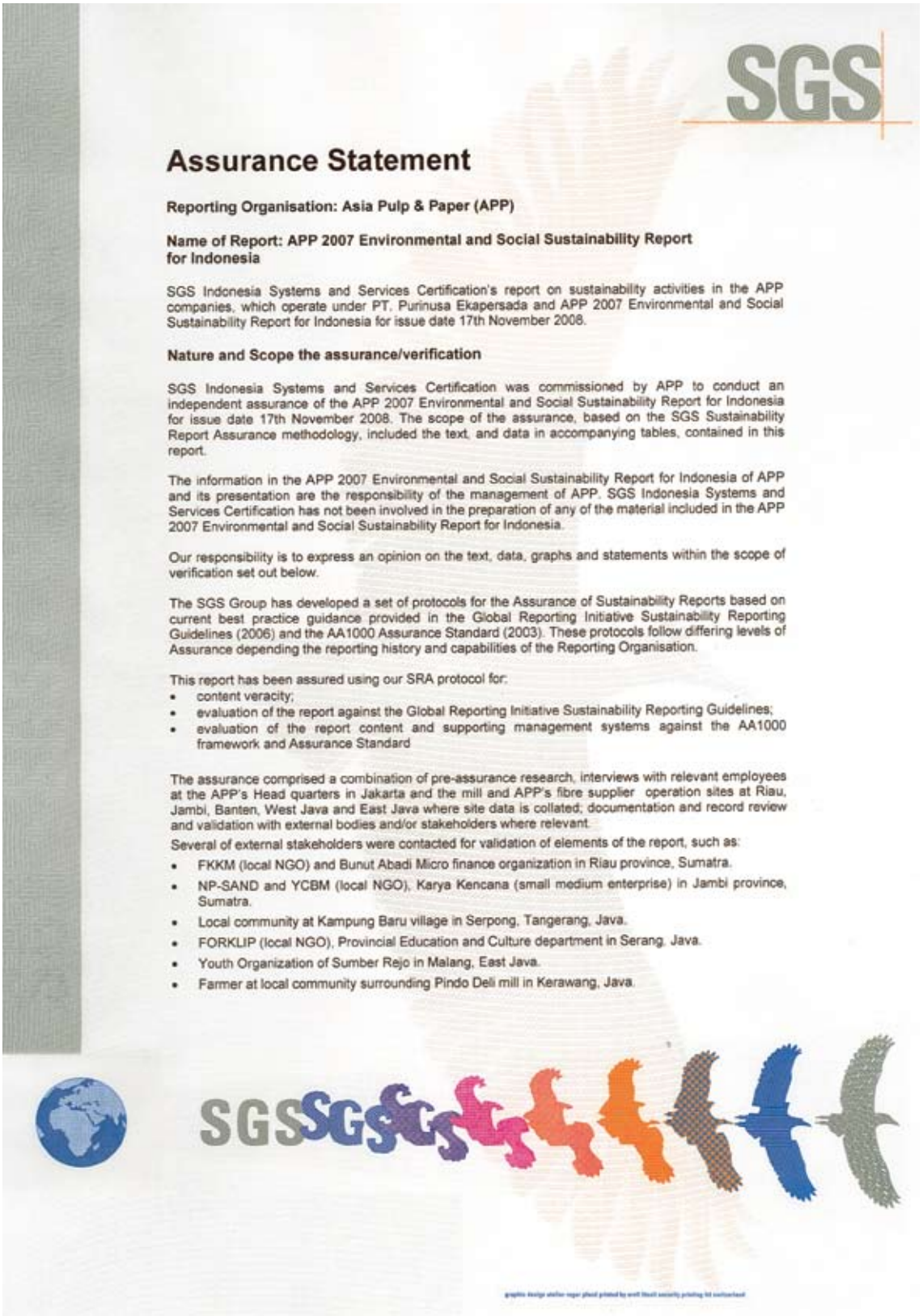
GRI Section	Description of Topic or Indicator	Pages
1. Strategy and Analysis		
1.1	Statement from the most senior decision maker of the organization (e.g., CEO, chair or equivalent senior position) about the relevance of sustainability to the organization and its strategy.	4
1.2	Description of key impacts, risks and opportunities.	4
2. Organizational Profile		
2.1	Name of the organization.	2
2.2	Primary brands, products and/or services.	19
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries and joint ventures.	2, 7
2.4	Location of the organization's main headquarters.	2, 132
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in this report.	2, 7
2.6	Nature of ownership and legal form.	2, 8
2.7	Markets served, including geographical breakdown, sectors served and types of customers/beneficiaries.	19, 28, 40, 54, 64, 74 84, 94
2.8	Scale of the reporting organization.	7, 18
2.9	Significant changes during the reporting period regarding size, structure or ownership.	9
2.10	Awards received in the reporting period.	11
3. Report Parameters		
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.	2
3.2	Date of most recent previous report (if any).	2
3.3	Reporting cycle (annual, biennial, etc.).	2
3.4	Contact point for questions regarding the report or its contents.	15
3.5	Process for defining report content.	2
3.6	Boundary of the report.	2
3.7	State any specific limitations on the scope or boundary of the report.	2
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsource operations and other entities.	7
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the indicators and other information in the report.	2
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statements.	9

