

CARGILL News

September-October 2007

Bearing Fruit

ON CARGILL'S OIL-PALM PLANTATION IN BORNEO

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A Plantation Grows in Borneo

CARGILL'S NEWEST PLANTATION IN INDONESIA ILLUSTRATES THE CONSIDERABLE CHALLENGES AND CONSIDERABLE POTENTIAL OF THE ASIAN PALM-OIL BUSINESS.

WEST KALIMANTAN, INDONESIA

The oil-palm plantation business is like no other in Cargill—starting with getting to the locations. To reach the Harapan plantation from Minneapolis requires four airplane flights, a 90-minute speedboat trip up a river and a two-hour car ride over dirt roads that can be barely passable.

Cargill's five palm plantations—two in Indonesia and three in Papua New Guinea—are in some of the most isolated places in the world. The list of challenges is daunting. The plantations are in poor countries with minimal government services, especially in rural areas. It is a labor-intensive business with thousands of employees. There are land-rights concerns with indigenous peoples and conservation concerns involving endangered species and deforestation.

**BY PAUL DIENHART
PHOTOS BY PALANI MOHAN**



Raising Palms

Since taking over the Harapan plantation in 2005, Cargill has planted 4,300 hectares. It has identified another 16,000 hectares that are suitable for planting. So the nursery, naturally, is an extremely important part of the plantation. Lonsum palms are started from seed. About 25 percent of the young plants are rejected. "We're very particular," says Dan Yunan, chief development manager. "Rubbish in, rubbish out."

OPPOSITE: Cargill's Harapan plantation is two-thirds the size of Singapore. From the plantation's fire tower, the land stretches to the horizon for 360 degrees.

RIGHT: Cargill agronomist Thomas Fairhurst (center) inspects some land suitable for palm cultivation. "The topsoil is gone," Fairhurst says. "By planting oil palm, we can transform a desert into a productive ecosystem." Once rainforest is logged and burned, it can never return to primary forest—a key reason for protecting existing forests. Working with Fairhurst are Johnson Sinaga (left) and Verrie Syah Andika.

BELOW: Students at one of the four elementary schools on the property prepare to take a final exam. This school serves 289 students—the sons and daughters of plantation employees. It soon will be replaced by a new school made of concrete.



“Palm plantations offer a sensible alternative for degraded land. They can improve the land while providing economic benefits to the local people.”

FRANK MOMBERG
Fauna & Flora International

The numbers alone can be eye-popping. Here on the Harapan plantation, located on the island of Borneo, Cargill's operation is 32,000 hectares—two-thirds the size of Singapore. It has 4,300 direct employees and supplies family housing for more than 10,000. It builds and maintains 1,000 kilometers (600 miles) of roads—including some public roads that the government does not have the resources to maintain. The Cargill hospital serves 3,000 patients a year. Harapan has more than 4 million oil-palm trees.

There are almost no government services available in this isolated community. So Cargill supplies services that aren't traditional business activities: building schools and staffing them with teachers; running athletic leagues for community recreation; building mosques for worship; and supplying free health care, day care and employee housing.

Despite the complications, few of Cargill's businesses have a more obvious connection to the company purpose of Nourishing People. The five plantations combined contribute to the economic welfare of more than 100,000 local inhabitants—including some 17,000 smallholders who rely on Cargill to process and market their palm oil. Signs of new affluence are clearly visible at Harapan, from new motorbikes to satellite dishes to restaurants opened by employees.

The product itself, palm oil, is in demand around the world as both a cooking oil and a biofuel. In 2006, the price of palm oil went up more than 30 percent, largely driven by demand for biofuel. According to *The Financial Times*, the area of palm oil cultivation has increased 43 percent since the 1990s.

Even with five plantations, Cargill is still a small player in global palm oil production, accounting for about 1/100th of world production. Cargill started in the business in 1996 by acquiring a failing palm plantation business called Hindoli on the Indonesian island of Sumatra.

