

REHABILITATION OF POST FOREST FIRE AREAS THROUGH PARTICIPATORY FOREST MANAGEMENT

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Abstract

Engkuni-Pasek is predominantly a Dayak Benua' village. Formerly, the village was separated as two villages, Engkuni and Pasek, which merged into one in the 1960s. Participatory forest management is relevant and important to be implemented in the Engkuni-Pasek Village since they could not organize to manage their natural resources (forest) sustainably and they suffer much due to forest and land fire. Through participatory forest management, the customary rules, regulations and indigenous knowledge in managing their natural resources will be accommodated into the legal forest management policy in written form. Moreover, participatory approach will rebuild cooperation and trusts amongs the villagers and other stakeholders in the village. The main objectives of participatory forest (fire) management is to prepare and implement forest (fire) management plans by involving all stakeholders particularly local people (villagers) to all the process. In conclusion, the proposed participatory approach in reforestation of the Engkuni-Pasek Village has to consider all internal and external factors. The inter-relation between the factors

and its effect has to be understood by the villagers and other stakeholders which need to be discussed.

Keywords; the Engkune-Pasek Village, Forest management, Reforestation

1. Introduction and Problem Statements

Target of this study is Engkuni-Pasek Village in East Kalimantan, Indonesia. Engkuni-Pasek is predominantly a Dayak Benua' Village. Administratively Engkuni-Pasek Village is under Barong Tongkok Sub District and West Kutai District (Figure 1). Formerly, the village was separated as two villages, Engkuni and Pasek. These two villages merged into one in the 1960s (during the national census). The population of Engkuni-Pasek is 412 people, living in 100 households. Most of the villagers (90%) are farmers and the rest (10%) are state officers (teachers), traders and employees. The majority of villagers are Benua' Dayak (90%), with the remainder being made up of Tunjung (Tonyoi), Buginese and Javanese.

Engkuni-Pasek is located on the bank of a small river, Idaatn, one of the tributaries of the Kedang Pahu River. The boundaries with other villages are Pepas-Eheng Village (in the West), Mencimai Village (East), Benung Village (North) and Temula Village (South). There are several land use types in the villages such as forest, paddy field, vegetables garden, rattan garden, fruit garden and grazing land for livestock. Besides forest as its natural resources, there are some attracting natural resources in the village that are, waterfall, honeybee trees, fresh water fish, and so on, which is economically potential. The main livelihood of Engkuni Pasek is from dry rice farming (shifting cultivation), rattan gardens, rubber plantations and forest products, including natural (non-cultivated) rattans.

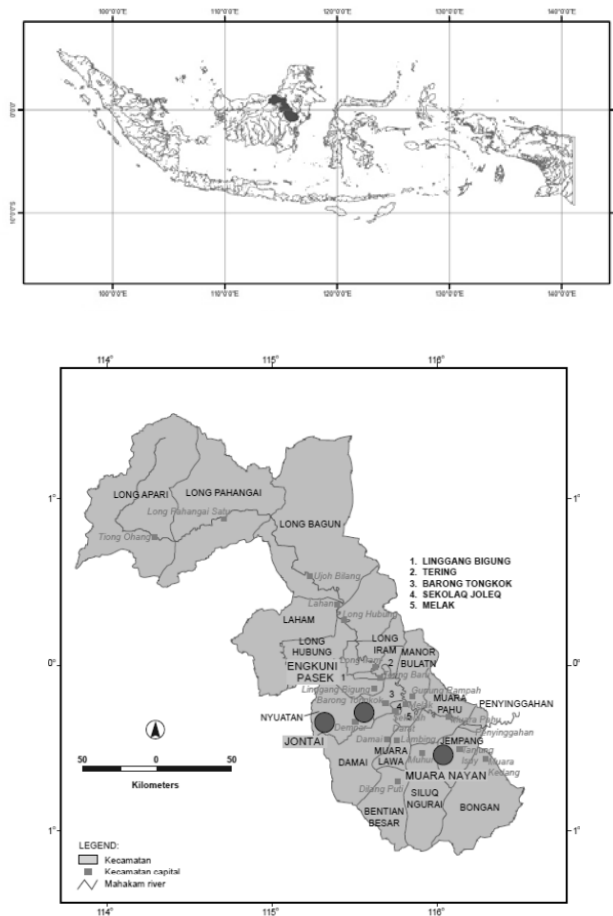


Figure 1: Location of Engkuni-Pasek Village (Haug, 2007) inside the West Kutai District.

