

# The Development of Local Community Institutions for Community-Based Forest Mangement

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# Chapter 1

## The Serious Problems of Community Initiative in Forest Resources

### 1.1 Background

The problems of exploitation on forest management in Indonesia are complex. There are lots of reasons that lead to forest exploitation. First of all, economic reasons such as increasing gross national product which leads to the Indonesian government to exploit the forest for gaining foreign exchange. Similarly, the government gives lots of opportunities for multinational companies to extract forest resources for several years (Casson and Obidzinski, 2002). Secondly, social and cultural reasons, forests have been utilised by either local community or any stakeholders for social and cultural purposes. For instance, the phenomena of slash and burn where the farmers burn the forest areas and then live in the field for several years until the soils exhausted, after that they will move on to other areas (Lawrence *et al.*, 2010; Schulte and Sah, 2000). And, finally, basic survivals, as people exploit the forest just because they want to survive and provide for their basic needs (Lawrence *et al.*, 2010; Schulte and Sah, 2000).

As a result, there are several problems on deforestation in Indonesia. In terms of economic issue, Human Rights Watch said that Indonesia government lost income nearly 2 billion dollars per year in 2006 because of illegal logging activities

(HNW.org, 2010). In terms of sharing of benefits issue, the deforestation as the result of the government uses a traditional way of forest exploitation. It tends to force out surrounding communities and rise to some polemics. For example, people who live near the forest state areas are very poor with an income of less than \$ 1 a day (Awang, 2004). In conclusion, the forest operations in Indonesia marginalise the local community and eliminate local initiative to utilise the forest resources (Nevins and Peluso, 2008; Suwarno *et al.*, 2009). These circumstances need an urgent response how to save the forest and the other side how to re-allocate and re-distribute the forest resources.

As a solution, the government, as demanded by civil society, has created a forest policy which is called the Community-based Forest Management (CBFM) (Suwarno *et al.*, 2009). The CBFM contexts are not only to distribute the resources but also to share of power between the state and local community (Suwarno *et al.*, 2009). The program has been implemented for the state-forest areas in Indonesia 1995 (Forestry, 1995). Local communities can use the land for long-term contract such as 25 years. The community should establish a group and then the group send a proposal to the local government when they want to use the state forest. As an idea of the decentralisation of resources, it could be better re-distribute the resources and provide local community revenue (Nygren, 2005). However, the involvement of local uses and institutions is more complicated than just promoting decentralisation of forest resources and also the main difficulties is how to develop a system that is effective, equitable and efficient (Nygren, 2005; Hanna, 2005; Barrett, Lee and McPeak, 2005). For instances, if the community fail and they just extract the trees, it can destroy the forest sustainability. If the community does not have enough power to bargain with buyers, they will either sell or lend the forest resources to the buyers. Therefore, the suggestions that re-allocate the resources and give a chance for the community will

fail. It is suggested that development of sustainable local community institutions could answer the obstacles for maintaining the resources on community (Ostrom, 2009). This is a serious issue to look at the development of local community institutions on the CBFM Indonesia.

For that reason, the main idea of this research that focuses on CBFM in Indonesia describes the local institutions capacity and examines its performance on CBFM's implementation in Indonesia. The main issue is the institutional arrangements specifically how the community monitor and enforce the rules they set. The research is conducted in the Gunung Kidul Region (GKR) for a variety of reasons: First and foremost is rationale reason. The GKR has implemented the CBFM that was started in 1995 and then they already established some local institutions. Secondly is Social access reason. The researcher can gain the trust and the confidence of the local community. Thirdly is ecosystem problems reason. Soils are highly eroded, dry and hilly so there are several issues that arise such as, landslide and water scarcity. The last one is social and political contexts reason, the land boundary between state and society is firm and interestingly it has cooperation on forest management implementation amongst them. Although CBFM is an alternative approach to top down management institutional arrangement is relied on the common property regime.

The institutional approach can be solve the common property rights problems between private, community and state (Agrawal, 2005). The second approach is developing and understanding of local community institution within understating the local contexts can create a concept that difference institutional process can lead the variation how the local people use the natural resources (Agrawal, 2005; Ostrom *et al.*, 1999). It seems that understating on local community institution in GKR can help to create its forest management sustainability. The last one under-

stands the monitoring process on the implementation of CBFM because the main focus of this research is to assess the community monitoring process on the implementation of CBFM in Indonesia. According to the Foucaultian's view, knowledge and belief are discourses which are anti hegemonic and heterogenic perspective. Consequently, It can be clear that even using lots of scientists opinion the book can be changed depends on the data and the contexts reached (Rydin, 2007).

This research will use several methods to carry out the data such as ethnography and participatory method. A combination between the ethnography and participatory approach is a convenient way for understanding the social contexts deeply. The ethnography can be used to carry out the social and cultural contexts. The participatory can help to find the best person or the key actors as research's participants. Even providing interview guide, it can be changed on the research's field. Beside, the observation would be performed at the local community who implement CBFM, Local and district government. The in-depth interviews could be conducted for some participants such as the local farmer, local and district government officer, NGO activist and university who involve in the CBFM, in GKR. The purpose random sample has been chosen to find the interviewees or the farmers. The farmers have been divided two categories between the farmers who involved in and the farmers who do not involve in the CBFM and then they were classified by the wealth ranking. In addition, several data could be found both secondary data such as books and journals about institutions, local community and forest management, the policy papers of the local and district government about CBFM in both Indonesia and GKR. The reason of these categories is proposed because the designing community institutions relate to the community income (Barrett, Lee and McPeak, 2005).

In terms of the limitation of the research, there are several issues. First and foremost, generalisation, the result cannot make a generalisation for the CBFM implementation in Indonesia. Second, Objectivity, a participatory research has subjectivity issue. Because the researcher involved in the community, they can be interfered by local belief or values. In terms of documentations, particularly to assess this book is divided into several parts. Firstly, the introduction part that explains about the research background, aims and questions. Secondly, the theoretical framework that explains the idea of Institutional approaches on resources management and community-based forest management especially establish the CBFM in Indonesia. Thirdly, establish the research method that illustrates the research method both to carry out the data and answer the question. Fourthly, the analysis data that describes the implementation of CBFM in Indonesia and then it explains the monitoring techniques for implementation of sustainable CBFM in Indonesia particularly in GKR. The last one is the conclusion that describes the appropriate way for local community institution performance on the implementation of the CBFM in Indonesia. In the conclusion also includes the recommendation for development of local community monitoring process and the next research.

## **1.2 Aims and Objectives**

1. To understand the local community institutions especially the institutional arrangements' function on the implementation of CBFM.
2. To discuss existing policies for local and national government levels which strengthens successful institution strategies that have the potential to support CBFM sustainability and articulate local institutions strategies?

### **1.3 Research Questions**

1. What are the institutional arrangement addresses to the community prior with the implementation of CBFM?
2. How do the communities develop the rules?
3. How do the institutions of local communities monitor and enforce the rules on the CBFM implementation
4. What are the problems for monitoring and enforcing these rules?
5. To what extent do current local communities implement the CBFM in Indonesia?

# **Chapter 2: Forest Policy in the Theory and Practice**

## **2.1 Introduction**

The main idea of this chapter that describes on CBFM in Indonesia describes the local institutions' capacity and examines its performance on CBFM's implementation in Indonesia. Therefore, this chapter aims to develop a theoretical framework on a development of local community institution and sustainability. It is divided into several parts: in chapter 2.2, will discuss about how important in understanding the institutional approaches on implementation of resource management; chapter 2.3, it will define the terms of CBFM what the definition that is put on this research. And then chapter 2.4, it describes the idea of institutions on resources management, and secondly, the root of commons property regimes. Understanding both of the terms are bases for examining the implementation of CBFM in Indonesia. And the last one is the development of forest resources management approach.

## **2.2 Institutional Approaches on Resource Management**

According to Ostrom (1999), institutions have widely definition and various concept are based on behavioural rules, norms and strategies (Ostrom *et al.*, 1999); This can be through formal institutions such as government laws constitution and statutes, and informal institutions such as code of conducts, norms rela-



tionships and social expectation (Quinn *et al.*, 2007; Smajgl and Larson, 2007). The terms of institutionalism on resources management, scientists argue that local institutions can effectively control, maintain and manage the resources sustain (Bischoff, 2007; Smajgl and Larson, 2007; Agrawal, 2001; Fudemma *et al.*, 2002; Behera and Engel, 2006). This argument has been supported by Ostrom's opinion that institutional approach can answer the tragedy of common where the group of users develops a regulation how much, what manner and when the users can produce and use the resources (Ostrom, 2008). It means that stakeholders can be successful for using and managing their resources if they can meet their institutions with its contexts (Ostrom, 2008). Different contexts and cultures can create different institutions because the same rule cannot be implemented in different social context (Agrawal, 2001). Therefore, developing of effective local institutions should rely on the local contexts and cultures. A specific institution with precise context is the best way to deal with resources environmental issues.

There are several reasons why the local institutions are required to use resources sustainably. Firstly, government policies are failing because they lack resources such as money and human resources for supporting of their goals money (FAO, 2007). Secondly, a local self organisation is more precise and conducive to solve the common resources dilemma and create sustainable natural resources (Ostrom *et al.*, 1999; Agrawal, 2001). Thirdly, most of the policies are base on textbook and they do not down to earth so the best one to solve is to understand of the local contexts (Fairhead and Leach, 1996). Fourthly, Participation is the paramount issue that has been spread in the world as a solution to re-distribute and re-allocate the resources (McAllister, Smajgl and Asafu-Adjaye, 2007; Nygren, 2005). For instance, the formal governments need some loans for supporting their program even

failed and then they are trapped in debt (McAllister, Smajgl and Asafu-Adjaye, 2007). On the other hand, many communities who realize their local wisdom and knowledge can maintain the forest resources sustainability (Fairhead and Leach, 1996).

Improving the local institutions that supports for decentralisation and participation of natural resource management is an appropriate way to re-allocate the resources but it cannot guarantee the resources sustainable. It cannot arrange the community behaviour alone and it needs several requirements (Nygren, 2005; Barrett, Lee and McPeak, 2005). First of all, a legal mechanism that can establish rule and law enforcement. Secondly, capacity building that makes the local community can build an equal relationship with other stakeholders such as the local government and buyers. Thirdly is the institutional transparency that supports the information-equality system amongst stakeholders in the community. The last one is flexibility and adaptive on cooperative partnership.

In other words, natural resources management should build a good system that requires effective, equitable and efficient management (Hanna and Munasinghe, 1995). Effective management should deal with short-term interest of individual and long-term objectives for sustainable resources. Equitable management should meet the diverse of interests and values of the stakeholders. And then, efficient management should provide rational cost on gathering information, implementation plan, and monitoring and enforcement policy. It seems that good natural resources management is a combination of numerous indicators and requirements that each indicator is linkage and compliment. Therefore, the institution on natural resources will be described by several criteria and indicators (Table 2.1). The bold character is main focus on this research.

**Table 2.1**  
**Demographic, Political and Economic Characteristic**

1. Characteristics of the resource
- Small size
- Well-defined boundaries
2. Group characteristics
- Small size member
- Shared norms
<b>3. Institution arrangements</b>
- Rules are simple and easy to understand
- Law enforcement (incentives and disincentives)
- Accountable and transparent
- Benefit and cost, outcome and contribution.
- Meeting (formal and informal)
- Communication flow (downward and upward communication model)
- Bottom up policy
4. External environment
- Technology, low cost exclusion technology.
- Adaptable institution, open and close organisation
- Government should not undermine local community
- Networking with other stakeholders

Adopted from Agrawal(Ostrom, 2002)

In terms of the limitation of that approaches, it seems that there are huge numbers of variables on sustainable institutions. Furthermore, each variable can relate with others and also depend on the others as well. So, when the number of variables is huge, and the absence of well-prepared research happen, it almost

impossible to be sure that the research result deals with the research hypothesis (Ostrom, 2002). It is also the limitation of the institutional approaches that we have to consider. The researcher should count precisely the number of variables and cases that relevant with their goals (Ostrom, 2002). Because of an incorrect emphasis of the important variables, it can lead unpredictable the research result itself.

According to the limitation of institutional approaches above, the focus of the research is the relationship between the institutional arrangements and the sustainable forest management base on community. The Nobel laureate Douglas North suggests that the Institutional arrangements is the rules of the game in the society that shape human interaction and then the rules of the game are played by the communities, governments and markets (North, 1990; Barrett, Lee and McPeak, 2005). On the other hand, the sustainable forest management base for the community is the idea of decentralisation on common-pool resources that support for local community to access the forest resources (Gilmour and Fisher, 1991; Adhikari, Di Falco and Lovett, 2004).

Consequently, this research focuses on the development of effective institutional arrangements which could be useful to set, monitor and enforce the rule. If the rule has been properly implemented, the community-based forest management could be sustained. Many scientists found the empirical issues. The natural resources degradation is more common in rural areas those the community is poor and low income. Despite the fact that, the communities and the governments, who do not enough capital, have less capacity to implement, articulate, enforce the rule of the game itself (Barrett, Lee and McPeak, 2005; Adhikari, Di Falco and Lovett, 2004). Thus, designing the rules that relies on the communities income and contexts are challenges (Barrett, Lee and McPeak, 2005).

