SEGMENTATION OF COMMUNITY GOVERNANCE (HOW TO ENCOURAGE THE LOCAL COMMUNITY PARTICIPATION ON FOREST MANAGEMENT)

- A CASE STUDY FOR MUARA JAWA VILLAGE, SAMARINDA EAST KALIMANTAN -

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Abstract

The village of Muara Jawa is located beside the Mahakam River, 300 kilometers from the provincial city of Samarinda, East Kalimantan Indonesia. The majority of the population is the indigenous Dayaks. Recently in Muara Jawa, the primary forest has nearly vanished and the number of people has increased rapidly. Under such conditions, the old system of the commons must be changed and new regulations introduced. Unfortunately, the current customary regulations are insufficient for an improved approach to forest management. Based on the discussion of the decision making process it was determined that the main problem in the Village could be the lack of real power of their customary authority compared to that of the Formal Government. We decided that an indirect approach would be more successful. It is because by focusing on matters that directly

touch the community, the required consensus can be created and in turn it will be possible to achieve reduced emissions from deforestation and degradation. Finally, an appropriate inter-village information system is necessary in order to share information on common issues and concerns.
Key Words: Muara Jawa Village; Forest Management; Local Community; Participatory

1. Introduction

1.1. Biodiversity

As of 2007, Indonesian government has designated 137 million hectares of the land area as Forest Area. About 24 million hectares are classified as conservation forest, 31 million hectares as protection forest and 82 million hectares as production forests.

Thanks to the forest, Indonesia has high level of biodiversity. It includes 515 mammal species (12% of all mammal species), 511 reptile species (7.3% of all reptile species), 1,531 bird species (17% of all bird species), 270 amphibian species, 2,827 invertebrate species, and 38,000 plant species (IBSAP, 2003)

1.2. Forest Management

Indonesia's forests were first formally managed by the Dutch colonial government in Java as well as in some of the other regions. After self-rule, intensive forest management was extended outside of Java through Forest Concession Rights (HPH) from mid-1960s. By the end of 1980, in an effort to maintain timber production levels, the government launched an industrial plantation program (HTI). However, because of low plantation performance, the total land area of HTI plantations in 2004 reached only 56% of the target. Timber production from natural forests continued to decline. The number of HPH concessions and associated industries also declined from 538 to 287 in 2004. To reduce the rate of forest ecosystem degradation, the government has made certification mandatory for concession holders and has created a more conservative exploitation system. These efforts have not achieved positive outcomes as there are indications of extinction over 100 species in Indonesia. (IUCN, 2000; CITES, 2004, 2000; CITES, 2004; CITES Plan Committee, 2004)

1.3. Demographic and Cultural Considerations

Indonesia's population in 2003 was 219.9 million (BPS, 2005). Around 48.8 million people are living in and around the Forest Area. Among them, around 10.2 million are classified as poor (CIFOR, 2000 and BPS, 2000). Around 6 million make their living directly from forests, and around 3.4 million are employed in the private forestry sector.

Traditionally, communities around forests derive their livelihoods from utilizing wood and non-wood forest productions, such as rattan, dammar resin, honey, and others. Forest resources are important for communities in and around forests. This is manifested in the culture of communities which places traditional values derived from the interaction of people with forest resources.

Changes in forest conditions make some frictions within the cultural value system. The Government has made extensive efforts to maintain the cultural conditions of the communities, including efforts to accommodate community rights in forest management through forestry regulations and laws.

1.4. Land Tenure

According to Act No. 41/1999 concerning Forestry, forest lands are under the authority and management of the Ministry of Forestry. This regulation is in line with Article 33 of the 1945 national constitution, which mandates that the land, the waters and the natural riches of Indonesia should be controlled by the State and exploited to the greatest benefit of the people. Article 67 of Act No. 41/1999 mandates the government to issue regulations to manage and guarantee the rights of customary communities living in the Forest Area. Also, the Basic Agrarian Law (Act No. 5/1960) guarantees the claims of customary communities living in the Forest Area. A lack of clear regulations on the settlement of conflicts over forest land management between communities and state-appointed parties has led to controversy over recognition of ownership rights. More issues in this respect surfaced as the government attempted to promote communication between parties with an interest in resolving these tenure issues.

