



World Agroforestry Centre  
TRANSFORMING LIVES AND LANDSCAPES

## Community Based Forest Management (PHBM): Improving welfare and income equity for poor farmers on the forest margins

### HIGHLIGHTS

- **Community-Based Forest Management (Pengelolaan Hutan Bersama Masyarakat = PHBM)**
- **Farmers' income**
- **Income distribution**



### RESEARCH LOCATION

Upper Konto catchment is located in Malang regency, East Java, spanning elevations of 600-2800 m. The catchment's area is 233 km<sup>2</sup>, comprising two districts - Pujon and Ngantang - of 20 villages. Downstream of the catchment lies Selorejo reservoir. The 260 ha reservoir was built in 1970 and provides many benefits to the surrounding community.

Ngantang district (147.97 km<sup>2</sup>) is situated to the west of Batu. The district has 13 villages. Pujon district (119.45 km<sup>2</sup>), with seven villages, makes up 2.61% of Malang regency. Malang regency itself has an area of 4576 km<sup>2</sup>.

The area of Java is only 6% of the total area of Indonesia but it is inhabited by 70% of the 230 million Indonesians. More than 60% of the rural communities in Java depend on agricultural activities as their main source of income. Most of these communities are poor and live on the margins of forests, with an average landholding of less than 0.5 ha per household, hampering socio-economic development.

The 1997 economic crisis almost doubled the percentage of people living in poverty in Indonesia, from 11% in 1990 to 20% in August – September 1998. During the crisis, many migrants living in the city became unemployed owing to the collapses of many industries, forcing them to return to their original villages.

Available land for agriculture in Java is limited. More than 50% of its forest is managed by Perum Perhutani (state forest company) and farmers have limited access to this land. Nevertheless, owing to economic pressure and lack of governance during

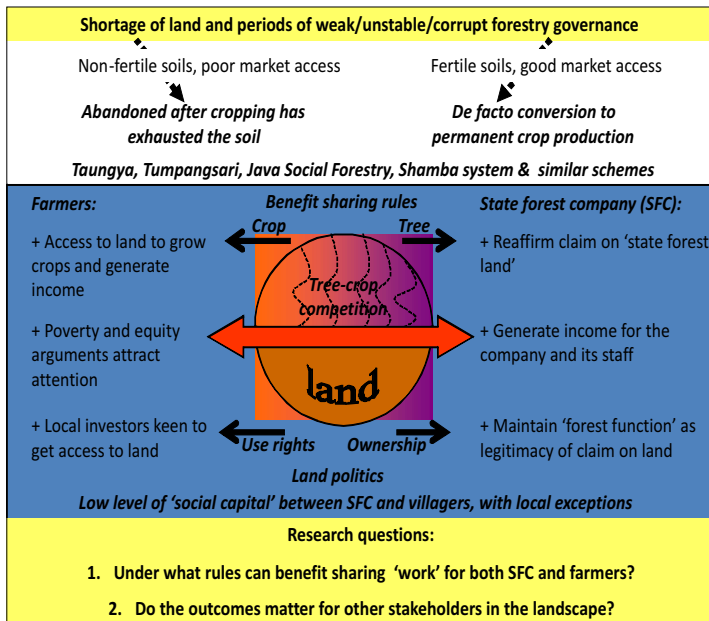
the crisis period, farmers' communities around state forest land cleared the forests. This led to conflict between Perum Perhutani and farmers in many parts of Java.

### PHBM (Pengelolaan Hutan Bersama Masyarakat)

Perum Perhutani, known commonly as Perhutani, is a state-owned business unit (Badan Usaha Milik Negara = BUMN) that has a mandate to manage state forest land. The livelihoods of communities surrounding state forest land is of concern to Perhutani. Interaction between community and forest is inevitable, so the forest must be managed in a way that sustains the ecosystem as well as improving the livelihoods of people living around it.

As a consequence of the ongoing reform of forest management in Indonesia, Perhutani is improving its forest resource management systems, partly through deployment of the Community-Based Forest Management (Pengelolaan Hutan Bersama

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## Income

In Pujon and Ngantang, agriculture is the main source of income. The agricultural systems are mainly dryland agriculture, tree-based systems such as coffee and cacao, rice and dairy cattle. Other sources of income include off-farm activities and labouring.

Average income per capita per day of farmers in Pujon district, represented by Tawang Sari village, was higher than in Ngantang district, represented by Ngantru village (Figure 1). The average income per capita per day of farmers who joined PHBM in Pujon and Ngantang was higher than those who did not join PHBM. In Ngantru village, the average income per capita per day for PHBM farmers was Rp 6153 ( $\pm$  USD 0.68), while for non-PHBM farmers it was Rp 4418 ( $\pm$  USD 0.49). In this instance, the PHBM program increased farmers' incomes by 39% (Rp 1735).

