

# **Community Agreements on Conservation as an Approach to Protected Area Management : Experiences from the Lore Lindu National Park in Central Sulawesi**

Marhawati Mappatoba and Regina Birner

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## Address

Ir. Marhawati M. Chairil, MT  
Dr. Regina Birner  
Institute of Rural Development  
University of Göttingen  
Waldweg 26  
D-37073 Göttingen  
e-mail: [rbirner@gwdg.de](mailto:rbirner@gwdg.de)  
Tel. ++49(0)551-393906  
Fax: ++49(0)551-393076

# **Community Agreements on Conservation as an Approach to Protected Area Management**

## **Experiences from the Lore Lindu National Park in Central Sulawesi**

*Marhawati Mappatoba and Regina Birner*

Institute of Rural Development, University of Göttingen, Germany

### **Abstract**

Negotiated agreements between local communities and state agencies concerning the management of natural resources have gained increasing importance in recent years. Taking the case of community agreements on conservation in the area of the Lore Lindu National Park, Indonesia, as an example, the paper analyzes such agreements from two perspectives. (1) From the perspective of environmental economics, negotiated agreements are considered as a policy instrument that represents the bargaining solution proposed by Coase to solve externality problems. (2) From the perspective of policy analysis, the paper analyzes to which extent the agreements can be considered as an example of empowered deliberative democracy, a model suggested by Fung and Wright. The empirical analysis showed that the agreements differed considerably, depending on the value orientation and objectives of the NGOs promoting the agreements. Three NGOs were taken into consideration: an international NGO focussing on rural development, an international NGO specialized in nature conservation with a local sister organization focussing on community development, and a local NGO with a strong emphasis on advocacy for indigenous rights. The paper shows that both the Coase model and the deliberative democracy model are useful to better understand the logic behind the different agreements promoted by these organizations. The paper concludes that the community agreements on conservation represent a promising approach to improve the management of protected areas, even though the internal differentiation within the communities represents a challenge for this approach.

**Key words:** protected area management, negotiation, deliberative democracy, Indonesia

### **1 Introduction**

Negotiated agreements between local communities and state agencies concerning the management of natural resources have gained increasing importance in recent years. Examples include negotiations on water rights (Bruns and Meinen-Dick, 2000) and biodiversity conservation (Venema and Breemer, 1999). Negotiation approaches have been identified as a promising strategy to overcome shortcomings of conventional participatory approaches, such as the neglect of power relations and conflicts of interests (Cook and Kothari 2001, Leeuwis 2000, Hildyard et al. 2001; Agrawal, 2001). Protected areas in developing countries are one of the resource sectors, where negotiation approaches are

particularly promising, because conflicts of interests are frequently observed in protected area management and conventional strategies of state-management have often failed. Negotiation approaches can be used to establish systems of collaborative management (co-management), which involve a sharing of rights and responsibilities between state agencies and the local population. Moreover, negotiated co-management agreements promise to overcome the problems of managing protected areas by state agencies alone, because they are voluntary and have better prospects to take into account the development aspirations and the indigenous knowledge of the local people living in the surroundings of a protected area (Borrini-Feyerabend et al., 2001, Meinzen-Dick and Knox, 2001).

While the potential of negotiated co-management agreements is increasingly acknowledged in the literature, published empirical analyses of such agreements are still scarce. The present paper uses the case of the Lore Lindu National Park in Central Sulawesi, Indonesia, as an empirical example to study the potentials and the challenges of this approach. In co-operation with several non-governmental organizations (NGOs), the administration of the Lore Lindu National Park has played a pioneering role in promoting negotiated community agreements on conservation (Kesepakatan Konservasi Masyarakat KKM). The agreements aim to overcome the major threats to the National Park, which consist in the conversion of the forest inside the Park for agricultural land (encroachment), the extraction of rattan, logging, hunting of protected endemic animals, such as anoa or babyrussa, and the collection of the eggs of the protected maleo bird (ANZDEC, 1997). At the time of this writing, efforts to establish community agreements on conservation have been started in approximately 40 of the 60 villages located close to the National Park and more than 10 villages had already signed an agreement. The agreements are promoted by three NGOs that differ with regard to their approach and goals. Therefore, the case of the Lore Lindu National Park provides an excellent opportunity for an explorative study of negotiated co-management agreements.

The paper is organized as follows: Section 2 presents some theoretical considerations on negotiated agreements from the perspectives of resource economics and policy analysis. Section 3 gives an overview of the research area and outlines the methods used for the study. Section 4 introduces the approaches to establish community agreements pursued by three different NGOs in the area that differ in their value orientation and objectives. The empirical results of a household survey conducted in three villages are presented in Section 5. Section 6 discusses the empirical results on the basis of the theoretical framework. Finally, conclusions are drawn in Section 7.

## **2 Conceptual Framework**

### **2.1 Negotiated Agreements as a Coase Solution to Externalities?**

From the perspective of environmental economics, problems of nature conservation arise due to negative external effects that are associated with the use of natural resources. External effects are defined as actions of economic agents that affect the production or consumption

possibilities of others in a way that is not captured by the market-mechanism. The conversion of tropical rainforests for agricultural production, for example, causes negative external effects because it reduces biological diversity. The costs arising to the society and future generations caused by reducing biological diversity are not considered in the farmers' decision to convert tropical rainforest. The environmental economics literature proposes three classical solutions to the problem of externalities: (1) state regulations that restrict the actions leading to external effects, (2) Pigou taxes that internalize the costs caused by the external effects, and (3) bargaining between the party causing the external effect and those affected by it (Coase 1960).

Protected areas—so far the globally most important approach in nature conservation—are a prime example of the first solution: state regulations. From the perspective of environmental economics, regulations are generally considered as less efficient than taxes or the bargaining solution, because they create no incentive to reduce the externality further than the limit stated by the regulation and they do not usually achieve the required reduction of the negative environmental effects with the lowest possible costs. However, as Horbach (1992) showed, they are characterized by a higher political feasibility than taxes, which may explain the wide use of regulatory instruments in environmental policy. State regulations are also associated with considerable enforcement problems, especially if the number of producers causing external effects is high and the capacity of state agencies is limited. This is typically the case in protected area management in developing countries, where comparatively few Park Guards have to deal with thousands of farmers. Taxes, the second solution to external effects mentioned above, are hardly applied in nature conservation. The enforcement problems of this solution would probably be similar or even higher than those arising in the case of state regulations. Collecting taxes from a high number of partly or even largely subsistence-oriented farmers is obviously difficult.

Negotiated agreements on nature conservation represent the third solution to externalities mentioned above: the bargaining solution proposed by Ronald Coase in 1960 in his paper on “The problem of social cost,” which is according to Posner (1993: 195) “widely believed to be the most frequently cited article in all of economics.” As a starting point of his analysis, Coase (1960: 2) emphasized the reciprocal nature of externality problems:

“To avoid the harm to B would inflict harm on A. The real question that has to be decided is: should A be allowed to harm B or should B be allowed to harm A? The problem is to avoid the more serious harm.”

With regard to nature conservation, this aspect is crucial. Taking the example of rainforest conversion, one has to acknowledge that “to avoid the harm to B”, which is in this case the society suffering from reduced biological diversity, “would inflict harm to A”. In this case, A stands for the farmers, who suffer an income loss, if they are not allowed to use the land for agricultural production.

Coase showed that if property rights are fully specified, transaction costs are zero and distributional aspects do not matter, voluntary bargaining between agents will lead to an

efficient outcome, regardless of how property rights are initially assigned. Even though this insight later became known as the Coase Theorem, the major focus of Coase was to show in this paper that transaction costs are rather important in most real life situations. Therefore, the initial distribution of property rights is important for the design of efficient solutions to externality problems. One can add that the initial distribution of property rights is also important with regard to distributional questions. A number of other assumptions of the Coase Theorem are discussed in the literature, as well, such as perfect knowledge of one another's production and profit or utility functions, profit-maximising producers and expected-utility maximising consumers, and the assumption that agents strike mutually advantageous bargains. (Hoffman and Spitzer, 1982: 73).

With regard to negotiated agreements on nature conservation, one can conclude that this instrument has, according to the Coase Theorem, a considerable potential for leading to an efficient internalisation of the external effects underlying nature conservation problems. At the same time, the assumptions of the Coase Theorem point to the questions that have to be studied empirically in order to assess this policy instrument:

- 1) How are the property rights considered to be originally assigned? To which extent do state agencies acknowledge customary property rights of the local population?
- 2) To which extent are the negotiated agreements based on cost-benefit considerations and self-interested negotiation?
- 3) Which role do transaction costs play in the process of establishing and negotiating co-management agreements?