Cargill's palm plantation activities expanded considerably when it bought two more Indonesian plantations and three



Palm fruit turns red when ripe. A ripe fruitlet will be 40 to 50 percent oil—the highest efficiency of any oil-producing crop.

Gift of Nature

In many respects, palm oil is an amazing product. Thomas Fairhurst, Cargill agricultural director for all five plantations, is passionate on the subject. “Palm oil is a gift of nature—the highest yielding oil plant known to man,” he says. “And this world is seeing a growing demand for vegetable oil.”

World output of palm oil is on track to overtake soybean oil as the No. 1 vegetable oil in the world. According to the statistics of some agencies, it already has. The list of palm oil attributes is long. Palm oil:

- requires less pesticide per kilo of oil than any other oilseed crop
- offers a replacement for harmful trans fats
- has no cholesterol and is high in vitamin E
- burns cleaner than petroleum-based fuel, releasing fewer gases that contribute to climate change
- is carbon neutral when planted on degraded land; the palm trees trap as much carbon dioxide as what is emitted in burning the oil as fuel
- is versatile, finding applications in everything from lipstick to margarine to shoe polish.

Palm operations can be among the most efficient in the world. Almost everything is recycled as fuel or fertilizer. Burning waste products for energy, palm refineries are 87 percent self-sufficient.

When planted on degraded soils, oil palms provide an agriculture crop where other field crops aren't an option. Since trees store much of their nutrients above ground, they are more tolerant of poor soils. A palm plantation provides employment in some of the poorer parts of the world, as well as trees that absorb CO₂ and help in controlling climate change.

Unfortunately, not every palm developer operates responsibly. Forests have been logged (sometimes illegally) to make room for palm plantations. Destroying forests to plant palm is a net negative for trapping carbon and mitigating climate change. Habitat has been lost for rainforest dwellers like the endangered orangutan. Some critics refer to palm as “cruel oil.”

“Its misuse is a real issue,” Fairhurst agrees. “But it's important to separate the crop from the practices of some of the industry. It is a fantastic crop in terms of efficiencies. The problem is to control its misuse.”



Village Doctor

More than 30 women and children sit patiently in the dim light of Dayak house in this village of 300. It is the day when Dr. Alboin Carlo conducts a clinic. In the corner of the room by the light from a window, he takes the blood pressure of a woman lying on a woven mat. His nurse, Danau Buntar, kneels nearby to assist.

“Without this visiting clinic, there would be no medical aid for this village,” said Rob Nicholls, senior estate manager.

Malaria may be the most common ailment. Snake bites are another concern. The area is home to king cobras up to 12-foot long (4 meters).

Dr. Carlo is employed by Cargill and makes regular visits to the villages of Dayak tribesmen on Cargill’s palm plantation. The Dayaks are the indigenous people of Borneo. For centuries, they lived in relative isolation in the rainforest.

“As recently as 1996, some of them didn’t understand money,” says Dan Yunan, chief development officer for the plantation. “They preferred the cheaper red notes because of the color. As they got satellite service and televisions, they’ve become a lot more sophisticated.”

Before Cargill develops any estate, it negotiates with local Dayaks for land rights. Essentially, they become shareholders in the plantation, collecting rent for the land and royalties for the fruit harvested on the land. The plantation also offers them employment, but coming from a hunting-and-gathering tradition, many of them choose not to hold regular jobs.

Free medical service, access to schools, drilling wells for potable water and supplying diesel generators for electricity are other services that Cargill provides to the Dayak villages on its plantation.

plantations in Papua New Guinea in 2005. (One of the Indonesian plantations has since been sold.) Cargill is the majority and operating partner for the plantations in a joint venture with Temasek Holdings, an investment arm of the Singapore government.

Sustainability issues

Despite a host of desirable properties and benefits, palm oil plantations can be controversial enterprises. Cargill is taking steps to make sure that it is developing best practices, whether the issue concerns the environment or people.

Those steps start with active participation in the Roundtable on Sustainable Palm Oil (RSPO). The 184-member organization—from plantation operators to supermarkets to non-governmental organizations (NGOs)—wants to eliminate practices that are tarnishing the industry as a whole. “Our intention is to eventually certify products that come from sustainable operations,” says John Hartmann, general manager of Cargill Tropical Oils Asia.