1.1. Natural Resources

The forest in the Engkuni-Pasek Village has been severely degraded due to forest fires in 1982/1983 and in 1997/98. Forest and land fire in Engkuni-Pasek Village is one of the most severe disaster that occurs periodically (Figure 2). Forest and land fires lead to a decline in the capacity of people living close to forests to access natural resources. For the villagers, forest and land fire has decreased their cultivation yield, decreased the number of wood that can be used, and decreased the fertility of

their cultivation land.

The quality of the environment in Engkuni-Pasek declined over the previous 5 years. People stated that it was much more difficult to find fish in the Idaatn. The quality of the river water, which is the source of drinking water for Engkuni, has declined through increasing pollution (Haug, 2007). Furthermore, since there is no clear forest/area boundary between of Engkuni-Pasek and its neighbour villages, conflict of interests over forest resources are common things.

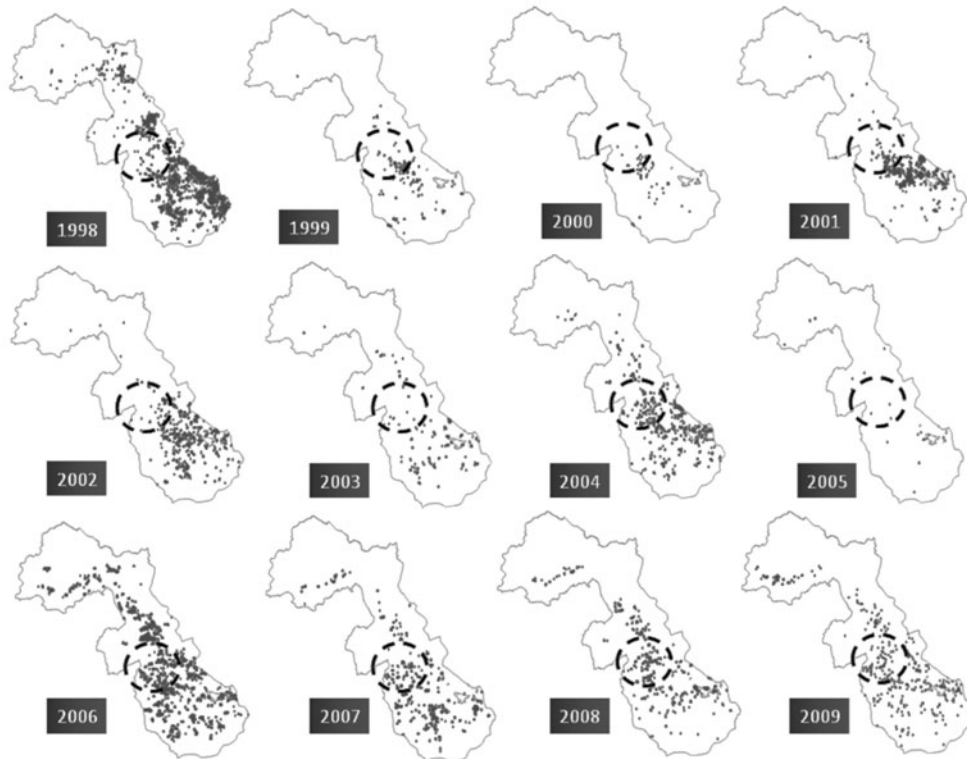


Figure 2: Spatial distribution of hotspot in West Kutai Districts. The Engkuni-Pasek Village located inside the black circle. (Source: Ministry of Forestry)

1.2. Institution

Even there are some institutions in the village, they are not well coordinated and most of the village decision making is controlled by the village head. Furthermore, regarding to forest management, those institutions are not sufficiently giving attention on forest resource management. Villagers have become apathetic and indifferent about village development due to decades of weak leadership. They are reluctant to show interest in improving the village. Moreover, due to leadership “crisis” the tradition of cooperation in agricultural work has nearly disappeared, and new ways of cooperating are difficult to harness.