1.5. Forestry Decentralization

According to the implementation of Law number 22/1999 and Law number 25/1999, forestry decentralization means that the authority and responsibility regarding 'forest management' has been transferred to local government, especially to

governments at the district level (Kabupaten). All forest lands are administratively entrusted to local government except for the conservation forest. Apparently by virtue of this authority, local government has the big ambition to expand their incomes. Forest decentralization covers three principal aspects: (1) decentralizing forest production as well as state forest land and customary rights forest; (2) devolving the civil service aspects of processing relating to production; and (3) increasing forest protection which focuses on conservation and ecosystem protection. However, in reality, local government is not well prepared for 'forest management' and 'forest protection'. This is because of a lack of regulation, manpower capability, organization, experience. The local government needs more time to prepare for 'forest management'. The central government has apparently had to take over again the authority and the delegation of power on 'forest management' up to now.

1.6. Environmental Services

In addition to providing forest products, Indonesia's forests are an important source of environmental services. Greenhouse gas (GHG) emissions mostly come from land use and land-use change includes deforestation, forest degradation, forest harvesting, and land conversion. In Indonesia, the contribution of GHG emissions from land use change is above that of other emission sources, which reached 40-80%. Mitigating climate change through GHG emissions controls is the duty and a very important task. A number of regulations already exists which can create enabling conditions for climate change mitigation actions through reducing emissions from deforestation and forest degradation, sustainable forest management, forest conservation. We can also expect the enhancement of carbon stocks from forest restoration, afforestation and reforestation, if they are implemented successfully.

2. Targeted Village: Muara Jawa

2.1. Basic Information and Situation of Muara Jawa

The village of Muara Jawa is located beside the Mahakam River, 300 kilometers from the provincial city of Samarinda (figure 1). It is accessible both by river and ground transportation. It is a large community with a population of 1,562 (or 392 households). The majority of the population is the indigenous Dayaks of the Tonyoi sub-ethnic group (75%). The rest are indigenous Kutai, Buginese, Javanese, and Chinese. Most of the inhabitants are farmers practicing swidden cultivation. Generally communities in and around the Forest Area such as Muara Jawa people have less access to quality infrastructure, education, health services, and housing than urban communities. Housing and environmental sanitation as well as public facilities are also inadequate. The tenure issues are often difficult to resolve because some customary communities have limited capacity to delineate the extent of their control and ownership rights. Errors in determining these borders may trigger new conflicts. Thus, there is a need for communication between government and other forestry stakeholders to resolve the tenure issue.

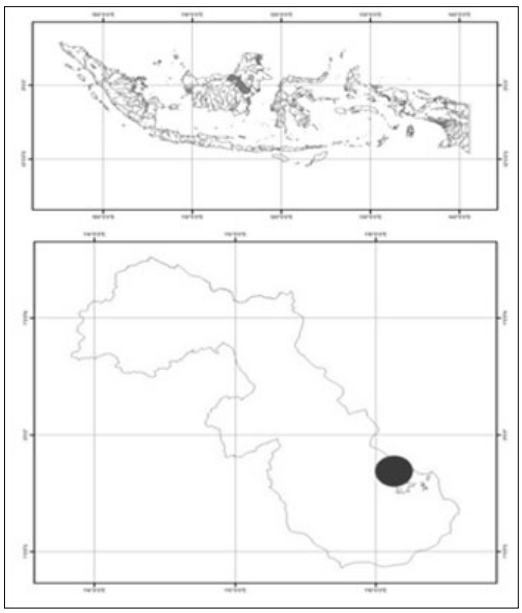

Figure 1. Location of Muara Jawa Village inside the West Kutai District. (Haug, 2007)

2.2. Stakeholders and Interests

Table 1: Stakeholders and Interests in Muara jawa

Stakeholder	Right	Responsibility	Revenue	Relationship
People of Muara Jawa	Land/Health, Education/Job	Respect limits law land tenure, Wise utilization of NTFP	Produce livelihood	Government Neighbor Company
Government	Appoint use of land	Provide livelihood, Respect customary	Reforestation fund, Other tax	People Company NGO
Logging Companies	Use of land	Pay tax, CSR	Timber	People Government
Neighbor Villages	Road, Use of land, Social services	Respect customary law	Share land	People Government
NGO	Get touch	Facilitate	Expert	People Company NGO Neighbor

We identified five categories of stakeholders with an interest in the forest of Muara Jawa'. These are the people of Muara Jawa, the neighboring communities, the logging companies, the government, and the university/ research institutes. The most important stakeholders are the people of Muara Jawa' themselves. The main conflict of interests can be classified into competing sharing the benefit from the forest resources, unclear boundaries of forests, and power in decision making.

