

Poverty Alleviation Efforts through a Community Forestry Program in Java, Indonesia

Ahmad Maryudi (Corresponding author)

Faculty of Forestry, Universitas Gadjah Mada
Jln. Agro No.1 Bulaksumur Yogyakarta 55281, Indonesia
Tel: 62-274-550-541 E-mail: maryudi76@yahoo.com

Max Krott

Georg-August Universität Göttingen
Büsgenweg 3, Göttingen 37077, Germany
Tel: 49-551-393-412 E-mail: mkrott@gwdg.de

Received: December 23, 2011

Accepted: January 18, 2012

Published: February 1, 2012

doi:10.5539/jsd.v5n2p43

URL: <http://dx.doi.org/10.5539/jsd.v5n2p43>

This research was partly funded by German Research Foundation (Deutsche Forschungsgemeinschaft/ DFG). The preparation of this manuscript was made possible with the financial support from the Directorate General of Higher Education (DIKTI) of the Ministry of National Education of the Republic Indonesia under the Program Academic Recharging (PAR) 2011 conducted in the Chair of Forest- and Nature Conservation Policy, Georg-August Universität Göttingen (Germany) between October-December 2011.

Abstract

Community forestry has been promoted as a strategy to tackle rural poverty in Indonesia. This article asks the extent to which the program can serve as a vehicle for poverty alleviation in the country. Based on the assessment on the economic outcomes of a community forestry scheme in the island of Java, this article concludes the scheme has yet to fulfill its high promises on providing forest users with genuine escape routes from their poverty-laden life. This paper further argues that instead of alleviating the poverty of the forest users, the community forestry scheme creates only subsistent economy.

Keywords: Community forestry, Poverty alleviation, Subsistent economy, Forest users

1. Introduction

The question on the extent to which forestry activities contribute the improvement of the livelihood of those dwell in the forest proximities has posed a real challenge on forest policy makers in formulating forest policy. Even it has been more than 30 years since Westoby's trenchant critique of the negligible forest contribution to raising the welfare of the rural masses (Westoby, 1987), the question remains appropriate as the problems of the poverty of forest dwellers persist. Such has driven the formulation of community forestry policy, which elaborates the goals of alleviation of rural poverty in forestry activities. Many forms of community forestry exist; they are viewed as effective mechanisms for forest management by mobilizing local people through democratic processes of program formulation and decision making, from which the people can expect to obtain economic benefits.

As trends in numerous developing countries, Indonesia is also interested to promote community forestry as a strategy to tackle rural poverty. In the country, poverty is chronic and pervasive in rural areas, particularly in the forest vicinity. It is estimated that nearly 70 million people dwell in the forest vicinity, approximately 20% of whom are considered poor, lacking the basic necessities to maintain a decent standard of living (Sunderlin et al., 2000; Brown, 2004). The policy thinking of involving rural people in forest activities with the view that they can obtain a share of benefits has suggested the forest policy makers to adopt community forestry as a formal program with explicit objective on poverty alleviation (Rusli, 2003; Wardojo, 2003). Particularly in the island of Java, community forestry policy is viewed to being highly appropriate. It is the country's most densely populated

island; it accounts for only six percents of the country's landmass -a quarter of which gazetted as forestland-, but is inhabited by 60% of the country's population (Badan Pusat Statistik, 2010). In this view, the authority of the Java's forest (State Forest Corporation of Perhutani) implements a collaborative forest management called *Pengelolaan Hutan Bersama Masyarakat* (PHBM), involving mainly the formal institution local forest users.

This article is primarily concerned with the impacts of the collaborative forest management scheme on rural poverty, and asks the extent to which the program can serve as a vehicle for poverty alleviation. Based on the assessment on the economic outcomes local people can benefit from the program, this article enhances the findings of numerous studies that the program has yet to fulfill its high promises on providing forest users with genuine escape routes from their poverty-laden life (Brendler & Carey, 1998; Chakraborty, 2001; Dev et al., 2003; Malla et al., 2003; Thoms, 2006). Indeed, the community forestry model produces some economic benefits for the forest users. Nonetheless, such benefits have rarely exceeded the level deemed sufficient to maintain subsistent life. Evidence further suggests when other benefits that could have improved the livelihoods of the users display, such benefits are immediately taken away from the grabs of the users. Such has encouraged this article to argue that instead of alleviating the poverty of the forest users, the community forestry model creates only subsistent economy.

