

Social Forestry, Responsible Investments to Support Sustainable Forest Management and Community Income

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Abstract: Community-Based Forest Management (CBFM) has had a long experience in Indonesia to support the sustainable forest management. The CBFM approach has evolved into a new model, i.e., Social Forestry (SF). The SF drives to a more legal access from local community to utilize forest area. This SF opens opportunity for a more responsible investment by private sector to create cooperation's with community organizations. The Forest Investment Program-1 implements CBFM through SF and has conducted activities in 17 villages, targeted a 17,000 ha into an agreement between communities with FMU and private sectors. A SWOT analysis is used to identify potential commodities in the targeted village and also to assess capacity of community organization. Interviews and focused group discussions were conducted to facilitate the development of a proposed cooperation with external parties for potential investment. Within the FIP-1 villages, there are five licenses for Social Forestry. Additionally, 6 new licenses are in the process. A total of USD 5 Million investment is planned for 17 villages. In average, for those 5 villages that has obtained SF licenses, a total of USD 1.6 Million have been invested in creating alternative livelihood, including USD 100 K/village for bee keeping, aquaculture and handicraft business development, USD 1.3 M for forestry program, and USD 222 K for village infrastructure program. In addition to those commodity based investment, the ecosystem services (forest carbon) is also a promising sector for investment. The Social Forestry, with a legal access to forest area, and an improved capacity of community organization, has a great opportunity to be part of the forest carbon business development.

Key words: social forestry, sustainable forest management, Borneo, Kalimantan, community forest

1. Introduction

Forest management in Indonesia not only deals with trees or fauna living in the forest. The more attention in fact, should be paid to the socio-economic and cultural aspect. BPS (Statistic Central Bureau) of Indonesian Government stated that around 32 million of Indonesian people live inside and around forest area [1]. Indonesia also rich in the number of ethnics. The document also stated that there are approximately 1,340 ethnics in Indonesia [2]. Forest management

also deals with private sectors development. These aspects have added issues related to sustainable forest management in Indonesia.

Forest Investment Program-1 (FIP-1), entitled "Community Focused Investment to Address Deforestation and Forest Degradation", is a five-year grant project administered by the Asian Development Bank (ADB) in a cooperation with the Ministry of Environment and Forestry, the Government of Indonesia. The Project aimed to contribute in emission reduction of 3.7 million tons CO₂e from 2016-2026 and to increase community income in two districts by 20% at the end of the project. Under the output one of the FIP-1 Project, a total area of 17,000 hectares is to

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be brought into a Community Based Forest Management (CBFM) agreement between Forest Management Unit (FMU) and community groups. The CBFM implementation adopted the Social Forestry scheme, that has become the Government priority program to provide solution to the tenure conflict issue as described in the first paragraph.

The FIP-1 project is implemented in 17 villages, distributed in two districts, i.e., 12 villages in Kapuas Hulu district and 5 villages in Sintang district, West Kalimantan Province, Indonesia. The 17 villages cover the total area of almost 700,000 Ha with total population from productive age (15-60 yrs) of around 10,177 people [3]. Most of those area (90%) are within forest area and in fact, community has been living and utilizing forest area from generation to generation. The Social Forestry scheme, under the CBFM program, has the objective of providing community a legal and long-term access to forest area to improve their livelihood. Additionally, the FIP-1 Project also provide investment to improve village economic development, village infrastructure, agroforestry program and investment to improve individual and institutional capacity of village community.

2. Methodology/Approach

Facilitation and establishment of Social Forestry in the targeted village follows several steps as provided below (following the relevant regulation [4]):

2.1 Initial Consultation

The objective of community consultation is to obtain community consent on the Social Forestry program. During the consultation, description and scope for Social Forestry scheme was presented, including regulatory framework, potential impact to community culture and economic activities in the village. Highlight was also presented related to Indigenous Peoples group and other vulnerable groups.

2.2 Mapping and Identification of Area for Social Forestry

Selection of suitable area include geographic information system mapping and ensure that the area is clear and clean (e.g., no conflict with other administrative boundaries and no overlaps with private sector concessions).

2.3 Second Consultation to Establish Social Forestry Institution

The second consultation is needed to have an agreement on how communities will organize themselves to run the SF agreement. An overview on the SF institution following the framework described in the government regulation is presented to community groups. Upon agreement of consultation participants, the SF organization structure will be legalized by the Decree of the Village Head, witnessed by the Community/Ethnic Leaders.