2.3. Customary Authority

Muara Jawa' people need logs for the six sawmill plants operating in the village (three of these are owned by local community members), building materials, firewood, sago palm products, sugar palm products, hunting grounds; for fishing, farming, medicinal plants, and ritual materials. Often neighboring community members also take the products of Muara Jawa's forest such as sugar palm and also benefit from the clearance of forest for farmland. The interest of logging companies is in the timber produced therein. The government's interest is not so obvious to the people. They suspect that the main interest of the government is rent-seeking in essence, that is, to extract taxes from the logging companies and other forest-related activities. If there is an ecological concern, it might be simply due to the government's fear of international pressure. Universities and researchers such as IGES have an interest in facilitating the people to understand their situation more comprehensively. The people of Muara Jawa' bear the highest responsibility to sustain their forest, followed by the government, logging companies, neighboring communities, and universities/ research institutes.

The Village Head and the Customary Headman have the right to punish anyone who breaks the rules and norms dealing with the forest protection. Therefore, it needs a kind of capacity building among the customary authority so that they are aware of their potential roles in educating the local people how to protect their forest using the local wisdom as well as socializing the local government and the company policies relating to 'forest management' and 'forest protection'.

Non-timber forest products taken by the villagers from the forest are rattan, honey, and medical plants. The wild game hunted in the forest are wild pig (*Sus barbatus*), sambar deer. Wood is harvested for housing material. When someone wants to take wood from the forest, he must get written permission from the Village Head.

As for other indigenous Dayaks, the customary rights of the village to the primary forest and its natural resources are rather loose, whereas the customary rights of the individuals and households are rather tight. For example, neither the Village Head nor the Customary Headman has the authority to impose regulations on the use of primary forest. They cannot prohibit any one from collecting forest products in the primary forest. On the other hand, with regards to individual forest land, the owner has a clear right to prohibit anyone else from collecting products from the area.

3. Rationale of The Problem

3.1. Participatory approach: relevant or not

Primary forest is usually common property. Clearing the forest for any purpose (usually agriculture) and extracting any products from it is open to anybody without restriction. This posed no problem at all when the primary forest was abundant and

the human population was low. However, a consequence of this system is that those who are more aggressive and more diligent or those who work harder will benefit more from the forest. It was insisted in the past there was no excessive exploitation for individual benefit or for collective purposes. Recently, in Muara Jawa, however, the primary forest has nearly vanished and the number of people has increased rapidly. Under such conditions, the old system of the commons must be changed and new regulations concerning participatory approach should be introduced.

(1) Top-down Approach

The top-down approach and paternalistic attitude still characterizes the power relationship between the government and the local community. Villagers have little experience cooperatively managing public facilities, such as establishing cooperatives for economic enterprises. These two factors reinforce each other and hamper the local community's involvement in decision-making processes within the social forestry program. The program still exerts strong influence over the process of establishing farmer's organizations and in the appointment of its leaders. Consequently, participatory planning and decision-making processes easily become quasi-participatory processes.

(2) Decreasing economic benefits from forest management

Recent evaluation studies of the Sustainable Forest Council revealed that three units in Java indicate that the level of community participation in tilling the forest plots and in Forest Farmers Group (FFG) activities is closely related to the benefits from the forest. As long as the forests continue to produce seasonal crops, farmers will invest time and labor on their forest plot. If the forest trees become larger, they block the sunlight for the seasonal crops. Subsequently, multiple purpose tree species (MPTS) should be planted to replace the loss of the seasonal crops. In many cases, however, the MPTS do not generate high income like the seasonal crops.

Consequently, farmers' interest in maintaining the forest plots dwindles and is superseded by other income-generating activities related to the forest. According to the evaluation study in West-Java, valuable crops planted as seasonal crops in forest plots, such as rice, tobacco, pepper and soy, only provided economic benefits to farmers for one to two years. Border plants and other MPTS, such as jackfruit and mango, which were planted in 1987 between the main forest trees, did not grow well and by 1997 were no longer fruit bearing. The farmers then shifted to non-agricultural activities.