2. Defining Poverty Alleviation in Forest Activities

Initiatives and efforts on alleviating rural poverty through community forestry in developing countries used to focus on meeting basic needs and serving subsistence purposes. Such was mainly driven by the diminishing availability of important forest resources for the daily livelihood of forest dependent people (Arnold, 1991; Dev et al., 2003). In their review on 250 community forestry cases across the globe, Glasmeier and Farrigan (2005) conclude on the subsistent purposes of community forestry in the developing world. Nonetheless, scholars recently appear to stress on the absolute improvement of the well-being of forest users, with the view on to the accumulation of wealth and the uses of forests as source of savings and asset building for permanent increases in income (Oyono, 2005; Sunderlin, 2006; Pandit et al., 2008). Angelsen and Wunder (2003) suggest that poverty alleviation is to refer to both poverty reduction (people become better off, in absolute and relative terms) that being lifted out from poverty, and poverty prevention. With such view, this article adopts the definition by Maryudi et al. (2012) which refers poverty alleviation to as the enhancement of human well-beings of the direct forest users. An optimal result would be lifting direct forest users into a better economic stage.

It is important here to be clear on the focus of poverty alleviation, whether on the community at large or individual forest users. Several scholars (e.g. Glasmeier & Farrigan, 2005; Maharjan et al., 2009) appear to suggest the focus on both. Nonetheless, such focus seems to discount the fact that many of society members are not directly connected to the community forests as they do not participate in the forest activities. This means that if they enjoy the economic benefits from the community forests, it is at the expense of direct forest users. Examples on the capture of benefits by non-forest users are extensive (for instance see Oyono, 2005; Dhungana et al., 2007). In this respect, McDermott and Schreckenber (2009) recently insist on focusing on the poor and the marginalized segments of the community, principally direct forest users; this encourages this article to adopt individual user-based approach. Therefore, any benefits are included in the analysis as long as they are enjoyed and used for the improvement of the well-being of direct forest users.

3. Involvement of Local People in the Management of Perhutani's Forests

The total forests Perhutani is mandated to administer and manage amount to nearly 2.5 million hectares, 1.7 million hectares of which are designated for production (SFC Perhutani, 2011). Most of the production forests, particularly in Central and East Java, are managed for industrial forest plantation of teak (*Tectona grandis*) for timber, and pine (*Pinus merkusii*) for pine resin and timber. Over the years, the forests have been managed accordingly to exclusionary policies, excluding local people from access to forestland and to valuable forest products (Peluso, 1993). Nonetheless, the embryo of the involvement of forest dwellers in forest activities has been there before the implementation of PHBM collaborative forest management. In fact, the forest corporation adopted *Taungya*-styled program -locally referred to as *Tumpang Sari*, which provided forest users limited access (usually 2 years) to cultivate food crops in between forest main species during reforestation. Instead of genuinely aiming at improving the livelihood of the forest dwellers, the program was intended to obtain cheap labor for reforestation activities (Bratamihardja et al., 2005). Over the past few decades, principally since the 1978 World Forest Congress themed 'Forest for People', Perhutani has also implemented more formal social initiatives, but most of them were often criticized for the lack of genuine involvement of rural people in decision making procedures and for the limited schemes to improve the livelihood of the people (Sunderlin et al., 1990; Peluso, 1992; Lindayati, 2000). Most of the initiatives have been perceived to have exploited rural people in the

reforestation of degraded forestland with limited returns to them (Machfud, 1990; Mayers & Vermeulen, 2002; Large, 2005).

Perhutani was then forced to reformulate its social approaches in the forest management, amidst the massive forest thefts and forestland grabbings occurred in the late of the 1990s. After series of public consultation and discussions with several non-governmental organizations and university scholars (for instance see Nomura, 2008), in 2001 Perhutani introduced its new community forestry program under the scheme of collaborative forest management of PHBM. The core concept of PHBM centers on: 1) the involvement of forest users and their groups in forest activities and, 2) the access and benefits the users and their groups can eventually obtain. Under the program, forest users are required to organize themselves within a legal forest user group (FUG) at the village level, -widely called as *Lembaga Masyarakat Desa Hutan/ LMDH*. FUGs are entitled for management rights over the forests under the agreement and are entitled for some economic benefits. While the collaborative forest management maintains the main feature of access on the forestland for agricultural croppings, it also pledges to the users and their groups with schemes of benefit sharing, i.e. shares from the sales of main forest products. This is initially lauded as one of the major improvement of the schemes of community forestry program (Kusumanto & Sirait, 2000; Lindayati, 2000), and is expected to provide major boasts for efforts on alleviating the poverty of the users.

