

Vast forest fires in Indonesia spawn ecological disaster

November 16 2015, by Andi Jatmiko And Niniek Karmini



In this Tuesday, Nov. 10, 2015 photo, rangers and fire fighters patrol an area affected by forest fires in Kampar, Riau province, Indonesia. The ecological disaster of the fires has inflicted a staggering toll on the region's environment, economy and human health: 2.1 million hectares (8,063 square miles) of forest consumed, a number of deaths, more than half a million people sickened with respiratory problems and \$9 billion in economic losses, from damaged crops to hundreds of canceled flights. (AP Photo/Rony Muharrman)

For farmer Achmad Rusli, it was a season of smoke: Ten weeks without

sunlight for his oranges, guavas and durians, thanks to deliberately set forest fires that burned a chunk of Indonesia the size of New Jersey.

The fires have finally died down with the arrival of monsoon rains, but too late for his crops, which are far too measly to sell.

"We had not seen the sun in a two-and-a-half months," said Rusli, 34, from Riau province, in eastern Sumatra, among the six hardest-hit provinces. "How can we harvest the fruit?"

The ecological disaster has inflicted a staggering toll on the region's environment, economy and human health: 2.1 million hectares (8,063 square miles) of forests and other land burned, 21 deaths, more than half a million people sickened with [respiratory problems](#) and \$9 billion in economic losses, from damaged crops to hundreds of cancelled flights.

Palm oil and paper pulp companies illegally set fire to forests to clear land to plant more trees in the cheapest and fastest way possible. Authorities are investigating more than 300 plantation companies and 83 suspects have been arrested, according to national police chief Gen. Badrodin Haiti. The licenses of three plantation companies have been revoked and those of 11 others have been suspended.

The fires have been an annual problem since the mid-1990s, but this was the worst year since 1997, when blazes spread across nearly 10 million hectares.

Greed is the cause. Herry Purnomo, a scientist at Center for International Forestry Research, said it costs just \$7 to clear a hectare of land by burning, compared to \$150 to do so with tractors. Indonesian law bans clearing land by burning, except by small-scale farmers who are allowed up to 2 hectares.

All told, nearly 50,000 fires were detected since July, according to satellite data, with most on the islands of Sumatra and Borneo. An absence of rain from the El Nino effect made them worse.

The thick haze forced schools to close in neighboring Singapore and Malaysia, and for the first time it reached communities in southern Thailand, where the [air pollution index](#) rose to record levels of unhealthiness.

Indonesia's neighbors have grown increasingly critical, though many of the palm-oil companies operating in the country are Singaporean- and Malaysian-owned. And Indonesians endured the worst of the effects.

Syarif, a 46-year-old who like many Indonesians uses a single name, failed to harvest any of his chili peppers and tomatoes, which withered and shriveled on the vine.



In this Tuesday, Nov. 10, 2015 photo, charred remains of trees are seen at an area affected by forest fires in Kampar, Riau province, Indonesia. The ecological disaster of the fires has inflicted a staggering toll on the region's environment, economy and human health: 2.1 million hectares (8,063 square miles) of forest consumed, 21 deaths, more than half a million people sickened with respiratory problems and \$9 billion in economic losses, from damaged crops to hundreds of cancelled flights. (AP Photo/Rony Muharrman)

"I lost everything... drought and smog has ruined our vegetables," Syarif said. "I have to start again from scratch."

Visibility fell below 50 meters (yards) in some areas, forcing 13 airports around the country to close.

Drone footage taken over smoldering forests showed the charred remains of trees poking through billowing smoke and haze that extended as far as the eye could see. Gray and white patches of ash covered the forest floor.

The haze, resembling a wintry fog, is laced with tiny particles of ash that are particularly harmful to the elderly, children and those with chronic heart and lung conditions. It can lead to respiratory tract infections and pneumonia.

In the six most affected provinces, home to more than 26 million people, hospitals were overwhelmed with 556,945 cases of people with smoke-related respiratory tract issues between July and the end of October—nearly three times the normal rate, according to the health ministry.



In this Monday, Nov. 9, 2015 photo, Sarip, a local farmer, plants galangal on what used to be his pineapple field in Rimbo Panjang, Riau province, Indonesia. The ecological disaster has inflicted a staggering toll on the region's environment, economy and human health: 2.1 million hectares (8,063 square miles) of forest consumed, 21 deaths, more than half a million people sickened with respiratory problems and \$9 billion in economic losses, from damaged crops to hundreds of canceled flights. (AP Photo/Rony Muharrman)

In late October, the Pollution Standards Index hit a record high of 3,300 in Central Kalimantan province in Borneo, the giant island Indonesia shares with Malaysia and Brunei. Anything above 300 is deemed hazardous.

