

**Community control of forests hasn't decreased deforestation, Indonesia study finds**

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A “social forestry” program administered by the Indonesian government to grant land rights to communities has not been effective in preventing deforestation, and in some cases has even seen the problem get worse, a new study shows.

The program is one of the largest socioenvironmental experiments of its kind, aiming to reallocate 12.7 million hectares (31.4 million acres) of state forest to local communities and given them the legal standing to manage their forests.

Under the program, the government [has granted](#) land titles for 4.7 million hectares (11.6 million acres) of state forest to 1 million households as of August 2021. But an analysis of 4,349 land titles across Indonesia, covering 2.4 million hectares (5.93 million acres), or more than half the total granted, shows the program [hasn't led to a reduction](#) in forest loss on aggregate.

The researchers, from German think tank Mercator Research Institute on Global Commons and Climate Change, said they failed to detect substantial reductions in the deforestation rate in forested areas after they were issued titles by the government.

“Because substantial deforestation reductions are not part of the intervals from our analysis, we can rule out that the overall effect is strongly negative, i.e. there are no substantial aggregate deforestation reductions,” study co-author Sabine Fuss, a climate scientist, told Mongabay.

This is particularly true for community titles aimed at conservation, namely village forests and community forests. Village forest titles are granted to villages, while community forest titles are granted to cooperatives for a period of 35 years.

Both titles allow for non-logging activities such as the collection of non-timber forest products (such as honey), agroforestry and ecotourism, as well as restricted logging for noncommercial purposes. These selective logging activities are only allowed in areas designated as production zones, as they're aimed at avoiding net deforestation.

Despite these programs being designed with forest conservation in mind, the study found that forest loss actually increased in village forests and community forests.

This comes despite the social forestry program being [touted](#) by the government as one of the factors contributing to the recent decline in the country's deforestation rate, based on the idea that forests that are managed by communities will be better protected and more sustainably managed.

The forestry ministry's director-general for social forestry, Bambang Supriyanto, did not respond to Mongabay's requests for comment.

### **Before and after titling**

The researchers compared the changes in outcomes over time between a population enrolled in a program (the treatment group) and a population that isn't (the comparison group).

In this case, the comparison is between areas with land titles — before and after approval — also known as treatment areas, to control areas, which are slated to get community titles in the future.

The researchers then looked at changes in deforestation rates in treated areas compared to control areas. They did this by running an analysis for different types of landscapes — undisturbed primary forests and degraded primary forests — using the [Hansen Global Forest Change](#) and the [Margono natural forest](#) data sets for Indonesia.

While the researchers found no overall reductions in the deforestation rates, they found an exception in a particular community title called community plantation forests. This title is aimed at restoring degraded areas by allowing communities or farmers to operate and restore timber plantations.

Before the introduction of the community title, community plantation forests had higher forest loss rates than village forests and community forests, with 50 per cent more deforestation for areas of primary forests that had been degraded.

The researchers found substantial decreases in forest loss rates on degraded primary forest in community plantation forests. They said this indicates “an opportunity for increased conservation by including Indonesian communities in efforts to restore degraded plantations.”

Fuss said the study didn't look further into the possible reasons why the social forestry program hadn't resulted in reduction of forest loss in general.

“However, some prior research and anecdotal evidence indicates that communities lack incentives and resources to make sustainable use of their areas,” she said.

### **Market factors and lack of funding**

One of the reasons for deforestation rates persisting or even increasing on these community-titled lands is the absence of shared social structures or formal rules that govern access to a resource, in this case forests, and its use, the researchers say.

As a result, people have open access to the resource and are likely to act independently according to their own self-interests instead of thinking about the common good of all users.

To resolve this “open access” problem, strong and effective institutions are needed at the village or community level. This way, the institutions can make community members agree on rules regarding the use of their resource, and subsequently monitor and punish them accordingly if they break the rules, the researchers say.

However, they point out that many communities lack institutions and resources to monitor their areas or agree upon and enforce rules on resource use. Villagers and community members may also find it more profitable to clear land to plant cash crops than restore or protect forests.

This is because local communities may perceive social forestry titles as a sign of decreased government presence on the titled lands, and thus of a lower risk of sanctions against activities that violate regulations, such as land clearing for agriculture.

And communities may also feel more secure in their ownership of the land as it's less likely to be expropriated or subjected to competing claims from plantation companies.

As a result, communities may be more inclined to invest in their lands, and if demand for agricultural products from cleared land is strong enough, this investment may come in the form of clearing land to plant whatever crops are the most lucrative.

And if communities have access to the market for palm oil and other commodities where demand is elastic, which is often the case for deforestation frontiers in Indonesia, they'll have even more incentive to clear their lands.