4. Case Profiles

The research was conducted eight forest user groups in three Perhutani Forest Districts (Table 1). The groups were selected in particular to provide varieties, including the different localities and main forest products. In pine-regions, most of the forests are mature and have produced resin for some years. The forests are rarely thinned, so are quite dense. Final timber cuts have yet been scheduled; therefore the only source of benefit sharings is from pine-tappings. On the other hand, in teak regions, most forestlands, except in FUG Wana Bersemi, are barren and or composed with young stands, so that agricultural plots are widely available for forest users. Over the next few years, there will be neither silvicultural nor final harvests. In contrast, Wana Bersemi forests are composed by old-aged teak, final harvests have ben done during the collaborative management. In addition, some compartements are scheduled for the next few years so agricultural plots will be available for the forest users. In addition, the group will receive shares from the sales of harvested timber.

5. Level of Access on Forest Uses in PHBM Community Forestry

Numerous scholars (Edmunds et al., 2003; Lachapelle et al., 2004; Mahanty et al., 2006; Larson et al., 2007) link the extent to which community forestry can contribute in the efforts on poverty alleviation of direct forest users with the degree of access on forest uses. Formally, both prior and during the implementation of PHBM community forestry, forest uses across cases are made possible only on minor products and restrictive in regard to the valuable forest resources; the uses of the forests and the resources are exclusively allocated to the forest administration.

However, clear differences are there to the extent the users can actually use the forests (Table 2). The last decade has clearly witnessed how strong regulations favouring the state apparatus have become increasingly ineffective. Controls over activities in the forests have notably diminished and forest users use to access the forests with more 'freedoms' manifested in massive unauthorized timber raids and sporadic forestland acquisition, which are the main push for the forest administrations for implementing the community forestry (Djajanti, 2006). In contrast, PHBM community forestry signals more 'forest orders' that forest uses are more controlled. This illuminates a clear decline on the actual access on forest uses in the community forestry. The level of legal forest uses is ensured through various regulations, both of the forest administrations and of the groups, as well as effective enforcement in the field. Across cases, there are signals on effective implementation of the pre-defined forest uses, principally due the participation of the group committees in ensuring forest regulations, by for instance putting the regulations in the group's constitution and internal rules as well as organizing regular patrols and establishing surveillance model of peer-controls.

6. The Economic Benefits for Forest Users

6.1 Food Crops from Agro-Forestry Practices

The level of access outlined in Table 2 has clearly pointed out that the community forests still rest on models of agro-forestry practices, through which cultivating agricultural commodities -mainly food crops-, in between the main forest species is made possible for the forest users. This provides an early taste on the outcomes of the community forestry since the heavily-criticized scheme (*Tumpanghari*) is being maintained. The idea on the agro-forestry itself was laid on the assumptions on rural people's need of more farming land, given the limited,

often insufficient, possession of farmland for producing the basic needs to sustain their life (see Simon, 1994; Djamhuri, 2008). In the community forestry, users are permitted to cultivate agricultural commodities, usually 2 years during the forest establishment. Access on the forestland is formally allowed on post-harvest compartments, locally referred to as *bukaan*, meaning the compartments are opened for access by interested forest users. The term *bukaan* highlights the limited extent forest users can access the forests in that they are restricted to access the forest outside the pre-defined duration, not only for the agricultural cropping but also other activities, not to mention obtaining the valuable forest products (timber).

Whether the users are benefiting from the agro-forestry scheme depends on whether they are engaged in the activities as under particular circumstances they might opt not to utilize the opportunities to use the forestland for cultivating agricultural crops. Across cases, interests of forest users on the scheme greatly vary, usually depending on the combination of factors inherently associated with reforested compartments, whether the forest soil is hospitable for agricultural crops and the accessibility/ distance of parcels from the village, as well as other external factors such as the availability of other earning sources. Generally, our cases from the pine forests suggest there are some competitions among direct forest users to obtain the forest parcels as the forest soil is relatively fertile, combined with sufficient rainfalls in the regions, suggesting high expectations on the yields of agricultural farming. Nonetheless, the four teak community forest cases suggest otherwise in that despite having limited farmland, some of the people choose not to engage in agro-forestry practices. This is particularly due the poor forest soil. The forests are grown on dry lime-stoned soil, which is poor for agricultural crops. The low interests are more apparent given the time and costs devoted for clearing the shrubs and improving the quality of the soil in the first year are said not paying off.