(3) Other Problems

There are also many problems in Muara Jawa that make the situation difficult. The problems are as below:

- Farmers' interest in participating in Forest Farmer Groups (FFG) dramatically declines once forest trees mature and overshadow the seasonal crops.
- The membership criteria and composition of Forest Farmer Groups (FFG) impedes formation of a group identity and sense of stewardship over the forest.
- The FFG lacks capital, management, marketing knowledge and market channels.
- Unequal and inadequate forest plot distribution inevitably leads to mismanagement and theft of forest resources.
- Shared responsibility, local initiative and access to forest products are the key to reducing timber theft.
- Lack of information dissemination and knowledge sharing
- There are also many problems in role of the government relating to tax distribution situation difficult. The problems are as below:
  - Credit facilities provided by the government are still too small to be productive.
  - Some irregularities in distributing financial support still exist.
  - Income from forest-based activities only makes a small contribution to household income.

3.2. Decision making: Key people approach - How the process of decision made

Since the implementation of the Village Government Act of 1979, traditional village management based on customary law has been significantly 'defunctionalized'. Nowadays the adat is still functioning, but with less significance. It is not a part of formal village government. As mentioned before, it has two main roles: to deal with matters related to marriage and family life, including divorce, and to deal with conflict resolution within the community. However, when the escalation of conflict goes beyond the homogeneity of the community by involving people of different ethnic groups, several problems may face the adat institution. In most cases local norms cannot be effectively applied to outsiders. This can be considered a weakness of the traditional norms. They are very local in the way they bind.

Decision-making processes are still heavy centralized, a quality incongruent with the need for local adaptation capabilities. Government's program still has not succeeded in developing a sense of ownership and responsibility on the part of the forest village community towards the forest. Local successes to this are the exception, not the rule.

3.3. Summary of the problems

The current customary regulations are insufficient for an improved approach to forest management. New rules, probably in the form of **"village guidelines"** need to be developed. Clearing the forest for any purposes (usually agriculture) and extracting any products from it is open to anybody without restriction. This posed no problem at all when the primary forest was abundant and the human population was low. Those who are more aggressive and more diligent or work harder will benefit more from the forest. It was insisted in the past there was no excessive exploitation for individual benefit or for collective purposes. Recently in Muara Jawa, however, the primary forest has nearly vanished and the number of people has increased rapidly. Under such conditions, the old system of the commons must be changed and new regulations should be introduced.

The forests are destructed due to forest fire, shifting cultivation and logging activities. The size of the primary forest has sharply decreased within the last 40 years. It was assumed in the analysis that in 1960 most of the area was covered by primary forest (20,000 ha / 89%). Within a decade, the size of primary forest was reduced to 67% in 1970 and 44% in 1980. The deforestation within the 20 year period was mainly caused by the exploitation of primary forest for agriculture. A sharp drop began in the 1980s when a long drought and a big forest fire raged in the area in 1982. In 1990 the primary forest cover was equivalent to 27% of the 1960. The forest fire of 1997/8 exacerbated the situation. After that fire, the size of primary forest is estimated at only 4.4% of the 1960.

According to the local people's accounts, only timber, rattan, sago palm (*Cycas revoluta*), rubber, honey, and fruits are in high demand at the market. Other products have limited market value or none at all. This means that most of the products are collected for domestic (household) use or consumption. Thus, the importance of these products is not primarily for cash income, but in domestic use.

4. Results and Discussions

4.1. Success story of Community's Contribution to Develop Sustainable Future
- A case from Gunung Simpang Nature Reserve - West Java

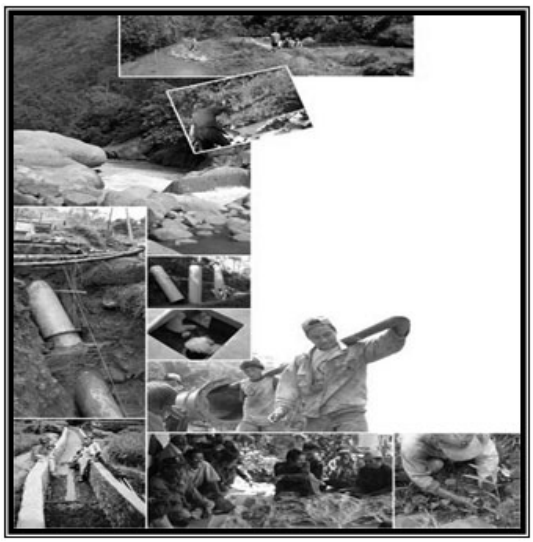

Figure 2: Succeed Participatory Approach in Gunung Simpang Nature Reserve.