1.3. Socio-Economic

Households generally have low income levels as consequences of low productivity in swidden cultivation. When the natural/human disaster (forest fire, drought or floods) are occurs, the villagers do not have food and/or alternative income since they depended so much to the natural resources. This phenomena always lead them to hunger. The remaining forest (primary forest) has not been utilized for optimum economic benefit by the people. There is still traditional social stratification in the village community eventhough it is changing slowly.

2. Government Policy

The villagers do not understand the government rules and regulations because the district government do not sufficiently transfer the government rules and regulation and other policy to the village government and/or villagers. Due to the lack of sufficient knowledge and policy, village government has lack of bargaining power with outsiders particularly private company.

Regarding the reforestation program, the community are not capable to make proposal and other technical work. As a result, they could not get the government fund.

3. Key Stakeholders and Potential Conflicts of Their Interests

The main stakeholders that cannot be neglected regarding forest management processes in the Engkuni-Pasek Village, are:

a. Villagers

Engkuni-Pasek villagers is the first party who will receive benefit or disaster from the natural resource and its management in the village. The population of Engkuni Pasek is 412 people, living in 100 households. Most of the villagers (90%) are farmers and the rest (10%) are state officers (teachers), traders and employees. The main livelihood of Engkuni Pasek is dry rice farming (shifting cultivation). Other sources of income are rattan gardens, rubber plantations and forest products, including natural (non-cultivated) rattans.

b. Village Leaders

As a traditional village, leaders in the village play an important role particularly in the decision making processes including how to manage the forests resources. The main organizational structures in the village are the formal Village Government and the Customary Institution. The Village Government is led by a Village Head and has a secretary. The Customary Institution, chaired by a Customary Headman, has a secretary, staff of rituals, staff of law, and a treasurer.

c. Neighbor Villages

There are four neighbor villages that located in the boundaries of Engkuni-Pasek village which are Pepas-Eheng Village (West), Mencimai Village (East), Benung Village (North) and Temula Village (South). Since there is no clear boundaries between Engkuni-Pasek and its neighbor villages particularly with Pepas-Eheng Village, conflict of interest over forest resources particularly trees that can be cut for cash usually arises.

d. Government

According to the Indonesian Law/Regulation, all the forests area are controlled by government (central or local government). All decisions related to forest land are decided by the government including land use planning and budgeting. Nevertheless, government policy and regulation regarding village development and forest management is sometimes unclear and not well disseminated to the whole community of Engkuni-Pasek. Hence, they do not care about its implementation, control, and evaluation.

e. NGO

Since some NGOs are working in the village and also involving the the issues related to forest management they cannot be excluded from the forest management activities including reforestation program. The main task of NGO is to increase capacity of the Engkuni-Pasek villagers to develop their village.

f. Private Company

There is possibility of logging in the village, which already did in past, the company related to logging are also stakeholders of the reforestation program.

Their interests are particularly related to benefit from forests resources and power for decision making that is presented in the table below.

Table 1: Potential stakeholders and their Interests

Stakeholders	Interests
Villagers	<ul style="list-style-type: none"> - Economic benefit from forest resources - More access to forest and forest land - Bargaining position in decision making process - Clear private land tenure
Village leaders	<ul style="list-style-type: none"> - Full authority - More economic gain
Neighbour village	<ul style="list-style-type: none"> - Benefit sharing
Government	<ul style="list-style-type: none"> - Forest protection/conservation and reforestation - Tax/revenue - Increase income/welfare of for local people
NGO	<ul style="list-style-type: none"> - Facilitating local villagers - Advocating local villagers - Involve in the decision making process
Private Company	<ul style="list-style-type: none"> - Economic gain (provit) - Secure of investment - CSR - Reforestation fund - Involve in the decision making process

In general, the potential main conflict of interests from those stakeholders can be classified into several categories, which are competing sharing the benefit from the forests resources, unclear boundaries of forests/land, and power sharing in decision making.