While Cargill can control practices on its own plantations, that represents only 1 percent of the world’s palm oil production. Cargill also is a trader and refiner of palm oil, and currently there is no recognized way to certify or distinguish sustainable palm oil. The RSPO stipulates that no oil-palm producer can claim to offer sustainable products until after the RSPO ratifies its sustainability criteria—a development that may occur later this year.

Members of RSPO agree to abide by a long list of practices, from preventing child labor to responsible chemical use. Most notably, RSPO plantations pledge not to develop High Conservation Value Forest (HCVF). This limits plantation expansion to degraded areas that were logged or burned prior to November 2005 or on other open, non-forested lands.

“Cargill is not developing any HCVF—that’s a given,” Fairhurst says. “The difficulty is policing land over a wide area where law enforcement can be lax.”

Palm plantations are huge and dotted with villages of native people. It’s not uncommon, when extra income is needed, for a villager to take a chainsaw into a forested area and engage in illegal logging or to burn forest in order to open land for rice cultivation.

The difficulties are one reason that Cargill has turned to NGOs for help. In Indonesia, it is working with the World Wildlife Fund (WWF) and Fauna & Flora International (FFI). WWF is working on a clear definition of degraded land and surveying Cargill plantations for land that qualifies development under the RSPO sustainability criteria. FFI is training Cargill’s environmental staff, doing species inventories of plantation forests and advising on one of the thorniest issues in the Indonesian palm industry: conservation of the orangutan.

“We will do an orangutan survey on the Cargill plantation,” says Frank Momberg, FFI’s director of program development in Asia. “That will include education efforts to encourage employees and villagers on the property to protect orangutans.”



LEFT: "Muster" begins at 5:15 in the morning, just as the sun is beginning to appear on the horizon. Employees assembled on a soccer field with shouts of "pagi!" ("good morning" in Indonesian). Some bring children to drop off at school. Today, managers lead a safety discussion about someone who was almost hit by an empty drum yesterday. "We want you to go home un-hurt and healthy," says Cahyo Nugroho, manager of Environment, Health and Safety.

BELOW: Cargill provides full safety gear for herbicide applicators, and if employees forget the gear, they are sent home. The job of the all-female crews is important. Keeping a circle free of vegetation under a tree keeps poisonous snakes away from the harvesting area.



A harvester wheels palm fruit bunches called *janjang* to the road for collection. Records are kept of the output of each harvester so individuals can earn bonuses for hard work.

FFI has worked for years to protect the orangutan in Indonesian national parks. They organized a forest patrol of local tribesman that has dramatically reduced illegal logging in Gunung Palung National Park. (See “Guardians of the Forest” on page 27.)

Momberg rates Cargill as being among the leading plantation owners on sustainability issues. “Cargill is one of the few plantation developers with an NGO partnership,” he says. “Palm plantations offer a sensible alternative for degraded land. They can improve the land while providing economic benefits to the local people.”

FFI, the world’s oldest conservation organization, has taken a stance of working with industry. “We believe that great returns to conservation can be achieved by working in partnership with business on responsible business practices,” Momberg says.

Out of the blocks

At the Harapan plantation, the palm trees are planted as regularly as corn stalks—just a lot bigger, taller and shadier than more typical agricultural crops. Each trunk shows the cross-hatched pattern of fronds that are pruned as the tree grows taller. The bunches of oilseed fruitlets grow at the top of the tree, just above the lowest fronds. Cutting the lowest fronds is part of freeing the fruit bunch.

So each year the tree grows taller. Oil palms, a tree that originated in Africa, are most productive between five and 25 years. As the trees mature, ferns and bromeliads populate the pockets in the cross-hatched bark, so the whole tree looks like a mass of vegetation.

Driving the dirt roads from the green blocks of trees takes you into very different terrain. Degraded land is dominated by imperata grass, a scattering of bushes and some stunted trees.