Learning from Gunung Simpang Nature Reserve-West Java, more than half of the community of Cidaun Sub-district, Cianjur District, in particular those living in the mountain area bordering forest lands are yet to enjoy electricity services. Many people have made efforts to produce electricity, including the use of diesel generators most of which were abandoned due to high operational costs. Some of the people get electricity for their houses from the neighboring village. The electricity is transmitted through more than 2-km of telephone wire. Some others have established traditional water power plants, using motor-cycle dynamos attached to wooden wheels that are driven by stream flow.

It was no surprise that people welcomed Yayasan Pribumi Alam Lestari's (YPAL) initiative to establish a micro hydro power plant in 2003. YPAL first came to Cibuluh in 1998 to do some observation work on the Javan hawks (*Spizaetus bartelsii*). Their original project aims to protect the Javan hawks was never realized with the local community. They only

allocated the project to establish a micro hydro power plant.

To protect the forest, the people formed Raksa Bumi Forest Patrol Team. Timber theft was rampant in the forest, which is part of Gunung Simpang Reserve. Although the official number of team members was fifty, a lot of people participated in the operations to stop illegal logging due to the injustice imposed on them.

By installing this kind of participatory approaches, YPAL project to protect habitats of Javanese hawks was successful. The local people realized that they need electricity to make a better life. They protect the forest so as to get a water supply for generating micro hydro power and finally, the habitat of Javan hawks was saved.

4.2. Proposed application: indirect approach for power sharing

Based on the discussion of the decision making process it was determined that the main problem in the Village could be the lack of real power of their customary authority compared to that of the Formal Government. The customary authority is closer to the people and hence by empowering them and gaining their trust as key stakeholders it could be possible to gain a new level of understanding in Village level activities. If there is a real understanding between the Government and an empowered Customary Authority, clear limits to the use of the land and concessions to negotiate reserved areas for reforestation could be achieved. On top of that, with the creation of Village Guidelines there could be an ease to the abusive deforestation activities, as all stakeholders will be accountable.

We decided that an indirect approach would be more successful, using as justification the empirical result of the section "4.1." because by focusing on matters that directly touch the community, the required consensus can be created and in turn it will be possible to achieve reduced emissions from deforestation and degradation.

On the other hand, by achieving better governance within the Village, starting with the local leaders, political will is going to be generated and this political will can facilitate the understanding with the government, for example to facilitate a more direct return of the "reforestation fund" or "dana reboisasi". Also improved local governance can encourage the people to find alternatives to shifting cultivation, which generally has very low productivity.

Finally, an appropriate inter-village information system is needed in order to share information on common issues and concerns; we were able to identify two complementary options to build better intra-village communication:

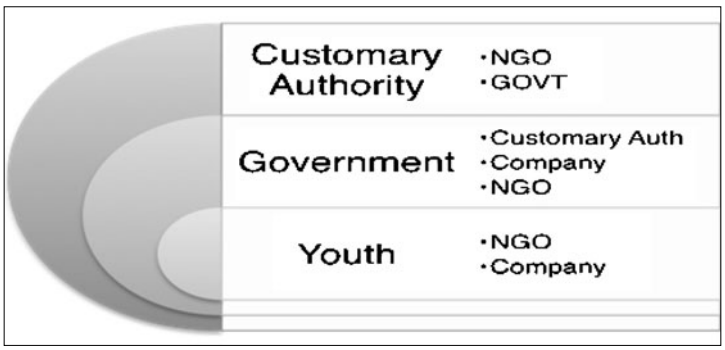

Figure 3: Proposed governance framework for Muara Jawa Village

Option 1: Create a schedule of regular meetings of "youth leaders" who will share with each other the activities of their respective area of the village. They will act as "emissaries" and their meetings must have a representative from an NGO/University as facilitator. Each meeting will also include a representative from either the government or the logging companies.

The meetings between the "youth emissaries" should be funded indirectly with stipend accommodation and transportation expenses, modestly and as required.

These emissaries will report back to the Elderly or their local customary leader. Local leaders also need to agree on a schedule of meetings themselves for sharing mutual interest on a regular basis and with a facilitator from the NGO's as well

Option 2: The use of mobile phones with SMS capabilities among the customary leaders, the elderly and youth leaders can be a tool to enhance communication intra-village. A defined number of mobile phones could be allocated and distributed for better community interest communication.