## **2.3 Community-Based Forest Management: Definitions**

The concept of community-based forest management is very broad. This research uses the CBFM's concept as a model that provides the opportunity for local communities to manage and access the forest resources especially in state-owned forest areas. The local communities are given the opportunity to use and manage forest resources according to their abilities. The community can develop their management resources depends on an initiative of the local community. Besides, the community management should be aware on the issues of participation, equality and sustainability.

There are several issues that relate to community forest management and conservation of resources. One of the most issues is how to maintain and improve local community to access natural resources. It is an urgent issue that happens because several factors. Firstly, most of government policy marginalises the local community. Secondly, the economic approaches drive to the governments for putting the natural resources that will only meet the need and market demand (Tachibana and Adhikari, 2009). Thirdly, the idea of protected area for biodiversity conservation has pushed practitioners and government for implementation this idea (Ellis and Porter-Bolland, 2008) and according to this idea, protected areas will be successful if the local community does not involve in the natural resources. Consequently, to understand the terms of community based forest management, it is useful if we understand the terms of common property regimes and the theoretical review of the forest management approaches.

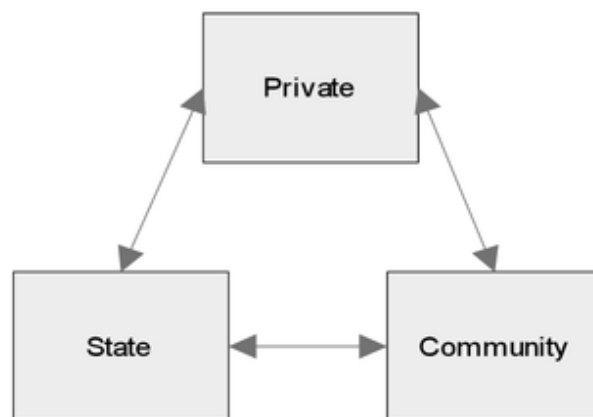
### **2.3.1 Common Property Regimes**

To solve the problems on commons, we have to realize the root of its problems. It is suggested that can be identified with understanding the property right and property regime perspectives. The economic approaches lead to the develop-

ment of the paradigm of property rights. The property can be owned by a private, state and community. The property rights consider to how the state and society look for their property ownership. In addition, the political perspectives bring the common property regime perspectives whose it are rules or beliefs which arrange how to use the resources, what have the stakeholders do and who are the stakeholders or the owner of the resources (Lu, 2001; Pavri and Deshmukh, 2003; Quinn *et al.*, 2007). As a result, understanding of the property rights leads to recognise the concept of common property regime itself. Besides, the terms of a regime relate to a system of regulation, rules and law for administration (APA, 2010).

There are three main perspectives of the property regimes which are the state property regime, private property regime and community property regime (Figure 2.1). The first perspective is a state property regime. The government as a representative of a whole society thinks that natural resources have to belonging them and they can manage and use as much as they want. This assumption is mono-interpretative and debatable but this assumption has been used by most of the government (Awang, 2004)

**Figure 2.1**  
**Resource Conflicts**



This assumption had been supported by Hardin's view when he looked at the Sherman phenomena in the field and this argument supports for state or government regime on resources management. There are some key arguments that Hardin proposes. Firstly, he argues that problems in the world which occur cannot be solved by technical solutions (Hardin, 1969). For instance, the question of population and a lack of food cannot be answered by producing a new wheat strain. Hardin also emphasizes that only a finite population can solve the problem of a finite world but it could not happen (Hardin, 1969). Therefore, we have to produce fundamental action to solve the world's problems. Secondly, everyone has a personal interest that leads to them maximizing their own interests. He explains that in the pasture locale where the field is free and nobody is an owner. As a result, every herdsman will maximise their advantage by adding more sheep into the land. If this has been done by each herdsman, the pasture field value will decrease and the resource will be eroded (Hardin, 1969). Thirdly, he states that freedom in commons leads to ruin for all. Hardin also says that the herdsman as individuals, they are individualistic, rational and just utility-maximizing (Hardin, 1969). Hardin says that people cannot reduce their needs and no one can deal with this problem and everyone always fails to solve their problems (Hardin, 1969). Even in the community or groups, they are not able to manage their needs. For example, if the legal system of private property is suggested as a solution, it can fail again. The private property is unfair and people who have freedom always ruin the resources. Therefore, Hardin suggests a government law could be a solution to this problem (Hardin, 1969).

Government regulations could solve the tragedy of common where the government can be involved in the input

and output process of resources management to bring the land usage in line with community and social needs. Hardin suggest that government can act as a public representative to create effective regulation and also tax policy(Hardin, 1969). This hypothesis assumes that the government is transparent and effective in allocating resources where people can receive incentive and disincentive depending on their contribution. Government should create incentive based-policy where this policy will motivate voluntary research, action and conservation to stake holders or landowners. In other words, government policy has a social function as well that can be used to distribute the resources by balancing social cost, optimum production and sustainability of resources. In conclusion, government can create policy to solve and reduce the tragedy of commons because the government has rights and powers to implement it. Hardin's assumption could be true if the government policies are transparent, efficient, effective and adaptive. Nevertheless, in reality this is not always existed and succeeded because many governments fail to create and implement their policies.

The second perspective is the private property regime. This assumption reveals as an opponent the state property regime. There are several characteristics of Government policies, which are centralized-regulation, standardised and limited use of technology. The law is formal and has a coercion element which can enforce the rule. However, the ideal condition is quite far from the reality, with some evidence that governments are ineffective, inefficient and irresponsible because government policies usually are uniform and centralised (Libecap, 2009; Benson, 1988). For instance, abuse of power and less use of discretion could be revealed in several ways such as corruption. Corruption makes the circumstances of both resources and the community worse. Benson,



who has conducted research on the common pool utilities, says that state apparatuses are less commitment to allocating resources and then they are on law enforcement (Benson, 1988). Conclusions, as an individual people can own and use the resources. They can control and manage it even individualistic the people could be dealt with other interests. Hardin says that an ethical solution which can assist people to understand what they can do and cannot do. In the name of conscience, people have self-eliminating control over their attitudes and activities. It can be used to eliminate human desire for exploiting resources (Hardin, 1969).

The last one is the community property regime. The perspective has been emerged as an alternative approach on management of the commons. There are some criticisms on the private property regime's view. In terms of individualistic and economic actors, Angus suggests that Hardin's argument started with the unproven argument which is that every herdsman always wants to enlarge their herds, but even if the herdsman wanted to behave like Hardin's assumption, he could not do it unless certain conditions existed (Angus, 2008). Also, Angus said that Hardin mistreated the term of self-regulation by the communities involved (Angus, 2008). In addition, self-regulation processes such as those that occur in the community can reduce the overuse of land (Angus, 2008). Besides, all stake holders can create an internal rule which makes clear what, when and how to produce the best crops. By cooperating with each other, they can manage to provide for the commons (Libecap, 2009). It seems that even if people are rational and have an economic perspective, they have to consider their belief and those of others.

In terms of cooperation, Barclay, who conducted an experiment where people played some games and models using resources, argues that cooperation and coalition in

reciprocal altruism are integrated in human relations and it can lead to immense benefit and reduce costs (Barclay, 2004). In the other words, human behaviour responds appropriately to prevailing conditions in the social and environment. So, herdsman will use commons property in ways that lead either to overuse or sustainability depending on the circumstances. Neither Hardin's conclusions nor management is inevitable (Berkes and International Union for Conservation of Nature and Natural Resources., 1989).

In terms of communication, a community who uses communication effectively can create several conditions such as reaching higher benefits and developing their goals faster than communities which are less good at communication (Bischoff, 2007). It is clear that every people in the community who wants to use the commons property should ask and communicate with each other. For example, in Indonesian society, it is well-known a *Hak Ulayat*. *The Hak Ulayat*, called the customary right, is a statute or local norms that every community member should follow the rule when they want to plant, seed or cultivate anything in some community area. According to this terms (*Hak ulayat*), the land belongs to the local community but every member can utilises as much as following to the community rule (IDLO, 2010). As a result, the resources can be managed in sustainable ways and the community can utilise the field as well.

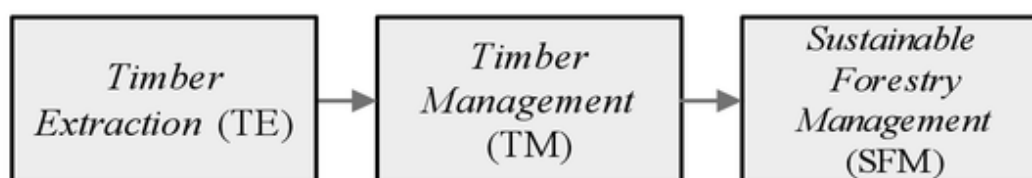
In conclusion, communities and individual as a resources user have characteristic faiths which create people and community more aware to maintain resources with sustainable ways. Besides, collective action can lead to successful managing resources and allocate of resources (Mukhija, 2005). On the other hand, we should consider that community rights will be managed properly and it could minimise anarchism on commons. It is clear that the community can

involve in the resources as much as they can manage their institution and this is the base of the community property regime perspective.

### **2.3.2 The Development of Forest Resources Management**

The development of forest resources management (Yang and Liu, 2009) theory may be divided into two approaches, which are the conversional theory and the modern theory or social forestry approach (Simon, 1999). On the other words, if it relates to those who are the main actors, it can be broken down between the state-based forest management and the community-based forest management (Suwarno *et al.*, 2009). In terms of the conventional approach, there are several ideas, which are a timber extraction and timber management approach. In terms of the social forestry approach, there are several ideas that are a forest resources management approach (Yang and Liu, 2009) and sustainable forest management approach (SFM). All the approaches have been developing gradually (Figure 2.2).

**Figure 2.2**  
**Evolution of Forest Resource Management Approaches**



Timber extraction (TE) is the oldest approach on FRM and bases on an assumption that forest looks like a mining so the forest can be exploited and all the trees can be felled. This approach has been divided into two generations. The first generation of TE that is implemented in the wild forest and without any plan or technology or just felled down the trees (Simon, 1999). The second generation of TE is imple-

mented on not only the wild forest but also the planted-forest. This generation uses a system culture but less a planning and a technology. Besides, there are several characteristics that lead to TE activities such as, the area of wild forest is so wide, a number of wood consumption is small and the number of population or density is petite as well (Simon, 1999).

Timber Management (TM) is the second step in the evolution to FRM. It reveals with the assumption that the forest look like a farm, so it needs for maintenance and a good planning. The development of TM is more complex and requires several steps. First, it needs robust system culture and management. Second, a good administration of the product is compulsory. Third, the forest product orientation is wood (Simon, 1999). Therefore, all resources on this industry just pay attention for increasing wood production.

Sustainable Forest Management (SFM) or Forest Resource Management (FRM) has been established when scarcity resources happens. The number of population and consumption the world is huge but the resources are so rare especially the forest resources. The fourth world forestry congress in 1960 included a theme Multiple Use of Forest Land and then in the seventh world forestry congress in Indonesia in 1978 has discussed issues about agro forestry, social forestry and tree farming (Simon, 1999). And then this idea has spread and been implemented around the world. It has been discussed not only as part of the discourse in academia but also gained access in government policies.

There are also several phenomena that lead to the concept of SFM. Firstly is the number of degradation and deforestation that increases significantly. For example, from 1990 to 97,  $5.8 \pm 1.4$  million ha of humid tropical forests lost each year and  $2.3 \pm 0.7$  million ha of forests degrade (World-Bank, 2003). Secondly is the distribution of resources which

is unequal. As a result, the number of poverty in the world improves dramatically for instance, two hundred and forty million people live in forested areas, representing 18.5% of the 1.3 billion people living on environmentally fragile area (World-Bank, 2003). Thirdly is the spreading of the idea of decentralisation on common-pool resources that support for local community to access the forest is massive (Ostrom, 1990; Agrawal, 2001).

Therefore, implementing of SFM needs a radical change of the point of view from the state base to the community base, from a competition to cooperation, from the top down policy to the bottom up policy (Gilmour and Fisher, 1991). The sifting of paradigm is necessary if the SFM will be implemented properly. The paradigm that the state is the main actor should be changed to the community paradigm that the community is the main actor. To implement this idea require strong political-will and commitment from all of the stakeholders. Moreover, Campbell creates several indicators for developing SFM or CBFM sustainability (Suharjito, 2000) (Table 2.2).