## **2.2 Negotiating agreements as a case of empowered deliberative democracy?**

While environmental economics focus on a normative evaluation of the economic efficiency of negotiated co-management agreements, one can also consider the negotiation of such agreements as a political process, which can be studied from a political science perspective. Thomas (2001) recently considered negotiated agreements on habitat conservation in the USA as a case of "Empowered Deliberative Democracy" (EDD). The EDD model was developed by Fung and Wright to analyze cases that "have the potential to be radically democratic in their reliance on the participation and capacities of ordinary people, deliberative because they institute reason-based decision making, and empowered since they attempt to tie action to discussion" (Fung and Wright, 2001: 7). This framework appears to be suitable for analyzing the agreements in our Indonesian case. As Indonesia is in a process of democratic transition, the question of whether such agreements constitute innovative models of democratic decision-making is not only of academic interest, it also has of significant practical relevance. The main elements of the EDD model developed by Fung and Wright (2001) are presented in Box 1. As can be derived from this Box, the EDD model offers a different interpretation for the negotiated community agreements than does the Coase Theorem. As social choice mode, Coase assumes strategic bargaining of self-interested parties with fixed preferences and given cost and benefit functions. The EDD model suggests deliberation as an alternative mode of

social choice. Deliberative decision-making describes a process, in which participants listen to each others' position, offer reasons that others can accept, and generate group choices after appropriate consideration. Deliberation assumes that a process of social learning will take place, leading to the change of preferences. However, as Fung and Wright (2001: 19) explain:

“The ideal does not require participants to be altruistic or to converge upon a consensus of value and strategy, or perspective. Real-world deliberations are often characterized by heated conflict, winners, and losers. The important feature of genuine deliberation is that participants find reasons that they can accept in collective actions, not necessarily that they completely endorse the action or find it maximally advantageous.”

Forero (2001) considers deliberation as the key criterion to define participatory democracy and distinguish it from direct democracy (decision-making by referendum, without citizen deliberation and intermediaries) and representative democracy (decision-making by intermediaries, without citizen deliberation). Forero draws attention to the fact that participatory democracy may or may not involve intermediaries, and there may be an interaction with some authority elected through the channels of representative democracy (Forero, 2001). For the case under consideration, one also has to consider that traditional authorities may also play a role as intermediaries. They derive their legitimacy from indigenous systems of law and traditional systems of authority (compare Weber's [1922] types of legitimate rule), which do not necessarily involve elections held according to Western principles of representative democracy. It will be a question for the empirical analysis to assess the impact of different types of intermediaries on the negotiated agreements.

Fung and Wright (2001: 20) discuss as other modes of social choice besides deliberation strategic negotiation, command and control by experts, and aggregate voting. The conventional approach of declaring protected areas is an example of the command and control strategy, which the negotiated agreements on conservation attempt to overcome. Strategic negotiation is the mode that is implicitly assumed by the Coase Theorem. Aggregate voting, the decision mode characterizing direct democracy according to the above classification, was not observed as a method to deal with nature conservation problems in the Indonesian case study. From a theoretical perspective, this mode is characterized by the problem that Arrow's Impossibility Theorem (1950) describes: There is no social choice rule that would allow to pass from individual preferences to social preferences, if some very reasonable and basic conditions are to be met.

## **Box 1: The model of Empowered Deliberative Democracy (Fung and Wright, 2001)**

### **Design Principles**

- 1) Practical orientation  
Development of governance structures geared to concrete concerns
- 2) Bottom-up participation  
Those most directly affected by targeted problems—typically ordinary citizens and officials in the field—apply their knowledge, intelligence and interest to the formulation of solutions.
- 3) Deliberative solution generation  
Participants listen to each other’s position and, after due consideration, generate group choices. This distinguishes deliberation from three other familiar modes of social choice: Command and control by experts, aggregative voting and strategic negotiation.

### **Design properties**

- 1) Devolution  
Administrative and political power is devolved to local units, which are not merely advisory and voluntaristic, but rather creatures of a transformed state endowed with substantial public authority.
- 2) Centralized supervision and coordination  
Linkages of accountability and communication connect local units to superordinate bodies, which reinforce the quality of local democratic deliberation, e.g., by coordinating and distributing resources, diffusing innovation and learning, and rectifying incompetent decision-making.

### **Enabling conditions**

- 1) Balance of power between actors
- 2) Others, for example, literacy

### **Criteria for evaluation of empirical cases**

- 1) Genuine deliberation
- 2) Role of intermediaries in the deliberation process
- 3) Effective translation of decision into action
- 4) Effective monitoring of the implementation of the decisions
- 5) Achievement of alleged benefits of centralized coordination
- 6) Function of deliberative processes as schools of democracy
- 7) Outcomes superior to those of alternative arrangements

### **Potential problems of the model**

- 1) Problems of power and domination inside deliberative arenas may jeopardize the democratic character of the process. More powerful, or especially well-informed or interested parties may capture deliberative institutions for rent-seeking.
- 2) Powerful actors may use deliberative arenas only when it suites them (“forum shopping”).
- 3) Empowered deliberation may demand unrealistically high levels of popular participation. Therefore, deliberative experiments may initially enjoy successes but may be difficult to sustain in the long run.

Source: adapted from Fung and Wright (2001) and Forero (2001)

### **2.3 Value Orientation as a Factor Influencing Community Agreements**

The agreements in the Lore Lindu area are promoted by NGOs that differ in their objectives and value orientations. As these differences may well have an impact on the type of agreement processes they promote, we include the consideration of value orientations in our analysis. Among organizations dealing with issues of nature conservation and rural development, one can typically distinguish three different value orientations, or ideologies (compare Wittmer and Birner 1999, Dauvergne, 1994):

- 1) the “conservationist” orientation,
- 2) the “developmentalist” orientation, and
- 3) the “eco-populist” or “indigenous rights advocacy” orientation.

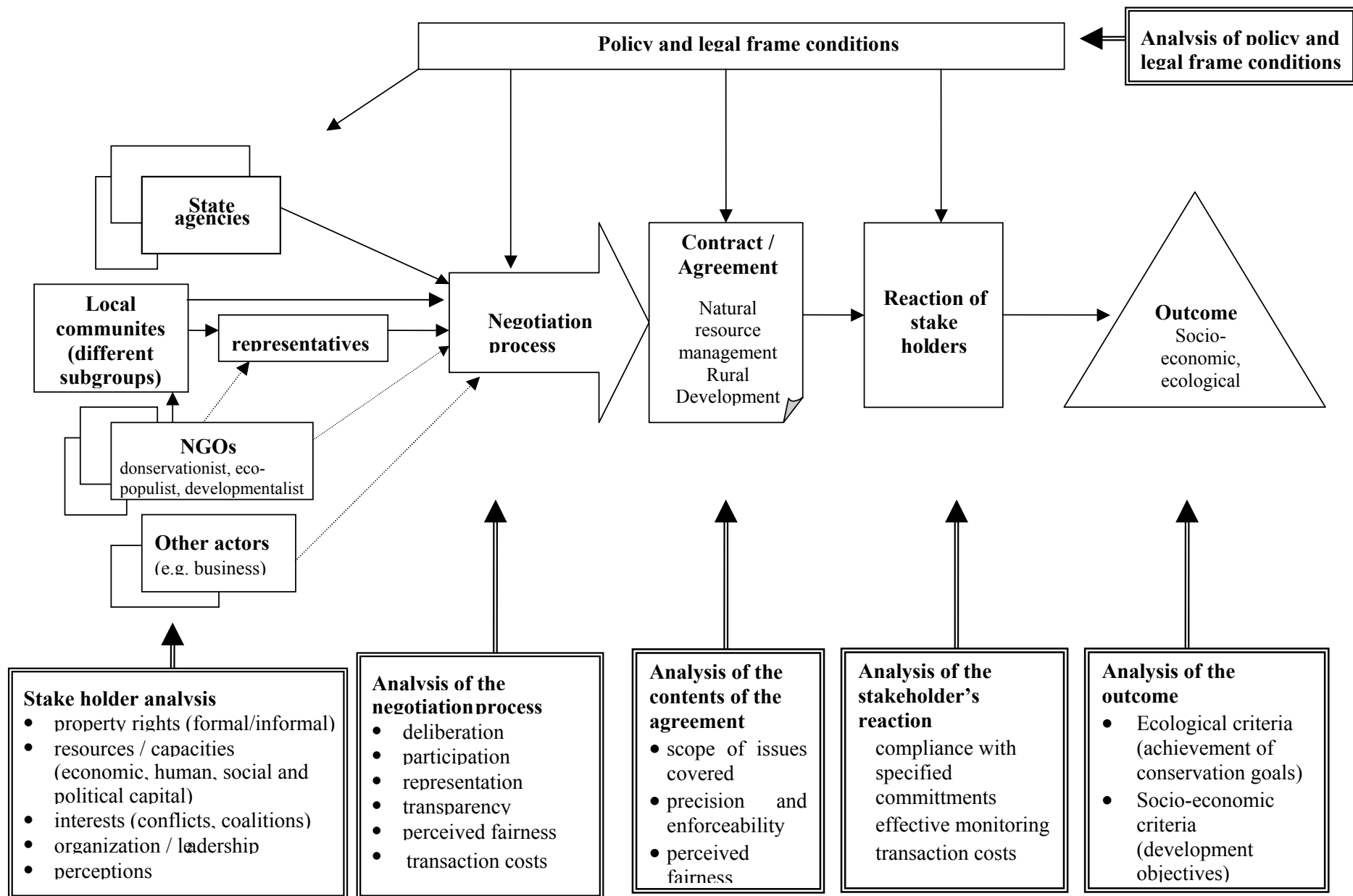
These value orientations are reflected in the objectives as well as in the factual and evaluative beliefs that are expressed, often in a flexible and strategic way, in the public discourse (compare van Dijk, 1998). The conservationist discourse focuses on nature conservation as a goal in its own right. Organizations with a conservationist orientation are typically concerned with the protection of certain wildlife species and their habitats, or, more generally with the protection of biological diversity. Rural development activities have increasingly been included in the agenda of conservationist organizations. On the one hand, experience has shown that development activities, e.g., in the buffer zones of protected areas, help to better reach conservation objectives. On the other hand, such activities can also indicate a broadening of the objectives of such organizations. In the “developmentalist discourse,” poverty, population increase, and lack of appropriate technology are considered as the major driving forces of the destruction of natural resources. In rural areas, organizations with a developmentalist orientation typically concentrate on activities such as agricultural extension, transfer of technology and infra-structural development. Techniques of ecologically sustainable resource management and issues of nature conservation have increasingly become parts of the programmes of developmentalist organizations, both due to the need to conserve the production basis in the long run, and as an indication of a broadened value orientation of such organizations. In the “eco-populist” discourse, ecological issues are placed in the context of advocacy for the rights of local and indigenous communities. Organizations with an eco-populist agenda typically consider local communities as the true stewards of natural resources and place more trust in traditional institutions of resource management than in the capacity of state agencies.

