

Who says we're helpless when it comes to the haze? ELIZABETH JOHN writes about one group's small step in smokin' Indonesia that could mean a giant leap in haze reduction for Malaysia.

# Fighting peatland fires the local way

WHIZZ around the world 220,000 times in your car and that crazy exercise will dump 2.2 million tonnes of carbon dioxide into the air.

Why's that silly statistic important enough to print?

Because that's the same amount of polluting carbon that one forest fire prevention project in Indonesia managed to keep out of air in its first three years.

Just how much lung-clogging particles it's saved us from is incalculable.

The project was based on a simple idea — block two massive canals that drain water from a sprawling peatland and prevent it from turning into a torch.

The canals — some of the largest irrigation channels in the world — are 30 metres wide and cover a distance that stretches from Kuala Lumpur city to the Kuala Lumpur International Airport in Sepang.

They are the legacy of the failed Mega Rice Project in remote Central Kalimantan where a million hectares of peat forest was cleared for padi over a decade ago.

At the time, thousands of kilometres of canals were dug to keep the soil drained in the rainy season and irrigated during the dry.

But the peatland stood high above the adjacent rivers, so the canals only sucked them dry. The soils were not suitable for padi and drainage left the parched peat highly flammable.

In the El Nino-driven dry season of 1997-1998, this tinderbox went up in flames and enveloped the region in a shroud of haze.

The site was abandoned but continued to burn periodically through years of inaction, hitting Sarawak particularly hard.

Then three years ago, Malaysian non-governmental organisation Global Environment Centre (GEC), and Wetlands International Indonesia, began talking to locals about blocking off the canals.

The canals were so wide that each could fit a giant IMAX screen between its peaty walls, with space to spare. Together, they were draining millions of cubic metres of water from the area.

"All the experts said we'd need machines to block canals wider than two metres," said GEC director Faizal Parish.

"If we had listened, all our mon-



Sandbags fill the spaces between rows of logs that make up a block in a Central Kalimantan canal — Picture by Faizal Parish, GEC.

ey would have been spent on excavators."

Instead they sat down with locals from the nearest villages, hardy and resourceful people, who'd carved out a life in this desolate corner of Borneo with few amenities.

The groups picked their brains for ideas and brought civil engineers into the talks with local communities and government agencies.

Project partners Wildlife Habitat Canada and Indonesia's Forest Protection and Nature Conservation directorate were also involved.

And here was born the plan — to block the canals by hand using local techniques.

Each block consisted of three log walls to be built across the canal by a clever use of a lever system and the force of human weight.

Each wall would be 3.3 metres away from the next. The spaces between them were filled with sandbags to staunch the flow of water.

Construction of each block took

50 people, three months and countless trips on narrow boats lugging 25,000 sandbags to the site.

In total, seven blocks were rammed into place along two main canals and a smaller one.

The blocks have since raised the water level in the peatland.

There have been no fires in the area and the forest has started to recover. Locals are fishing in the blocked-off sections of the canal.

The project has protected a site roughly the size of Singapore from fires. As big as that seems, it is only a twentieth of the vast Mega Rice Project.

Faizal believes there are still three to five million hectares of fire-prone peatland in Indonesia.

Some have been drained or illegally logged. Others are abandoned agricultural sites or land where water is poorly managed. Two million hectares have been partly burnt in previous fires.

The group's also seen success in its other pilot projects in Sumatra, some in areas still being illegally logged.

Though the benefits of these small victories would be felt as much by the hazed-out Asean member countries as the locals, none funded these projects.

The financing came from far-away Canada. Its International Development Agency, through a climate change development fund, contributed RM12.7 million to cover the cost of the four-year programme.

A quarter of this went into community programmes, including the blocks.

Consider this: At the height of the haze in 1998, the government spent RM684,000 for just four months of cloud seeding.

For an extra 15 per cent per year, they could have the blocks — with far more lasting effects than cloud seeding.

"Even if Malaysia invests just a few million it would be worth it," says Faizal, "especially in Riau's four million hectares of peat."

Now other groups doing similar work in Indonesia have adopted the techniques developed in these projects. The Selangor Forestry

Department is also developing a pilot project with GEC.

The Netherlands is paying for another 40 blocks to be put into the former Mega Rice area.

The Indonesian central government has agreed to allocate funds for rehabilitation there, using canal blocking as a core part of its work.

Asked about the usual sad story of tied hands that Malaysian politicians often tell, Faizal says:

"There's still plenty that can be done. Malaysia has a lot to contribute. It could be equipment for village fire-fighting groups or how to manage oil palm plantations on peatland. Adopt fire-prone districts, maybe?"

Malaysian companies opening plantations in Indonesia could reach out to villagers around them and help clear land without fire.

Malaysia could invest in sustainable solutions, adds Faizal. The cost would be far less than the losses the region suffers during each haze episode.

"If we don't solve the problem, it won't go away."

## A project that stops fires and feuds

THEY were sworn enemies, the villagers from around the Berbak National Park in Jambi and park authorities.

Trapped by sawmill owners and traders into a life of illegal logging in the park, the villagers had even threatened rangers trying to enforce the law.

From time to time, fires had broken out in logged areas near the village and the steady flow of illegal logs coming out of the park entrance meant the protected forests were next in line.

Then GEC, Wetlands International and local partners stepped in three years ago. Countless meetings and nine months later, both sides agreed to start a rather unusual project.

About 700 villagers were given

small loans for projects like chili planting and chicken rearing.

Instead of paying interest, they were asked to plant trees, jointly patrol the park and rebuild park facilities destroyed during their feud with rangers.

The project saw them plant thousands of economically important trees like cocoa, rubber and ramin in a buffer area between village and park.

The park was well-patrolled and guard posts were rebuilt.

All the while, a community service officer provided technical guidance and evaluated how well the locals kept their end of the bargain. If they had done well, their loans were converted into grants.

There have been no fires or fights, since.



## Now, it's fish they are harvesting

IT was tough convincing villagers to block old logging canals they'd worked so hard to dig up but one mighty fire changed their minds.

It was during long drawn-out discussions in Sungai Puning, Central Kalimantan, that the fire broke out — choking the village and leaving behind a trail of destruction.

Reluctance gave way to concern and they began work to block canals that were draining the peat and making it fire-prone.

Meanwhile in the Merang Kepahiyang Peat Swamp Forest near the Berbak National Park, large-scale illegal logging had taken place.

Large canals had been dug for access to the forest and to carry out logs. This left the Merang river riddled with 140 drainage channels, many abandoned.

In some cases, an agreement could be reached with loggers.

When this happened, villagers and project co-ordinators created blocks that kept the water high but still allowed small logs to be extracted.

This allowed loggers continued use of some canals.

"It wasn't the ideal solution but the local government couldn't control the illegal logging," explained Faizal Parish of Global Environment Centre.

"So this was a necessary and realistic step."

The ending was a little happier for Sungai Puning folk. The blocked-up canals turned into natural fish ponds, trapping fish that swam by when the water level in the peatland was high.

A year after building the blocks, they thanked the project proponents for persuading them to take action. They recently reported harvesting two tonnes of fish from the blocked canal.

Now they're raring to do more.



Local communities construct the blocks by hand in Central Kalimantan. — Picture by Yus Rusila Noor, Wetlands International.



Local communities call these mammoth canals "hell canals" because they suck water from peatland, leaving them prone to horrible fires. This block in a Central Kalimantan canal keeps the water from flowing out. — Picture by Nyoman Suryadiputra.