Ahmad Dhiaulhaq, a postdoctoral researcher on forest and land governance at the Royal Netherlands Institute of Southeast Asian and Caribbean Studies (KITLV), agreed that this exposure to the market-based economy could push some communities to clear their land.

"We have to see our people not as a homogenous entity," Ahmad, who was not involved in the recent study, told Mongabay. "There are still communities that maintain their close relationship to nature by protecting their forests, that are still very traditional like the [Indigenous] Baduy people, but there are also communities that have been interacting with the market."

For communities that have access to the market, investing in sustainable activities that are in line with government regulations, such as non-timber forest product collection, ecotourism and selective logging, might be less attractive as they don't provide sufficient incentives to increase conservation efforts, Ahmad said.

"Maybe their needs aren't being met solely by relying on the forests, and thus they have no other option but to clear them," he said.

If this is the case, additional resources or incentives will be needed to drive down deforestation rates under the social forestry program, the researchers said.

### **Mixed results**

Fuss said she wasn't surprised by the findings because anecdotal evidence points to very mixed results for the performance of the social forestry program in slowing deforestation.

A 2020 [study](#) by research organisation Article 33 Indonesia analysed the impact of the social forestry program on the island of Sulawesi using data from 2014 to 2018. It found that while the program succeeded in improving the welfare of the communities there, it also saw a significant increase in the deforestation rate at the same time.

A [case study](#) by the World Resources Institute (WRI) Indonesia of two separate social forestry titles found mixed results. According to the study, the deforestation rate in a community forest in Jambi province on the island of Sumatra saw the deforestation rate drop from 5.47 hectares per year to 1.01 hectares (13.52 to 2.50 acres per year). But in a village forest in neighboring West Sumatra province, the deforestation rate doubled from 0.66 to 1.33 hectares per year (1.63 to 3.29 acres per year).

Rizky Haryanto, a researcher at WRI Indonesia, said one of the reasons for the latter trend was the lack of funding for that particular village forest, which meant villagers couldn't patrol their forest as effectively.

"If we compare that with our study in [Jambi province], we found the operational fund to patrol forest area there to be fully supported by the village fund," he told Mongabay.

A 2017 [study](#) published in the journal *Global Environmental Change*, meanwhile, found that forest loss declined in a sample of early social forestry areas, in particular village forests. But the study noted that performance varied substantially between study sites and between years.

Fuss said her study didn't do an extensive comparison with previous research, but added the differences might be because the areas investigated in prior studies were particularly well run or received additional support.

"Sometimes government or NGO programs are implemented first in those places, where they will work best," she said.

Nevertheless, it's clear that under favorable conditions, the social forestry program can reduce deforestation, the researchers noted.

### **Ingredients for success**

To determine what conditions are needed to achieve this success, more studies will be needed, Fuss said.

"Our paper is a very early impact evaluation of the program on aggregate," she said. "It might be that the program will start showing stronger impacts over time. However, it may make sense to have a closer look and ask communities systematically about what is working and what isn't. We see a lot of heterogeneity between areas, there should certainly be a lot to learn there!"

Rizky echoed Fuss's view, calling for observations into "what factors could reduce forest cover loss rate in village forests, such as what we explained in our study, that are also found in those locations."

Based on his observations, Rizky said, there are at least three possible factors affecting deforestation rate on titled lands under the social forestry program. The first is the availability of alternative livelihoods that don't involve clearing the forest, especially in areas where the contribution of non-timber forest products to the locals' livelihoods is minimal.

The second possible factor is the presence of advisers who actively guide locals in developing their livelihoods, while the third is synergy between all stakeholders in maximising resource use for monitoring the forest area.

Ahmad said the social forestry program should take into account the heterogeneity of local and Indigenous communities in Indonesia.

"Before granting social forestry permits, we need to do a thorough assessment," he said. "We need to look at what the communities need, what are their objectives in managing their forests. And then they also have to have their capacity increased."

Lastly, the government needs to monitor social forestry areas more closely, Ahmad added.

"There needs to be continuous monitoring so when there are problems like deforestation, they can be detected immediately," he said. "So don't let deforestation happen on a large scale before detecting it. It should be detected from the very beginning."

Other experts, however, have questioned the methodology behind the new study. *Hariadi Kartodihardjo*, a lecturer in forestry policy at the Bogor Institute of Agriculture (IPB), said the researchers had failed to explain the details of how they measured deforestation. He said the locations of the forests they analysed, and when they did so, were not clear.

Hariadi also noted that some social forestry titles had been granted decades ago, while others were far more recent. These differences could account for the disparities in deforestation rates, he said.

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