Table 2: Matrix of Stakeholders' Potential Source of Conflicts of Interest

Stakeholders	Potential source of conflicts					
	Villagers	Village leaders	Neighbor village	Government	NGO	Private Company
Villagers		- Weak leadership - Lack of participatory	- Unclear boundary - Resource claim	- Capacity building - Rehabilitation fund - Resource claim	Misperception of NGO Activities	- Resource claim - Benefit sharing
Village leaders			- Unclear boundary - Resource claim	- Lack of communication and coordination	Misperception of NGO Activities	- Resource claim - Benefit sharing
Neighbor village				- Unclear boundary - Resource claim	Misperception of NGO Activities	- Unclear boundar - Resource claim
Government					Different worldviews	- Uncertainty regulation - Investment security
NGO						Different worldviews
Private Company						

4. Relevance And Goal Of Participatory Forest Management

4.1. Participatory Forest Management

Participatory Forest Management (PFM) is used as an umbrella term to include shared forest management, joint forest management, collaborative forest management and community forestry. PFM attempts to secure and improve the livelihoods of local people dependent on forest resources (Hobley, 1996), by involving all key stakeholders in the process of forest management, understanding their needs and situations, allowing them to influence decisions and receive benefits, and increasing transparency.

4.2. Relevance

As mentioned above, the participatory forest management is relevant and important to be implemented in the Engkune-Pasek Village since they could not organize to manage their natural resources (forest) sustainably and they suffer much due to forest and land fire. Through participatory forest management the customary rules, regulations and indigenous knowledge in managing their natural resources will be accommodated into the legal forest management policy in written form. Moreover, participatory approach will rebuild cooperation and trusts amongs the villagers and other stakeholders in the village.

Usually, in the rehabilitated forests, the planted trees had not grown enough to survive the fire, so they were heavily damaged. Clearly, fires degrade forests very quickly but the recovery of forests takes a long time, even with rehabilitation/reforestation measures. In this context, all silvicultural techniques are useless for forest rehabilitation, unless they include fire prevention. The prevention and management of fires are vital to allow forest recovery and rehabilitation to proceed.

Without effective fire prevention, the rehabilitated areas will be burned again and the rehabilitation process will not have enough time to reach completion. To rehabilitate burned forests and grasslands (imperata grass) as well as to conserve the remaining natural forests in Engkuni-Pasek Village, it is important that community-based initiatives (participatory forest management) are undertaken to reduce potential fire sources and to enhance fire management activities. Nevertheless, Clear benefits to the local community should be introduced and announced to the local people before and during forest rehabilitation/reforestation.

4.3. Goal

In general, the aims of participatory forest management are to sustain/conserv forest and ecosystem and alleviate poverty by improving community economy through forestry, agroforestry and/or ecotourism by developing institution based on participatory forest management approach.

5. Proposed Application of Participatory Approach In Decision Making and Implementation

The main objectives of partisipatory forest (fire) management is to prepare and implement forest (fire) management plans by involving all stakeholders particularly local people (villagers) to all the process. The interaction among the stakeholders involving in decision making process in different level and role of external factors (e.g. government polices and international regime) can be described in Figure 3 below.

In the figure the village level decision will be made in village meeting. And the decision that need to be included other stakeholders will be done in stakeholders meeting. The process/mechanism of decision making above requires cooperation between both local people and related supporting stakeholders. The overall process will provide written rules and regulation to manage forest.

Forest fire management should include administrative decision and operation activities that involve prevention, preparedness, supression, response, relief, rescue, recovery and rehabilitation involving all stakeholders concerned. Community involvement must always be part of the disaster management approach.