Furthermore, "Annex 1" is a cause of concern for our team. One key stakeholder as the Logging companies is perceived unimportant and distant from the people's perspective.

Involving the companies with the idea of designing and deploying a voluntary Corporate Social Responsibility (CSR)

program will be a plus to the strategy. In order to achieve this some encouragement must exist. The companies may want to engage in reforestation and collaborate in adaptation as long as clearer rules are acknowledged related to their right to use the land by the local people.

4.3. Summary of participatory activities

Table 2: Summary of participatory activities

Activity	Justification
4 Rs framework	By sharing in a matrix with participation of all stakeholders with their rights, responsibilities, relationships, revenues/returns the team can identify conflicts of interest and at the same time, in a friendly environment, encourage the stakeholders to find alternatives to solve it. At the same time will help the stakeholders realize by themselves the importance of customary authority.
Climatic Hazard Mapping (Visioning)	This activity will be used to identify areas where important action must be taken to address climate change. Also will be used to identify the key livelihood areas and to introduce the negotiation of specific slots of land for reforestation
Climatic Hazard Ranking	This activity will give hints about the top perceived hazards to the livelihood / environment and will help facilitators introduce the importance of how to provide reforestation by household and backyard greening
Climatic Hazard Impact Assessment	This exercise will deepen the awareness of the stakeholders on the need of giving the forest a break to re-green, also will be catalyst for new ideas to flourish. Segmentation of the group according to the recommended governance system is encouraged to allow the flow of information bottom-up
Assessing Climatic Hazard Impacts on Livelihoods	This activity will complement the mapping by showing key livelihood areas and to introduce the negotiation of specific slots of land for reforestation, once the stakeholders understand the importance of giving a rest to The Forest Land
Coping and Adaptation Strategies Assessment	Using this tool the team propose to introduce alternative economic activities for livelihood such as backyard planting and the feasibility of commuting to other areas such as Maura Jawa seaport for jobs instead of Forest
Community based Adaptation Planning	Complementary to the coping and adaptation strategies this activity aims to use the influence of the customary leaders and the elderly to layout use of the land and allow spaces for reforestation. At the same time the NGO and Company can add value to the mix by offering innovative alternatives to secure livelihood such as engagement in activities in the neighboring villages, such as those near the sea port and river delta.
Scenarios and role play	Especially relevant for the less listened stakeholders, the team would like to suggest the use of scenarios and role plays involving the way the people perceive the government, the company, the neighboring villages and the customary leaders. This way and in a friendly context the upper leaders may learn new ideas and share the concerns of their followers. This activity can be also valuable to bring Corporate Social Responsibility Initiatives done by the companies.

5. Conclusions and Recommendations

5.1. Conclusions

A well recognized problem of new initiatives in Muara Jawa, according to Martinus Nanang is "*how to bring the idea and the further process to the whole community*". We have to do our best to encourage local participation in the whole process. An indirect approach would be more successful, because by focusing on matters that directly touch the community, the required consensus can be created and in turn it will be possible to achieve reduced emissions from deforestation and degradation.

5.2. Recommendations

In order to achieve enhanced wide communication in community, we want to suggest the use of a schedule of meetings between the community Customary Leaders, Government representatives, Company representatives and other stakeholders. Also the use of an interactive wall where the passersby will be invited to draw their dream about community concerns. Also the use of SMS via mobile phones to share critical decisions will be encouraged.

Furthermore it is advised to explore in the Participatory approach, the possibility of shifting economic activity from the forest to the Mahakam River. Considering that Muara Jawa closeness to the Mahakam River delta, it will be relevant to explore new sustainable economic activities that involve the river and the sea anchorage port that currently manages bulk cargo, fishery

and others in order to give a break to the overuse of Forest resources and focus on a reforestation program.

6. Expected outcome towards Low Carbon Society

Achieving a low carbon society entails the effort of numerous actors and Stakeholders. Particularly in the case of Muara Jawa, The Village is found to be a potential area for reforestation, which in turn is a Carbon sink of more than 20000 hectares. However, as reviewed in the literature available, the area lacks a widely accepted governance system and requires further participation of local community on forest management. Martinus Nanang in his research report of Forest management and community participation in Muara Jawa said that he has been less successful in encouraging local initiative and in finding potential leaders. It means that the priority is to increase the participation of the local community on forest management in the future.