GRI Section	Description of Topic or Indicator	Pages
3. Report Paramaters (cont'd.)		
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	2
3.12	Table identifying the location of the Standard Disclosures in the report.	148
3.13	Policy and current practice with regard to seeking external assurance for the report.	2
4. Governance, Commitments and Engagement		
4.1	Governance structure of the organization.	8, 124, 127
4.2	Indicate whether the Chair of the highest governance body is also an executive officer.	8
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.	8, 124
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	8
4.5	Linkage between compensation for members of the highest governance body to ensure that conflicts of interest are avoided.	8
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	8
4.7	Process for determining qualifications and expertise of members of the highest governance body for guiding the organization's activities due to climate change.	10
4.8	Internally developed statements of mission or values, codes of conduct and principles relevant to economic, environmental and social performance and the status of their implementation.	10
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	10
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	10
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.	8, 10
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	115, 140, 142, 143
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations.	9, 128
4.14	List of stakeholder groups engaged by the organization.	15-17, 135
4.15	Basis for identification and selection of stakeholders with whom to engage.	14
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	15-17
4.17	Key topics and concerns that have been raised through stakeholder engagement and how the organization has responded to those key topics and concerns, including through its reporting.	15-17, 135
5. Management Approach and Performance Indicators		
Economic		
EC 01	Direct economic value generated and distributed.	7, 19, 28, 40, 54, 64, 74, 84, 94
EC 02	Financial implications and other risks and opportunities for the organization's activities due to climate change.	5
EC 04	Significant financial assistance received from the government.	None – NA
EC 08	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in kind or pro bono engagements.	11-14, 26, 35, 50, 59, 70, 80, 90, 98
EC 09	Understanding and describing significant indirect economic impacts, including the extent of impacts.	7

GRI Section	Description of Topic or Indicator	Pages
5. Management Approach and Performance Indicators (cont'd.)		
Environmental		
EN 01	Materials used by weight or volume.	19-25
EN 02	Percentage of materials used that are recycled input materials.	22-24
EN 03	Direct energy consumption by primary energy source.	32, 45, 57, 68, 79, 87, 97
EN 10	Percentage and total volume of water recycled and reused.	33, 45, 57, 68, 79, 89, 97
EN 11	Location & size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	13, 102-109, 116-120
EN 12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	13, 102-109, 116-120
EN 13	Habitats protected or restored.	116-143
EN 14	Strategies, current actions, and future plans for managing impacts on biodiversity.	116-143
EN 15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	140, 142, 143
EN 20	NO, SO, and other significant air emissions by type and weight.	34, 49, 59, 69, 81, 89, 97
EN 21	Total water discharge by quality and destination.	35, 49, 60, 69, 81, 89, 98
EN 22	Total weight of waste by type and disposal method.	36, 49, 60, 69, 82, 90, 99
EN 23	Total number and volume of significant spills.	34, 48, 59, 68, 80, 88, 96
Social		
LA 01	Total workforce by employment type, employment contract and region.	6, 19, 28, 40, 54, 64, 74, 84, 94
LA 07	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities by region.	26, 35, 50, 59, 70, 90, 98
LA 08	Education, training, counseling, prevention, and risk control programs in place to assist workforce members, their families, or community members regarding serious diseases.	26, 36, 50, 60, 70, 90, 99, 111-114
HR 09	Total number of incidents of violations involving rights of indigenous people and actions taken.	None – NA*
SO 01	Nature, scope and effectiveness of any programs and practices that asses and manage the impacts of operations on communities, including entering, operating and exiting.	26, 36, 50, 60, 70, 90, 99, 111-114
SO 07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.	None – NA
SO 08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	None – NA
PR 09	Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and services.	None – NA

* There were no reported incidents of violation of indigenous people's rights during 2007. This was confirmed by the 2007 LEI LOV and CoC Verification. See page 106.

Appendix XV:
Assurance Statement of Independent Review Body



SGS

Assurance Statement

Reporting Organisation: Asia Pulp & Paper (APP)

Name of Report: APP 2007 Environmental and Social Sustainability Report for Indonesia

SGS Indonesia Systems and Services Certification's report on sustainability activities in the APP companies, which operate under PT. Purinusa Ekapersada and APP 2007 Environmental and Social Sustainability Report for Indonesia for issue date 17th November 2008.

Nature and Scope the assurance/verification

SGS Indonesia Systems and Services Certification was commissioned by APP to conduct an independent assurance of the APP 2007 Environmental and Social Sustainability Report for Indonesia for issue date 17th November 2008. The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the text, and data in accompanying tables, contained in this report.