Given the different circumstances mentioned above, the yields from agro-forestry practices vary (Table 3). Nonetheless, most group committees suggest that the food crops are by no means to satisfy the farmers' daily needs. Instead, they are seen as either complements to those yielded from their private farmland or additional earnings as some of the users sell the products. In addition, to satisfy their basic daily needs, users are to find other income sources. That people are not keen on cultivating the forestland indicates the scheme remains the last resort option for the people, contradicts with the common assumption of 'land-hungry people', mentioned earlier.

6.2 Non-timber Forest Products

Non timber forest products are free for collection by the forest users. However, given the nature of monoculture forest of the cases, the products are sporadic and limited, except in some parts of Bumi Sari Makmur community forest, which have developed into mixed forests, composed by several species at different age stages –replacing the pine monoculture forest. The common products across cases include fodders and fuel-wood. Fodder is an important product forest users obtain from the forests, as they usually raise livestock such as cows and goats, seen as savings for emergency needs. Fodders in the forests are usually of abundance; therefore the needs of fodders are usually satisfied. Dead/ fallen branches are the main source of fuel-wood for the users. In the research locations, the users use to obtain additional fuelwood from from trees' stumps after the completion of forest harvests, which are now increasingly limited due the commonly young forest stands. Commercialization of the stumps -particularly from teak forests- by the group committees for furniture industries further limits the chances of the individual users to obtain fuelwood from the forests. Other products collected include wild medicinal crops, teak leaf cocoons for either self dietary or limited sales.

6.3 Wages from Employment

Forest management activities occasionally conducted in some community forests offer casual employment opportunities for local people, whenever interested then are said to be more prioritised than non-members. When there are limited interests on agro-forestry schemes, the forest administration is to hire reforestation-labours. Few other forest activities to provide employment opportunities for the people include land preparation, nursery works, tending and thinning as well as logging (Table 4). Such offers the users to get some incomes from the wages. Nonetheless, not all of the limited opportunities are for captures. Forest planting for instance is done during the same time as of farming activities, to which forest users are devoting their time since the latter, as has been said is their main source of living. In addition, the forest activities require technical skills the users rarely meet.

More employment opportunities are available in the four pine community forests, particularly tapping and hauling the pine resin. They provide more secured and perpetual work for the tappers. The earnings are tempting; interests are high but not all satisfied. Usually, the pine community forests are parcelled to interested users, as of the scheme in forest parcels for agricultural cropping. In many ways, those obtaining particular parcels are

entitled for both scheme, but in the high demand circumstances, group committees regulate the users to share the access, either on the forestland for agricultural cropping or resin tapping. The rules usually apply for 'new tapping-compartments'. Some users might have obtained the parcels prior the implementation of the community forestry. In this circumstance, they are usually allowed to keep the parcels. Once allotted with 'tapping parcels', users are entitled to the employment of resin tapping. They usually collect the resin every other day and haul the resin to the nearest depot. The average earning of the tappers is approximately 1 million rupiah (1USD= 9,000 rupiah)

6.4 Shares from Sales of Main Forest Products

As said, PHBM community forestry also pledges to the users and their groups with schemes of benefit sharing, i.e. shares from the sales of main forest products. Forest users and their groups were in enthusiastic mood, expecting major improvement of rural life qualities. In the community forestry model, the shares (note) of 25% and 5% from the sales of timber and pine resin respectively are promised to be splashed to the FUGs, which are then to allocate the money to fostering local economic development and improving the well-being of the people. Whether the forest users enjoy the share depends on the current potential of the forests and the distribution of the money within the group. In general, the forest users find themselves of enjoying the marginal benefits. Across the study-cases, community forest activities focus on rehabilitating the forests (reforesting the land) and improving the security of the forests. Harvests are rare, if not non-existent, given the generally young forest structure, meaning limited money has been splashed out (Table 5). The limited inflow funds are usually used for constructing community forest related building and facilities such as group offices. The common explanation from the committees is that the limited fund would be meaningless to be distributed to the users. In some other groups, the limited shares were also dedicated to the committees, and none were for the users.

Wana Bersemi community forest is indeed an exceptional case in the way substantial amount of money has been dedicated to the group since the forest is one of the few backbones for timber production of the forest district given the forest structure of many old-aged classes. The massive inflow funds are yet to promote the improvement of the life quality of the forest users. As Table 4 shows, between 2004-2007 only a marginal fraction of less than 5% has been dedicated exclusively to the direct forest users. Indeed, it is not to say that direct forest users are not benefiting from the share. Instead, much of them are enjoyed by such local elites as the committee members and village officers. Even those are external to the community forest also enjoy the benefit from the benefit sharing. This includes some 'kick-back payment' for forest officers for forest management activities, including forest patrols. Further, commitments to the associations/ federations of forest user groups at various levels from the village to district, as well as cross-subsidies to other forest user groups trim the received shares.