**Table 2.2**  
**The Evolution of CBFM**

<b>From</b>	<b>To</b>
<b>Orientation</b>	
Control	Facilitate
Leader	Companion
User	Facilitator
Policy maker	Participatory
Profit oriented	Resources sustainable oriented
National Benefit	Local justice
Directed by Plan	Evaluative plan

<b>Institutional and Administration</b>	
Centralisation	Decentralisation
Government as the main actor	Cooperation between state and society
Top Down	Bottom up
Target as Goals	Process as goals
Rigid policy	Flexibility
Punishment	Conflict resolution
<b>Management Method</b>	
Strict	Adaptive
Mono interpretative	Multi interpretative
Uniformity	Diversity
One product	Many Product
Mono silviculture trees	Multi silviculture trees for specific area
Planting or cultivating	Sustainable resources
Labour /worker	Manager

Adopted from Campbell in (Suharjito, 2000)

## **2.4 Community-Based Forest Management in Indonesia**

At the first time, the CBFM was established by central government in 1995. This program was implemented as a resolution on forest management crisis in Indonesia (Sepsiaji and Fuadi, 2004). The Ministry of Forestry (MF) wants to re-distribute forest resources and encourages local participation so they develop *Hutan Kemasyarakatan* or CBFM (Sepsiaji and Fuadi, 2004). The CBFM program was marked by the publication of the MF Decree No. 622 in 1995 (Forestry, 1995). There is a chance that involvement of local community in managing forest resources could increase significantly. The policy proposes that the involvement of the community were better and able to ensure the security and forest conservation. The CBFM is one solution to reduce the rate of deforestation in Indonesia that rose day by day

(Suwarno *et al.*). The limitation of resources also is a reason to initiate the CBFM (Suwarno *et al.*, 2009; Sunderlin *et al.*, 2001). The CBFM is a breakthrough that share benefit to many stakeholders. Its goals are for improving the welfare of society, reducing the deforestation and preserving the forest.

According to this ministerial decree, the state owned forest that is tilled by the group can be used for several years depends the government permit. The community in a group has right of usage, due to obeying for their collective action and calling the preservation of the forest. The program supposed the CBFM farmers can be able to gain not only harvest the crops but also feeling the wood in the long-term contract.

The implementation of CBFM policy by looking across the three ministerial decrees is clear that this policy quite complex. Looking at the evolution of three ministerial decrees is a lesson about the evolution of power where this policy place the local communities from the outside actors to the inside actors. The ministerial decrees have been published by central government from no 622/1995, no 677/1998 and the last one is No. 31/2001 (Forestry, 1998; Forestry, 1995; Forestry, 2001). The CBFM policy seems like a picture that is a bias conflict of power between central and local governments. Development of the policy also is evidence that the local government and local community are less power than centre government. The policy that allocates the areas as an area under control of CBFM project is on the central government rights.

Luckily, political changing happened in Indonesia during 1997-1998. Indonesian political system had been transformed from an authoritarian state to a democratic state when the president Soeharto who led for 32 years stepped down; his era is called New Order Era. The next period is the Order of Reformation Era. This situation was a trigger for decentralisation of power. The decentralisation also occurs on the resources mana-

gement especially forestry. As a result, some of heads of district got an authority from the central government to permit small-forest conversion licenses. According this rights, the license can also be used by local community and small industry (Engel and Palmer, 2006).

In 2000, this policy was prohibited by central government but the local government and local community denied this the central government prohibition and continued to occupy the forest (Engel and Palmer, 2006). Compromising has been dealt. The central government agree that districts governments can give a permit take advantage of the forest but this permit only for a local community when the local community has a group. As a compromise between central government, local government and local community, the MF decided a new ministerial decree no 31/2001. According this decree, the district government has rights to allocate their forest to local people. The evolution of the policy of the three ministerial decrees can be seen from the following table (Table 2.3).

**Table 2.3**  
**The Development of CBFM Policy**

Substance	No. Minister of Forestry Decree 622/1995	No. Minister of Forestry Decree 677/1998	No. Minister of Forestry Decree 31/2001
The tilled areas	A protected forest that destroyed or critical and also non-timber forest production	A protected forests and forest non-timber forest production	all the state forest areas
The licensors	Minister with a recommendation from the Regional Office of the Central Government	Minister with a recommendation from the Regional Office of the central government and Governor.	Regency leader (regent)



The Participant	Individual, Group and Co-operative	Co-operative	Group and should in a Co-operative
The Rights of participants	Land 4 hectares Product of non-timber Duration unclear	Duration clear (35 Years Rights) Various Product (Timber and non timber in the forest production) (non timber and ecotourism services in protected forest)	Duration clear (25 Years Rights) There are 2 types of licence, temporary licence for between 3 and 5 years and definitive licence for 25 years Various Product (Timber and non timber) but the community should have a cooperative
The liabilities	Security, ordering, processing and maintaining the forest area Pay tax	Security, ordering, processing and maintaining the forest area Pay tax	Ordering, processing, rehabilitation, maintaining the forest area and forest fire fighting
The source of funds	Central government	Unclear	The regency fund and other resources.
Decentralisation	No decentralisation, mostly the central government authority	Little decentralising to Governor	Mostly the regency authority
Participation	Less participation	Open participation from NGOs and university	Open participation from NGOs, university and civil society
The license revocation	Minister of forestry (central government)	Minister of Forestry after the licensee receives three warning from Governor	Regency leader (regent)

Looking at the above table (Table 2.3), it is obvious that central government just attempted to change the policy but it weak on the implementation. They just paid attention to reduce the local government and community participation particularly the changing from no 622 to 677. The ministerial decree no 31/2001 gives lots of chances to the regency and also local community because of the social and political changing in 1999. Moreover, decentralization policy is not only limited to government issues, but it also means decentralization of natural resource management. In other words, the principles stipulated in the decentralization policy guidance, in the management of natural resources including forest resource management. Entering the Order of the Reformation, decentralized system continued to crawl slowly with the opening of “access” local government the flexibility to hold authority in a particular field. Operation of these authorities, including natural resource management which in this context in particular the management of forest resources, is necessary significantly (Sepsiaji and Fuadi, 2004).



# **Chapter 3:**

## **Research Methods**

### **3.1 Introduction**

This chapter explains the combination of methods and tools that were used to assess the community monitoring processes on the implementation of CBFM in Indonesia. It describes the triangulated methods which were applied deal with the research goals. A combination and integration of methods were used to analyse the randomly selected community groups in two study areas in Gunung Kidul Regency (GKR), Yogyakarta, Indonesia. Besides, it gives details how to collect data, and analyse to carry out its research objectives. This chapter also shows the limitation of the selected methods. Overall, this technique highlighted the collaboration learning process from the local communities through a combination of some approaches. The result is an interpretative process by both the researcher and the communities.

### **3.2 Methodology Paradigms**

The qualitative method is the main umbrella of this research which used several methods to carry the data such as ethnography and a participatory method. A combination between the ethnography and participatory approach is an appropriate way for understanding the social contexts deeply. The figure 3.1 explains the detail steps of this research. The ethnography approach is used to understand the social and cultural contexts. The

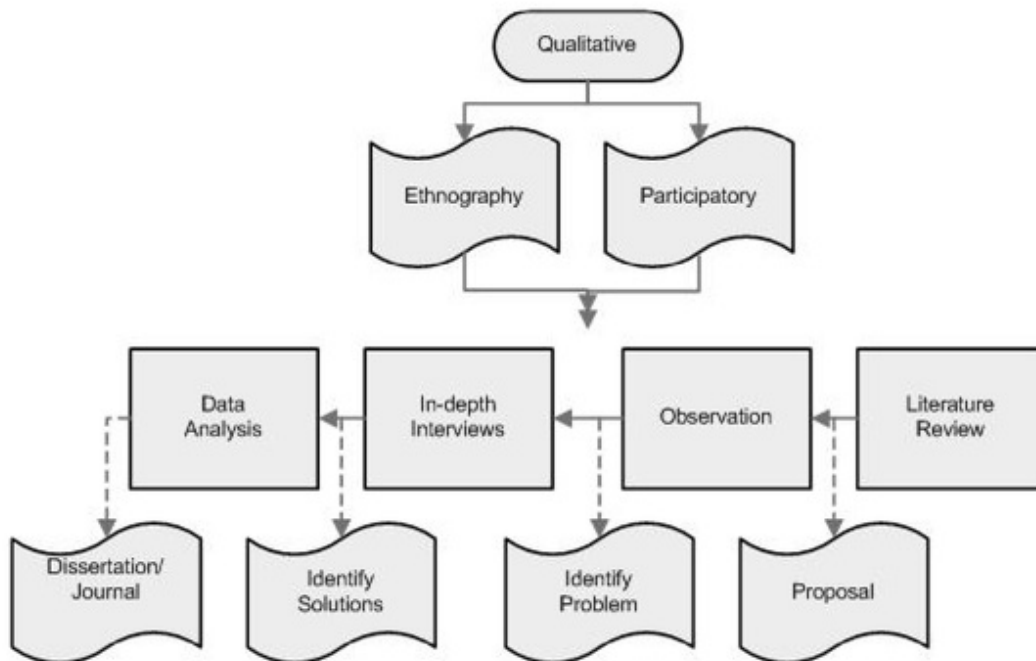
participatory approach helps to find the best person or the key actors as research's participants and also this approach is useful to clarify the community monitoring process on the implementation of CBFM in Indonesia.

Moreover, currently monitoring processes can be categorised into two approaches (Fleming and Henkel, 2001; Pouliot *et al.*, 2009; Cott, Cobb and Chipertzak, 2005). First, the traditional monitoring approach that is a top-down activity implemented by scientists, government and international organisation officers. This approach has its roots are natural sciences and mainly common in many fields such as soil degradation, conservation biology and forest conservation. Regarding to this approach, the procedures, indicators and the monitoring person comes from the scientists and government. If the monitoring activity is executed by the government, the communities are just as a research object (Reed, 2005). Second, the post-modern monitoring approach that bases on the community and bottom-up activities. This approach conducted by non-government organisations (NGO's) and its roots are post-modern's thought within social science (Reed, 2005). The community can involve in the monitoring process and also the researcher should cooperate with the community to develop the monitoring indicators.

The traditional approach has several weaknesses such as failure to analyse participation and local contexts. The procedures are mono interpretative and the established-indicators are universal indicators. It can create misunderstanding and im-mixture with the community needs. To implement the monitoring process needs some training and many types of equipment. Therefore, this research uses the post-modern approach that is a proper way to understand the community activity on the implementation of CBFM in Indonesia. Using then bottom-up approach is not only to assess but also develop the monitoring indicators based on the community The indicators are suitable

on the implementation of sustainable CBFM in Indonesia. Besides, the procedures and tools that have been developed deal with the community needs and also the community is able to implement it.

**Figure 3.1  
Research Steps**



### 3.3 Steps and Tools

Triangulation of methods is used to develop a theoretical framework, look for the data and analyse the data. Triangulation is a method that uses more than one theoretical approach and also applies more than one method to collect data sample in a research (Denzin, 2000). The key words of the triangulation method are combination and integration of the methods. Information about community monitoring processes was integrated from the literature reviews, observations and in-depth interviews. Several steps have been taken by the researcher (Table 3.1):

- 1) Literature reviews. Secondary data such as books, journals and government reports were used to develop the theory and research framework. The literature review was used to expand the research proposal and develop interview guides. In addition, the secondary data were found such as books and journals about institutions, local community and forest management, the policy papers of the local and district government especially about CBFM in both Indonesia and GKR.
- 2) Observation activities. The observation is performed at the selected local community groups who implement CBFM. There are two community groups selected in this research. During the observation, the research wrote the community habit and value. In addition, the researcher met NGO's activists and university staffs who study in the CBFM implementation in Indonesia. This activity target also is to understand the local community contexts that are useful to find the key actors who involves in CBFM in GKR.

**Table 3.1**  
**Steps, Tools and Results**

<b>Step</b>	<b>Tools</b>	<b>Results</b>
1	<b>Literature reviews</b>	Develop proposal Create interview guide
2	<b>Observation</b>	Write cultural and social contexts Compile the targeted interviewees
3	<b>In-depth interviews (snow ball method)</b>	Find the key actors or stakeholders Develop monitoring indicators within the community
4	<b>Classify data</b>	Expand the monitoring indicator on the CBFM in Indonesia based on the community Establish the research report

- 3) In-depth interviews. Even providing an interview guide, it is changed on the research's field depends on the community

agreement. The semi-structured interviews have been done to the selected stakeholders. The selected stakeholders are farmers who involve in the CBFM, community group officers and formal village leaders. The reason of these categories is proposed because the designing community institutions relate to these stakeholders (Becker *et al.*, 2005; Ostrom *et al.*). The recommended of people per group those who can be interviewed is usually six to ten or as few as four (Reed, 2005). The snow-ball technique has been chosen to find the appropriate interviewees or the farmers (Salazar and Moulds, 1996).

The interviewees were 16 farmers, 4 group officers and 2 formal village leaders 4 where the stakeholders represent each community. During the interviews, the process and indicators that were not relevant have been consulted through the community. As a result, the community-based monitoring indicators have been created together between the researcher and the communities. In this research, the researcher lived in the communities for 1 month where the researcher lived nearly 2 weeks in each community (Figure 3.2).