With regard to the different modes of social choice discussed above, “command and control by experts” has traditionally played a larger role in organizations with a developmentalist or a conservationist background, while empowerment and deliberative solution generation is more prominent in eco-populist organizations. However, the intensive debate on participation in rural development during the last decades has had a profound impact on the strategies of all three types of organizations. Even though the literature on participation in rural development hardly refers to the concept of deliberation discussed above, it was motivated by similar ideas of empowerment, social learning and consensus building. However, in the more recent



literature on participation one can observe an increasing criticism of participatory approaches (Cook and Kothari, 2001), which resemble the potential criticism of the deliberative model mentioned in Box 1. The dissatisfaction with participatory approaches expressed in this literature especially refers to the neglect of power structures and the limited capacity of conventional participatory approaches to deal with conflicts of interests. Some authors suggested strategic negotiation, a further mode of social choice mentioned above, as a means to overcome these problems (Agrawal, 2001; Leeuwis, 2001). Against this background, it is a question for the empirical analysis to study how the value orientation of an organization influences the negotiation approach they promote.

Figure 1 summarizes the framework for the analysis of negotiated agreements on nature conservation based on the above theoretical considerations. As the agreements selected for the empirical case study of this paper were completed comparatively recently, a final analysis of the outcome based on ecological or socio-economic impact indicators is not yet possible. While this is planned for later stages of this research, the focus of this paper is placed on the process of establishing the agreements.



### **3 Research Area and Methods**

The Lore Lindu National Park is located in Central Sulawesi, Indonesia, and covers an area of 229,000 ha. The region in which the Park is located is characterized by a high ecological and socio-cultural diversity. Due to its rich biodiversity, which includes many endemic species, the Park was declared as a World Heritage Site by UNESCO. The Park is managed by the Balai Taman Nasional Lore Lindu (BTNLL), an administrative office that is directly reporting to the Ministry of Forestry at the national level. There are approximately 120 villages in the five sub-districts in which the Park is located. Half of these villages are located close to the Park, some in enclaves inside the Park. As mentioned in the introduction, efforts to establish “community agreements on conservation” (Kepasakapatan Konservasi Masyarakat KKM) are already ongoing in approximately 40 of these 60 villages. At present, there are three NGOs promoting these agreements: (1) a local NGO (receiving international funds) with an eco-populist orientation, specialized on advocacy for indigenous rights, (2) a large international NGO with a developmentalist orientation, focussing on the provision of rural development services, and (3) a large international NGO with a conservationist orientation, engaged in nature conservation and protected area management. Hereafter, these NGOs will be referred to as the “Advocacy NGO”, the “Rural Development NGO” and the “Conservation NGO”, respectively. The Conservation NGO had a local sister organization focusing on community activities, which was later integrated into the Conservation NGO. After this merger, the Conservation NGO is now continuing the work of its earlier local sister organization on community agreements. To avoid confusion, we deal with both organizations together here under the label “Conservation NGO.” Altogether, there are around 30 NGOs and one large ADB-funded integrated development and conservation project operating in the area of the Lore Lindu National Park. 26 of the NGOs which have issues related to the Lore Lindu National Park on their agenda, have formed the Lore Lindu communication forum.

Three research methods were combined for the empirical study on the community agreements:

- 1) Interviews with state agencies, NGOs and development projects at the provincial level,
- 2) stakeholder interviews in ten selected villages to study different processes of establishing a village agreement, and
- 3) a survey of a random sample of households in three selected villages, where the process of establishing an agreement was already completed.

The selection of villages covered all three NGOs facilitating the agreement, and covered all sub-districts where the agreement approach is being implemented. Only villages where the process of establishing an agreement was already advanced or completed were chosen. Between seven and ten stakeholders were interviewed in each village, starting from the village headman. Other interview partners were identified using the snowball system, e.g., by following the recommendations of former interview partners.

The household survey was conducted in three villages in which an agreement has already been established. Hereafter, the villages will be referred to as Villages A, B and C. Village A was selected as an example of the approach adopted by the Rural Development NGO. Staff members of this organization recommended this village as the one where they considered the agreement approach to be most successful. The other two villages were selected as examples for the approach promoted by the Advocacy NGO. Three villages had signed an agreement promoted by this NGO, but the third village was not included in the household survey because of some special circumstances applying to this village. Agreements promoted by the Conservation NGO were not included in the household survey, because none of the villages had signed an agreement at the time of conducting the survey. For further research, it is, however, planned to conduct a household survey, as well, in villages where the Conservation NGO promotes agreements.

To select the households, a simple random sample of 10 percent of the households (at least 20 households) was drawn in Villages A and C. In Village B, which is twice the size of the other two villages, 5 percent of the households were interviewed. The sampling frame included only households that do not have official functions in the village such as village headman, member of the traditional village council, etc., because the purpose of the household survey was to collect information on the knowledge, participation and perceptions of the “common villager”. The interviews were conducted in a semi-structured form, using interview guidelines.

The household survey method, based on random sampling, has certain advantages and disadvantages that have to be kept in mind when interpreting the results. One major advantage is that random sampling makes it possible to get a more representative picture of the village population than methods that involve purposive selection (e.g., interviewing people proposed by the village leaders) or self-selection (e.g., getting the views of people who participated in a meeting). Moreover, individual interviews can provide an opportunity for the villagers to talk more freely about their views than a situation where fellow villagers and village leaders are present. A major disadvantage of the survey method, however, is that the comparatively short presence of the researchers in the village may not be sufficient to establish enough confidence with the researchers. Therefore, the interviewed persons may be hesitant to talk about sensitive issues. To compensate for the shortcomings of the interview method, it is planned to combine it in further research with other methods, such as participating in the meetings in order to directly observe the discussions and the negotiation process.

## **4 Approaches to Establish Community Agreements**

### **4.1 Overview**

The approaches of establishing community agreements on conservation differed considerably between the organizations promoting this approach. Table 1 gives an overview of the strategies applied by the three NGOs under consideration.

**Table 1: Overview of the agreement strategies of different NGOs**

Type of organization	Local advocacy NGO with international funding	International NGO, with international and local staff, international funding	International conservation NGO (with a local sister organization focusing on community activities)
Focus of activities in general	Advocacy for indigenous rights, “watchdog” of government and international activities	Rural / community development (agricultural extension, infrastructure provision, etc.), sustainable management of natural resources	Community development activities as complementary measure for nature conservation activities
“Logic” behind community agreement	Commitment to keep rules on conservation, enforced and sanctioned by traditional village institutions, as part of a strategy to regain traditional resource use rights in the Park	Rules on conservation as part of a general set of rules of conduct within the village; prerequisite required for providing development services, including infra-structure development	Commitment to keep clearly specified rules on conservation in exchange for provision of development services and infra-structure by government organizations and projects
Selection of villages	Villages that request assistance for agreement; at present: only indigenous villages	All villages where the NGO conducted activities in Phase 1 of its programme in the Lore Lindu region	Villages where conflicts concerning the protection of the National Park appear severe
Role of the NGO concerning the agreement	Facilitator of agreement, provider of support for social mobilization and capacity building in the village, promoter of policy dialogue with various organizations	Facilitator of agreement and provider of development services and infra-structure	Facilitator of agreement, broker between conservation organization and organizations/projects providing development services and infrastructure
Representation of the villagers concerning the agreement	Traditional village institutions (Lembaga Adat)	Formal village government (Kepala Desa)	Representatives of the village chosen especially for the purpose of the village agreement
Mapping of resource use	Community-based mapping of traditional resource use rights (using GPS, but not GIS)	so far not applied	Community-based mapping of actual resource use (with GPS and GIS)

Source: compiled by the authors.

## 4.2 The Approach of the Advocacy NGO

The organization referred to as “Advocacy NGO” in this paper (see Section 3) can be characterized by its strong focus on advocacy for indigenous people’s rights. The conservation of natural resources is a major goal of this NGO, too. The interviews with the NGO’s representatives showed that they consider the indigenous population as the best steward of the natural resources because of their traditional rules and institutions for a sustainable resource management. The NGO considers the activities of state agencies and internationally funded projects with a critical distance and expresses doubts concerning their capacity to protect the natural resources of the region. The NGO had successfully launched a

campaign to avoid the construction of large hydropower dam in the area of the Lore Lindu National Park. With regard to the considerations on discourses in natural resource management outlined in Section 2.3, the position of this NGO can be characterized as “eco-populist.”