Users indeed enjoy some fractions of the benefit sharing through for instance community development and social activities. Across cases, when funds are there, construction of public facilities is prioritised. Village development includes road stoning, mushalas/ mosques and group offices. While some of these are enjoyed directly by users, many village development activities do not directly contribute in the effort to improve the livelihood of the users. For instance, although it might be preferred, the construction of group offices and religion-related facilities has limited connection to poverty alleviation. From the shares, the committees of Wana Bersemi community forestry provided free vaccinations and health services, paid the land taxes of the whole village members, as well as donating some money for those conducting death ceremonies. Those benefits are however enjoyed by the whole village members, instead of those contributing in forest activities. In addition, the funds allocated constitute a relatively small fraction of the total money. A large portion of the benefit sharing is kept as group savings, allocated for fostering local business activities. The focus on creating local business often misses the targets of the users as the committees focus on the expectation to improve the capitals of the groups, instead of directly improving the livelihood of the people.

7. Discussion and Conclusions

This article assumes that when direct users get high degree of access to forest uses, the likeliness of they will get lifted from their poverty is high. Given the relatively limited access by direct forest users as explained above, one could then wonder on realization of the poverty alleviation through PHBM community forestry. Therefore, the abilities of the forest users to successfully overcome their poverty-related problems remain in questions. The main difference of PHBM from prior programs is the shares from the sales of main forest products. While prior programs have been widely perceived to have failed –as earlier said, the contribution of those benefits to in the efforts of rural poverty alleviation is also limited. In fact, in Wana Tani and Wana Jati Wases community forests, the products and services enjoyed by the users are astonishingly limited. While the benefits from the forests

rarely extend the food crops from the agroforestry practices in the early stage of forest restoration, the relatively poor soil conditions limit the crop productions. Other products, including non-timber forest products, are relatively limited, because the forests are monoculture and poorer than conditions prior PHBM.

That the community forestry case-scheme pledges more benefits of splashing a portion from the sales of main forest products for fostering local economic development and community services –that some have initially lavished praise on the community forestry (Djambhuri, 2008), might draw impressions on the improved economic benefits. In fact, this is the main attraction that encourages forest users and the groups to participate in PHBM. However, the cases clearly reveal that such benefits are still limited -much lower than the forest users might have initially expected- due to the relatively young forests that limit the harvests. This finding also explains in the implementation of PHBM community forestry, the objective of forest restoration with the active participation of local people is more prioritized than the goal on poverty alleviation. This can eventually dampen the enthusiasm of the local people in engaging in forest activities. Even when the benefits are there (e.g. Wana Bersemi case), group committees appear to bypass their distribution to the users. Such suggests us to argue that the community forestry has been set up only for the subsistent economy of the users, limited the commercial opportunities; and is yet to provide them with escape routes from their poverty-laden daily life.

While the forest stock is expected to improve in the long run -assuming the meaningful participation from the forest users in nurturing and patrolling the forests, the community forestry is potentially to produce more benefit for local people, particularly from the sharing of the sales of forest products. However, such will unlikely improve the living conditions of the forest users if the current patterns of accumulation of benefits by a small group of non-forest users, notably the group committee members, continue, as the case of Wana Bersemi has revealed. To enhance the contribution of the community forestry in the efforts poverty alleviation, there should thus be institutional arrangements promoting fair and equitable benefit distribution within the community forestry groups with the emphasis of giving more benefits to the forest users which are the poorest group of people in the village.