**Figure 3.2**  
**Observation and In-depth Interview Activities**

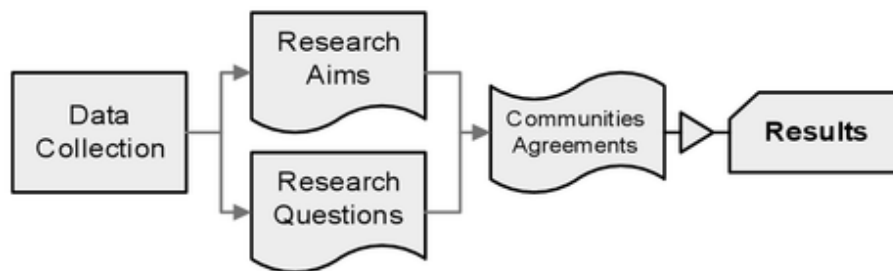


The last one is classification and analysis data. The collected data have been classified according to both the research goals and agreement with communities. By integrating approaches and



combination different methods can develop community-based monitoring processes. The last step would be possible for the researcher to establish a comprehensive approach for measuring the implementation of CBFM in Indonesia (Figure 3.3).

**Figure 3.3**  
**The Stages of Analysis Data**



The bottom-up approach offer data more qualitative learn how the communities dialog, cooperate and manage between their need and their ability. However, this approach has weaknesses or limitations (Reed, 2005). Firstly, if the two local groups have different perception and choose different indicators, it is quite difficult to justify the result. Secondly, if the community members do not act and behave with the sustainable way, the researcher has to develop the indicators simpler. Thirdly, the snow-ball technique is the potential to alienate community members such as women and children so the researcher attempted to find the marginalised stakeholders too.

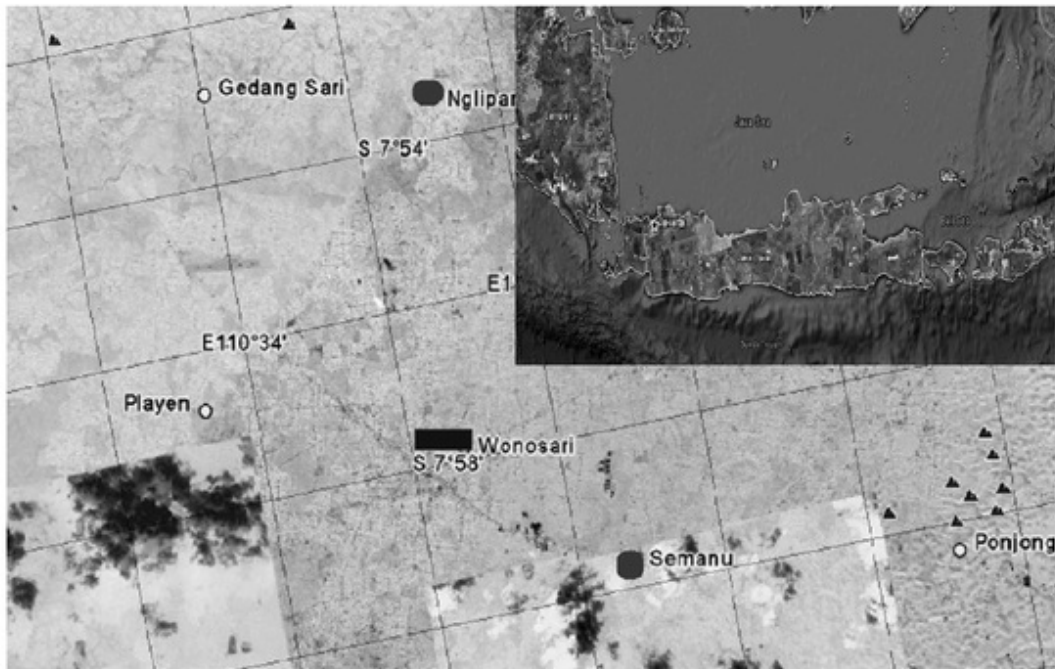
### **3.4 Study Areas Selection**

The study areas are located in GKR and belong to Yogyakarta Province with Wonosari as a capital city of GKR (110.21° - 110.50°E and 7.46° - 8.09°S), Indonesia. The GKR has border with Bantul and Sleman district in the west, Klaten and Sukorajo district on the north and the south is the Indonesia Ocean. The total area of GKR is 1485.36 km<sup>2</sup> or approximately 46.63% of the total area of Yogyakarta Province. Besides, the State forests in the

whole area of GKR is 1,3221.5 ha, represents approximately 8.90% land area of GKR 146 539 ha (Agency, 2009). The topography of the area is so hilly for 100-700 m a.s.l. The soils are low fertility and mostly lime stones. The climate is semi-arid with the mean annual rainfall 1720.86 mm. A daily average temperature of GKR is 27.7°C, the minimum temperature of 23.2°C and the maximum temperature of 32.4°C (Agency, 2009).

There are two community groups that have been chosen for this research. The communities live in Semanu district 110° 38' 57"E and 08° 00' 09" S and Nglipar district: 110° 37' 11" and E07° 52' 50"S (Agency, 2009). Each community has a local farmers group who involve in the implementation of CBFM on the owned state forest, so there are two local farmers groups selected in this research. The selected groups represent different community groups. There are two community groups that called Sedyo Makmur (promise to reach the prosperity) in Semanu district and Karya Hutan (the guard of forest) in Nglipar district (Figure 3.4).

**Figure 3.4**  
**Map of the Study Areas**





# Chapter 4: Monitoring Techniques for Implementation of Sustainable CBFM in Indonesia

## 4.1 Introduction

This chapter describes the research results. Data analyses are presented by establishing contexts, current community practise, possible community management and developing future monitoring process. Based on a combination of literature review, observation and in-depth interviews, establishing context process shows that both of two study areas are located in the mountains and barren. They are scarcity of water and resources. According to the economic data, the majority of population is farmer and they do not have sufficient land. Most of them just have less than 0.15 hectares or 1500 m<sup>2</sup>. The areas are located in the mountainous area where the area so hilly. The main trees are teak (*Tectona grandis*), Acacia (*Acacia auriculiformis*), (*Gnetum gnemon*) and Kesambi (*Schleichera oleosa*). The community harvest some fruit, beans, herbal pants at intercropping area under the tree canopy.

Understanding the current community practise on the implementation of CBFM, it brings to deal with the society, institutions, environment in two areas. Study area 1 is Sedyo Makmur Community Group (SMCG), located in Semanu district, in the north of Wonosari (capital city of Gunung Kidul Regency). The group

members come from 2 villages and the group works across 4 hamlets. It was established originally in 1985 before the implementation of CBFM project, the CBFM was implemented in Indonesia in 1995. This group established the institution arrangements successfully. They also already developed the monitoring team that can monitor and investigate any problems on the implementation of CBFM. They created rewards and punishments scheme towards their members. A co-operative has been formed by this group. The co-operative is a compulsory body as a legal institution that receives rights from the government to fell down the trees and sell the woods.

Besides, the site 2 is Karya Hutan Community Group (KHCG) that their members work to 185 households and spreads across three hamlets which are Kalialang, Ngasinan and Tlepok. This group is located in Nglipar district, approximately 35 kilometres from Wonosari, a district capital city. In terms of the area and member, KHCG is smaller than SMCG but the KHCG is less well-managed. For example, they have not established a co-operative yet. Even creating rewards and punishments indicator, they have not formed the monitoring team.

Overall, comparing the two sites can help to understand the current issue on monitoring process. And then the last chapter explains the possible community management system and develops the future monitoring process based on community.

## **4.2 Understanding the Site Contexts**

In each site of study, the researcher attempts to understand the local contexts by living in the community and observation for one and half month. The site contexts were analysed by gathering primary data and also secondary data. The secondary data were found by asking the Regency officers and village officers. Observation and semi-structures interviews were used to gather the primary data. The snow ball method was used to find

the key actors and the important stake holders. The summary of social contexts in each case study is detailed by profile of case study method (Sekher, 2001).

Before explaining the details of each site, a synopsis is described of the site contexts (Table 4.1). The community groups section was purposive and the comparison model was made by the observation (Sekher, 2001). This research selected two community groups that they have similarities and also differences. Both of the communities were located in the rained upland. In terms of economic background, they are mostly a farmer who does have enough land and most of them only have less than 0.20 ha of land (interview, 2010). It constructs the people's dependency is quite high on the limited land resources. Moreover, they consent about how to find more land where it is utilised to provide their life. As a result, each community member involves in the CBFM program because the program allows to the community in a group for using the state forest on sustainable ways. Each community group however represents several key figures (Table 4.1).

The perception of farmers and community group's condition decided because of some differences. SMCG has members coming from two villages and the number of households is 750. On the other hand, members of KHCG only have originated from one village and the number of households is smaller only 285. Besides, The SMCG has member around 254 that is bigger than the KHCG is only 185. Interestingly, not all households living in two villages where there is the SMCG established became a member of the SMCG. Areas which are managed by SMCG are 254 hectares. This is larger than the area managed by the KHCG which only 40 hectares (Table 4.1).

**Table 4.1**  
**Comparison of Selected Study Areas**

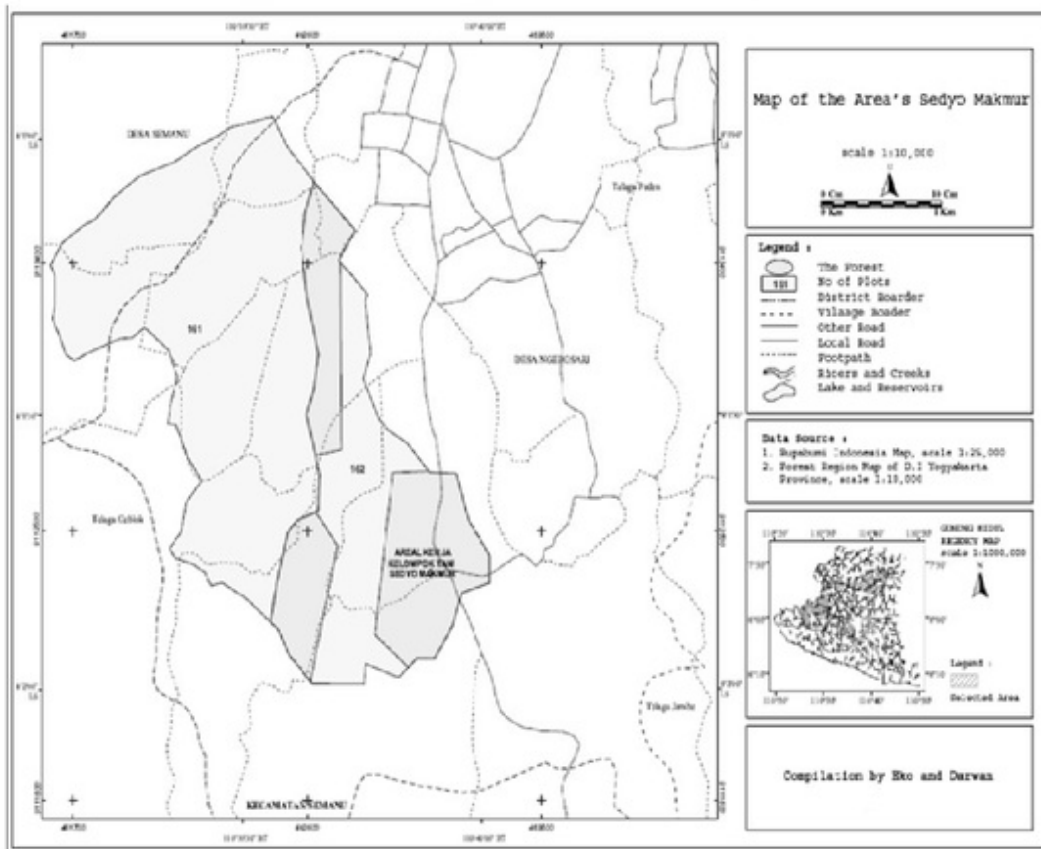
	<b>Sedyo Makmur Community Group A</b>	<b>Karya Hutan Communtiy group B</b>
<b>Demography Features</b>		
Size of the community	2 villages (750 households)	1 village (285 households)
Total member of a group	254	185
Managed areas	115 ha	40 ha
Background member	Relative diverse	Relative homogeneous
Economical composition	Mostly small farmers and landless owned	Mostly farmers and landless owned
<b>Empirical Data Collection</b>		
	Semi-structured questionnaires	Semi-structured questionnaires
	Snow ball technique for gathering the interviewees	Snow ball technique for gathering the interviewees
	The interviewees represent the village officer, group officers, farmers.	The interviewees represent the village officer, group officers, farmers
<b>Established Institution</b>		
Established a co-operative organisation	Yes	no
Established a rule of the game	Yes	Not finished yet
Monitoring	Already developed the monitoring team	On going to develop monitoring team

In terms of establishing monitoring institutions, the SMCG already developed the monitoring indicators and also the monitoring team. The SMCG already published their rule to their members and other community members from different village. In addition, the cooperative organisation has been established in SMCG. The cooperative organisation is mandatory for the community group if the community group wants to fell down the trees and sell it. At the same time, the KHCG has not developed the monitoring team and a cooperative organisation yet. They just already created the monitoring and punishment rules.