“Imperata grass comes in after a fire and is adapted to low soil fertility,” explains agronomist Fairhurst. “Once you see this grass, the land will never go back to forest.”

Getting out of the truck, he digs into the soil. “Look, the soil is gone,” he says. “There’s less than 5 centimeters of topsoil here. By planting oil palm, we can transform a desert into a productive ecosystem.”

The alternative—leaving degraded land undeveloped—sets up the perfect conditions for wild fires.

“The land we are looking at for expansion was all previously burned out, eroded or subjected to logging or slash-and-burn farming,” Fairhurst says. “Degraded land is by far the best way to produce vegetable oil.”

When planted on degraded land, palm plantations can sequester carbon and reduce greenhouse gases. Cutting forests to plant palm, by contrast, is a net contributor to greenhouse gas production.

“Palm plantations can be a plus for reducing the carbon footprint,” says the FFI’s Momberg. “But only if they are planted on degraded land.”



Safety First

Each day, harvesters begin their work with a safety demonstration. There is a reason that Cargill has been recognized by the Indonesian government with an award for promoting workplace safety.

The demonstration starts when a member of the crew is chosen to show the proper way to trim palm fronds and cut the fruit bunch. The supervisor's critique includes a lot of compliments for doing things right. The rest of the crew is drawn in with questions on why it is important to do things this way.

Typically, the frond under the fruit bunch must be cut away to get at the fruit. Then the fruit bunch, which can weigh 40 kg. (80 pounds), is cut. Hard hats would not protect employees from heavy fruit bunches crashing to the ground, which is why the cutting technique is so important.

One lesson today is *mengaruk pingiran*—cleaning the circle. The harvester must clear fallen fronds away from the circle around the

tree to avoid tripping over them. The fronds are stacked around the perimeter to provide a mulch cover and soil fertilization.

"Harvesting requires the right technique along with great strength," explains Rob Nicholls, senior estate manager. "I'm twice the size of some of these men, and I struggle with it. Sometimes they ask me to do the safety demonstration so they can have a good laugh."

Harvesting on a palm plantation is a constant process. A palm tree averages 12 bunches of fruit a year. Each block in an estate is walked every 10 days to spot ripe fruit bunches.

Following the demonstration, the whole crew breaks into applause. The honored employee receives an embrace from supervisor Adam Silvanus (inset).

With shouts of "good morning," the harvesters disperse to do their work. It's 6 a.m., and the real heat of the day won't begin for a couple hours.



A community

Palm plantations are a lot more than vegetation. There is a major people component to a business that has thousands of direct employees and family members living on the property. At Harapan, most of the employees come from the nearby island of Java, one of the most overpopulated places on earth.

“There is a lot of unemployment on Java,” said Rob Nicholls, senior estate manager. “People tend to come here for two to five

years, build up their savings and return to Java to buy a house or start a small business. We have to be very competitive with other plantations.”

In Indonesia, 40 percent of the population lives on less than \$2 a day, and the minimum wage is around \$80 a month. With wages and production bonuses, many plantation employees earn about \$350 a month, according to Mohan Nair, chief operating officer of Cargill’s plantations in Indonesia. In addi-

J Poet of the Rainforest

Johanes Terang lives at the base of a rainforest near Gunung Palung National Park on the island of Borneo. The narrow dirt road that leads to his house isn’t easy to find, but Terang has attracted a steady stream of visitors from around the world—from *New York Times* reporters to officials of the Indonesian government.

The Dayak tribesman has pioneered the idea of creating seedling nurseries for rainforest trees. Fifteen of the families in his village have taken up the effort—collecting seeds from the rainforest and nurturing the young plants until they are large enough for transplant.

“We just shipped 63,000 trees—six truckloads,” Terang says, sitting on a plank floor in an empty room of his house where he receives visitors.

The effort has created interest because it provides an economic alternative to logging for the Dayaks. Instead of cutting down rainforests at the behest of rich lumber traders, they can propagate indigenous trees to restore rainforests. There also is the possibility that valuable trees like the garu, or incense wood, could be grown as commercial tree crops—eliminating the motivation to steal them out of the rainforest.