The NGO promoted the first community agreement on conservation in a village located inside the Park that was supposed to be resettled under the ADB project mentioned above. The NGO received support from international organizations that already had acquired experience with community-based mapping and the negotiation of such agreements. In the first village, the process of establishing the agreement lasted approximately two years and involved several steps, including awareness creation and mobilization within the village, community-based mapping, policy dialogue with various state agencies and other external stakeholders, and finally the negotiation of the community agreement on conservation with the management of the National Park on the one hand, and the traditional village council, Lembaga Adat, as representative of the village, on the other hand. The agreement includes restrictions concerning the use of land for agricultural production and restrictions on the extraction of forest resources, such as rattan. The advocacy invested approximately Rs. 15 Mio and the salary of three staff members for this process, which lasted two years. The villagers had a strong incentive to reach such an agreement, because it was essential for avoiding the resettlement of the village.

In the case of the two villages included in the household survey (named Village B and Village C) where the Advocacy NGO also facilitated an agreement, the incentives of the villagers to make such an agreement were not equally obvious. The villages were not under a threat of resettlement. In contrast to the approaches applied by the Conservation NGO and the Rural Development NGO (see below), there was no explicit or implicit provision for development services, infrastructure, or other benefits, in exchange for the conservation commitment. However, in both cases, the village leaders themselves approached the Advocacy NGO and asked for assistance to establish such a community agreement on conservation, after they had heard about the case of the first village. According to the interviewed village leaders, the most important reason to promote an agreement was to avoid that the public continued to accuse the villagers of destroying resources inside the Park, while in reality external actors with commercial interests such as logging companies or sawmill operators were responsible for these destructions. The interviews suggest that the village leaders also promoted the agreements

- as a strategy to avoid the degradation of natural resources with negative impacts on the village (water shortages, flooding, etc. as a consequence of deforestation),
- as part of a strategy to regain traditional resource use rights inside the Park, and
- as a means to strengthen the traditional village institutions (Lembaga Adat), which (re-)gain functions concerning the control of resource use that were formerly taken up by the Park officials (including the issue of sanctions).

The research in the Villages B and C where the Advocacy NGO facilitated the agreement indicated that the process of establishing an agreement there involved a lower level of consultation with government agencies and other external stakeholder than in the case of the first village. In Village C, for example, the text of the village agreement was decided upon within a community meeting and signed by the Lembaga Adat. Only afterwards, the director of the National Park Administration wrote an official letter to back up the community agreement. Though the Park Manager had been consulted during the process in the village, the agreement cannot exactly be considered as the outcome of a negotiation process between the community and the Park administration. This type of procedure may be due to the fact that the first village served as pioneer case, which can now be followed more easily by other villages. The Advocacy NGO, so far, promotes agreements only in indigenous villages, for which they consider the approach they developed to be most suitable. The NGO does not exclude the possibility to work later in villages with a higher percentage of immigrants, but the interviewed NGO leaders mentioned that it might be necessary to develop a different methodology for these villages.

The Administration of the National Park (BTNLL) has expressed its full support for the community agreements on conservation supported by the Advocacy NGO. According to its own statements, the leadership of the BTNLL follows an “eco-populist approach,” which places a high level of trust in the capacity of the indigenous communities to manage the natural resources inside and outside the Park in a long-term sustainable way. Moreover, as a BTNLL representative explained, the new Forest Law of 1999 increased the scope for such community agreements, because it can be interpreted in a way that allows villagers to use certain natural resources inside the Park for home consumption. This opportunity, which was not possible under the prior law, can now be specified in the community agreements.

### **4.3 The Approach of the Rural Development NGO**

The organization referred to as “Rural Development NGO” here has several decades of international experience in promoting community-based development in rural areas, has increasingly included the protection of natural resources into its development activities. Within the program implemented by this NGO in the Lore Lindu area, the community agreements on conservation were, however, only one component in broader community-development program that included the provision of physical infrastructure, e.g. for drinking water, the increase of agricultural productivity, e.g., by agricultural extension and provision of inputs such as seedlings, the introduction of soil conservation techniques, such as the establishment of contour bounds cropped with legumes, the improvement of marketing facilities and the promotion of non-traditional income-generating activities such as fish ponds. The NGO selected 22 target villages among the 60 villages located close to the Lore Lindu National Park. A location close to the Park and the poverty level were the major selection criteria. Within the target villages, the approach was to organize the poorer households in groups, which then participated in the program activities.

The establishment of a community agreement was an integral component of the NGO's program in each of its target villages. It was mainly the task of the NGO staff member in charge of the respective village to promote such an agreement. The agreement did not only concern regulations concerning the National Park, but also general rules of conduct within the village. This agreement has been interpreted by one respondent as a prerequisite to the success of the NGO's development activities. One could also interpret the agreement as an implicit contract, according to which the community commits itself—in exchange for receiving development assistance—to follow certain rules of conduct, including the observation of the official regulations concerning the National Park. In practice, however, the agreements were not handled as a prerequisite to the implementation of NGO's development activities, because in many of the target villages, an agreement was only signed shortly before the program was terminated.

In contrast to the approach followed by the Advocacy NGO, the interaction with the Administration of the National Park in the establishment of the agreements appeared rather low. In the village included in the household survey (named Village A), the local Park Guard, who has his office in the village, was involved, but the NGO did not solicit an official approval of the agreement from the BTNLL head office. This may be due to the fact that the agreement was not specific to the National Park, as mentioned above. Moreover, the agreement did not refer to any indigenous rights to resources in the Park, which were to be acknowledged, it rather demanded to obey the official regulations of the National Park.

Another difference between the approach applied by the Rural Development NGO and that of the Advocacy NGO consists in the strategy of the Advocacy NGO to deal with the traditional village council, the Lembaga Adat, as the responsible representative of the villagers with regard to the agreement, while the Rural Development NGO mainly addressed the official village headman, the Kepala Desa. This strategy may be influenced by the fact that the Rural Development NGO also worked in villages with a large proportion of immigrants, where – as in the village included in the household survey – the Lembaga Adat does not have the same authority and recognition as in the indigenous villages.

#### **4.4 The Approach of the Conservation NGO**

The “Conservation NGO” through its local sister organization started to promote the establishment of community agreements on conservation in twelve villages located close to the National Park. This NGO described the approach of establishing community agreements explicitly as a “co-management” (collaborative management) strategy and placed it in the context of developing a management and zoning strategy for the National Park. While biological surveys, conducted by the Conservation NGO were used to suggest the boundaries for different zones from a nature conservation point of view, community mapping, conducted by the local sister organization, was seen as an instrument to determine the resource use demands of the local communities. In case of conflicting interests between nature conservation and resource use by the communities, negotiating an agreement was envisaged



as a tool to solve such problems and agree on a zoning plan. Similar to the approach of the Rural Development NGO, the local sister organization of the Conservation NGO planned that development services should be offered to the villagers in exchange for a commitment to keep certain conservation rules. However, unlike the Rural Development NGO, the Conservation NGO and its local sister organization did not have the capacity to offer such development services themselves to a large extent. Their activities focused on small-scale activities such as butterfly farming and bee keeping. Their major focus of activities was environmental education, e.g., in schools. Therefore, they considered themselves as “broker” and aimed to channel development assistance and infrastructure development supplied by government organizations and development projects such as the already mentioned ADB project to communities that were willing to engage in a community agreement. It was envisaged to specify the provision of development assistance in the agreement.

The NGO also had the concept that the villagers should elect a number of representatives especially for the purpose of negotiating the agreement. In addition, the NGO tried to involve the official village government (Kepala Desa) and the traditional village council (Lembaga Adat). Like the Advocacy NGO, this NGO intended to introduce traditional sanctions, such as paying a fine in form of livestock, for violations of the established nature conservation rules. Due to limitations of funding and the re-integration of the local sister organization into the Conservation NGO, the activities had not yet led to the final signing of an agreement in any of the villages at the time of this research. The Conservation NGO, however, planned to continue the establishment of community agreements according to concepts similar to its former sister organization.

Interestingly, there are villages in which community agreements on conservation were promoted by two or even three different organizations. The stakeholder interviews left the impression that the coordination among the NGOs concerning these activities was not very intensive. It rather appeared that each organization promoted “its own” agreement, even if they were working in the same village.

## **5 Participation and Perceptions of the Villagers**

This section is based on the household survey conducted in the three sample villages. Interpreting the results, one has to keep in mind that the survey included only households, in which the members do not hold official functions in the village. As explained in Section 3, the aim was to study the participation and perceptions of the “common villager” concerning the community agreements.

### **5.1 Socio-Economic Background of the Villages and the Sample Households**

Table 2 summarizes some general characteristics of the three case study villages. The population in Village A comprises both indigenous people and immigrants who came from other areas than Central Sulawesi and belong to different ethnic groups. Villages B and C can be characterized as indigenous villages. Table 3, which refers to the sample households, also

reflects this village composition. As shown in Tables 2 and 3, no paddy land is available in Village A. Village B has the highest population density and the lowest average size of the land holdings. The low population density in Village C, in combination with very limited access to markets due to unfavorable road conditions, leads to a comparatively high proportion of unused land in Village C (see Table 3). In Village B, the availability of land is restricted due to the close vicinity of the National Park, which surrounds the entire village area. Village A, in contrast, still has forest resources located in the village territory, which can be converted into agricultural land, according to their official classification. One also has to take into account the inequality in land distribution. In Village B, 16 of the 25 sample households had less than 0.5 ha of paddy land, and another three households had no paddy land at all. In village C, six of the 20 sample households had less than 0.5 ha paddy land. A comparison between Table 2 and Table 3 shows that the sample households own less land than the village average. This indicates that the households included in the sampling frame (those without official functions in the village) own, on the average, less land than those with functions.