References

- Angelsen, A., & Wunder, S. (2003). *Exploring the Forest-Poverty Link: Key Concepts, Issues and Research Implications*, CIFOR Occasional Paper No.40. Bogor: Center of International Forestry Research.
- Ardana, R. (2000). Desa Mengepung Hutan. In Bachtiar, I. (Ed.): *Prosiding Seminar dan Lokakarya Pengelolaan Hutan Partisipatif Terintegrasi Sebagai Implementasi PHBM di Randublatung*. Lembaga ARuPa. [Online] Available: <http://www.arupa.or.id/download/prosidingsemiloka.pdf> (March 2, 2010)
- Arnold, J. E. M. (1991). *Community Forestry: Ten Years in Review*. Community Forestry Note, No.7. Rome: Food and Agricultural Organization of the United Nations (FAO).
- Atmadja, S. (2005). Community Forestry on Government Lands: Forest Framing in East Java, Indonesia. *Sylvanet*, 18 (2), 2-5.
- Badan Pusat Statistik (2010). *Hasil Sensus Penduduk 2010: Data Agregat per Provinsi*. Badan Pusat Statistik, Jakarta, Indonesia.
- Bratamihardja, M., Sunito, S., & Kartasubrata, J. (2005). *Forest Management in Java 1975-1999: Towards Collaborative Management*. ICRAFT Southeast Asia Working Paper, No.2005-1. Bogor: ICRAFT Southeast Asia Regional Office.
- Brendler, T., & Carey, H. (1998). Community forestry, defined. *Journal of Forestry*, 96 (3), 21- 23.
- Brown, T. (2004). Analysis of population and poverty in Indonesia's forests. Draft. Jakarta: Natural Resources Management Program Report.
- Chakraborty, R. N. (2001). Stability and Outcomes of Common Property Institutions in Forestry: Evidence from the Terai Region of Nepal. *Ecological Economics*, 36, 341-353. [http://dx.doi.org/10.1016/S0921-8009\(00\)00237-8](http://dx.doi.org/10.1016/S0921-8009(00)00237-8)
- Dev, O. P., Yadav, N. P., Springate-Baginski, O., & Soussan, J. (2003). Impacts of Community Forestry on Livelihoods in the Middle Hills of Nepal. *Journal of Forest and Livelihood*, 3 (1), 64-77.
- Dhungana, S. P., Pokharel, B. K., Bhattarai, B., & Ojha, H. (2007). *Discourses on Poverty Reduction from Forestry in Nepal: A Shift from Community to Household Approach?* International Conference on Poverty Reduction and Forests, Bangkok, September 2007.
- Djajanti, D. (2006). Managing Forest with Community (PHBM) in Central Java: Promoting Equity in Access to

- NTFPs. In *Hanging In the Balance: Equity in Community-Based Natural Resource Management in Asia*, Eds. Mahanty, S. Fox, J., Nurse, M. Stephen, P. and McLees, L., pp.63-82. RECOFTC: Bangkok and East-West Center: Honolulu.
- Djamhuri, T. L. (2008). Community participation in a social forestry program in Central Java, Indonesia: the effect of incentive structure and social capital. *Agroforest System*, 74, 83-96. <http://dx.doi.org/10.1007/s10457-008-9150-5>
- Edmunds, D., Wollenberg, E., Contreras, A. P., Dachang, L., Kelkar, G., Nathan, D., Sarin, M., & Singh, N. M. (2003). Introduction. In *Local Forest Management: The Impacts of Devolution Policies*, Eds.: Edmund, D. & Wollenberg, E., pp. 1-19. London: Earthscan.
- Glasmeyer, A. K., & Farrigan, T. (2005). Understanding community forestry: a qualitative meta-study of the concept, the process, and its potential for poverty alleviation in the United States case. *The Geographical Journal*, 171 (1), 56-69. <http://dx.doi.org/10.1111/j.1475-4959.2005.00149.x>
- Kusumanto, Y., & Sirait, M. T. (2002). *Community Participation in Forest Resource Management in Indonesia: Policies, Practices, Constraints and Opportunities*. Southeast Asia Policy Research Working Paper, No. 28. Bogor: ICRAF SE-Asia. Southeast Asian Regional Research Programme.
- Lachapelle, P. R., Smith, P. D., & McCool, S. F. (2004). Access to Power or Genuine Empowerment? An Analysis of Three Community Forest Groups in Nepal. *Human Ecology Review*, 11 (1), 1-12.
- Large, P. J. (2005). *Making the Links Between Natural Resource Policy and Livelihood Dynamics of the Rural Poor: Social Forestry in Java, Indonesia*. Working Paper 19, Rural Poverty and Environment Working Paper Series. Ottawa: International Development Research Centre.
- Larson, A. M., Pacheco, P., Toni, F., & Vallejo, M. (2007). The Effects of Forestry Decentralization on Access to Livelihood Assets. *The Journal of Environment Development*, 16 (3), 251-268. <http://dx.doi.org/10.1177/1070496507306220>
- Lindayati, R. (2000). *Community forestry policies in selected south-east Asian countries*. CBNRM Program Initiative. Ottawa: International Development Research Centre.
- Machfud, D. S. (1990). *Social Forestry in Disputed Upland Areas in Java*. Network Paper 10a. Social Forestry Network. London: Overseas Development Institute.
- Mahanty, S., Gronow, J., Nurse, M., & Malla, Y. (2006). Reducing Poverty through Community Base Forest Management. *Journal of Forest and Livelihood*, 5 (1), 78-89.
- Maharjan, M. R., Dhakal, T. R., Thapa, S. K., Schreckenberger, K. & Luttrell, C. (2009). Improving the benefits to the poor from community forestry in the Churia region of Nepal. *International Forestry Review*, 11 (2), 254-267. <http://dx.doi.org/10.1505/ifor.11.2.254>
- Malla, Y. B., Neupane, H. R., & Branney, P. J. (2003). Why aren't Poor People Benefiting More from Community Forestry? *Journal of Forest and Livelihood*, 3 (1), 78-93.
- Maryudi, A., Devkota, R. R., Schusser, C., Yufanyi, C., Rotchanaphatharawit, R., Salla, M., Aurenhammer, H., & Krott, M. (2012). Back to Basic-Considerations in evaluating the outcomes of community forestry. *Forest Policy and Economics*, 14 (1), 1-5. <http://dx.doi.org/10.1016/j.forpol.2011.07.017>
- Mayers, J., & Vermeulen, S. (2002). *Company-community forestry partnerships: From raw deals to mutual gains?* Instruments for sustainable private sector forestry series. London: Institute for Environment and Development (IIED).
- McDermott, M. H., & Schreckenberger, K. (2009). Equity in community forestry: insights from North and South. *International Forestry Review*, 11 (2), 157-170. <http://dx.doi.org/10.1505/ifor.11.2.157>
- Nomura, K. (2008). The politics of participation in forest management. A case from democratizing Indonesia. *The Journal of Environment and Development*, 17 (2) 166-191. <http://dx.doi.org/10.1177/1070496507312598>
- Oyono, P. R. (2005). Profiling Local-Level Outcomes of Environmental Decentralizations: The Case of Cameroon's Forests in the Congo Basin. *The Journal of Environment Development*, 14 (3), 317-337. <http://dx.doi.org/10.1177/1070496505276552>
- Pandit, B. H., Albano, A., & Kumar, C. (2008). *Improving Forest Benefits for the Poor: Learning from community-based forest enterprises in Nepal*. Bogor: Center of International Forestry Research.
- Peluso, N. (1992). *Rich Forests, Poor People: Resource control and resistance in Java*. Berkeley (CA):