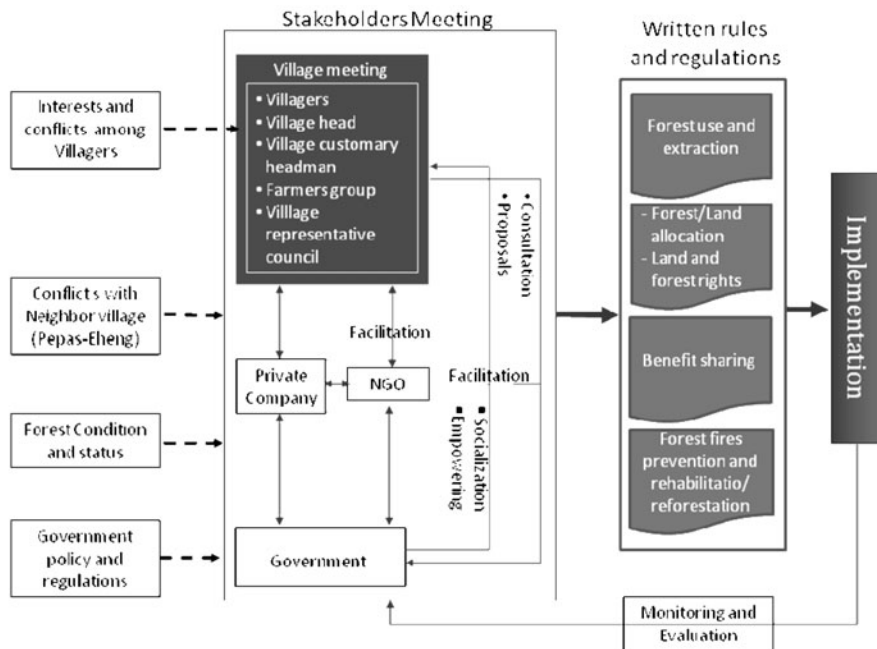


Figure 3: Proposed Participatory decision making mechanism for Engkuni-Pasek Village.

6. Implementing Participatory Approach

IMPLEMENTATION OF PARTICIPATORY APPROACH IN REFORESTATION PROGRAM	
IMPLEMENTING ACTION	STAKEHOLDERS
Stage I : Capacity Building <ul style="list-style-type: none"> Village meeting Participatory mapping Training Technical Assistance Etc. 	Government, NGO, Villagers
Stage II : Land/Forest Gazzetement and allocation	Villagers, Neighbor village, NGO, Government
Stage III : Funding Allocation and Technical Assistance	Government Reforestation fund, Private Company (CSR)
Stage IV: Forest Establishment/Reforestation <ul style="list-style-type: none"> Species Selection Nursery preparation Seedling preparation Planting Maintening Sustainable harvesting 	Villagers, NGO, Government

Figure 4: Proposed Implementation of Participatory Approach for Reforestation Program

The implementing stage has been divided into 4 stages. They are:

- a Capacity building: There is need to empower the local people and other stakeholders about importance of reforestation program through participatory approach. The local villagers also need to understand their roles, the rights and their position. So as tool of participatory approach village meeting is proposed. There could be number of village meetings. After that the villagers will make the resource maps of past, present forest condition and the one that they want in future. The future forest condition map will be made on the value of the species mainly, economic, social, ecological and historical values. For this they need technical assistance from expert, especially government and NGOs. During the process they may need different trainings. The need of the training will be decided by the villagers themselves in village meetings.
- b Land/Forest Gazzetement and Allocation: The second stage is to demark the border with neighboring village. The representatives from both villages and local government representative will also be present in the negotiation meeting. If clear demarcation could not be made the benefit sharing mechanism between the two villagers will be decided and written form will be kept.
- c Funding Allocation and Technical Assistance: The exact funding for the reforestation program will be allocated and technical assistance needs for the rehabilitation will be confirmed. The funding can also be allocated from private companies through Corporate Social Responsibility (CSR).
- d Forest Establishment/Reforestation: On basis of future forest map and technical assistance from the experts the species will be selected. The selection of land to plant different species base on villagers' wise and technical experts will be done in degraded land. After that nursery will be established in suitable place that will be managed by the villagers for their purposes. Depending on the species, the tree plantation program will be organized by villagers in different areas of village. All villagers including children and women will participate in plantation activities. This stage will be facilitated by NGOs and/or Government.