As a measure of poverty, a housing score ranging from 1 (good) to 3 (poor) was applied. As shown in Table 3, Village A had the highest proportion of poor households according to this criterion, while Village C had a more equitable distribution of housing quality.

**Table 2: Characteristics of the case study villages**

	<b>Village A</b>	<b>Village B</b>	<b>Village C</b>
Organization promoting the agreement	Rural Development NGO (international)	Advocacy NGO (local)	
No. of households <sup>a)</sup>	240	530	180
No. of households in household survey	25	25	20
Population density (persons per km <sup>2</sup> ) <sup>a)</sup>	20	35	5
Ethnic composition	Mixed	indigenous	indigenous
Access to markets / quality of roads	Good	medium	low
Av. size of paddy land per household (ha)	no paddy land	0.9	3.1
Av. size of upland per household (ha)	3.0	0.9	1.1
Av. area of forest per household (ha) <sup>b)</sup>	13	41	87

a) figures are rounded

b) average calculated as forest area that belongs to the administrative village area divided by the number of households, includes forest area located inside the National Park

Source: authors' interviews and data derived from village survey conducted by Maertens and Chairil (2001).

**Table 3: Characteristics of the sample households**

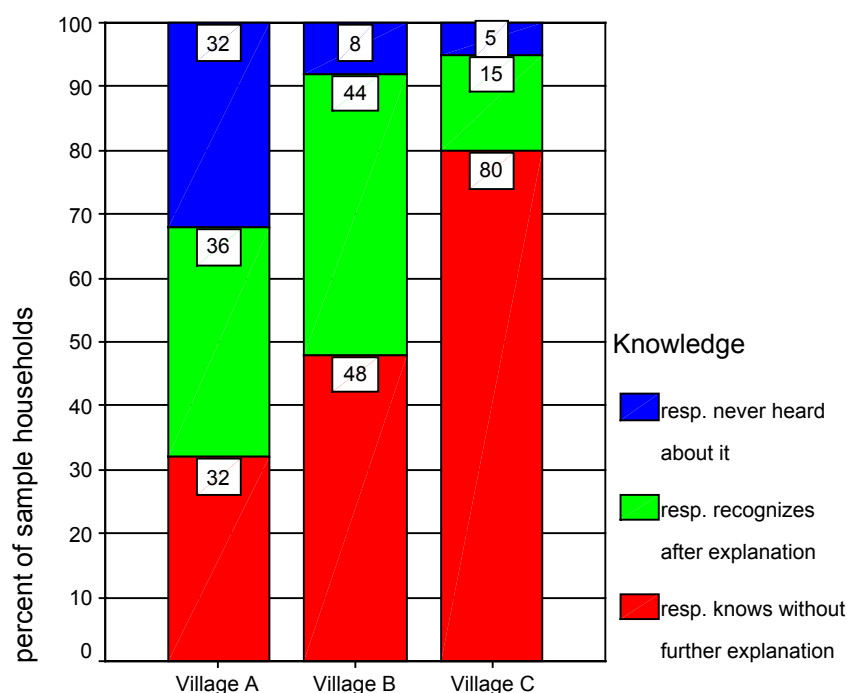
	Village A	Village B	Village C
Percentage of household heads born in the village	20 %	56 %	70 %
Percentage of immigrants that came from other provinces than Central Sulawesi (percent)	25 %	0 %	33 %
Average size of cultivated paddy land (ha)	no paddy	0.5	1.1
Average size of cultivated upland (ha)	1.1	0.9	0.9
Average size of unused land (ha)	0.4	0.2	1.5
Households with high housing score (percent) <sup>a)</sup>	4 %	4 %	26 %
Households with low housing score (percent) <sup>a)</sup>	52 %	40 %	21 %

a) Quality of housing, as an indicator of poverty, was ranked on a scale from 1 (high) to 3 (low).

Source: authors' household survey (2001)

## 5.2 Knowledge of Sample Households about the Agreement

Figure 2 shows that there are considerable differences between the three villages concerning the knowledge of the respondents about the agreement.

**Figure 2: Knowledge of respondents on community agreements**

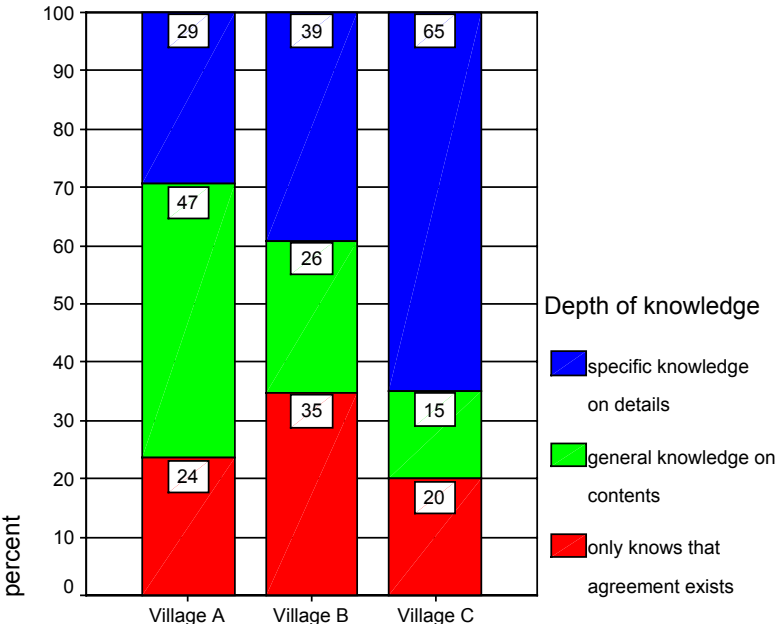
Source: authors' household survey (2001)

In Village A, only one third of the respondents immediately knew what the question of the interviewers concerning the community agreement on conservation referred to. In Village B, the percentage of respondents in this category was almost 50 percent and in Village C it was even 80 percent. In Village A, one third of the respondents only recognized what the question

the interviewers referred to after the type of the agreement was explained to them. Another third of the respondents answered that they had never heard about such an agreement. In Village B and Village C, the percentage of respondents in this last category was very low, as indicated in Figure 2.

Interpreting these figures, one has to keep in mind that the agreement in Village A was already established four years ago, while in Villages B and C it was established within the last year before the interview. Moreover, the knowledge concerning the agreement is related to the involvement of the households in the meetings held in relation with the agreement, which is further discussed below. Figure 3 indicates the depth of the respondents' knowledge concerning the contents of the agreements. With regard to this question the respondents were divided into three groups: (1) respondents who only know that the agreement exists, but were not able to mention to which activities it refers, (2) respondents who mentioned in general to which activities the agreement refers (e.g., restrictions on collection of rattan and harvesting of timber inside the Park), and (3) respondents who knew details of the agreement, e.g., concerning sanctions. As Figure 3 shows, the percentage of respondents with knowledge on the details of the agreement was highest in Village C, and lowest in Village A. In Village B, the percentage of persons who only knew that the agreement exists was higher than in the other two villages. These figures have to be interpreted with care, since categorizing the answers necessarily involves a qualitative judgement of the answers.

**Figure 3: Depth of knowledge about agreement**



Source: authors' household survey (2001)

### 5.3 Involvement of Sample Households in the Process of Establishing the Agreement

As Table 4 shows, there were considerable differences concerning the participation of the sample households in the meetings dealing with the agreement. These differences correspond to the findings on the knowledge of the respondents about the agreement, as presented in the last section. The percentage of villagers participating at least in one meeting related to the agreement was highest in Village C and lowest in Village A. As Table 4 also indicates, the respondents who participated in the meetings in Village B attended on the average more meetings than the respondents in Village A and Village C.

A comparison of the households that were participating in meetings concerning the agreement (participants) with those that were not participating (non-participants) indicated a tendency that the participants were better off with regard to the welfare indicators landholding and housing score, but the differences were not large (see Table 5). The household survey also included a question on the village organizations, such as religious groups, labor sharing groups, sports groups, etc., in which the household members participate. The number of groups, in which a household participates, is considered here as a measure of the household's social capital.

**Table 4: Participation in meetings related to the agreement**

	Village A	Village B	Village C
Respondents who remembered that they participated at least in one meeting (percent)	16 %	24 %	60 %
Average number of meetings attended by the participants	4.0	5.6	3.8

Source: authors' household survey (2001)

**Table 5: Characteristics of participants and non-participants**

	Participants	Non-participants
<i>Welfare indicators</i>		
Average area of cultivated land (ha)	2.0	1.6
Percent of households with housing score 1 (good)	10.6 %	9.1 %
Percent of households with housing score 3 (poor)	36.4 %	40.4 %
<i>Social capital indicator</i>		
Average number of organizations in which household members participate	5.1	3.6

Source: authors' household survey (2001)

As Table 5 shows, the participants had on the average a higher level of social capital than the non-participants. The results showed that the participants were, on the average, also older than the non-participants. Two reasons may account for this difference: First, it may conform to customary rules that decisions concerning the village are made by elder members of the

village community. Second, younger persons may have higher opportunity costs of participating in the meetings.