### 4.2.1 Exploring the Site 1

SMCG is located in Jragrum hamlet, Ngeposari village, Semanu district and GKR. This group got the right from the government to use 115 hectares state forest. It works and spreads across 2 villages and 4 hamlets that are Jragrum, Wediwutah, Gemulung hamlets belong to Ngeposari village and Plembengan hamlet belongs to Candirejo Village. The three of hamlets are close each other but the last hamlet has distance around 3 kilometres in the south Ngeposari Village (Figure 4.1). This makes the last hamlet is quite difficult to access the main road. The number of group members is 254 and most of them come from Jragrum and Wediwutah around 75 percent.

**Figure 4.1**  
**The Map of Sedyo Makmur Managed Areas**





The majority of people leaving in the villages are farmers. The number of inhabitants that are involved in the CBFM are farmers (about 90%) while the rest earns their livelihoods as public servants, merchants, labourers and small entrepreneurs such as carpentry, brick making and manufacture. Products that have been produced from their land are fruits, nuts and herbal plants. In addition, most of the farmers do not have enough land and the average of land ownership is only 0.15 hectare. To support their needs most of them go to the city to become informal workers. It happens especially in the draining season from August to October.

In terms of ecological background, the environmental conditions around the community are the same with the condition in most areas in GKR that are hilly, rocky red soil and the relative level of bad drainage. Even though, there are some wells, drilling wells and lakes that are used to provide their water needs. The lakes and wells will be drought in draining season and then the residents should buy water from the local company using tank-cars. The price for each tank is Rp 200,000 (they are paid Rp 40,000 a day). The drought problem especially happens in Gemulung and Plem-bengan because the pipe water supply does not reach their location. Due to this situation, most of the residents are very aware on the sustainable issues.

*If the dry season comes, we have to struggle for finding water especially for drinking water. Usually I go to telaga (small lake but this lake is used to supporting the drinking, bathing and also cattle). Sometimes I buy water from the local company if the lake is drought (Farmer, interview 2010).*

**Figure 4.2**  
**The Lake near the Village in Rainy Season**



In terms of housing type, the settlements of the population accumulate around the hamlet where the areas around the settlement are moors and gardens. Gardens and moors' ecosystem that are formed in general dominated by teak trees which are mainly functions as a garden border, besides that there are crops of vegetables, fruit crops like banana, mango and coconut.

Meanwhile, to support economic activity each household are mostly having animals, especially cattle and goats, while pet birds, especially chickens only a small portion.

**Figure 4.3**  
**The Area in the Dry Season**



**Figure 4.4**  
**The Area in Rainy Season**



The forest topography is undulating and so hilly with low soil fertility (thin solum or humus, sometimes rocky) and to access the forest is relatively difficult. However, in some areas its roads are pretty well, because some streets have hardened with the cast blocks. The main tree species are teak (*Tectona grandis*), Acacia (*Acacia auriculiformis*), (*Gnetum gnemon*) and Kesambi (*Schleichera oleosa*). Besides, the land cover is mostly with teak as the principal crop. A cropping pattern by intercropping (agro-forestry concept) that is planted with various species of plants in one area. The farmers especially cultivate food crops with perennial crops and forage. But at the moment, food crops have been difficult to live because the areas were covered by tree canopy, as a solution to utilise the group stands together with other CBFM group plans to grow plants that can live and be productive under the teak's canopy.

*Last two year we cultivated vegetables, corns and herbal plants and we got some money from that. Currently, we could not crop any vegetables because the tree canopy is quite dense so we have to consider that we should look for other job (Farmer, interview 2010)*

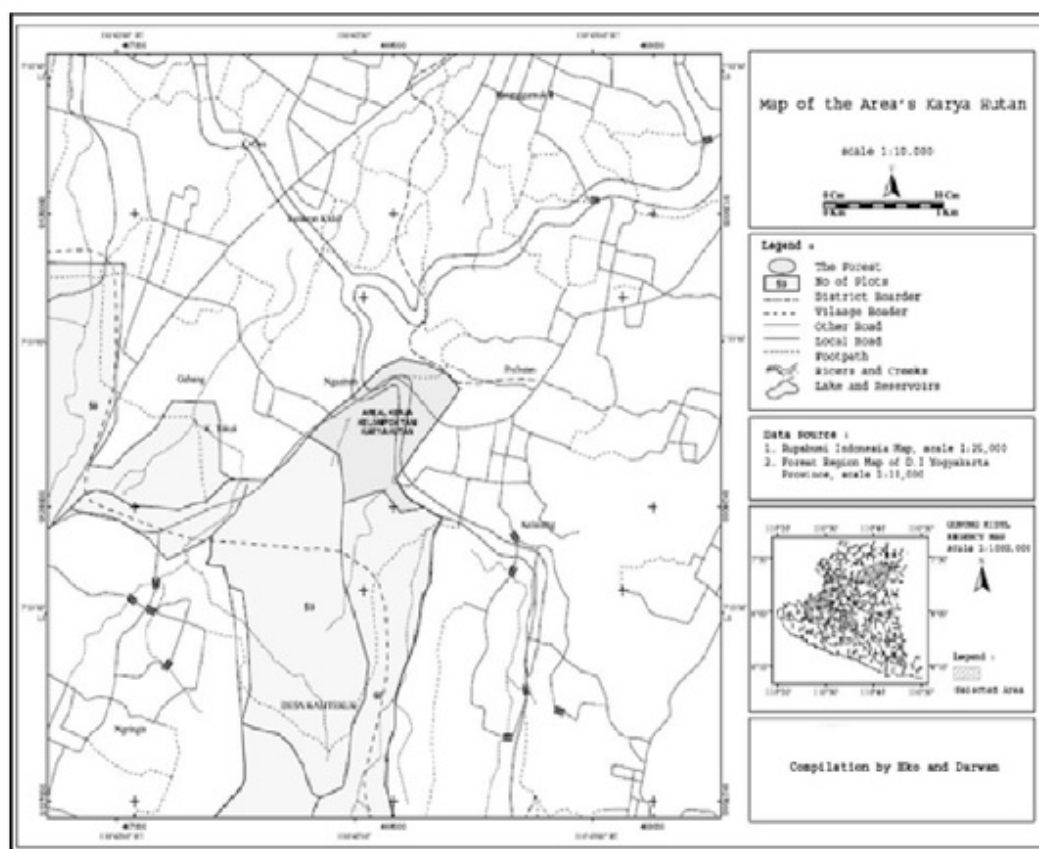
#### **4.2.2 Exploring Site 2**

In terms of the Social and Ecological contexts, the number of the KHCG's members works to 185 households and spreads across three hamlets which are Kalialang, Ngasinan and Tlepok. Ngasinan and Kalialang hamlet belong to Kalitekuk village where as Tlepok belongs to Semin village (Figure 4.5). This group is located in Nglipar district, approximately 35 kilometres from Wonosari, a regency capital city. The study area is well-connected by paved roads that connected the village to the local market and regency market (main market). These roads also are used to connect

the village with the local public services such as schools, hospital and banks.

*The road's condition is quite good in this area. We built it by gotong-royong (mutual assistance, the community collects money and then they buy the material and build the project together). Our community really understood that a good road is a best way to help us for selling our product (Formal leader, interview 2010).*

Figure 4.5



The Map of Karya Hutan Managed Areas

Livelihoods of the majority population are a farmer. The number of households that involved in the CBFM 95% as farmers while the rest as public servants, merchants, labourers and small entrepreneurs such as carpentry, brick making

and manufacture red brick. Most of the farmers do not have enough land and the average of land ownership is 0.15 hectare. That is not sufficient for supporting their daily life (interview, 2010).

In general, the environmental conditions around the community are the same with the condition in most areas in GKR that are hilly, rocky red soil and the relative level of bad drainage. Settlements of the population accumulate around the hamlet where the areas around the settlement are moors and gardens. Gardens and moors' ecosystem that are formed in general dominated by teak trees which are mainly functions as a garden border, besides that there are crops of vegetables, fruit crops like banana, mango and coconut. Meanwhile, to support economic activity each household are mostly having livestock, especially cattle and goats, while pet birds, especially chickens only a small portion.

The forest topography is undulating and so hilly with low soil fertility (thin solum or humus, sometimes rocky) and to access the forest is relatively difficult. The main tree species are teak (*Tectona grandis*), Acacia (*Acacia auriculiformis*), (*Gnetum gnemon*). The community produce a traditional snack, called *emping*, from *Gnetum gnemon*. It is quite famous in Indonesia and also this product can be sold as income revenue.

*I make emping from melinjo (Gnetum gnemon). I sell it to the nearest market. It gives me some money for example, 1 kg emping I will get Rp 35,000 (around £3). This is a good additional income for me but I have to spend at least 2 week to make it. (Women farmer, interview 2010)*

In some areas of this side, its roads are pretty well, because some streets have hardened with the cast blocks. Besides, the land cover is mostly with teak as the principal crop. A cropping pattern by intercropping (agro-forestry

concept) that is planted with various species of plants in one area. Most of the farmers plant the forage under the teak trees. Besides, the farmers especially cultivate food crops with perennial crops and herbal plants. But at the moment, food crops have been difficult to live because the areas were covered by tree canopy, as a solution to utilise the group stands together with other CBFM group plans to grow plants that can live and be productive under the teak's canopy.

### **4.3 Current Local Institution Management on CBFM in Indonesia**

At the first time, the CBFM was established by Centre government in 1995. The CBFM program was marked by the publication of the Ministry of Forestry Ministry Decree No. 622 in 1995. There is a chance that involvement of local community in managing forest resources could increase significantly. The policy proposes that the involvement of the community were better and able to ensure the security and forest conservation. The CBFM is one solution to reduce the rate of deforestation in Indonesia that rose day by day (Nevins and Peluso, 2008) and these problems could not be controlled. The limitation of resources also is a reason to initiate the CBFM (Suwarno *et al.*, 2009; Sunderlin *et al.*, 2001). The CBFM is a breakthrough that share benefit to many stakeholders. Its goals are for improving the welfare of society, reducing the deforestation and preserving the forest.

According to this ministerial decree no 31/2001 and then supported by the ministerial decree no 252/Menhut-V/2002, the state owned forest in GKR that is tilled by the group can be used for several years depends the government permit (Forestry, 1995; Forestry, 1998; 2003). The community in a group has right of usage, due to obeying for their collective action and calling the preservation of the forest. The program supposed the CBFM

farmers can be able to gain not only harvest the crops but also felling the wood in the long-term contract.

The CBFM has the prospect of improving the welfare of society forest in Indonesia. Although local community has task forces and assists in securing the forest. The one targeted area is the state forests which is GKR. There are approximately 13,755 hectares of the state forests in GKR whereas the number of deforestation in GKR is immense more than 50 percent of the area. The deforestation is caused by many factors such as views of factors relevant apparatus limitations, the communities around the forests or far from the forest, the country's economic crisis, and of course-related industries of forestry. Also, each of these factors and determines is interrelated. The greatest factor is the demands of the furniture industry. In addition, the CBFM has been implemented in 1,089.4 hectares state forest and issued for 35 community groups (Sepsiaji and Fuadi, 2004).

*Actually, CBFM program is allocated for 4,186.4 hectares state forest but the central government and the regency government thought the local community does not have the ability to maintain it. Nevertheless, I think this is a government strategy. They do not want to give to local people more land and they do not want to loose their asset (NGO's activist, interview, 2010).*

Scientists argue that people want to involve in community events when they have an opportunity to do so (Midgley and Reynolds, 2004). An opportunity can be given by other stakeholders or should be achieved by self. The people participation also happens because of self interest, socially responsible and interest of community development (Cleaver, 1999). During the in-depth interviews unveiled that there are several reason why farmers involved in the CBFM.



#### **4.3.1 Establish of CBFM's Institution in the Site 1**

The researcher records that the farmers join because of self interest. If they have rights, they can plan more crops. The CBFM land can be used for gaining cash crop and also it can support their basic needs. Some of the farmers have to join the program because of socially responsible and also interest of community development.

*I just own 1,000 m<sup>2</sup> (0.01) hectares land. It is not enough to sustain our daily needs. I am involved in the project because I hope I can get more land that I can crop more plant. I am very happy now as I get 3500 m<sup>2</sup> land from this project (Farmer, interview 2010)*

Owing to living in the drought area, they pay attention with environmental issues such as increasing soil erosion, and declining in soil fertility. They want to keep the forest greener. Most of them worried if the forest disappears and they cannot withstand natural damage. They could be in dangerous situation. The crucial event ever happened in 1998-1999 when the number of deforestation rose. As a result, the community could not harvest any things from their field. The environmental concern is an appropriate indicator that the community members are aware of resources sustainability.