Cahyo Nugroho, Cargill’s manager of Environment, Health and Safety at the Harapan palm plantation, sits on the floor across from Terang. With him is Frank Momberg, director of Asia program development for Fauna & Flora International (FFI). Terang received a small grant from FFI, which also is Cargill’s environmental partner.

“I want to learn about seedling production from him,” Nugroho says. “I think we have a chance to teach villagers on our plantation about forest management. Seedling production could be a community development project.”

The indigenous people of Borneo, Dayaks traditionally lived off the land by hunting and slash-and-burn agriculture. As part of the land-rights settlement, Dayaks living on Cargill’s plantation receive income from parcels of plantation land. Some sell their shares, run out of income and turn to illegal logging.

“A Dayak won’t give up his culture just because he gets



Dayak tribesman Johanes Terang (center) collects seeds of native trees in the forest behind his house and has started a thriving nursery business for forest restoration. Cargill’s Cahyo Nugroho (left) visited Terang along with Frank Momberg of Fauna & Flora International.

two hectares of plantation land,” Momberg says. “The best approach is to combine environmental efforts with community development. That is why Cahyo was interested in seeing the seedling production.”

Terang fetches a tattered notebook with a plastic cover. A lot of the publicity he has received is because he writes poems about the rainforest. In a deep, dramatic voice he begins to read a poem in Indonesian. Momberg does his best to translate what he describes as “Shakespearean Indonesian.”

*The creator has not forgotten.
He observes us from above.
Time and each destruction of the forest
Will slowly finish it all.
One by one, our connection is being cut.*

Terang has testified before government committees, using his poetry to convey the emotion he feels. “We are seeing flooding and prolonged dry periods because of the illegal logging,” he explains. “Since I was a child, I felt close to nature. I would never leave this place.”

At the end of the visit, Terang smiles and pulls out a ragged guest book for the visitors to sign. It contains hundreds of names and inscriptions.

tion, employees get free housing, health care, schooling for their children, a rice allowance and other services.

Some employees invest in trucks and rent them to the plantation. Others open restaurants or buy a 2-hectare “coupling” of palm plantation—land that allows them to collect rent and a royalty on fruit harvested from the coupling. In most cases, both parents work on the plantation, making use of free day care to earn more family income.

Raising incomes is one key to solving environmental problems, Nair believes. “If we can provide people with steady incomes, they will stop cutting forests,” he says.

At Harapan, 20 percent of the plantation is owned by smallholders. Most are local Dayak tribesmen who live in villages on the plantation. They negotiated shares in exchange for their traditional land rights. A 2-hectare share is enough to provide a monthly income of 3 million rupiah (around \$300).

“The villages overwhelmingly—99 percent—favor development,” says Dan Yunan, chief development manager. “They own the land, drawing rent and a share in the oil produced. Cargill does the management and collects management fees. The village gains a long-term source of income.

“As the lives of the smallholders improve, a lot of the problems will be reduced. People won’t feel that they have to



TOP: Employees worship at a mosque on the Cargill plantation. Cargill donated the materials and cash for its construction. “We need to attract people here, so the social conditions are important,” said Johnson Sinaga, technical services manager.

CENTER: Cargill supplies employees with free rice on the Harapan plantation. Rice is much more expensive in Borneo than it is in Java, the homeland of most employees.

RIGHT: Women have the prestigious job of driving the tractors to pick up harvested fruit. Managers have found that women are more conscientious about handling machinery. “Males dominate society in Indonesia,” says Rob Nicholls, senior estate manager. “At first, people laughed at the idea of giving women the job of driving tractors, but now it’s viewed as normal.” Requiring helmets for tractor drivers was a Cargill safety innovation.



ABOVE: One of Cargill's duties is building townships for employees and their families. Houses made of concrete are replacing the original wood houses.