Interpreting the figures on the involvement of the households in meetings concerning the agreement, one has to consider that different “models of participation” were implemented in the different villages. In Village A, the meetings concerning the agreement were linked to the general development activities of the Rural Development NGO, which targeted the poorer section of the households. The participants in these activities were more involved in the meetings concerning the agreement, even though, in principle, the agreement concerned all villagers. In Village B, the model of participation was such that the village leaders selected the persons who should participate in the meetings concerning the agreement, even though all villagers were allowed to participate. It appears that mostly persons who have functions in the village were among those selected to participate, which explains the comparatively low percentage of participants among the sample households (which were sampled only among households without functions in the village). Asked why they did not participate, most of the interviewed non-participants in Village B indicated that they were not invited or that they would not feel entitled to participate and even speak in such meetings, if they were not explicitly invited (see Table 6). The village leaders in Village B also explained that they had to speed up the process of negotiating the agreement, because they wanted to have it signed before end of 2000. In the beginning of 2001, a far-reaching new legislation concerning regional autonomy entered into force, and the village leaders were not sure whether it would still be possible to make the agreement as planned under this new legislation. According to the village leaders, this time constraint limited the possibilities to communicate the village agreement among the population. Nevertheless, 36 meetings were held in connection with the agreement, which is the highest number in the three sample villages.

After signing the agreement, the village leaders in Village B placed a high emphasis on making the agreement known to the villagers. They strongly relied on the assistance of the religious leaders and other multipliers in the village, such as the midwives. As Table 7 shows, the church and the mosque were the most important sources of knowledge among the sample households in Village B. The process of making the agreement known to the villagers can be considered as very successful, since 92 percent of the sample households were aware of the existence of the agreement (see Figure 2).

In Village C, the goal of the village leaders was to reach a high participation of all groups of villagers. This is reflected in the comparatively high proportion of sample households who participated in at least one meeting (see Table 4). The differences in the participation models between Village B and Village C occurred in spite of the fact that the agreements were promoted by the same NGO. This indicates a strong influence of the village leadership on the structure of the process of establishing the agreement.

**Table 6: Reasons for non-participation** (number of respondents)

	Village A	Village B	Village C
Not in the village, when agreement was made	3	1	3
Never received an invitation / no knowledge about meetings	6	15	3
Thought that meetings were only for those who participate in the other activities of the NGO	3	-	-
Did not feel entitled to participate in such meetings		2	-
Not enough time/money to participate in the NGO's activities	2	1	-
Very new in the village	2		-
Other reasons (age, family reasons, lack of interest, etc.)	3	2	-

Source: author's household survey (2001)

**Table 7: Source of knowledge about the agreement**

	Village A	Village B	Village C
Participation in agreement meetings	5	4	12
Heard from neighbors / friends / relatives	13	4	6
Heard from announcement in church / mosque	-	12	1
From neighbors and announcement	-	4	-

Source: authors' household survey (2001)

Assessing the participation of the villagers in meetings related to the agreement, one also has to keep in mind the problem of opportunity costs. Table 6 does not indicate that this was a major constraint to the participation of villagers in the meetings. However, 23 percent of the respondents who participated in at least on meetings mentioned that they stopped to go there, because they needed to spend this time for working. An indication that opportunity costs are an obstacle to participation can also be seen in the fact that even in Village B, where the number of meetings attended was the highest (see Table 6), this number was still considerably lower than the total number of meetings held in this village.

#### 5.4 Knowledge on Sanctions and Violations of the Agreement

As outlined in Section 2, monitoring is an important aspect for assessing a community agreement on conservation. In Villages B and C, the agreement stipulates that the traditional village council, the Lembaga Adat, will be in charge of deciding upon the sanctions to be imposed, if villagers or outsiders are found to have violated the regulations of the agreement. This function is in line with the traditional role of the Lembaga Adat as a village court. Usually, the Lembaga Adat imposes traditional fines, such as sacrificing an animal, the value of which depends on the severity of the violation. The strongest sanction is to evict a person from the village.<sup>1</sup> To assist the Lembaga Adat in enforcing the agreement, two committees,

<sup>1</sup> In village B, it was reported that up to colonial times, villagers who were not able to pay the sanctions imposed by the Lembaga Adat became slaves of those community members who paid the fine for them.

each consisting of six persons, were appointed as guards. In Village C, no violation of the agreement occurred since the community agreement was established. In this village, no special persons were appointed for controlling the agreement was set up. Rather, every villager is expected to report violations of the agreement to the village authorities.

In Village B, three violations of the agreement, all concerning illegal logging were reported, so far. In all three cases, the Lembaga Adat imposed traditional fines that were paid by the culprits. 90 percent of the respondents were aware of at least one of these violation and the imposed sanction. On the average, the respondents were aware of 1.8 violations of the agreement. Violations of the agreement concerning rattan collection, encroachment or poaching were not reported. The interviews in Village B, however, left the impression that the prohibition of rattan collection under the agreement was a problem for poor households, especially for those with limited access to land, who had depended on this activity as an important income source before the agreement was made. In Village C, the collection of rattan appeared to have been less important due to limited possibilities of marketing rattan. No violation of the agreement was reported, so far.

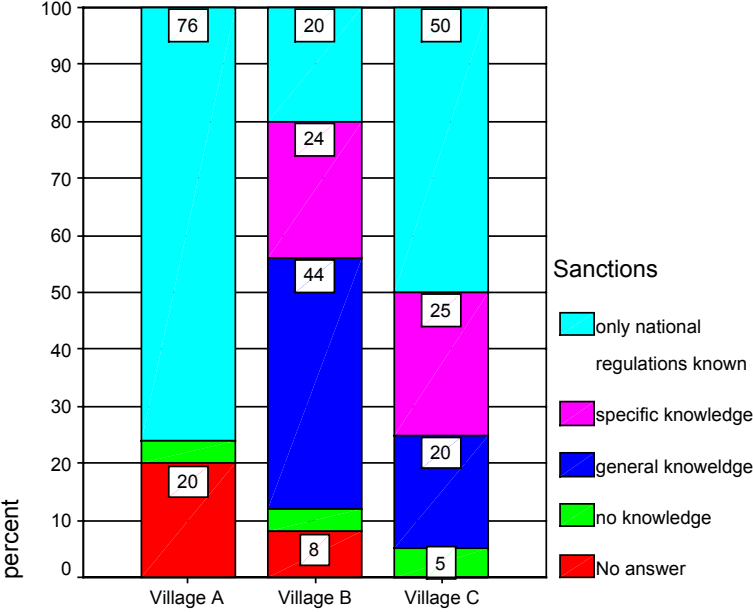
In Village A, the interviewed stakeholders mentioned only one sanction that the village headman suggested in relation with the agreement. This sanction was that rattan collected inside the National Park was to be confiscated by the village headman and sold for the benefits of the village. However, this sanction was never implemented as it contradicts the regulation of the National Park, according to which the Park Guard has to cut the rattan into pieces, if he finds someone collecting rattan inside the Park. The interviewed stakeholders in Village A reported that after the agreement, a group of villagers was assigned the task of watching whether the agreement was violated. However, this control group stopped its activities after some months. One of the reasons reported for this was that the unclear situation of what should happen in case of detecting rattan collection. Moreover, the problem of rattan collection inside the Park appears to be less important than in Village B due to the fact that the villagers in Village A also have access to forest resources outside the National Park where rattan can be collected.

Figure 4 displays the knowledge of the respondents concerning sanctions for illegal activities inside the National Park. In Village A, the majority of the respondents were only aware of the sanctions applied by the Park Guard according to the national regulations, e.g., confiscating the rattan in case of illegal rattan collection, and - in case he is found collecting rattan again after having been warned - handing over of the person to the police. 50 percent of the respondents remembered at least one case, in which the national regulations were applied. On the average, the number of cases remembered by the respondents was 1.6. Only ten percent of the respondents had some general knowledge that the community agreement was also associated with sanctions, and five percent said that they had no knowledge about sanctions. In Village B, more than half of the respondents had a general knowledge on the sanctions associated with the agreement, and a quarter were able to mention details. In Village C, a higher percentage of the respondents were only aware of the national sanctions, probably due



to the fact that no case of violation of the community agreement had occurred yet. Figure 4 also indicates the percentage of respondents who did not answer the question concerning the sanctions, indicating that they felt uncomfortable with this topic or afraid. This points to one constraint of the interview methods with regard to such sensitive topics as sanctions. Interestingly, in Village C this problem did not occur.

**Figure 4: Knowledge on sanctions**

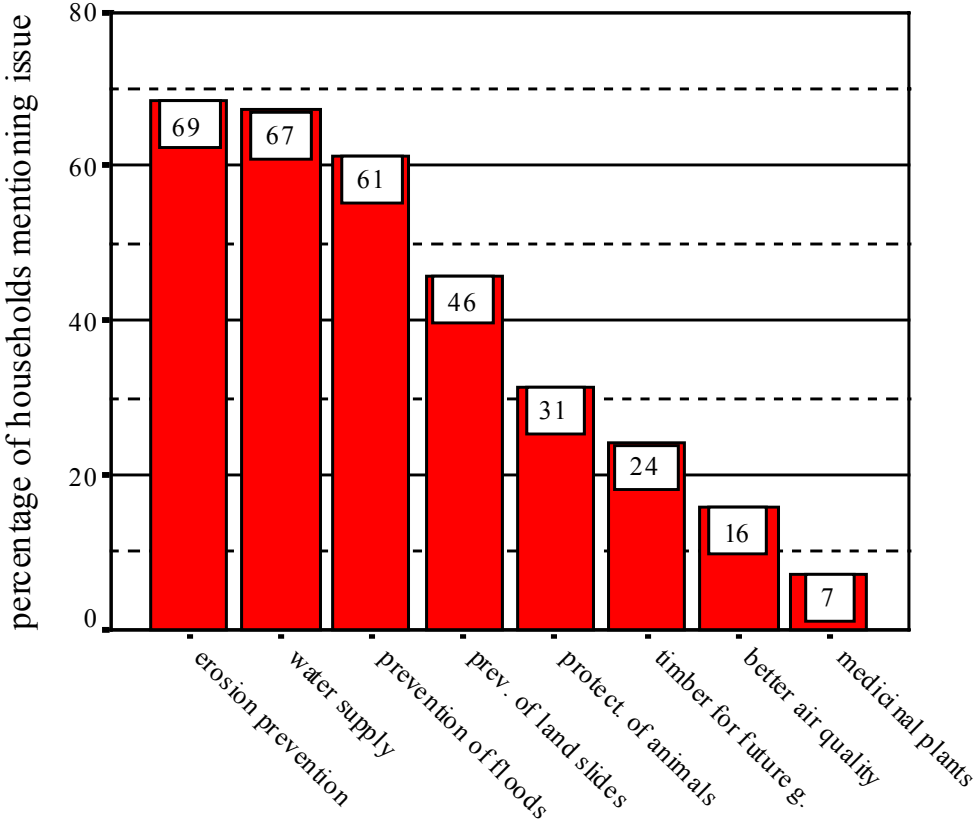


Source: authors’ household survey (2001)