2.4 Identification of Potential Economic Commodities and Alternative Livelihood

Under the FIP-1 project investments, several commodities have been introduced, including: petai (*Parkia speciosa*), jengkol (*Archidendron pauciflorum*), durian fruit (*Durio zibethinus*), rubber (*Hevea brasiliensis*), coffee (*Coffea* sp.), lemon grass, vegetables, pepper (*Piper nigrum*), honey, fish, and handicraft.

2.5 Preparation of Social Forestry Proposal

The Social Forestry Working Group at the West Kalimantan province provide technical assistance during the proposal development. The format of the proposal follows the Ministry Regulation No. 9/2001 concerning Social Forestry.

2.6 Administrative and Technical Verification

After confirmation on the administrative document's completeness, technical verification (ground checking,

interview with local community and community leaders) can be conducted.

2.7 Social Forestry Agreement

The Social Forestry Agreement is an agreement between the Government and Community Group to manage forest area according to the terms and condition established in the agreement. Community group has the legal access for 35 years and can be renewed based on the need and upon approval from the Ministry.

2.8 Operationalization of Social Forestry Agreement

The Social Forestry group will develop the Workplan. The workplan is based on the business opportunity that was identified during the proposal development. The Government provide assistance to the newly established village institution through the social forestry working group at the province level. Local NGOs or other parties can facilitate the development and implementation of the business plan.

3. Results and Discussions

3.1 Results

Table 1 below summarizes the result of community consultations related to identification of area proposed for CBFM and type of Social Forestry scheme preferred by community. From total of 8 villages, two villages propose a conservation partnership agreement (due to all of village area are within national park/conservation area). While other 6 villages propose Village Forest. Village Forest scheme provides more opportunities for community in utilizing forest resources. Total area of 27,928 Ha was identified, with total potential beneficiaries of 890 peoples (consist of 628 male and 262 female).

Table 1 also shows that all beneficiaries are member of two major ethnic groups in Kalimantan/Borneo, which is the Dayak and Malay tribes. It indicates that the Social Forestry program will strengthen Indigenous Peoples in the region.

Table 1 Summary of community consultations related to CBFM program.

Village	Ethnic Groups ^{1,2}	M	F	T	CBFM Area (Ha)	Social Forestry Agreement
District of Kapuas Hulu						
Tanjung Lasa	Dayak Bukat and Taman	122	52	174	5,948	Village Forest
Vega & Pulau Majang	Malay	121	65	186	927	Conservation Partnership
District of Sintang						
Senangan Jaya	Dayak Ketungau	50	32	82	1,834	Village Forest
Senangan Kecil	Dayak Ketungau	40	34	74	2,446	Village Forest
Tanjung Sari	Dayak Ketungau	75	33	108	3,320	Village Forest
Radin Jaya	Dayak Ketungau	85	28	113	4,007	Village Forest
Kayu Dujung	Dayak Ketungau	135	18	153	9,437	Village Forest
Total		628	262	890	27,928	

¹ The Dayak are one of the native groups of Kalimantan/Borneo. It is a loose term for over 200 riverine and hill-dwelling ethnic groups, located principally in the central and southern interior of Borneo, each with its own dialect, customs, laws, territory, and culture, although common distinguishing traits are readily identifiable. Dayak languages are categorized as part of the Austronesian languages. The Dayak were animist (Kaharingan and Folk Hindus) in belief; however, since the 19th century there has been mass conversion to Christianity as well as Islam due to the spreading of Abrahamic religions.

² Malay are ethnic Malays living throughout Indonesia. They are one of the indigenous peoples of the country Indonesian, the national language of Indonesia, is a standardized form of Riau Malay. There were numerous Malay kingdoms in what is now Indonesia, mainly on the islands of Kalimantan/Borneo and Sumatra.

Those 27,928 ha area has already mapped through a participatory mapping. Result of the participatory map in Sintang District is presented in Fig. 1. The light blue area in the map shows potential area for CBFM. The

total areas for CBFM are located in one landscape, which provide benefit to future forest management strategy. It also very attractive to private sectors or donors who are interested to develop a business plan.