BELOW: Signs of increasing income aren't hard to spot around the plantation. Many employees ride new motorcycles to work so they can go home for lunch. This restaurant called "By the Fish Pond" was started by Tujinin (many Indonesians have a single name) and his wife. With his earnings and bonuses as a harvester, Tujinin also was able to purchase 2 hectares of plantation land, allowing him to earn rent and payment for the fruit harvested on his land. The owner of a 2-hectare parcel can earn up to \$400 a month—big money in Indonesia.


cut down timber because they're financially desperate."

Signs of increased affluence are evident in the town of Manis Mata, just outside the plantation. As recently as 2000, the town didn't even have a restaurant. It has more than doubled in size, boasting a jewelry store, mobile phone shops, a hardware store, clothing stores, a bank and a motorcycle shop. Cars have joined motorcycles on the town's streets.

The palm plantation business simply has a higher level of involvement with employees and the community than more typical Cargill businesses.

"You have to be father, brother and doctor," says Nair, who was general manager of Harapan for several years before moving to Singapore. "That is what the plantation business is all about. You have to know a little bit about everything—from repairing factory equipment to ordering hospital supplies. Our hospital delivers 35 babies a year!"

Nobody is saying that the issues surrounding palm plantations are easy. But the stakes are too high—both for the environment and for the people—to fail to address those issues.

"We need to develop our plantations to such a high standard that we can invite the world in to see how we do it," Fairhurst says. "I believe that Cargill can be a pioneer in showing the industry how to really do things right." 





Guardians of the Forest

FAUNA & FLORA INTERNATIONAL IS ORGANIZING RAINFOREST RANGERS TO PREVENT ILLEGAL LOGGING AND PROTECT ORANGUTAN HABITAT.

GUNUNG PALUNG NATIONAL PARK

A dozen Dayak tribesmen dressed in intimidating black uniforms form a circle and say a prayer before entering the forest. Prayer concluded, leader Ibrahim Sindang heads across a rushing stream, directing his team up the mountainside into the rainforest of Borneo's Gunung Palung National Park.

Cargill partner Fauna & Flora International (FFI) started the patrol in 2003, when there were an estimated 1,000 illegal loggers in the park at any given time. "We have seen a dramatic reduction in logging," Sindang says. "Before, they would pull logs out in front of your eyes."

The patrol not only protects the rainforest, it protects the estimated 2,500 orangutans in the park that depend on the rainforest for their habitat. The biggest tree-dwelling animals in the world, orangutans spend most of their lives in trees, bending branches to make a nest in a new tree every night.

In Malay, *orangutan* means "person of the forest." It's an apt description considering that the orangutan shares almost 97 percent of human DNA. But man's close relative is in trouble. The United Nations lists the orangutans of Borneo as endangered.

