

## Future rides on land use

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One of the worst environmental disasters in Indonesian history was an ambitious but failed rice-growing project in Central Kalimantan during the Soeharto era. One million hectares of virgin forest were staked on a venture that proved a dud. All that remains is a wasteland of little value to local people or anyone else. It was like the government was playing a game where the potential payout was huge, but so were the risks.

Another environmental disaster was the destruction of the forest in Bohorok in north Sumatra, which resulted in nearly 200 people being killed in catastrophic flooding in 2003.

Fourteen major natural disasters -- involving forest fires, landslides, contaminated water, biodiversity loss -- have been reported across Indonesia since 1999, as a result of playing land-use roulette.

The winning strategy for land use is clear enough: evaluate the options, think ahead, make small-scale trials and never bet too much on a longshot. We know this works. Local farmers have been doing it for centuries.

The Center for International Forestry Research (CIFOR), in collaboration with the Ministry of Forestry, recently assessed land resources in the upper Malinau in East Kalimantan. This lightly populated, forested locality is typical of areas targeted for large-scale plantations such as oil palm plantations.

Steep slopes and thin, easily eroded soil dominate the area, and we found the soil lacked the nutrients required for crops to grow. In one analysis, we applied standard government criteria to guide sustainable land-use choices. On this basis, none of our 200 sample sites were suitable for producing pepper, cocoa, coffee, peanuts, rubber, candlenuts or palm oil.

Plantation crops are sometimes fertilized, but this would not change our assessment. Oil palms, for example, require not only large amounts of fertilizer, but also level terrain and good soil drainage -- both of which are in short supply in the upper Malinau.

Local people use small-scale shifting cultivation, where cutting and burning vegetation temporarily improves soil. But the benefits are short-lived and the farmers move on after one or two crops, leaving the forest to slowly recover.

The farmers choose sites carefully by observing vegetation and soil conditions. Low population density and supplementing diets with wild forest foods have allowed people to subsist with relatively little environmental impact.

The farmers' land evaluations and our technical measures of suitability were in close

agreement: the best sites were those used to cultivate their own crops. Why would anyone gamble on oil palm developments in such an unpromising region? The answer is simple: greed.

In remote regions, developers who negotiate with local communities and government officials generally make profits even if the gamble fails. They are hustlers. They talk up the supposed benefits and play down the potential risks.

After all, clearing the land generates large timber revenues. And when all the trees are gone, all too often the project is abandoned before anything else is planted. It is not surprising, then, that an estimated 80 percent of new Indonesian oil palm projects occur in forests well stocked with timber.

This is precisely what happened in Jambi: about 800,000 hectares of forest were cleared and then abandoned. Similarly in the Landak district of West Kalimantan, some 300,000 hectares were cleared and forsaken.

One recent account in *Kompas* newspaper stated that fictitious oil palm plantations in East Kalimantan had already cost the state at least Rp. 3.5 trillion (US\$372 million). In short, plantation schemes provide easy camouflage for looting valuable timber.

Oil palm plantations are viable in some places, but not everywhere. Poor planning means plantation development is now one of Indonesia's most conflicted economic sectors.

The fact is that forests do not have to be cut down to develop plantations. Anyone genuinely interested in these ventures can easily find plenty of unused, already cleared land.

Even when oil palms are planted, people have grievances. In Pasir, East Kalimantan, indigenous groups regret losing their forests and they feel misled. Once the trees are gone, it is difficult to recreate a forest and all its benefits.

The Malinau government recently approved a 200,000-hectare oil palm project outside the Kayan Mentarang National Park, close to the Malaysian border. The initial 40,000-hectare phase involved four districts. Much forest was to be cleared in rugged areas where our research shows oil palm plantations are neither economically nor environmentally sustainable.

This included forests important for local livelihoods and culture, for maintaining water quality and for sheltering a globally rich array of biodiversity. We encouraged the Malinau government to review the land's potential and reassess the companies' commitment to follow through with planting. The good news is the government agreed to reconsider the gamble.

Our Malinau surveys also suggest some sites may be relatively well suited to growing rice

and coconuts. Even better would be low-impact timber felling, timber planting with agro-forestry and nature conservation.

Good land-use planning is not difficult. You only need to determine what uses are economically viable and sustainable, and then examine the risks and wider impacts. Our surveys show local people agree that planning should include forest conservation, protecting clean water and conserving plants and animals.

Good research and an understanding of local knowledge are important in ensuring effective and sustainable land management in Indonesia. Policy makers need good information to make well-informed choices.

Vigilant and responsible local governments like Malinau are to be warmly applauded. The trends are less positive elsewhere. Forests are being removed, apparently for short-term gains, without assessing the environmental risks and long-term local implications.

Land-use roulette is no way to make good decisions. The future is at stake, and that is too much to lose.

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