The type of organisation of SMCG is a non-Government people's organisation. This is an open organisation where every community member allows for joining the SMCG. When the first time established, most of farmers who is a sharecropper with the state joined. Before CBFM project has been launched, many community members were a sharecropper. The farmers planted vegetables intercropping on the state forest near their village. The sharecroppers were the first member of SMCG and then SMCG got more members from other.

Consequently, the organisation is established by the local community members but this initiative comes from the forest department officials particularly at regency level. In 1995, the CBFM was introduced by government officer to the local people. This program gave rights to the community for using 20 hectares state forest. The community was enthusiastic about this project. They got teak seedlings, *Molucca albizia* seedlings and Acacia (*Acacia auriculiformis*) seedlings from the government. The farmers however like to plant the teak seedlings and they use the land also for vegetables.

*I am involved in the project because I am a sharecropper. At the first time project in 1995, I planted the vegetables and corns. Unluckily, it was a bad weather. The dry season was quite long so I could not harvest anything (Farmer, interview 2010).*

SMCG already got the regent's decision letter no 73/2004 that gives rights to maintain 154 hectares of state forest(2004). As registered organisation, they have made statues and post-secondary law. According to these institutional arrangements, they conduct an election. The executive boards elected by all of members. Deliberative democracy is main tool to choose their leader. They did not use voting (procedural democracy) where leader who gets the biggest vote (Springett and Foster, 2005). Tis group uses deliberation method (*musyawarah*) to elect their leader. Therefore, their leader is person who got trust and support from its members.

**Figure 4.6**  
**Farm Activities**



#### **4.3.2 Establish of CBFM's Institution in the Site 2**

In site 2, the farmers in this area have a similar motive with regards to participating in the CBFM as in site 1. Self interest also reveals that they become a member because they want to get revenues from the forest products. Participation on this program gives them a change to get more land and then they can produce more crops. It can be useful to sustain their life. Especially this program gives a change to the farmers for using the forest 35 years. Another motive is socially responsible that drives the farmers have to pay attention with their environment. Deforestation is a major issue on the environmental concern. The farmers were aware that they have to keep the forest sustainable. In their belief, they say that if they lost the forest they will be lost their life as well.

*Forests are our life support from there we get a life. If the forest is damaged then our salvation would be endangered as well. (Farmer, interview 2010)*

Relating to the type of organisation, KHCG is similar with SMCG which is a Non-Government people's organisation. This organisation has member coming from any background. Surprisingly, the initiative for organisation's development comes from group or local community. It is quite different with side 1. In site 2, the farmers who are sharecroppers in state forest think how to organise their community interest.

*When we look at the deforestation and illegal logging next to our village, we are considering that this village would face a big problem. During the local community meeting, we decided to develop a new organisation for protecting our forest. This is a reason why our group name is Karya Hutan (the guard of Forest) (Group leader, interview 2010).*

This group already received the regent's decision letter no 403/kpts/2003 and then renewed by No 220/kpts/2007 on 12 December 2007(2007). According to this decrees, they allow to use the state forest for 35 years where they has rights around 40 hectares. Nevertheless, the leader of this community is not elected by an appropriate way. The current leader is the son of the former leader. When the former leader passed away the community members decided to choose his son. It could be less democracy but the decision was made by smooth way.

*Three years ago our leader Sartono passed away, he is a good person who encourage us to establish this group. After 7 days, we conducted a meeting for elect a new leader. We made a consensus about the new leader and we decided that the new leader is the son of the former leader. We are happy and satisfied with that (Board executive, interview 2010).*

A comparison of the group's profiles on the CBFM institutions in the two groups is shown in table 4.2.

**Table 4.2**  
**Comparison of Community Groups**

No		Sedyo Makmur Group A (Site 1)	Karya Hutan Group B (Site 2)
1.	<b>Reason for involving the group</b>	Can plant crops	Increase revenues from forest products
		Increase soil erosion	Deforestation
		Decline in soils fertility	Awareness of sustainable forest
		Environmental concern	Environmental concern
2.	<b>Type of community group</b>	Non-Government people's organisation	Non-Government people's organisation
3.	<b>Legal status of the group</b>	Registered body	Registered body
4.	<b>Initiative for organisation's development</b>	Forest department officials (at regency level)	Group or local initiative
5.	<b>Executive board</b>	Elected representatives. The members vote the person from their group	Arbitrary, the leader is a son of the former leader.

#### **4.4 Development of the Participatory Monitoring Techniques for the Local Community Group on the Implementation of CBFM**

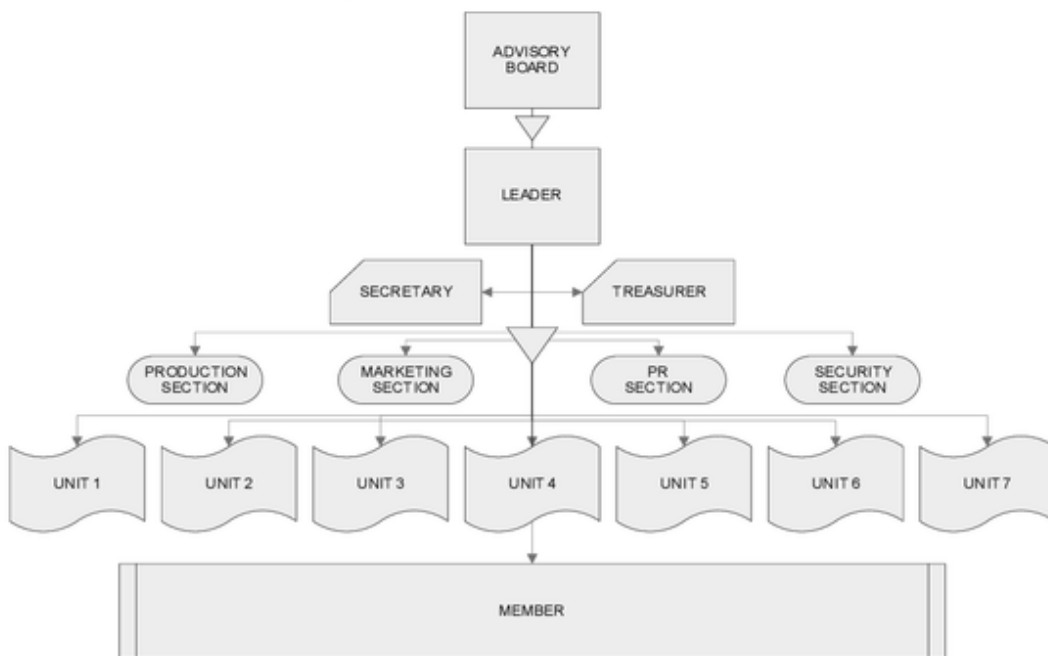
This part describes how the local community establish and monitor their rule that they set. Institutional arrangements require several activities to establish and monitor it. First, community-member participation and bottom-up process are substantial on decision making (Becker and Ostrom, 1995; Suwarno *et al.*, 2009). Participation is an appropriate way for support decision making process particularly to analyse the stakeholder involvement (Reed *et al.*, 2009). Second, establish a protection system; the simple and adaptive law are essential. Besides, establish a security team who implements and monitors the rule is important (Quinn *et al.*, 2007; Reed, 2005). Third, a reward and punishment system, it is

the best way to make sure community members receives benefit and also gets fine when they break the rule (Sekher, 2001). The last one is member mobilisation (Sekher, 2001).

#### 4.4.1 The Situation in Site 1

In this organisation they already created a good structure and made distribution of job. The chairman is the top leader and then they have several section or sub division for functioning the organisation goals. All of members understand that their leader needs supporting staffs. On the other hand, the leader recognises that distribution of power and decentralisation of authority are a good way as well. As a result, the combination of these ideas creates a best structure (Figure 4.7).

**Figure 4.7**  
**The Organisation Structure of SMCG**



Relating to the decision making process, the organisation is a flexible and adaptable organisation. The organisation has a main rule and relatively adaptable and also easy to change. The organisation will be easy to adapt and change

their environment and base it on their stakeholder needs. If the members of SMCG need to change the rule, they can conduct a meeting that discusses it. SMCG is divided by 7 units that each unit has around 37 people. Each unit has a leader who leads and monitors all the process in their unit.

*Every two week my unit has a meeting and here I can discuss about my opinion. Last time I suggest the unit should add for fertilizer to our land. This is the best time because of the changing seasons. Next month It would be rainy season (Farmer, interview 2010).*

*The unit conducts a regular* meeting every two weeks. In this meeting they discuss any problem or progress of the unit. All members can attend and share their interest. In this meeting also can use for discussing the next plan for example, planting vegetables and cleansing the land. If the unit has a problem or idea that could be solved, they can take it to a group meeting. The big group meeting is conducted every month and only board executive, unit leader and invited person can join. Actually, the member could present in the meeting if the want to express their idea. It is clear that the decision making process in this group is quite participative.

This group creates a monitoring system successfully. There are several evidences such as development of patrol team and development group court. Although, they have initial vigilance and voluntary active patrol, they think that it is not enough. Last two years, they already established patrol team. A patrol team is the team that monitor the security of the forest and also the implementation of their rules. There are several rules and punishments that are published by SMCG (Table 4.3).

**Table 4.3**  
**The Rule of Law in SMCG**

<b>Level of Violations</b>	<b>Activities</b>	<b>Punishments</b>
Serious violations	<p>Illegal logging in the CBFM area.</p> <p>Fell down the trees (diameter more than 13 cm)</p> <p>Fell down the trees using the chainsaw.</p>	<p>If the timber thieves are member of the group, They will be handed over to the police. They will be taken out from the group. Their land will be taken over by the group.</p> <p>If the timber thieves are non member of the group, *They will be passed to the police officer.</p> <p>The minor violations become medium violations. The medium violations become serious violations</p>
Medium Violations	<p>Destroying the small tress (diameter less than 13 cm)</p> <p>Pruning branches trees on the land belongings to others more than 2 times</p> <p>Did not present in the group event</p>	<p>Plant the same tree and get a fine Rp 50,000 (€3.5)</p> <p>Pay a fine 2 times the wood value.</p> <p>Pay a fine Rp 2,500</p>
Minor violations	<p>Pruning branches tree on the land belongings to others</p>	<p>Get an admonitory glance</p>



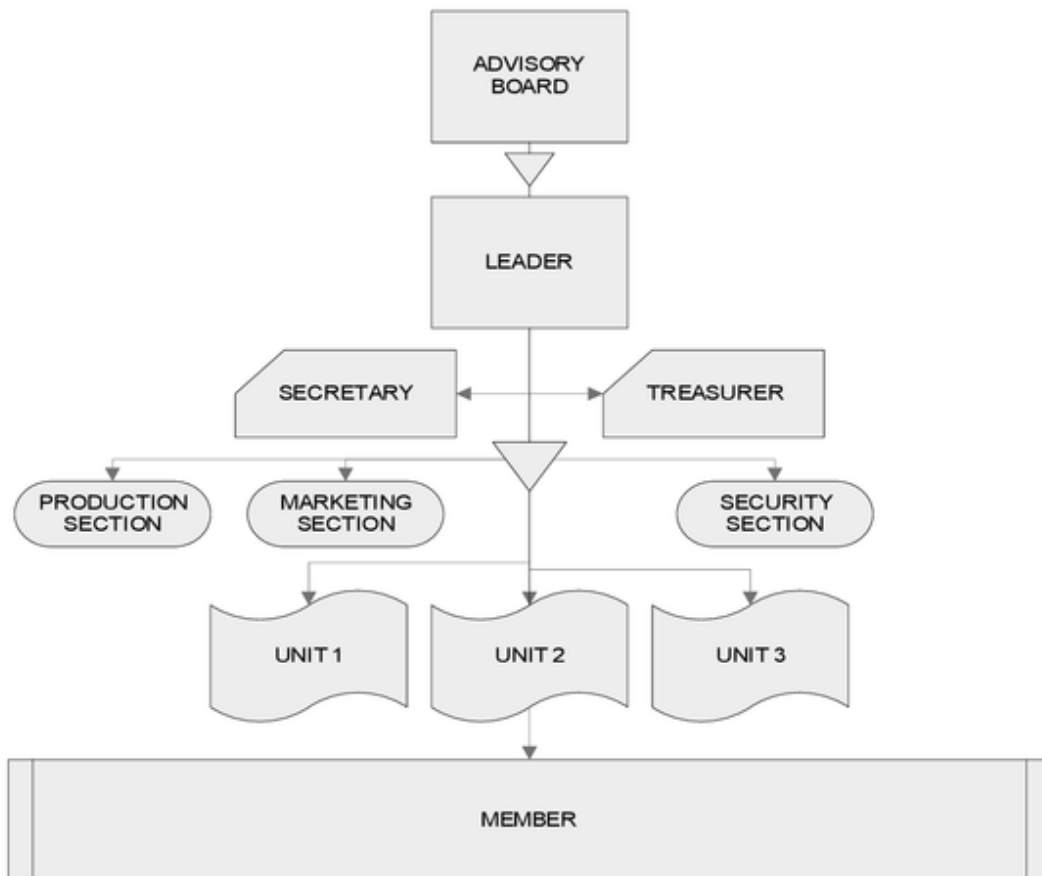
If the infringement of rule happens, the patrol team will investigate it. The team will interview and collect some information about the incident. If the incident is an illegal logging, the team will invite an independent price estimator who estimates the lumber price. The thieves then should pay 4 times the lumber price. The lumber price is very crucial issue. The team really understood this situation, so the price estimator also should have responsible that the price is actual price. The lumbers can be sold to the market if the market does not deal with the price the estimator should pay it. Therefore, it is best solution to maintain and monitor the forest resources and really based on the local knowledge.