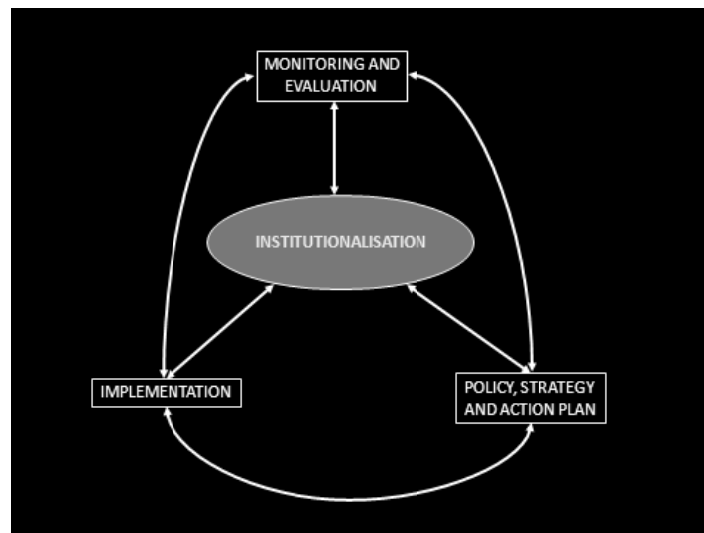


Figure 5: Institutionalization process of participatory approach in reforestation.

After every planning and implementation there will be evaluation of planned and implemented activities. All those processes help to institutionalize the participatory approach in reforestation (Figure 5).

7. External Factors

The participatory forest reforestation program will help the government policy to prevent illegal logging, protection and conservation because the participatory forest reforestation program enable the local community to have feeling of ownership in resource and sustainable use and manage of forest. The Act No. 41 (1999) on Forest mentions that sustainable forest management should accommodate community aspirations, customary and cultural, and social values. It shall be based on benefit and sustainability, democracy, equity, togetherness, transparency and integration. It helps to conserve and protect national biodiversity. The government role in the proposed participatory forest reforestation program would be to monitor, facilitate and provide technical and financial assistance if needed. Looking to the limitation of the government financial resource, local level revenue generating activities like promotion of eco-tourism is very much possible since the village have

waterfall named Jantur Gerongokng. The center government can develop different projects for example hydro-power project in the waterfall and logging project but detailed consultation with community should be done to protect community interests.

7.1. Climate Change and REDD+ Scheme:

There is possibility of including Engkuni-Pasek forest reforestation program in Reducing Emission from Deforestation and Degradation and Enhancing forest carbon stock (REDD+) program. The debates are still going on global and local REDD+ architecture and how REDD+ can be included in a post-2012 climate agreement. The project could be come under REDD+ in a post-2012 once whole process of participatory forest reforestation is institutionalized in local level. But in process of debates in national and international level some of the local issues, for example, how to share the benefit in the village level; what happen if some kinds of natural or un-natural disaster like forest fire. Implementation of REDD+ could be the cost of livelihood of the local forest dependent community. So there is a question of how to secure the livelihood of forest dependent even after REDD+. It is more likely to be just and locally legitimate if the design implementation and allocation of benefits represent community needs and aspiration. The level at which rules are made and benefits distributed will be a key issues in the legitimacy, effectiveness, efficiency and equity of REDD+. Fostering transparency and good governance from international level to community level will be the key for the success of REDD+.

Not only in mitigation, this program will also help in adaptation side of climate change. Since the village is susceptible to flood during heavy rain the reforestation program can prevent the flood to enter village areas to minimize the damage.

7.2. Government policies and decentralization of the power:

Before 1998, all governance processes in Indonesia are controlled and decided by the central government. The government of Indonesia has started decentralization policy including on forestry sector since 1998. However, decentralization policy on forest management is not effectively implemented in village level. Village level forest management unit, as this paper proposed will provide a basis to expand village level forest governance in participatory way. Decentralization of meaningful decisions to locally accountable and responsive (eg representative) local authorities would promote local engagement in REDD+ decision making as well.

The project will be supplement to the center government policy on “one people one tree” because all the village people are involving in tree plantation. There is a women movement in plantation as well. The participatory plantation program will help to feel the ownership on the forest resource which supports the government policy in illegal logging through participation of local community in protection of planted tree. If the central government policy to enable local community to manage their forest change and centralized, then it could result distrust in central government policy which may cause rapid deforestation. The central government is not confident on district government since there is lots of miss-management of forest so they do not want to devolve power to manage conservation forest to district government. But the central government wants to empower local community to manage the conservation forest by themselves under facilitation of government officers.

In conclusion the proposed participatory approach in reforestation of the village Engkuni-Pasek has to consider all internal and external factors. The inter-relation between the factors and its effect has to be understood by the villagers and other stakeholders which need to be discussed.

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