Rosita Rossie, a coordinator at Riau's provincial health office, said that when pollution index rose above 300, many clinics and hospitals in the province of 6 million provided 24-hour service, with some sending health workers into remote areas to meet needs there.

The National Disaster Mitigation Agency recorded 21 fire-related fatalities, including burns, pneumonia, asthma and meningitis aggravated by upper [respiratory tract infections](#).

Nearly 20,000 schools had to close in the worst-hit provinces, affecting about 2.4 million students.



In this Wednesday, Nov. 11, 2015 photo, a man walks near a police line where a forest fire is under investigation in Pekanbaru, Riau province, Indonesia. Indonesian President Joko Widodo said he was "ashamed" that authorities failed to prevent the fires caused by slash and burn practice to clear land and ordered law enforcement agencies to punish perpetrators, including revoking forest concessions and blacklisting those responsible. (AP Photo/Rony Muharrman)

The fires also likely killed many endangered or threatened species, including orangutans and Sumatran rhinos, said Rosichon Ubaidilla, an

animal taxonomy expert who heads the Zoology Center for Biological Research at the Indonesia Institute of Science.

Researchers and local residents are scrambling to protect the estimated 50,000 wild orangutans that live only on Borneo and Sumatra. The apes must cope with not only the destruction of their habitat but also respiratory problems, said Raffles B. Panjaitan, the Forestry Ministry's director of forest fire control.

The fires have also sent enormous amounts of greenhouse-gas emissions into the air. Much of the forests lost were peatland, which stores a particularly large amount of carbon.

Research by the Center for International Forestry Research, or CIFOR, found that in 2012, [forest fires](#) in Riau province alone released between 1.5 billion and 2 billion tons of carbon emissions in just one week—up to 10 percent of Indonesia's total annual emissions, said Sofyan Kurnianto, a scientist with the group and the lead author of the study.



In this Tuesday, Nov. 10, 2015 photo, rangers and fire fighters patrol an area affected by forest fires in Kamper, Riau province, Indonesia. The ecological disaster of the fires has inflicted a staggering toll on the region's environment, economy and human health: 2.1 million hectares (8,063 square miles) of forest consumed, 21 deaths, more than half a million people sickened with respiratory problems and \$9 billion in economic losses, from damaged crops to hundreds of canceled flights. (AP Photo/Rony Muharrman)

Indonesia's \$9 billion estimate of the damage caused by the fires excludes emissions. Willem Rampangilei, head of the disaster mitigation agency, said tentative number is based on World Bank data from 2013 that focused only on Riau province. The vast majority of the financial losses were in forestry, agriculture and manufacturing.

To fight the fires, Indonesia used everything from helicopters to elephants outfitted with water pumps and hoses. Russia leased two amphibious jets, and Singapore, Malaysia, Australia and Japan also sent

aircraft, firefighters or chemicals and experts to help out. More than 30,000 soldiers and firefighting personnel were deployed, and the disaster agency spent \$36.5 million. Ultimately, it was seasonal rains that ended this year's crisis.



This undated aerial image made from video shows an area affected by forest fire in Riau province, Indonesia. The ecological disaster of the fires has inflicted a staggering toll on the region's environment, economy and human health: 2.1 million hectares (8,063 square miles) of forest consumed, 21 deaths, more than half a million people sickened with respiratory problems and \$9 billion in economic losses, from damaged crops to hundreds of canceled flights. (AP Photo)

President Joko Widodo said he was "ashamed" that authorities failed to prevent the fires. He ordered law-enforcement agencies to punish perpetrators, including revoking forest concessions and blacklisting those responsible.

The government is drafting new regulations to stiffen penalties, reduce haze pollution and avoid forest fires. But the president has also asked for patience in tackling the problem for good, saying Indonesia needs three years to solve it. Malaysia has said that is not fast enough.



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In this Wednesday, Nov. 11, 2015 photo, a sign is put up to mark that the area which was affected by forest fire is under investigation in Pekanbaru, Riau province, Indonesia. Authorities are investigating more than 300 plantation companies on allegation of illegally setting fire to forests to clear land. (AP Photo/Rony Muharrman)

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