

Canal blocking: One solution to stop peat fires

in the major fires that torched Riau in February and March this year, the province lost 21,000 hectares of forest and overlapping peat cover. The effects also overlapped.

Nearly 50,000 people suffered respiratory problems due to the March fires.

Businesses, airports and schools closed, causing Rp 15 trillion (US\$1.3 billion) in material and investment losses.

In biodiversity terms, forest plants succumbed and wildlife (orangutans, tigers and gibbons) lost their habitat. In terms of climate change, some 55 percent or 470 megatons of Indonesia's annual carbon emissions come from peat fire, with Riau contributing 27 percent of the emissions.

More than 90 percent of forest and peat swamp fires in Riau were deliberate, according to the National Disaster Mitigation Agency (BNPB).

Firms and small-scale farmers burn peat brush to clear the land so they can grow oil palm and acacia stands. Intentional peat burning is cheaper, easier and faster than mechanical land clearing.

Burning costs Rp 200,000 to Rp 300,000 per hectare whereas the use of land clearing machinery costs Rp 4-5 million per hectare, according to BNPB data center chief Sutopo Purwo Nugroho.

Another reason why forest fires occur is land tenure and land-use disputes. Fires are used to stake claims in disputes between companies and farmers. Accidental fires also happen.

Peat swamps are highly susceptible in the dry season, like now in Riau. Anything from a carelessly discarded cigarette butt to an unattended, still smoldering campfire can cause brittle-dry peat to blaze out of control and spread widely with high winds.

One means to respond to such fires is the new Global Forest Watch (GFW) Fires platform, which gives near real-time alerts with the use of high resolution satellite images.

This on-line service derives from the Global Forest Watch website that the Washington-based World Resources Institute (WRI) started in February.

On July 23, the REDD+ Management Agency (BP REDD+) and WRI in partnership with the BNPB launched their GFW-Fires platform as part of Indonesia's Land and Forest Fires Monitoring System (KMS).

BP REDD+ chief Heru Prasetyo explained how fires can be detected as they happen and can be acted upon after alerting local authorities where a hotspot is located.

He cited one area in Riau where recent fires had been extinguished after the satellite-based alert was sounded.

At BP REDD+'s central Jakarta office, Heru spoke on a panel with Deputy Foreign Minister Dino Patti Djalal (who is board chair of WRI Indonesia), BNPB deputy head for prevention and preparedness Dody Ruswandi and Forestry Ministry director of environmental services for conservation areas and forest protection Bambang Supriyanto.

They agreed on investment in prevention, management and law enforcement to curb present and future land and forest fires.

For fire management, investment should be spent on infrastructure at the subvillage (dusun) level. It is in the subvillages where the fire rages. The subvillage is the ground zero of peat fires. A case in point in Riau is Bukitlengkung subvillage in Tanjungleban village, Bengkalis district.

Fire devastated Bukitlengkung on Feb 20. Homes and smallholder plots in the subvillage were razed and residents were displaced.

But it took more than a week before large-scale outside help arrived. Volunteers from the University of Riau were only able to come on March 4.

Other than the haze, what delayed the aid mission was the poor subvillage road.

The road from Pekanbaru, the provincial capital, to the district, is excellent asphalt. The road from the district to the subdistrict level remains good.

The road from the subdistrict to the village level still has a smooth and hard asphalt top. But the road from the village level to the subvillage is a dirt track.

During wet season, the subvillage road becomes a slippery slush where cars get mired in the mud. The only way in is by using a four-wheel-drive that is twice as expensive to rent as a conventional minivan.

Investment funds should go to convert the dirt road to asphalt to speed up access to the subvillage where the hotspots are.

Another investment issue is local mobility. Tanjungleban village has a voluntary fire brigade with a 15-storey observation tower to monitor the area for hotspots. The unit has fire-fighting equipment with 50-meter-long hoses and a generator to pump water from oil palm canals.

The fire equipment is transported on a two-wheel pushcart. To get a pickup truck for quicker action, the unit has to contact the subdistrict, if not the district authorities.

Prevention is arguably the key track. Effective prevention can mean zero burning.

One means of prevention is easy, effective and not cost-prohibitive. Where oil palm stands get scorched in areas that were previously peat swamp, the land could be rewetted by canal blocking.

The University of Riau is conducting a canal-blocking experiment on a 2-hectare plot in Tanjungleban village. The plot is owned by a school teacher whose oil palm plot was repeatedly destroyed by fire.

He has now allowed university peat specialists to remoisten the land, which was originally peat swamp.

Sand bags block the canal streaming through the plot.

The water table rises and is absorbed by the soil along the canal banks. The water nurtures seven types of native forest plants grown on the plot. They are both eco-friendly and commercially viable. The experiment has been running for two years.

According to the Forest Ministry's Bambang Supriyanto, similar canal blocking is being done in Central Kalimantan at Sebangau National Park, a peat swamp forest in Pulang Pisau district.

The question now is how to build the momentum to make canal blocking a nationwide drive to rewet erstwhile peat swamps where oil palm stands have been destroyed by fire.

This is long-term action, where government and private sector investment can be piped through.

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