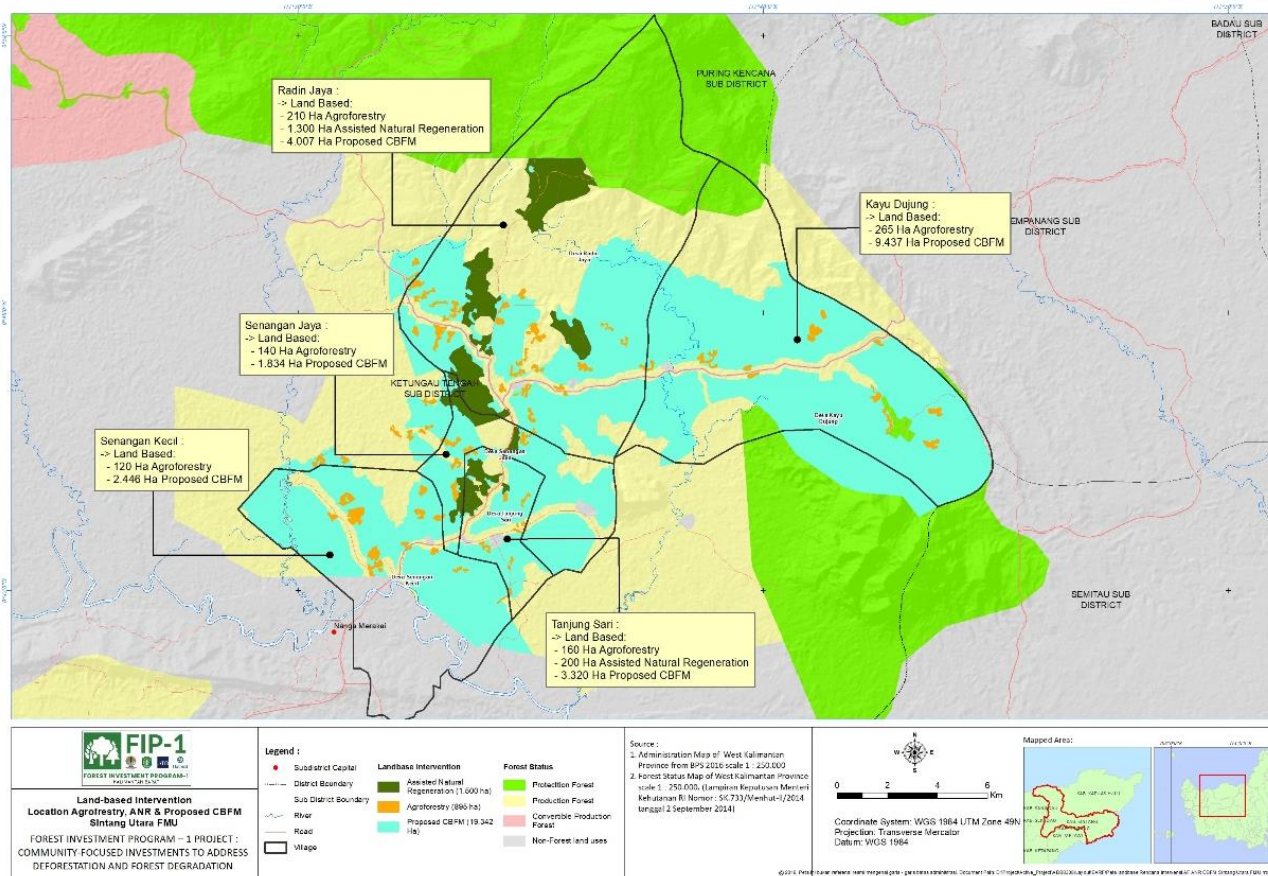


Fig. 1 Result of participatory mapping to identify area for CBFM in Sintang District.

The fact that the social forestry is all located in a production forest (yellow colour) will benefit to the Social Forestry group, where there are opportunities to develop a land based business activities (plantation program, non-timber forest product business development, and other alternative livelihood activities within the Social Forestry agreement). These all will be included into the Social Forestry Management Plan.

In addition to the new proposed area for CBFM, there are five villages that has obtained the Social Forestry license, totalling an area of 18,207 Ha. Investments from FIP-1 project cover both locations, the new proposed villages and villages that have obtained social forestry licenses (to support with

operationalization of the SF institution). The FIP-1 Project also facilitate the potential cooperation with private sector investments using the CCB scheme (ecosystem services). The Climate, Community & Biodiversity (CCB) scheme, which as internationally adopted, will identify projects in these villages that simultaneously address climate change, support local communities and smallholders, and conserve biodiversity. It is expected that this cooperation will be established before the project is finished. Summary of a land-based investment and the CCB program in two districts, is provided in Table 2.