University of California Press.

Peluso, N. L. (1993). Traditions of Forest Control in Java: Implications for Social Forestry and Sustainability. *Global Ecology and Biogeography Letters*, 3 (4/6), 138-157. <http://dx.doi.org/10.2307/2997766>

Rusli, Y. (2003). *The Policy of the Ministry of Forestry on Social Forestry*. International Conference on Rural Livelihoods, Forest and Biodiversity, Bonn 19-23 May 2003.

Simon, H. (1994). *Merencanakan pembangunan hutan untuk strategi kehutanan sosial (Seri kajian MR)*. Yogyakarta: Aditya Media.

Sunderlin, W. D. (2006). Poverty alleviation through community forestry in Cambodia, Laos, and Vietnam: An assessment of the potential. *Journal of Forest Policy and Economics*, 8 (4), 386-396. <http://dx.doi.org/10.1016/j.forpol.2005.08.008>

Sunderlin, W., Artono, A., Palupi, S., Rochyana, & Susanti, E. (1990). *Social Equity and Social Forestry in Java: Preliminary Findings from Four Case Studies*. Network Paper 10a. Social Forestry Network. London: Overseas Development Institute.

Sunderlin, W. D., Resosudarmo, I. A. P., Rianto, E., & Angelsen, A. (2000). *The effect of Indonesia's economic crisis on small farmers and natural forest cover in the outer islands*. Occasional Paper 29(E). Bogor: Center of International Forestry Research.

Thoms, C. A. (2006). Conservation Success, Livelihoods Failure? Community Forestry in Nepal. *Policy Matters*, 14, 169-179.

Wardojo, W. (2003). *Empowering Communities to Manage Forests: Social Forestry in Indonesia*. International Conference on Rural Livelihoods, Forest and Biodiversity, Bonn 19-23 May 2003.

Westoby, J. (1987). *The Purpose of Forests: Follies of Development*. Oxford: Basil Blackwell.

Note

The share is corrected with a coefficient of rotation of harvested compartment divided by the running year of the agreement. For example: an 80 year old compartment harvested in the 5th year of the agreement, the share received amount to = (5: 80) x the sales.