It is concluded that an appropriate governance system aligned the most with the long term interests of the community will facilitate the allocation of land for reforestation. A reforested village can help sequester and store carbon without adversely affecting the livelihood and equity benefits on community forest (Agrawal and Angelsen, 2009). Evidence is also mounting that community forest can deliver multiple outcomes: carbon storage, livelihood benefit, and biodiversity conservation (Chazdon 2008, Raganathan et al. 2008 on Agrawal and Angelsen, 2009).

There are several expected outcomes towards Low Carbon Society in Muara Jawa, such as:

- Enhancement of land tenure security through formal legal acknowledgement of local resource right
- Enhancement of benefits share from forest, forest land or forest product for local community
- Involvement of local community in forest management decision making
- Enhancement of local community level of knowledge about the forest loss impacts
- Delegating the power to control access to the forest by local community

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Annex 1. Relationship among institution in Muara Jawa

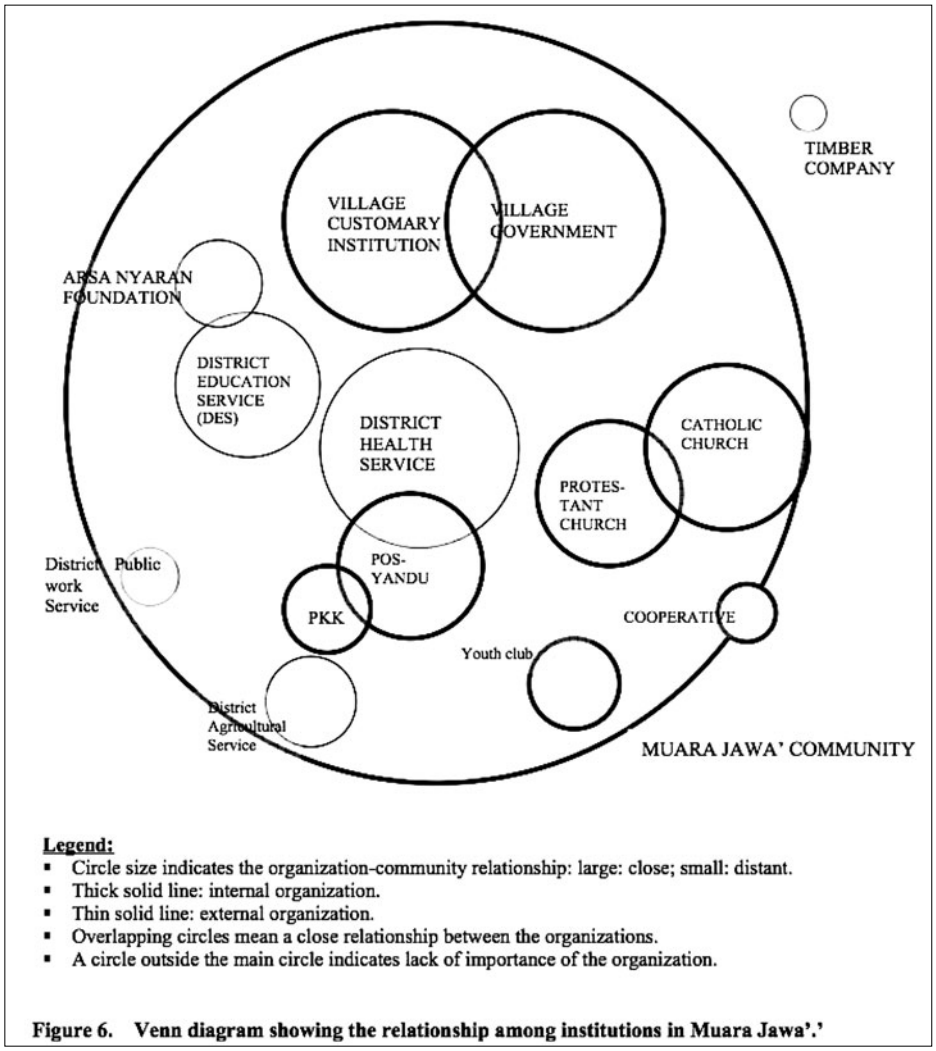

Figure 6. Venn diagram showing the relationship among institutions in Muara Jawa'.'

Source: Indonesia country report 2004, Chapter 5: **Forest management and community participation in Muara Jawa** Martinus Nanang.