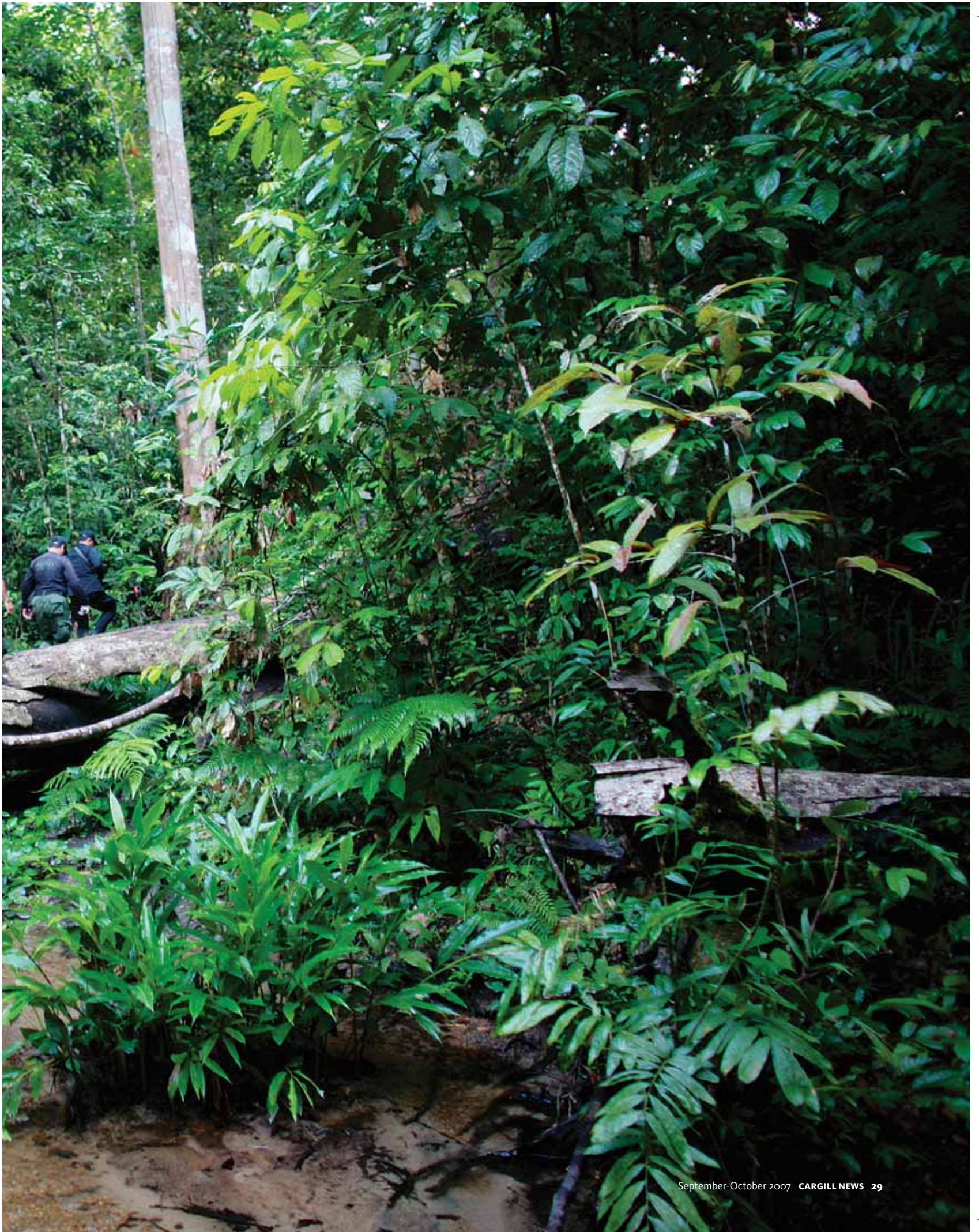


TOP: Preparing to enter the rainforest, the Orangutan Protection and Monitoring Unit touch hands and say a prayer. **ABOVE:** Baby orangutans are so cute that they are in demand as pets around Asia—at least until the status symbol gets too old. Cargill is working with Fauna and Flora International on strategies for orangutan protection.



Guardians of the Forest

Rangers recruited and trained by Fauna & Flora International patrol the rainforest in Gunung Palung National Park. There are 2,500 orangutans in the park. Since the patrols started four years ago, illegal logging has gone down by 65 percent. The rainforest terrain provides a stark contrast to the degraded lands, previously logged or burned, where Cargill is developing palm plantations.



Most estimates put the world population of orangutans at 50,000—down from 300,000 just 20 years ago.

Cargill has been caught up in the concerns about the endangered orangutans because oil-palm plantations are often cited as a cause of habitat destruction. This charge is true for some



Asri Isman is one of the rainforest rangers. He used to work with Harvard researchers in the park before they were driven away by illegal loggers. “I love the forest very much,” he says.

palm plantation developers. In fact, some developers never plant palm trees on their concession; they just disappear with the windfall of cash from logging.

As a member of the Roundtable on Sustainable Palm Oil (RSPO), Cargill is trying to change the industry. Members of RSPO pledge to protect High Conservation Value Forest (HCVF) on their concessions. They confine their development to degraded land that was logged or burned years before.

FFI is working with Cargill to survey its Harapan planta-

tion in West Kalimantan, located in the Indonesian part of Borneo—the huge island that Indonesia shares with Malaysia and Brunei. FFI will help Cargill identify HCVF land on its plantation and develop an action plan for orangutan conservation. The project includes an assessment of five areas outside Cargill’s plantation that hold remnant populations of orangutans.