**5.5 Villagers’ Views on Advantages and Problems Concerning the National Park**

The household survey also included questions on the perceptions of the villagers concerning advantages and problems related to the National Park. Only 10 percent of the respondents did not mention any positive aspects that the protection of the forest through the National Park may have for their community. As Figure 5 shows, more than two thirds of the respondents mentioned the prevention of erosion and ensuring of the water supply as advantages of the protection of the forest. Other advantages mentioned by the participants include the prevention of floods and landslides, the protection of animals, the availability of timber for future generations, better air quality and the protection of medicinal plants. Asked about the source of their knowledge concerning these advantages, the respondents mentioned mostly officials such as Park Guards, representatives of the Forestry Department and the village headman, as well as the radio. The number of respondents who indicated that this was their traditional knowledge or has been passed on by traditional village leaders was higher in the indigenous villages B and C than in Village A, where the percentage of immigrants was high.

**Figure 5: Advantages of forest protection mentioned by respondents**



Source: authors' household survey (2001)

Even though some of the respondents may have given answers they felt expected to give, one can certainly consider it as an advantage with respect to the enforcement of the agreement that more than two thirds of the respondents were able to link forest protection with advantages for their community.

During the interviews, 80 percent of the respondents mentioned at least one problem, which the National Park caused for them or their community. This does not mean that the other respondents do not feel that the Park leads to problems, they may also have felt unsure of whether or not they could talk freely about such problems. About half of the respondents mentioned they were afraid that, due to the National Park, there will not be enough land available for their children. Even in Village C, where land scarcity is not yet a problem, 55 percent of the respondents expressed this concern. Table 8 distinguishes between participants and non-participants and lists the problems mentioned by the respondents. The second most important problem addressed by the respondents was that lands in which they held traditional property rights was located inside the Park. While the agreement allowed them to collect certain non-timber forest products inside the National Park, it did not allow them to use their traditional land for agricultural purposes. The loss of the income provided by rattan collection was mentioned as the third important problem. Some respondents in Village

B mentioned that the villagers depending on this income had no other possibility than going to other villages to collect rattan after the implementation of the agreement. The village leaders in this village are well aware of this problem. There are plans to distribute land of a former concession area to villagers who have only little or no land. The leaders also discuss the possibilities of sustainable rattan harvesting techniques, such as rotational harvesting. Other problems indicated by the respondents refer to restrictions on timber and fuelwood collection and on the hunting of birds. As Table 8 shows, the villagers participating in the meetings felt more affected by the problems with the Park. This may indicate a motivation for their participation, it may, however, also indicate that the participation led to a higher sensibility concerning these issues.

**Table 8: Problems with National Park mentioned by respondents**

Type of problem <sup>a)</sup>	Participants	Non-participants
Land scarcity for children may occur	67 %	45 %
Traditional land use rights inside the Park	67 %	30 %
Rattan collection needed for income	38 %	24 %
Lacking possibility to catch birds	10 %	9 %
Timber would be needed (in general)	19 %	19 %
Timber needed for house construction	10 %	9 %
Timber needed for village development	14 %	7 %
Lack of fire wood	10 %	7 %

a) Open question, multiple answer possible, table lists percentage of respondents who mentioned the respective problem

Source: authors' household survey (2001)

## 6 Discussion

### 6.1 The Perspective of Environmental Economics

As discussed in Section 2.1, from the perspective of environmental economics, the agreements on conservation can be considered as the “Coase solution” to an externality problem. This solution assumes a strategic negotiation between the actors causing the externality and the actors affected by it. According to Coase, as quoted in Section 2.1, the interpretation of who causes the externality depends on the question of how the property rights are initially assigned. If property rights are held by the state, the local farmers converting forest or extracting forest resources would have to be considered as the party causing the externality. The state, as representative of the society, would then be considered as the party affected by the external effect. If the local farmers hold the property rights in land and forest resources, the state is to be considered as the party causing the externality, when restricting these property rights by declaring a protected area. As outlined in Section 2.1, this leads to the question of whether or not the state acknowledges customary property rights that already existed before the area was declared a National Park. Empirically, this question was very relevant: As shown in Table 8, two thirds of the participants in the meetings and one

third of the non-participants considered it as a major problem that in their village, customary property rights were located inside the National Park.

As the empirical evidence showed, the state had not acknowledged the customary property rights located inside the National Park at the beginning of the negotiation process in any of the cases under consideration. In the agreements promoted by the Advocacy NGO, the recognition of customary rights to control the use of resources inside the Park were a subject, not an initial condition, of the negotiation. The “deal” between the state agency and the local community can be interpreted as follows: The traditional village council officially receives a formal recognition of their traditional rights to regulate the management and use of the natural resources located inside the Park. In exchange, the village council commits itself to make sure that the resources are used in a sustainable way. Though the formal recognition of customary rights by the Park Management was a considerable advantage for the community, a more far-reaching legal backing of this acknowledgement would have been desirable as a guarantee for the long run. The approaches promoted by the Rural Development NGO and the Conservation NGO envisaged a compensation in form of development services of the income forgone by the villagers due to the restrictions posed by the National Park and the commitment to obey them in the agreement. Even though this can be interpreted as an acknowledgement of the fact that state protection causes costs to the farmers—in the sense of causing an external effect according to the Coase Theorem, a formal recognition of the farmers’ customary property rights is not foreseen in the agreements promoted by these NGOs.

The empirical investigation also shows that not all community agreements can be considered as a strategic negotiation between two parties, one representing the party causing the externality, and the other representing the party affected by it. In the case of the agreements promoted by the Rural Development NGO (see Section 4 and household survey in Village A), a negotiation with state agencies did not take place, at all. It was rather a negotiation between the villagers and the NGO. In the other cases, an interaction with the BTNLL, the state agency in charge of the National Park took place. However, in the case of Village C (see Section 4), this interaction was limited to consultation and an ex-post approval of the agreement by the state agency.

As outlined in Section 2.1, the Coase Theorem also assumes that bargaining is based on a consideration of marginal costs and benefits, which determine the willingness to pay and to accept. The costs of conservation mainly consist of opportunity costs due to income losses from restrictions on resource use. Based on data collected by the authors in 1999, the gross margins for major crops grown on upland fields (the land type most strongly competing with protection), such as coffee, cocoa and vegetables, were in the range from Rs. 200,000 to Rs. 6,000,000 per ha and year. These figures indicate the order of magnitude of the opportunity costs of protection per ha of land. The gross margin, and therewith the opportunity costs, depend essentially on the output prices, which fluctuate considerably between seasons as well as between years. The calculation of the benefits of conservation in monetary terms would require methods such as contingent valuation, which have not yet been

applied in the area of the Lore Lindu National Park. During the research, no evidence could be found that the stakeholders involved tried to value the costs and benefits of nature conservation in the Lore Lindu area in monetary terms in order to use the figures in the negotiation process. Next to valuation problems, it is doubtful to which extent the stakeholders would share the mainstream opinion in resource economics that all costs and benefits of nature conservation can be evaluated in monetary terms. However, even though monetary figures on cost and benefits were not used in the negotiation, one can assume that the bargaining partners followed their perception, or an implicit subjective valuation, of the costs and benefits involved. The benefits may also include intangible “political” benefits such as increased authority for the community. These considerations show that more empirical research on valuation of costs and benefits and more long-term observation would be necessary to judge the third question raised in Section 2.1, whether the bargaining led, in an economic sense, to mutually advantageous outcomes.