The information in the APP 2007 Environmental and Social Sustainability Report for Indonesia of APP and its presentation are the responsibility of the management of APP. SGS Indonesia Systems and Services Certification has not been involved in the preparation of any of the material included in the APP 2007 Environmental and Social Sustainability Report for Indonesia.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification set out below.

The SGS Group has developed a set of protocols for the Assurance of Sustainability Reports based on current best practice guidance provided in the Global Reporting Initiative Sustainability Reporting Guidelines (2006) and the AA1000 Assurance Standard (2003). These protocols follow differing levels of Assurance depending the reporting history and capabilities of the Reporting Organisation.

This report has been assured using our SRA protocol for:

- content veracity;
- evaluation of the report against the Global Reporting Initiative Sustainability Reporting Guidelines;
- evaluation of the report content and supporting management systems against the AA1000 framework and Assurance Standard

The assurance comprised a combination of pre-assurance research, interviews with relevant employees at the APP's Head quarters in Jakarta and the mill and APP's fibre supplier operation sites at Riau, Jambi, Banten, West Java and East Java where site data is collated; documentation and record review and validation with external bodies and/or stakeholders where relevant.

Several of external stakeholders were contacted for validation of elements of the report, such as:

- FKKM (local NGO) and Bunut Abadi Micro finance organization in Riau province, Sumatra.
- NP-SAND and YCBM (local NGO), Karya Kencana (small medium enterprise) in Jambi province, Sumatra.
- Local community at Kampung Baru village in Serpong, Tangerang, Java.
- FORKLIP (local NGO), Provincial Education and Culture department in Serang, Java.
- Youth Organization of Sumber Rejo in Malang, East Java.
- Farmer at local community surrounding Pindo Deli mill in Kerawang, Java.

SGS

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Statement of Independence and Competence

The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS Indonesia Systems and Services Certification affirm our independence APP, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with Lead EMS Assessor, Lead OHSMS Assessor, Lead QMS Assessor, and has some experiences auditing at forestry, pulp and paper operation.

Verification/ Assurance Opinion

On the basis of the methodology described and the verification work performed, we are satisfied that the information and data contained within APP 2007 Environmental and Social Sustainability Report for Indonesia verified is accurate, reliable and provides a fair and balanced representation of APP sustainability activities in 2007.

We believe that the organisation has chosen an appropriate level of assurance for this stage in their reporting.

In our opinion, the contents of the report meet the content and quality requirements of the Global Reporting Initiative (GRI) version 3.0 Application Level B+ (report extremely assured to meet almost all of standard disclosures).

The results of the evaluation against the AA1000 AS and Framework show a good comparison with the standard but with some improvement points for future development, such as:

- Establishment of a formal, systematic mechanism at corporate level for receiving, documenting and responding to external communications and complaints from "stakeholders" and other interested parties.
- Another improvement may wish to be done regarding data transfer management system to minimize inaccuracy data and implementing the internal verification for the sustainability report.

Some samples of best practices were also noted, such as:

- Commitment of the APP companies to adopt and implement various international standards for management systems, e.g. ISO 9001 Quality Management Systems Standard, ISO 14001 Environmental Management Systems Standard, OHSAS 18001 or SMK3 the Occupational Health and Safety Standard.
- On a general note, and independent of the sustainability audit, progressive improvement in practical environmental performance and control, as a result of systematic control and system introduced via the ISO 14001 system, is evident at all mills and fibre supplier operation.
- Commitment of the APP companies to adopt and implement international product certification such as Chain of Custody which are accredited by FSC and PEFC. This certification shown the commitment to ensure that material used in timber products originates from well managed forests or plantations.

- Commitment of the APP companies to evaluate its fibre sources in Jambi and Riau Province for the following requirement :

  a) FSC Controlled Wood requirements in Jambi Province.
  The audit is conducted to verifies and ensure there are no trading for illegally harvested wood, violation of traditional and civil rights, wood harvested in forest where high conservation values are threatened, wood harvested in forests being converted to plantations or non-forest use, wood from forests in which genetically modified trees are planted.

  b) SGS TLTV-VO (Timber Legality and Traceability Verification – Verification of Origin).
  The audit is conducted to verifies and ensure there are no illegal material being supplied through the supply chains (including company concession areas, joint venture agreement areas and third party suppliers).

  c) SGS Non-controversial Wood Manufacturing audit. The audit is conducted to confirm the avoidance of procurement of raw material from controversial sources.

- Commitment of the APP companies for part of operation in Jambi also recognized by National Accreditation Body (The Indonesian Ecolabelling Institute – LEI) by achieving Sustainable Forest Management (SFM) certification under LEI scheme, the only national-initiative-based SFM certification scheme currently applicable for pulpwood plantation in Indonesia.

- A consistent effort to apply comparability principles of GRI to present the environmental and social sustainability performance were noted in terms of comparing to previous year performance or comparing to the international standard on certain environmental issues.

6th February 2009

Signed:
For and on behalf of SGS Indonesia Systems and Services Certification

Erna Damayanty
Director
SGS Indonesia

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APP and Peter W. Nowack. Indonesia