Table 1. Forest profiles

LMDH	Forest district	Main forest products	Total Area (Ha)	Forest composition at the start of PHBM community forestry
Rimba Lestari	Kedu Selatan	Pine resin & timber	364.10	Pine, half of the forest producing pine resin
Lestari	Kedu Selatan	Pine resin & timber	90.00	Pine, 2/3 of the forest producing pine resin, 6 Ha scheduled for clear cuts
Sedyo Rahayu	Kedu Selatan	Pine resin & timber	222.10	Pine, 85% of the forest producing pine resin, 22.8 Ha scheduled for clear cuts
Bumi Sari Makmur	Kedu Selatan	Pine resin & timber	200.90	Pine, 3/4 of the forest producing pine resin, 18.8 Ha scheduled for clear cuts
Wana Bersemi	Randublatung	Teak timber	2,661.80	Teak, mostly old-aged, there will be some final harvests over the next 5 years
Wana Jati Waseso	Randublatung	Teak timber	552.50	Teak, mostly barren forestland and young stand
Wana Tani	Randublatung	Teak timber	580.50	Teak, mostly barren forestland and young stand
Karya Lestari	Pemalang	Teak timber	702.10	Teak, mostly barren forestland and young stand

Source: Management plans of the respective forest districts and the PHBM agreements of the respective groups

Table 2. Matrix of access on forest uses

Forest uses	Prior practices	PHBM community forestry			Changes of access
		Free access	Limited permit	Bans	
▪ Agro-forestry practices					
Planting seasonal food crops	Free access		*		(-)
Planting perennial food crops	Sporadic		*		(+/-)
Planting forest species	Sporadic		*		(+/-)
Selling of agro-forestry parcels	Widespread			*	(-)
▪ Access on non-timber products					
Wild fodders	Free access	*			(+/-)
Fuel-wood	Free access		*		(+/-)
Wild medicinal crops	Free access	*			(+/-)
Others	Free access		**		(+/-)
▪ Grazing					
	Widespread		*		(-)
▪ Hunting					
	Widespread			*	(+/-)
▪ Timber cuts					
Poles	Uncontrolled			*	(-)
Branches for fuel-wood	Uncontrolled			*	(-)

Notes: (-) means decrease, (+/-) means no significant change, (+) means increases

Source: User groups' reports, interviews with forest officers and group committees

Table 3. Estimated production of main food crops

Forest user group	Production (ton/ Ha)		Average forest parcel (Ha)	Average production/ user (ton)	
	Dry-Rice	Corn		Dry-Rice	Corn
Wana Bersemi	-	2.50	0.25	-	0.63
Wana Jati Wasesa	-	2.00	0.30	-	0.60
Wana Tani	-	2.00	0.25	-	0.50
Karya Lestari	-	2.50	0.25	-	0.63
Rimba Lestari	2.50	3.0-5.0	0.40	1.00	1.20-2.00
Lestari	-		0.25	-	0.75-1.25
Sedyo Rahayu	-		0.57	-	1.71-285
Bumi Sari Makmur	-		0.45	-	1.35-2.25

Source: Interviews, monitoring boards of user groups, reports on community forestry

Table 4. Employment in 3 group cases of Randublatung Forest District, 2008

Village	Number of man-day					Total
	Nursery	Planting	Tending & Thinning	Logging	Log stocking	
Wana Bersemi	-	804	115	160	-	1,079
Wana Jati Wasesa	-	202	91	10	-	303
Wana Tani	-	-	-	-	-	-
Total 34 forest villages in Randublatung	54	5,824	1,897	746	875	9,292

Source: Draft Report of Social Assessment of Randublatung Forest District

Table 5. Shares from the sales of main forest products and the distribution

Forest user group		Rimba Lestari	Lestari	Sedyo Rahayu	Bumi Sari Makmur	Wana Bersemi	Wana Jati Wasesa
Year		2006	2004-07		No record, rules defined	2003-07	2007
Total sharing (in million rupiah)		24	17	no record		2,122	10
Distribution of sharing (%)	Direct users	-	-	-	-	3.4	-
	Village development	30.0	100.0		10.0	15.6	10.0
	Social activities	4.0	-		5.0	14.8	-
	Group saving (Business development fund)	35.0	-		50.0	29.6	42.5
	Incentives for committee (or village chief)	13.5	-		20.0	12.7	20.5
	Village Forum	2.5	-		-	3.2	2.0
	Sub-district Forum	-	-		-	1.7	-
	FUG Association	-	-		-	0.6	-
	Subsidies to other groups	-	-		-	6.3	-
	Office operational & monev	15.0	-		15.0	12.1	25.0
Total		100.0	100.0		100.0	100.0	100.0

Note: Wana Tani and Karya Lestari until the time of research have yet received any shares. Either, the groups have yet defined the distribution once receiving the shares.

Source: user groups' reports, interviews