Table 3 summarizes the narrative SWOT analysis on three aspects, i.e., agriculture commodities from the

Social Forestry area (through an agroforestry program), institutional development of the social forestry, and opportunities from ecosystem services (forest carbon, climate-biodiversity conservation scheme). The strength on three aspects indicate that development of

agriculture commodities and ecosystem services through social forestry scheme is a strategic investment to improve community income, while at the same time also preserve the forest cover and ecosystem's ecological function.

Table 2 Summary of community investment to support Social Forestry group in Kapuas Hulu and Sintang.

Villages	Investments	Type of Investments	Economic Impacts
Kapuas Hulu District: Nanga Lauk, Selaup, Tanjung, Nanga Betung, Batu Lintang, Tanjung Lasa	USD 699,281.50	Village infrastructure: economic access road, clean water facility, green school. Land based program: Assisted Natural Regeneration, agroforestry, home garden Economic improvement program: bee-keeping, handicraft and aquaculture	Project investment has increased community income from the baseline of \$1,900 per household per year, to \$2,800 per HH per yr.
Sintang District: Senangan Kecil, Senangan Jaya, Tanjung Sari, Radin Jaya, and Kayu Dujung	USD 931,884.76	Village infrastructure: economic access road, clean water facility, green school, renewable energy (micro-hydro power and solar panel) Land based program: Assisted Natural Regeneration, agroforestry, home garden Economic improvement program: bee-keeping, handicraft and aquaculture	Project investment has increased community income from the baseline of \$1,400 per household per year, to \$2,200 per HH per yr.
Kapuas Hulu and Sintang Districts: Tanjung Lasa, Tanjung, Nanga Betung, Selaup, Senangan Kecil, Senangan Jaya, Tanjung Sari, Radin Jaya, and Kayu Dujung	USD 144,000.00	Social Forestry Application Program: Participatory mapping, meaningful consultations with IPs group, establishment of Social Forestry Groups, training and technical verification of the proposed social forestry program, and facilitation to develop project design document for the CCB schemes.	The Social forestry scheme and the CCB application will provide a long term sustainable income generation. While the economic impact is yet to be calculated, it will strengthen the current economic impacts described in this table (for the Kapuas Hulu and Sintang District)

Table 3 Summary of SWOT analysis covering potential commodities and institutional aspects.

	Strengths	Weaknesses	Opportunities	Threats
Agriculture Commodities	Agriculture commodities that has potential markets: petai, jengkol, rubber, coffee, lemon grass, pepper	Except for Tanjung Lasa and Nanga Lauk, all villages are in remote areas that require infrastructure support	These commodities are highly demanded at the local, district, and provincial markets. Market assessment result showed that it can absorb as much as the village can produce.	Forest fires, tenure conflicts issues, artisanal miners that are existed in several villages.
Institutional Development	Establishment of farmers group and proposal for Social Forestry will provide long-term legal access to forest resources.	Limited capacity of community organization, that require trainings program and technology support	With the legal institution, opportunities are open for private investment and support from NGO/ donor agencies.	Part of community may misuse the SF agreement for personal benefits that can threats the agreement with private and donor institutions.
Ecosystem Services	High demand from private sector for carbon off-setting, social responsibility; or from donor projects focusing on REDD+ issues.	Weak regulation support at the national level, high potential leakage, low capacity of Social Forestry organization.	Different schemes that can be suited with the community and government interest on this ecosystem service business development.	Potential leakages, where funding can threat the existing forest cover, expanding community settlement area.

Weaknesses on those three aspects are more to the remoteness of the area, where typically social forestry scheme is targeted community living around forest area, which also means it is a remote area with low to

medium level of its accessibility. Capacity of social forestry institution is also low, as they are mostly a new village level organization with several limitations related to human resources, communication

infrastructure, and management capacity. This is in other hand, become a challenge from local and central government to support the investment, not only on the capital investment, but also support on improvement of human resources, village basic infrastructure (road, internet network, electricity).

All three aspects offer a great opportunity on the development of agriculture commodities, institutional development and ecosystem service business development. High market reception on those commodities, great opportunity for community through a legal institution, and high demand on the ecosystem services should become a push factor for the government and private sector to increase this strategic and responsible investment.