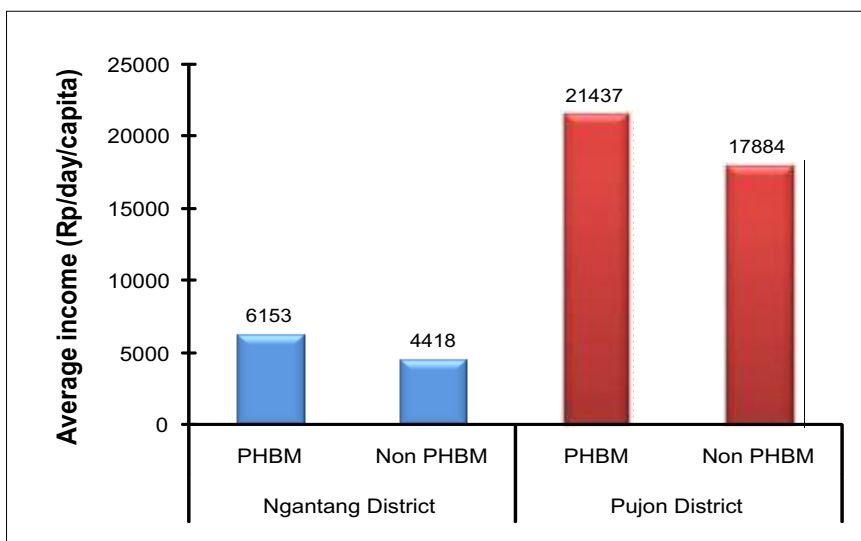
Likewise, PHBM farmers in Tawang Sari village had an average income per capita per day of Rp 21 437 ( $\pm$  USD 2.38), while non-PHBM farmers, who earned Rp 17 884 ( $\pm$  USD 1.99). Here, the PHBM program had increased farmers' incomes by 20% (Rp 3533), which was nevertheless less than the percentage increase in Ngantang.

Using the standard poverty measure of USD 1 per capita per day, farmers in Ngantang still earned below the poverty line. Pujon farmers, however, had income per capita per day of USD 1.55, which makes them, by comparison with their neighbours, prosperous. But even though Ngantang farmers were categorized as poor, they took better care of their environment.

Average income per capita of PHBM farmers is higher than non-PHBM farmers. The difference are 39% and 20%, respectively. The difference will be more higher if include income from tree products (sharing with

Masyarakat = PHBM) program. The PHBM program is based on three principles: *Bersama* (Together), *Berdaya* (Empowering) and *Berbagi* (Sharing) in using land, time and forest resources for mutual benefits that strengthen and support social responsibilities.

In Ngantang and Pujon districts, Malang, PHBM worked together with the Forest Management Partnership Agency (Lembaga Kemitraan Desa Pengelola Hutan = LKPDH). Their activities have positively improved the incomes of villagers who joined PHBM programs. Members of PHBM in Ngantang and Pujon were allowed to use Perhutani land for horticulture under alley cropping or *taungya* systems. Farmers were allowed to harvest and sell all the products, thereby providing more income to the farmers. Similarly, farmers could also plant Napier grass, which could lead to alternative livelihood options such as dairy cattle.



**Figure 1.** Average income per capita per year of farmers in Ngantang district (Ngantru village) and Pujon district (Tawang Sari village).



Perhutani) after the trees has reached maturity.

Overall, the PHBM farmers felt the PHBM program had improved their livelihoods and were hopeful their incomes would further increase if they could continue to manage the Perhutani land and share profits when the timber was harvested.

Income derived from crop production State land (Perhutani land) contributes to poverty reduction. In Ngantang, it can reach 19% of total income and 31% in Pujon.

### Income Distribution

Farmers' incomes generated from agriculture on Perhutani land was able to reduce inequality of income, both in Pujon and Ngantang.

A source of income is influential in improving income equity if it has a concentration coefficient of less than 1. On the contrary, if the concentration coefficient is higher than 1, the source of income is influential in causing income inequality (figure 3).

Analysis on land ownership distribution suggests that access to Perhutani land (based on PHBM program) has enabled land distribution in Pujon and Ngantang to be evenly distributed.

PHBM program has made land more accessible, particularly for poor farmers who do not own land.

