



3.8 Biodiversity conservation and forest management in Indonesia

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Introduction

Although Indonesia comprises only 1.3% of the earth's land surface, it harbours a disproportionately high share of its biodiversity, including 11% of the world's plant species, 10% of its mammals and 16% of its birds. Most of this diversity is found in the country's forests, which are locally and globally important sources of timber and other products. Unfortunately, Indonesia has also experienced massive forest exploitation for timber, as well as extensive conversion of forests, at great costs to biodiversity.

In Indonesia the *Forest Management Act (Undang Undang Pokok Kehutanan) No.41/1999* grants full authority to the state to manage the forest for the benefit of the Indonesian people. Within the act, forests are defined as containing natural resources belonging to the nation that should be protected and managed for the benefit of local communities. With the act focused mostly on timber, the question is how to improve biodiversity conservation in production areas.



DECISIONS ABOUT
MANAGEMENT RIGHTS
AND RESPONSIBILITIES
SHOULD BE MADE

THROUGH PARTICIPATORY PROCESSES
THAT RECOGNIZE CUSTOMARY RIGHTS.

Conserving biodiversity through forest certification in agroforests

The total area of private forest lands in Indonesia is about 1.5 million hectares (ha), with a potential yield of around 40 m³/ha of timber. The timber yield potency in Java alone is about 23 m³/ha. Less than 25,000 ha of the nation's private lands have now been certified, either using the mandatory national criteria and indicators of LEI (Indonesian Ecolabel Institute) or the voluntary programme of the Forest Stewardship Council (FSC). Both standards require areas of conservation importance within forest management units (FMUs) to be identified.

Much of these private lands are managed by local communities, which is common in Java. Most farmers practice agroforestry using timber species such as mahogany (*Swietenia*

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mahogani), sengon (*Paraserianthes falcataria*) and jati (*Tectona grandis*). Under many agroforestry schemes, local people are allowed to inter-plant food crops with the timber species required by the company. Farmers derive benefits from selling timber and from utilizing and managing non-timber forest products (NTFPs).

In this way, agroforestry systems have become an effective means of conserving and protecting forests while maximizing land use, improving public relations, reducing social conflicts and creating employment opportunities. Furthermore, groups of farmers are now seeking certification by working together in cooperative units. Unfortunately, these well-managed private agroforests are not classified as formal managed production forests by the Ministry of Forestry, but as “lands for other purposes.”



A good example of a benefit of implementing sustainable forest management comes from the villages of Selopuro and Sumberejo in Kebumen, Central Java, which were certified in 2004. (Local smallholders such as these villages can join a cooperative scheme, which can then be certified).¹ Village residents report that they do not have problems of water scarcity as other villages do because they maintain their land by implementing agroforestry systems and managing the high conservation values that exist in nature reserves, protection forests, riparian zones and trees that are food sources for wildlife. For example, the local community believes that *gayam* (*Inocarpus fagiferus* Fosb.) trees from the *Leguminosae* family has the ability to conserve soil and ground water. Due to its root system, canopy shape and edible fruits (eaten by people and birds), this tree species is conserved by the local community.

Certification and Indonesia's biodiversity policy

In Indonesia, sustainable forest management (SFM) continues to be interpreted within the narrow context of sustained timber yield; forest managers focus on the total number of valuable or commercial tree species left after harvesting. Timber is highly valued while NTFPs are undervalued. In this and other aspects, national forestry policies are out of line with certification standards.

In general, although certification in Indonesia has almost certainly had benefits at the FMU level — including the conservation of biodiversity — it has not stimulated holistic changes towards coherent biodiversity conservation policies. Many forest managers continue to hope that certification will provide incentives for better management, but these aspirations have seldom been realized. This is partly because certification supporters are not well organized and mostly emphasize the technical aspects of certification. To be successful, certification needs to be coupled with policy change.

In the absence of effective biodiversity conservation policies, the pressure for short-term exploitation of natural resources will increase, especially given rapid human population

growth. Lack of comprehensive biodiversity protocols to identify areas of particular value has resulted in diffuse and ineffective approaches to evaluating biodiversity resources. Although certification has captured some biodiversity conservation values, the scientific community still needs to develop ways to assess the minimum biodiversity needed to meet the criteria for sustainable development. If under certain circumstances, for example, forest managers are instructed by the government to plant exotic species for particular purposes within the working areas, then the forest management unit should develop a system that is able to prevent spontaneous regeneration outside planted areas, insect outbreaks and other adverse environmental impacts as outlined in the FSC standard.

For certification and other conservation initiatives to become effective, we need to clarify who owns the rights to the environmental services provided by forests, including biodiversity, carbon sequestration and watershed functions. Decisions about management rights and responsibilities should be made through participatory processes that recognize customary rights. The people who have lived in and around forests for ages, wisely utilizing resources in traditional ways, see their rights being eroded. There has already been extensive loss of customary rights for tangible products such as land, timber and other forest products, and it can easily be imagined that such losses would be worse for less tangible values like biodiversity. With the central government taking the lead in carbon-based initiatives, the concern is that they will focus on generating income for the nation without due regard for the local people who benefit most directly from the sustainable use of biodiversity.

Given the small area of forests certified, it is hard to conclude that certification is an effective instrument for conserving biodiversity in Indonesia. In spite of this, forest certification remains among the few effective ways to slow the losses of rare, threatened and endangered species and the ecosystems on which they depend. From my perspective, one area that could have been better handled is the scientific-based policy approach. Although this area poses complex issues that are also not easily addressed, there are groups of decision-makers who do not care about science because of its long process and delay in results, while others see that research uses up lots of money even as its results remain unpredictable. The main lesson learned about applying such an approach is that in order to get close to the decision-making process and support law enforcement, more scientists should become politicians and strongly promote ecosystem management and conservation.

Endnote

1. Groups of farmers that have more than 1000 m² in land are pooled in a cooperative.