The empirical investigation also shed light on the third question raised in the theoretical framework, which concerns the role of transaction costs in the process of establishing and negotiating co-management agreements. Even though a monetary calculation of all transaction costs involved in the agreements was beyond the scope of this research, one can derive some preliminary conclusions from the figures available. As mentioned above, the Advocacy NGO spent apart from the salary of local staff around Rs. 15,000,000 for the village with the most intensive negotiation process they facilitated so far. One possibility to assess the magnitude of such a figure is to compare it with other important costs that are incurred for nature conservation. The highest cost usually arises in form of the opportunity costs of land that is set aside for conservation. A common method to estimate these opportunity costs is to calculate the income forgone from agricultural production (Hampicke, 1991). Assuming on the basis of the above figures that the opportunity costs of land are in the range of Rs. 500,000 (see above), the transaction costs of Rs. 15,000,000 quoted above correspond to the opportunity costs arising for the protection of 30 ha of land. One has to take into account that the opportunity costs of land arise every year, whereas the establishment of the agreement is an investment that can be depreciated over a longer period. This hypothetical calculation should help to relate the transaction costs arising for NGOs promoting an agreement to other costs arising for nature conservation. A transaction cost calculation also has to take into account the opportunity costs of the farmers for attending the meetings. Even though these costs can be an obstacle to participation for farmers with a high time depreciation, they would also lose their relative importance, if the series of meetings needed to establish an agreement is considered as an investment for a longer period of time. Even though further research in this issue is necessary, it appears reasonable to conclude that—as compared to the opportunity costs of protection in form of income forgone from agricultural production—the transaction costs of negotiation are not a major factor affecting the efficiency of nature conservation. Nevertheless, considering the other aspects discussed above, one can conclude that the Coase Theorem, with its focus on the strategic bargaining of two parties

over an externality, is not sufficient to capture all relevant aspects of the community agreements on conservation observed in our case study.

## **6.2 The Perspective of Policy Analysis**

The empirical results indicate that one can distinguish stakeholders at two levels: NGOs, development projects and state agencies at the regional level, and groups of households which differ in socio-economic status and in their dependence on natural resources at the village level. At the regional level, the NGOs pursued their interests in promoting different kinds of agreements with comparatively little co-ordination and cooperation among each other (see Section 4). The limited coordination can, at least partly, be attributed to different value orientations of the NGOs concerned. These differences seem to lead to communication problems and strategic barriers of interaction. The case study also indicated that there were different interest groups within the villages. The households with little access to land are more seriously affected by restrictions on rattan collection than better-off villagers, who do not depend on this income source. However, the households were not organized along these lines. According to the field observation, none of the NGOs promoting the agreements took these differences in interests explicitly into account in the organization of the negotiation process. However, the negotiation meetings provided a forum to discuss different interests. Therefore the essential question is who participated in this forum and how the decision-making there took place.

Applying the model of empowered deliberative democracy (EDD) outlined in Box 1, the analysis shows that the negotiated agreements fulfil important aspects of the design principles of model. They focused on a concrete concern, in this case the improvement of nature conservation in the area of the Lore Lindu National Park. Depending on the NGO promoting the agreement, they also focussed on rural development (see Table 1). The series of meetings held in connection with the agreements indicate that bottom-up participation and a process of deliberation were clearly envisaged by the organizations promoting the agreements. The interviews with the participants indicated that the process had deliberative qualities as described in Section 2.2: After intensive discussion of different viewpoints, the aim was to reach a consensus that was acceptable to all participants. The research method of participant observation, however, would have been necessary to reach a final assessment on this point. Using the number of meetings held as an indicator, the deliberation process was most intense in Village B and least intense in Village A (see Section 5.3).

The research also showed that the models of participation differed between villages. As outlined in Section 5.3, in Villages A and C, the direct participation of, as far as possible, all villagers was envisaged. While this goal was achieved to a considerable degree in Village C, in Village A, the participation was mostly limited to official village leaders and some of the beneficiaries of the Development NGO promoting the agreement.

In Village B, participation was limited to the customary and formal village leaders and the persons appointed by them to join the meetings. With regard to the considerations in Section

2.2, this model can be considered as deliberative democracy involving intermediaries. While formal village leaders are intermediaries who are elected through the usual mechanism of representative democracy, the traditional village leaders involved in the deliberation process derive their legitimacy from customs and tradition. The question in these cases is to which extent the intermediaries represent and accommodate the interests of all groups in the village, especially of those who are likely to be disadvantaged by the regulations of the agreement. During the village survey, direct criticism concerning the terms of the agreement was limited. This may, however, be attributed to the interview situation. Nevertheless, as Table 8 indicates, a considerable proportion expressed their concerns with regard to the loss of income from rattan. Some villagers directly mentioned that they see no other possibility than going for rattan collection to other villages. This can be seen as an indication that the interests of the villagers depending on rattan as an income source were not fully taken into account by their intermediaries. Phrased differently, the possibility that more powerful actors impose their version of the agreement on less powerful groups existed. As mentioned above, the village leaders did, however, search for potential solutions to compensate for income losses from rattan collection, such as providing increased access to land. This potential solution was outside the scope of the agreement. Agreements that directly link conservation goals with development services, such as those promoted by the Development NGO and the Conservation NGO, also provide a possibility to overcome such conflicts of interests.

The research showed that the agreements also fulfil some of the design properties of the EDD model. The approval of the conservation agreements by the Administration of the Lore Lindu National Park can be considered as an act of devolution because it indeed shifts management authority to governance bodies at the community level that are not merely advisory. As the case of Village B shows, the local bodies in charge of exercising authority over natural resource management (Lembaga Adat, village headman, guard groups), can be very effective in implementing and monitoring the agreement, and in applying sanctions in case that the rules are violated (see Section 5.4). Nevertheless, the devolution criterion of the EDD model (see Box 1) is not fully met, because this act of devolution is a voluntary decision in the discretion of the Park administration. Therefore, the local units that are now in charge of resource management according to the agreement can hardly be considered as “creatures of a transformed state endowed with substantial public authority”, as the EDD model suggests.

In principle, the Park administration can also play the role of a central authority to supervise and coordinate the agreement processes around the Park, a function that is another design property of the EDD model (see Box 1). As the case study showed, the involvement of the Park administration in the negotiation process differed considerably between the villages, depending on the strategy of the NGOs promoting the agreements. In general, the National Park administration strongly supported the agreement approach, especially in its eco-populist version. In the absence of a specific legislation on such agreements, the willingness of the Park manager to acknowledge indigenous resource rights and to trust the capacity of indigenous communities was certainly an essential in promoting the agreements. This earned

the Park manager the appreciation of advocacy-oriented groups at national and even international level, while conservationist groups remained sceptical of this approach.

Box 1 also lists some potential problems of the EDD approach. As indicated above, it is still too early to assess the agreements on the basis of their outcome in terms of ecological and socio-economic indicators. One problem, however, can be seen in the fact that the contents of the agreements are not very specific. In the cases under consideration, the agreements were not accompanied by a management plan that specifying, for example, the quantities of the resources that can be extracted for home consumption. Likewise, in the draft of an agreement by the Conservation NGO that intended to offer development services in exchange for a conservation commitment, these services were not well specified in terms of time frame and responsibility either. This lack of specification can be considered as a hindrance to effective implementation and monitoring. One possibility to overcome such problems is to create a mechanism that allows the parties concerned to adapt and to renegotiate the agreements in the course of time. Other potential problems listed in Box 1, such as an unequal power structure among the participants, have already been discussed above.

## **7 Conclusions**

Even though it is still too early for a final assessment of the community agreements on conservation in the Lore Lindu area, the case study has shown that they have a considerable potential for improving nature conservation and rural development in the region. These agreements constitute an interesting and instructive example of devolution of authority in natural resource management, which can serve as a model for other regions of Indonesia. As the agreements are negotiated at the local level, they can take the specific ecological, socio-economic and cultural conditions at the local level into account. Due to their voluntary character, they can reduce conflicts and problems of state regulations, which represent the “command-and-control approach” to protected area management. The case study showed that the effort to establish such agreements can lead to intensive processes of deliberation on self-governance at the village level, which can be considered as “schools of democracy” that are important for the process of democratisation Indonesia is undergoing. As the differences between the three study villages showed, the achievement of this goal depends on the implementation of the agreement approach which is influenced by the vision and value orientation both of the organizations facilitating the agreements and of the village leaders responsible for the implementation at the local level.

The case study also revealed some areas that deserve further consideration by organisations, agencies and policy makers promoting such negotiated agreements. The problem of unequal power relations and conflicts of interest within the villages may well jeopardize the deliberation process. The role of intermediaries, or representatives, should, therefore, be considered carefully. Acting as representatives of the villagers in the negotiation process, both formal and customary village leaders may well take the interests of all villagers into account, However, this should not be taken for granted, as the question of rattan harvesting in the case



study indicates. One could also consider the option to let the villagers vote on the outcome of the deliberation process. This combination of the deliberative with the direct democracy model could be an instrument to increase the legitimacy of the agreement, especially in cases where a broad participation of the villagers in the deliberation process is difficult to achieve. This shows that it would be useful for the actors promoting community agreements to discuss the question of participation and legitimacy more explicitly and consider the advantages and disadvantages of different models.

The results of the case study also indicate that the different organizations promoting community agreements on conservation have their strengths in different fields, such as advocacy for community rights and empowerment on the one hand, and capacity for providing development services, on the other hand. The different organizations could combine their strengths by better coordinating their activities, especially if they are working in the same village.

Finally, the case study also showed that both the Coase model and the model of Empowered Deliberative Democracy are useful for analysing different aspects of the negotiated agreements. A further development of the theory, which combines aspects of environmental economics with the analysis of policy processes is promising for better understanding and implementing the agreement approach. The Coase model draws attention to the need to clarify the allocation of property rights, and to take the benefits and the costs, including the transaction costs, into account in order to reach efficient solutions. However, depending on the value orientation and objectives of the organization involved, the agreements do not necessarily correspond to the model of self-interested strategic bargaining underlying the Coase Theorem. The case study showed that valuable insights can be gained by studying the agreements as a potential instance of Empowered Deliberative Democracy, which considers citizen deliberation, rather than strategic bargaining or command and control by experts, as the preferred mode of social choice.

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