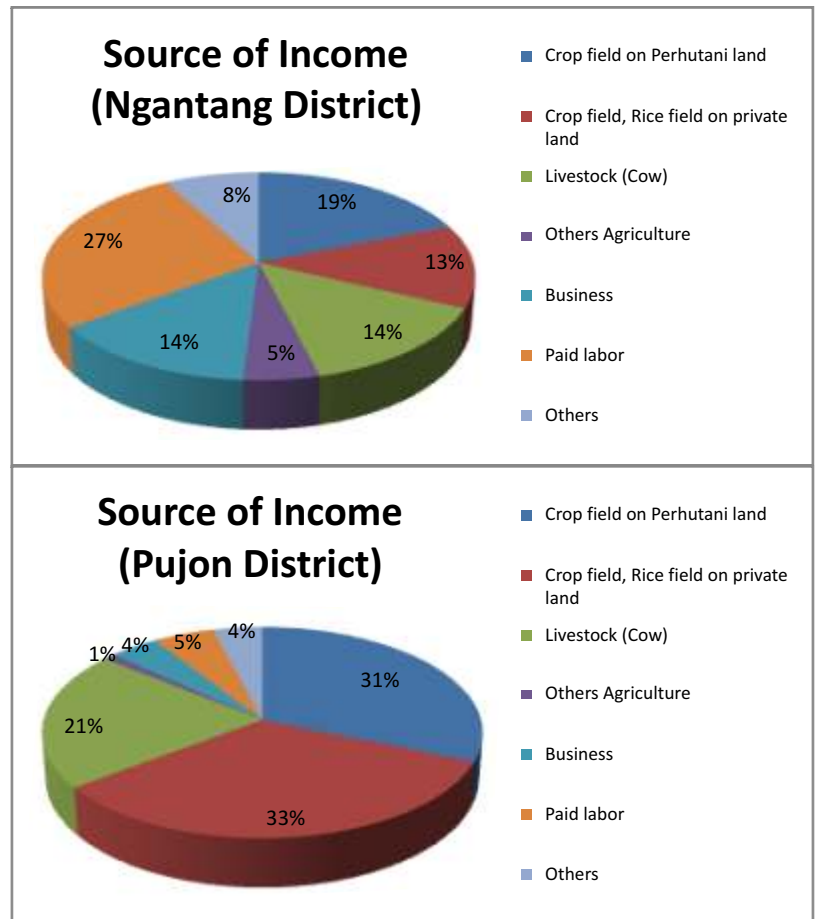


Figure 2. Percentage source income of Ngantang and Pujon district.

Through PHBM program, poor farmers can have access to land without having to pay.

On the other hand, private land ownership has caused land to be distributed unevenly as only the rich will have access to these land.

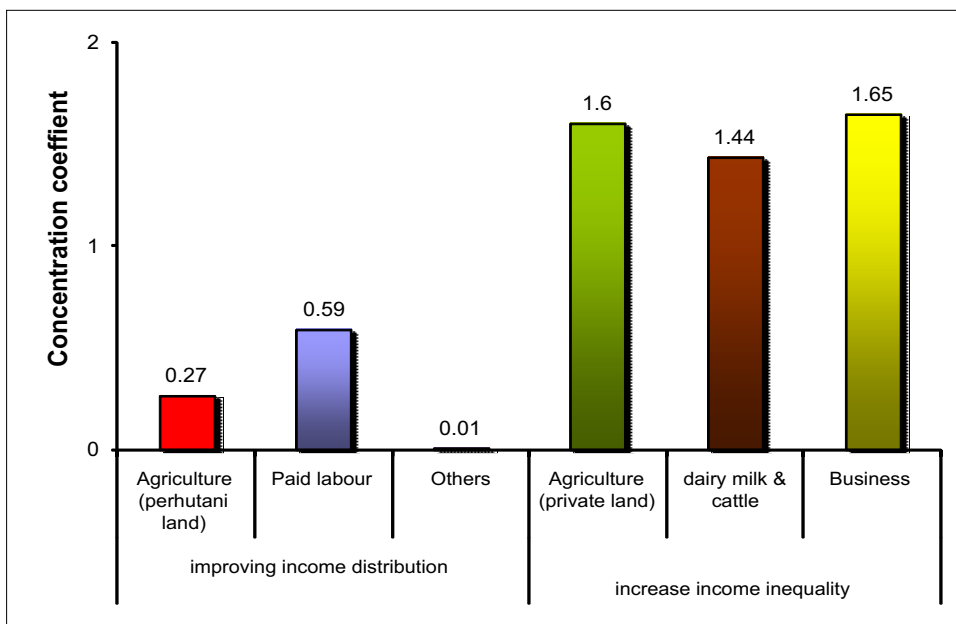


Figure 3. Factors influencing income distribution in Ngantang district.







## National PHBM program

***PHBM is a program to alleviate poverty and increase community livelihoods nationally***

Perum Perhutani reported several successes of the program.

- Since the PHBM program started in 2001, it has provided work for 4.02 million people and additional income amounting to Rp 1.4 billion ( $\pm$  USD 144 million).
- Up to 2008, 5165 villages had joined PHBM, that is, 95% of the total number of forest villages or villages adjacent to forests (5415 villages), encompassing a total land area of 1 992 424.58 ha and involving approximately 5 040 760 households.
- One of the main principles of PHBM is *sharing*. Sharing can mean profit sharing, for example, a percentage of profits from timber and non-timber product sales are given to LKDPH based on a community's contribution to the production process. Since 2002, the amount shared with LKDPH has kept increasing. As of December 2008, the total amount shared with LKDPH was Rp 127.759 billion ( $\pm$  USD 13 million). Of that, Rp 63.45 billion ( $\pm$  USD 6.5 million) came from timber product sales and Rp 64.28 billion ( $\pm$  USD 6.6 million) from non-timber products such as resin, coffee, clove and mining.
- Besides production sharing, since its implementation in 2001 the PHBM program has contributed to Indonesia's Gross Domestic Product by increasing food production (for example, rice, maize and legumes). From 2001 until 2008, the amount of food production was 5.72 million tonne, valued at Rp 5.83 billion ( $\pm$  USD 602 million).



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