#### **4.4.2 The Situation in Site 2**

In terms of the decision making process, KHCG is quite similar with SMCG. KHCG members can involve in the policy making processes in their group. This group is divided by 3 units that represent their controlled areas. Each unit has leader and structure where they conduct unit meeting every two weeks. Interestingly, this group has a meeting every week. In this meeting, every member can present and join. It happens because these group members are smaller than SMCG. In addition this group already developed a job description for their members (Figure 4.8).

*On 5<sup>th</sup> every month, we have a group meeting where every member can join and discuss anything. Last meeting we got training from Shorea (local NGO). They help us to create a new proposal to get government fund (Leader unit, interview 2010).*

**Figure 4.8**  
**The Organisation Structure of KHCG**



In terms of protection system, this organisation has not established the monitoring team yet but they already have security section. This unit has tasks such as monitor the forest areas and enforce the rule of law. Especially, this group expects to voluntary patrol and community vigilance (Table 4.4). Currently, this group already published their internal arrangements through their village members.

**Table 4.4**  
**The Rule of Law in KHCG**

<b>Level of Violations</b>	<b>Activities</b>	<b>Punishments</b>
Serious violations	Illegal logging in the CBFM area.	If the timber thieves are member of the group, they have to pay 4 times of the timber value. If the timber thieves are non member of the group, they will be passed to the police officer.
Medium Violations	Destroying the small tress Less caring their land Didn't present in the group event	Plant the same tree Pay some fine Pay a fine Rp 3.000
Minor violations	Pruning branches tree	Get an admonitory glance

Overall, both of the groups already established their institutional arrangements. They are aware that this program is a good opportunity to get benefit from the forest and also to earn additional income. Looking inward and dealing with outward is really they want. So both the executive board and members join together to make sure that the forest is safe and they can get more income as well. Monitoring is a crucial issue that they understand. If they fail to monitor their rule they will loose the rights for using the state forest. The comparison of monitoring system in study areas present in table 4.4. In addition, both of the groups already published their rule to not only their group members but also their neighbour villages. These happen to make sure that their rule can be implemented and then their forest will be secure.

*Safeguarding forests is everyone's obligation so every community member understands it. Keep in their mind; they will loose their land if they not succeed in preserving this forest (Guno, farmer, interview 2010).*

**Table 4.5**  
**Comparison of Monitoring and Management System**  
**in Study Areas**

No		Sedyo Makmur Group A (Site 1)	Karya Hutan Group B (Site 2)
1.	<b>Decision Making</b>	Participatory and decentralised	Participatory and decentralised
		Regular meeting (on the big group is every month and only board executive attended. In addition, each sub-group every two weeks and every member attended.	Regular meeting (on the big group is every month and only board executive attended. In addition, each sub-group every month and every member attended.
		Communication model is more top down	Communication model is more top down
2.	<b>Protection System</b>	Initial vigilance	Initially community vigilance
		Voluntary active patrol	Voluntary active patrol
		Establish patrol team/security section	Establish patrol team/ security section
		Invite independent estimator for estimating the wood and any forest product if are steal.	
		Establish Group court	

3.	<b>Perceived the Benefit</b>	Receive rights for 35 years	Receive rights for 35 years
		Plant any vegetables, fruits, corn and herbal plants	Plant any vegetables, fruits, corn and herbal plants
		Receive tree seedling, and fertilizer	Receive tree seedling, and fertilizer
		Receive capacity building from government, NGO's and university	Receive capacity building from government, NGO's and university
4.	<b>Mobilisation of Member</b>	High (visible through their activities)	High (visible through their activities)
		Get fine if doesn't present at the croup event	

## **Chapter 5: Conclusion and Suggestion**

### **5.1 Property Right and Allocation of Forest Resources**

In Indonesian contexts, according to article 33 of the 1945 Constitution State, “*Land and water and the natural riches contained therein shall be controlled by the State and shall be made use of for the people*”. The Forestry Law (UU 41/1999) also extended the state’s sovereignty over forest (Anonim, 1999). These rules make the state has right to control Indonesian forest. On the other hand, communities’ activities have rolled over the forest to fell the tree and use the land. The communities claim that the forest next to their village belongs to them. They have a customary right (*Adat* or *Hak ulayat*). Consequently, the local communities have assessed a claim over the forest vis-à-vis State. The possibility of conflicting and overlapping claims over the same forest areas is quite common in Indonesia. In this case, understanding the property rights could be useful to understand the changing structure of property right operating in the forest management.

In terms of allocation of forest resources and the CBFM program, if the government holds all rights over most natural resources, including forests, the local communities might have difficulties to access resources and participate in the policy decision making processes. On the other hand, the centre government has fewer resources and failed in their attempt to manage the forest resources (Chapter 3). The best solution is how to re-

allocate the resources and the same time gives a chance to the community for participating (Suwarno *et al.*, 2009; Sekher, 2001; Agrawal, 2001).

Indonesia government has launched a CBFM policy that gives an opportunity to the local communities for participating on the forest resources. The forest management has shifted gradually from state-based forest management to Community-Based Forest Management (Suwarno *et al.*, 2009). GKR is regency where the program is implemented. In GKR, there are 35 groups who involved in the program, executed 1,089.4 hectares state forest. During the research, it was found data that the communities are very satisfied with this program.

The farmers' participation on this program is quite high. For example, most of sharecroppers who have rights to use state forest join in the group and program. The people participation also happens because of self interest, socially responsible and interest of community development. Self interests emerge such as get more income and get more land. Socially responsible and interest of community development come out such as environmental awareness. According to the re-allocation of resources, this program is implemented on the right way and it is suggested that this program should be continued.

## **5.2 Establish the Institutional Arrangements**

In terms of inclusivity of organisation, Inclusivity is explained by some approaches that are used to describe the data. First of all, it can be asked, is this organisation open or closed? An open organisation relates to the organisation that makes it easy to become a member and a closed-organisation is one that is not easy to interact with or become a new member. Secondly, is it a bureaucratic procedural or flexible organisation? The bureaucratic organisation refers to one that involves a lot of complicated official rules and processes. And then flexible refers to an

organisation which can adapt its environment and change its rule to synchronise with its environment (Anderson, 1999; Moffat, 2003). Relating to this belief, the both of selected groups are an open organisation and it is easy to participate. It does not care about gender, race, and social political background of the stakeholders.

In terms of participation issues, the participants who engage with the project have different backgrounds and identities. As a member commented “Women are as welcome to get involved as men” (*Women member, interview 2010*). Besides, there are no fees, no requirements but little procedures if anyone wants to become a member of the groups. In other words, the participants just pay with their commitment to join (*Officer, interview 2010*). As a result, members are so diverse and heterogeneous. It seems that this project’s philosophy is to be open-minded and concerned about participation issues.

In terms of flexible and adaptable organisation, both of the groups are a flexible and adaptable organisation as well. This is not only because it is a new organisation but also due to the commitment of their stakeholders. The stakeholders understand the consequence of being a voluntary organisation. The volunteers should adapt to their environment because the main value of voluntary service is to be a willing participant and without being forced.

In terms of a protection and monitoring system, both of the groups create a monitoring system successfully. There are several evidences such as establish rule of law and develop monitoring team. The communities also have initial vigilance and voluntary active patrol. Particularly at the site 1, they think that it is not enough so they create a patrol team and develop group court. A patrol team is the team that monitor the security of the forest and also the implementation of their rules. Reward and punishment mechanisms are a good way to encourage people to be



aware of sustainability (Ady Kuncoro and World Agroforestry Centre., 2006). The farmers who make a mistake or break the rule will be fined. The groups develop level of violations with its punishments as well. Interestingly, in the site 1, they offer a nice solution to deal with the illegal logging issue. By inviting the independent estimator who can help calculate approximately the lumber price is a good idea, the group can judge every mistake precisely.

### **5.3 Reflections and Limitations of the Research**

In terms of research methods by applying several methods, it helps the researcher to understand the local contexts and social contexts. Ethnography method where the researcher should live and observe the daily community life is useful to gather the data. However, living with the communities for less than 2 months is not enough to inspire the community culture. It is too short but the researcher goals are reached. By in-depth interviews with key person and key stake holders, these keep the researcher on the right track.

During the living in the communities, the researcher found lots of information that are beyond the research aims and objectives. For example, the researcher knew that the community should collect money for supporting the other member needs such as hospital care. The researcher also understood that the communities are facing some difficulties such as managerial and logistical issues.

In terms of the government level issues, the central government and local government should encourage communities to keep implementation of CBFM in the sustainable way. State apparatuses on all level also have to support this policy sustainable. The central government should consider that this policy give a good opportunity for the local communities to reach their needs and also to preserve forest sustainability. Therefore, the

central government is requested to execute the state forest areas that are reserved as CBFM areas becomes CBFM areas for local communities.

There are several limitations in this research. First, the limitations that relate to theoretical approaches. The institutional approaches have huge numbers of variables on sustainable institutions. Furthermore, each variable can relate with others and also depend on the others as well. So, when the number of variables is huge, and the absence of well-prepared research happen, it almost impossible to be sure that the research result deals with the research hypothesis (Ostrom, 2002). The researcher should count precisely the number of variables and cases that relevant with their goals. Because of an incorrect emphasis of the important variables, it can lead unpredictable the research result itself. As a result, this research might be appropriate in some cases particularly the monitoring processes on the implementation of CBF in Indonesia but could be misused in other sides.

Second, the limitations that relate to the participants and side contexts. If the two local groups have different perception and choose different processes, it is quite difficult to justify the result. Besides, if the community members do not act and behave with the sustainable way, the researcher has to develop the indicators simpler. Third, the limitations that relate to the collecting data methods, the snow-ball technique is the potential to alienate community members such as women and children so the researcher attempted to find the marginalised stakeholders too. This method could have biased the results of the study. Moreover, the researcher attempted to minimise it by inviting women. Luckily, the target groups are similar ethnic and the differences could be only education and job background. And then, the limitation also can be reduce by encourage more people from different background.

#### **5.4 Recommendation for Future Research**

The CBFM has been launched by both the central government and local governments in 1995. It has been implemented by GKR government and its communities as well. The communities already established their local institutions to implement that opportunity. There is hope that the involvement of local communities in managing forest resources will increase significant. The researcher believes that the involvements of communities are better able to ensure the security and forest conservation. The CBFM could be a better solution to reduce the rate of deforestation than the government's involvements. As a result, participation becomes a keyword in preserving the forest because the forest area is very vast and also the forest areas can not possibly be monitored and supervised by the officer's orders relatively limited numbers. In addition, this program can be a breakthrough that has a prospect of improving the welfare of society.

These findings emphasise that local communities have capability to monitor and manage their resources. Each community has own way to adapt their environment as well. They can develop the best practices on the development of institution arrangements that can monitor the rule that they set. However, the future research could be successful if the researcher can facilitate more stakeholders such as government officers, NGO's activists and traders. It is useful to understand more comprehensive how to develop a monitoring system based on the community participation. The evaluation system also could be developed if the future research can invite more stakeholders and use more comprehensive research methods.

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## **Appendix A-Interview Guide for Local Government Officers**

### **Respondent Identity**

Name :  
Position :  
Age :  
Current Education :  
Address :

### **Sustainable Forest Management**

1. Tell me what sustainable forest management means?
2. Do you think sustainable forest management is important in this area?
3. Why is it important?

### **Community-based Forest Management**

1. In your opinion what is CBFM?
2. What is its programme?
3. Do you think CBFM already supports sustainable forest management based on the community participation?
4. What are the forms of forest development initiatives in this area?
5. What sorts of the products can be obtained from the forest in this area?
6. Is the management of forest in this region conducted properly?
7. Are all community members involved or only their representative(s) When the representative(s) is/are the main actor(s), who also decides forest management?

### **CBFM Policy Description in GKR**

1. Are there any rules at the level of GKR governing Forest Community?
2. What are the rules like?
3. Do you understand the content of these rules?
4. Can the rules be applied properly in this area?
5. Are there existing guidelines in CBFM governance here such as on implementing and the monitoring the programme?

### **CBFM Support for Sustainable Development**

1. In your opinion can CBFM policy improve the welfare of the people in this area?
2. Compared with the previous time, do you think the preservation of forest and the environment becoming better after the commencement of CBFM programme?
3. Does CBFM have a role in preventing of disasters in this area?