Beside those strength and opportunity, threats that can slow down the investments are remained to be addressed by all parties. Social forestry institution should closely coordinate their plan and activities with the Forest Management Unit and relevant agencies under the central government, i.e., the Ministry of Environment and Forestry. Continuous awareness program for communities are important to be conducted by the SF institution, FMU, and the regional and central government. The Social Forestry group should have the local champion who will be able to facilitate any necessary coordination, provide local practical training, assist in obtaining permits and license for the agricultural products, and to support in the development of village level policy and regulations.

3.2 Discussions

Supriyanto (2019) defines that SF is land forest granted by the state for a period of 35 years to the farmer group/adat community to manage their forest in a sustainable manner for the community welfare using an implementation strategy of harmony of ecological, social dan economical principles under 5 schemes — community forest, village forest, community plantation forest, adat (customary) forest and forest partnership on conservation or with concessions [8]. Kubo and

Supriyanto (2010) found that the key of success of SF is depending on facilitator which making social cohesion able to identify the local resources, their ability to manage their forest with a local wisdom or traditional knowledge [9]. However, in many areas of SF for example in Lumajang East Java the scale of economy does not meet the production hence they have difficulty on their market, hence need the investment and market supports [10].

FIP-1 investment to SF holders is intended to increase their productivity of agroforestry or non-timber forest product and making the resources having added value and matching with the demand of market.

Yong and Halverson (2020) expressed in their article entitled “Indonesia’s Investment in Social Forestry Conserves Forest and Fights Climate Change”, that Social Forestry Programme aims to alleviate poverty, halt deforestation and end forestland conflicts by giving local communities the opportunity to manage forests themselves and to develop sustainable livelihoods based in and around them. This statement support the result of FIP-1 project, where project investment valued at USD 1.6 million in 13 villages (see Table 2), has increased community income by average of 50% compare to condition prior FIP-1 project (baseline). Yong and Halverson (2020) also analysed that the Social Forestry formulizes respect for customary or collective tenure rights and provide funding for sustainable forest management, community-based conservation initiatives and forest and landscape restoration activities [5].

The FIP-1 project investment provides alternative livelihood for community, e.g., bee-keeping, handicraft and aquaculture, without eliminating traditional cultivation that has become community’s tradition. The agroforestry and assisted natural regeneration will improve traditional agricultural practices that still involve slash and burn practices to a better land management. Rifqi (2017) stated that shifting cultivation, despite the risk for forest degradation, has

able to maintain ecosystem diversity around farm area [6]. Modern agriculture, in fact, has increased the diversity of plant pests and diseases. Therefore, improving the shifting cultivation towards more environmentally friendly practices will be able to support ecosystem diversity and to improve food security of local communities.

Based on the SWOT analysis, several commodities have potential markets at the local and regional levels. Additionally, environmental services in the form of forest carbon and biodiversity richness attract private investor and donor institution to support local community in developing the social forestry work and business plan. These two main resources (agriculture commodities and environmental services) will provide a long term and sustainable income to local communities. However, developing these promising resources has some challenges, including remoteness of the area and limited capacity of local community groups [7]. Furthermore, facilitation and continuous support to local community groups is the key success of Social Forestry program [8].

4. Conclusions

Community Based Forest Management with the key activities of establishment of Social Forestry agreement has two main impacts, protecting forest cover and providing opportunity for economic development for local communities. Two main commodities that are attractive to private sectors and donor institutions are agriculture commodities and environmental services. Investment in these two resources through cooperation with social forestry group is concluded as sustainable investment. It addresses three pillars of sustainability, i.e., economic development, social development, and ecological development. Supports and facilitations from various parties, mainly government, NGOs, private sectors, and donor institutions are crucial to achieve the success of social forestry program.

The community climate-biodiversity scheme can be seen as great opportunity to enhance the economic development of village communities, while at the same time also preserve forest and biodiversity conservation, through both climate mitigation and adaptation program.

Acknowledgements

This paper has received a great support from the Asian Development Bank, MOEF, and three FMUs in Kapuas Hulu and Sintang (South Kapuas Hulu FMU, North Kapuas Hulu FMU, and North Sintang FMU). In particular, we thank to Mr. Thierry Liabastre, Ms. Karen Chua and Ms. Helena Lawira of ADB, Ms. Catur Endah Prasetyani and Mr. Danang Kuncara Sakti who have provided the opportunity in this very interesting project. Special thank also for the Project Management Unit (PMU) and Project Implementation Supporting Unit (PISU) for the management support and facilitation during field implementation in Kapuas Hulu and Sintang of West Kalimantan Province.

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