“Cargill is one of the few palm-oil plantation owners that works with an NGO,” says Mohandas Nair, chief operating officer of Cargill’s Indonesian palm plantation business. “This industry faces controversy, so that’s all the more reason that we must do things right. We want to set a model for responsibility.”

On patrol

In the rain and with nightfall coming, Sindang leads the Dayak rangers on a trail blazed through the rainforest. Towering trees tend to limit the forest undergrowth. Stepping on wet rocks, Sindang climbs along the edge of a ravine with the rumbling noise of a waterfall somewhere ahead. Tonight, the team will spend the night at their camp, sleeping on a platform made of ironwood—the only wood tough enough to stand up to the termites of the rainforest.

Sindang pauses to point out trees like the Lamin and Mercanti—targets of illegal loggers. Cut and shipped to China, the rainforest trees are turned into plywood and outdoor furniture.

“The forest was always considered sacred,” he says. “We know some of the loggers personally, and they are ashamed to be discovered in the forest. We go into the villages to talk about how people need to abandon illegal logging. We try to educate villagers on the value of the forest—how their irrigated rice fields depend on the forest watershed.

“We are beginning to see some attitude changes. One illegal logger became a forest ranger. Now, he is a village chief and is promoting conservation.”

Angus Nadi, a member of the patrol—officially called the Orangutan Protection and Monitoring Unit—was once an illegal logger. Impressed by the FFI and other conservationists, he applied for a job with FFI’s rainforest patrol. “How can outsiders take an interest in protecting our forests while we cannot do it ourselves?” he asks.

Traditionally, the Dayaks occasionally ate orangutans. The great scientist Alfred Wallace, a contemporary of Charles Darwin, studied evolution in Indonesia and was particularly impressed by the Dayak tribesmen. “They are simple and honest,” he wrote. “The moral character of the Dayaks is undoubtedly high—a statement that will seem strange to those who have heard of them only as headhunters.”

Today, several members of the patrol sport T-shirts with the orangutan’s image. The commitment is important. What they will earn from FFI in one month, illegal loggers can earn in a week.



Frank Momberg (left), Fauna & Flora International program director for Asia, points out the extent of the rainforest in Gunung Palung National Park. With him is Cahyo Nugroho, manager of Environment, Health and Safety at Cargill's Harapan palm plantation. Cargill's plantation has no primary rainforest, but it has stretches of High Conservation Value Forest that Cargill is committed to protecting.

“We know some of the loggers personally, and they are ashamed to be discovered in the forest. We go into the villages to talk about how people need to abandon illegal logging.” **IBRAHIM SINDANG** *leader of FFI's orangutan protection unit*

Waking at dawn to the sound of gibbons hooting in the forest, the patrol members don their black uniforms, breakfast on noodles and vegetables and head off for a week of patrol. First-time offenders will be given a warning and evicted. For a second offense, loggers will be prosecuted and their equipment confiscated. The patrol also destroys campsites and other infrastructure used by illegal loggers.

Sustainable palm

Frank Momberg, a German with a background in ecology and anthropology, organized the forest patrols as part of his work with FFI. As Asia project manager for FFI, he works with Cargill on environmental management systems for palm plantations.

Momberg rates Cargill as being in the upper 5 percent of

palm plantation owners for sustainable development.

“Things like paying loggers to change their colors and become forest security people are ideas worth considering,” says Thomas Fairhurst, Cargill agricultural director for palm plantations. He and Momberg have also discussed the possible role carbon credits might play in providing economic incentives for preserving rainforest.

The issues are anything but simple, especially considering the problems in enforcing Indonesian laws in remote areas. Cargill has a clear stake in being a force to improve the situation—not just on its own plantations but also in the industry.

“Many of our customers want no association with palm oil that comes at the expense of the destruction of rainforest or orangutans,” says Bruce Blakeman, corporate affairs director for Asia. “We have to be part of the solution.”