### **Providing the Policies to Support the Local Initiatives**

1. Does the community have the opportunity to apply their ideas for managing forests freely or they are bound to the government's uniform policy?
2. Is there any interference from the government in determining forest management ideas?
3. Who are involved in monitoring and evaluating the performance of CBFM?
4. How are the results of the monitoring and evaluation? And are you involved in them?

### **Clarity of Institutional Framework Conducive to Sustainable Forest Management**

1. Is the utilization of the land between farm production and land conservation clear?
2. Do you think the status of land ownership is clear about CBFM?

3. According to CBFM policy, how is the status of land managed by the community?
4. Are certain groups formed to manage the forests in this society?
5. How is the composition of a group in the community?
6. What are the basic tasks and functions of that group?

### **Adequacy of Resources**

1. Is there enough labor force in forest management in this area?
2. Have you ever held a course or a workforce training for officers dealing with forest management? How many times?
3. Is there anyone who has been involved in CBFM for this course/training?
4. What is the reason for each stakeholder to be involved in CBFM?
5. What are the rights and obligations of each stakeholder?
6. What are their roles and contributions so far?
7. How about the willingness of human resources and funding support for the implementation of CBFM?
8. What has been done by each stakeholder to strengthen the capacity of CBFM human resource managers?
9. Is there any financial support from the local government for implementing CBFM program? How? How many per cent? What for? How are the impacts / results of the evaluation?

### **Recommendations for the Execution of Policy**

1. What are the weaknesses and strengths in the existing forest management policies?
2. What do you think are the causes of the weaknesses?
3. Do you think forest management in this area needs to be revised?
4. In your opinion, what sort of management is most appropriate to be employed?
5. Do you think the action plan of each party can be successful in the next CBFM?

## **Appendix B-Interview Guide for Farmers and Local Community**

### **Respondent Identity**

Name :  
Position :  
Age :  
Current education :  
Address :  
Land Owned (Ha) :

### **A. Responses of the Community Living Around CBFM Forest Implementation**

1. Are you engaged in CBFM activities?
2. In what activities are you engaged? (from the beginning up to now)
3. Tell me the history of local community involvement in CBFM?
4. What sorts of efforts have you made to support the success of CBFM in your area?
5. Is there any public awareness to support CBFM?
6. Are you involved in a CBFM farmers groups?
7. What is your position in the group?
8. What is your motivation to get involved in it? (active / passive)
9. What sorts of benefits could you gain? (economy, ecology/conservation)
10. What is your opinion about the implementation of CBFM in this area?
11. In your opinion is there any hope for the sustainability of CBFM?

**B. Factors that Hinder and Support the Activities of CBFM**

1. Can you explain and describe the factors that inhibit the activities of CBFM?
2. Tell me the factors that support the success of the CBFM?

**C. Process of Formation and Institutional Strengthening of Institutions**

**History**

1. Tell me the history or process of the establishment of these groups?
2. Who were the initiators?

**Inclusivity**

1. What do you think of CBFM? Do you support it or you do not support it? Give your reason(s)?
2. Does the project have diverse members/various attributes of stakeholders?
3. Is it easy to get involved in this project?
4. Is there a joining fee?
5. What are the requirements to join the project?

**Institutional Compositions**

1. Does the group have an appropriate management structure?
2. Does the group have institutional compositions to guide the implementation of CBFM?
3. Who made the rules for the farmers groups to carry out the CBFM activities?
4. How do the group members resolve conflicts (who resolves them and how does the process go?)



5. What do the group members do to make sure the rules are applied within the groups? (Internal organization and management of land GN)
6. What is decision making process like in the groups?
7. How can knowledge transfer be done in the groups?

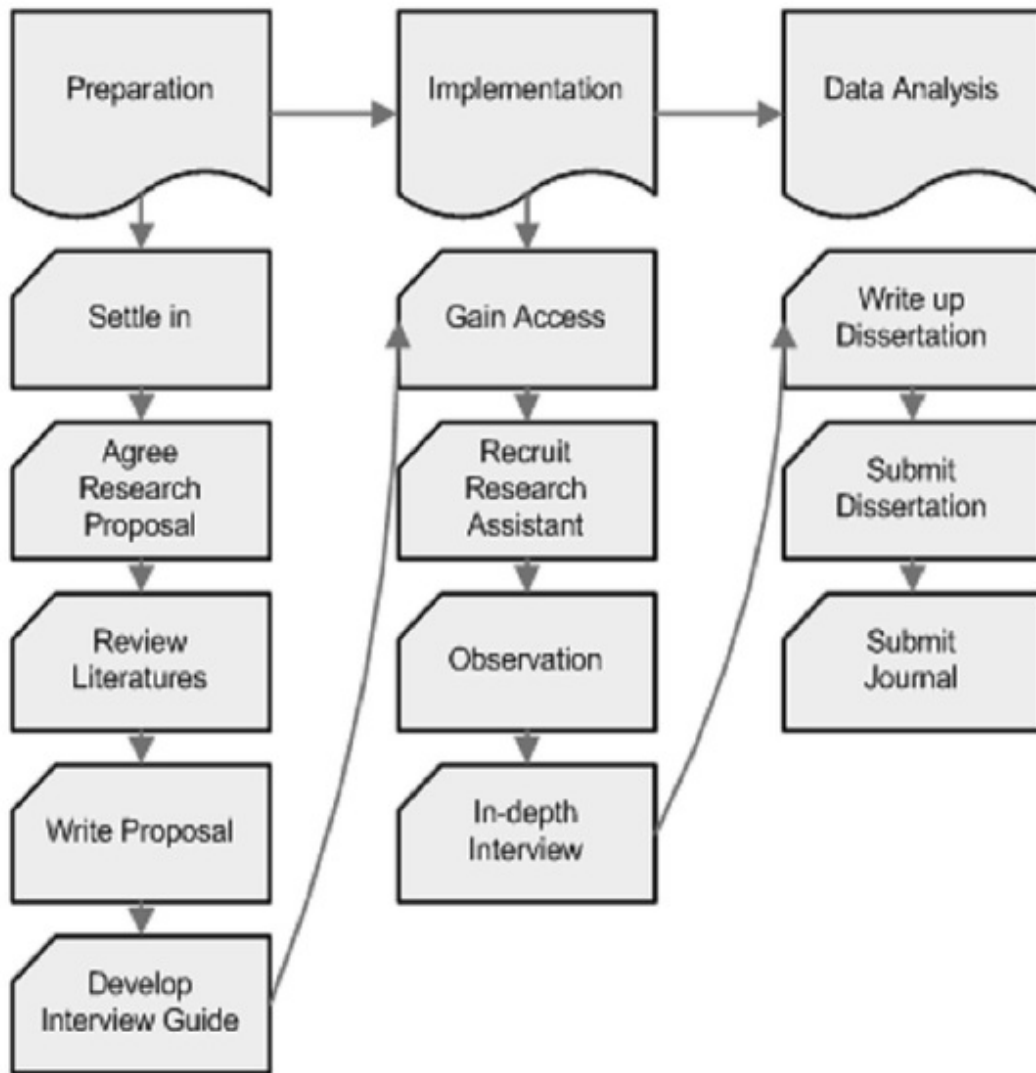
### **Networking**

1. Does the Organisation have a regular meeting?
2. How often is the regular meeting conducted?
3. Does the organisation have any network with any other organisations?
4. What is the name of the network?
5. What kinds of events have been conducted collaboratively with other organisations?
6. Do you think the role of government is very important in implementing CBFM?

### **D. Recommendations**

What is your expectation towards the implementation of CBFM in the future?

## Appendix C-Research Activities



# Index

## A

*Acacia auriculiformis* 35, 43, 45, 49

## C

community development 47, 48, 62

## G

*Gnetum gnemon* 35, 43, 45

## I

institutional arrangements 3, 5, 11, 49, 58, 62, 68

## L

Local Community 52 1, 2, 3, 4, 5, 7, 9, 11, 12, 17, 20, 22,  
23, 30, 46, 47, 49, 51, 52, 78

## M

musyawarah 49

## R

resources sustainability 9, 48

## T

*Tectona grandis* 35, 43, 45

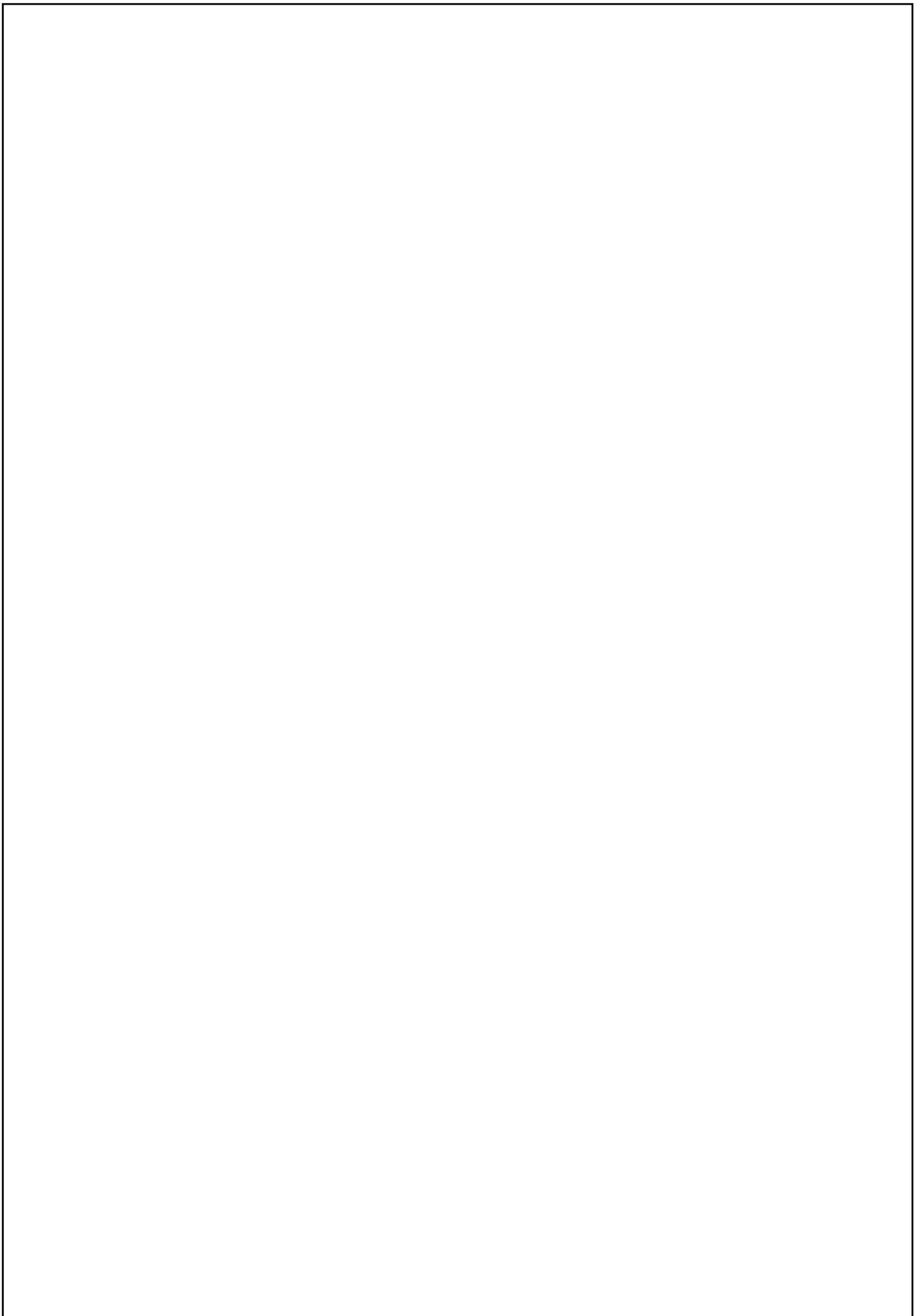


## Biography

**Eko Priyo Purnomo** comes from Indonesia and he is interested in the process of policy making regarding natural resources management which puts focus on equal open access to natural resources and sustainability. He is especially interested in how to design and make alternative policy which can give way to natural resources exploitation while on the other hand sustain the development and livelihood of the community.

Eko has background on this field from his education and his professional experiences. His undergraduate study at government sciences department and Master degree at political sciences department, Faculty Social and Political Sciences, Gadjah Mada University, Indonesia have laid out the basic understanding and perspectives on the abovementioned issues. Last year, He just finished for studying at the School of Earth and Environment, University of Leeds as a Master by Research student. In addition, he will be continuing his PhD at University of Bradford, UK in this year. All of his education activities were supported by many scholarships coming from domestic and international funding such as the Epson scholarship program, BPPS and The Ford Foundation was my last scholarship.

Currently, he is a lecturer and the head of International Program of Governmental Studies (IGOV), Faculty Social and Political Science, Universitas Muhammadiyah Yogyakarta (UMY). He can be contacted at [eko@umy.ac.id](mailto:eko@umy.ac.id)



# The Development of Local Community Institutions for Community-Based Forest Mangement

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