

Explaining Household Participation in Establishing Community Agreements on Conservation at Protected Areas-Indonesia

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Abstract

State based management approach to nature conservation has often failed to balance the goal of conservation and the goal to improve the livelihoods of local communities. A promising approach to deal with this problem is the concept of community participation in promoting agreements on nature conservation. The aim of this research was to explore the conservation problems and explain the process of household participation in establishing community agreements on conservation at Lore Lindu protected area. A qualitative analyze is applied to better understand the underlying conservation problems, while the quantitative analyze is based on probit model to determine factors influencing participation. The finding that more wealthy households are not more likely to participate, however, households with more social relation (social capital) and better access to political decision making (political capital) were more likely to be involved. In conclusion, the result showed that community agreement on conservation offer a considerable potential for reaching ecological goal, but attention has to be paid the interests of disadvantaged community members, who depend on natural resources for their livelihood.

Keywords: household participation, community agreements, protected areas

1. Introduction

The remarkable threat to biodiversity and ecosystems are mainly caused by human mismanagement of biological resources, and is often stimulated by misguided economic interests. The establishment of protected areas remains to be the most important policy instrument to deal with this challenge. However, the conventional state-based approaches to managing protected areas have often failed to balance the goal of nature conservation with the goal of improving the livelihood of local communities, as the situation in the Lore Lindu National Park. In this fact, discourses around sustainable conservation development, participation has become a widely advocated concept (Hanna, 1994).

In general, the problems encountered the Lore Lindu National Park come both from inside and outside the park (Laban, 2012). Internal management problems usually involve biodiversity conservation within the park; possibly caused by poor park management. The external problems mostly arise from local people, or so-called natural resource-dependent people, and from their related agencies, therefore, their participation in managing their right at protected areas is important. Wilcox (1994) has developed a participation model of five stages started from information, consultation, deciding together, acting together, and supporting. Cernea (1985) asserts that participation implies that local communities are empowered to mobilize their own capacities, be social actors, rather than passive subjects, manage the resources, make decisions and control the activities that affect their lives.

Oakley (1991:7) explains the importance of distinguishing between participation as a means to facilitate or improve delivery systems of projects and participation as a process which unfolds over time and the purpose of which is to strengthen the capabilities of rural communities in their direct intervention in development initiatives. Borrini-Feyerabend (1996:2) states that effective participation in natural resource management can be viewed as a condition by which local knowledge, skill and other kinds of resources are mobilized and fully employed. To achieve participation in development activities, local empowerment must be given priority. Cernea (1985: 10) asserts that participation implies that local communities are empowered to mobilize their own capacities, be social actors, rather than passive subjects, manage the resources, make decisions and control the activities that affect their lives.

Another problem of participatory projects is that of dependency: The local communities are often more dependent after the project has ended. In this respect, the participatory approach can be said to have failed to create new institutions that are conducive to promote independence or self-reliance. The lack of social capital (see below) among the local communities is often blamed for this failure (Birner, 2013). Wilcox (1994) hold that conflicts are often involved in participatory development projects, regardless of their specific purpose, such as resource management or community development. This can be seen in a variety of circumstances, for example, the exclusive selection of participants, the superficial decision-making methods used, the lack of institutional space provided, insufficient leadership in conflict resolution, the absence of follow-up arrangements, and the

non-availability of external pressures (Leeuwis, 2000: 946). Therefore, explaining the community participation in establishing community's agreements at Lore Lindu National Park interesting to be explored.

2. Research Methods

2.1 Selection of Research Villages

At the time of data collection, more than 10 villages had already signed an agreement among those that started establishing community agreements. The study aimed at concentrates on cases that already signed an agreement. In view of the comparatively small number of villages to chose from and the large variation among them, a purposive sampling method was applied. The criteria included the coverage of the three districts where agreements had been signed and coverage of the three NGOs promoting agreements that were already signed, YTM, CARE and TNC, include both indigenous and mixed villages. After discussions with the NGOs, six villages have been chosen. The local NGO, YTM promoted agreements in three villages, which are referred to as A1, A2 and A3 (Group A), two where TNC promoted agreement in Villages of B1 and B2 (Group B), and one where CARE promoted an agreement in, referred to as Village C.

2.2 Collection of Primary Data

The household level survey is the major of primary data. Meetings were also held in the villages in preparation of the research. The interviews were conducted with the support of two staff members of Tadulako University. However, the author directly conducted most of interviews. Editing and coding was completed in the field location. Therefore if any of the answers were incomplete, it was easy to collect additional information. Data collection was done in two phases; the first phase covered three months during July-September, and second phase was conducted by December 2016 for renew the highest changing data.

2.3 Household Survey

As indicated above, a survey of a random sample of households was conducted in six selected villages, where the process of establishing an agreement was already completed. To select the households, *a simple random sample of 10 % of the households*, with total 200 households, was drawn in all villages. 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.

The questions applied at the household level covered five groups of information: introductory questions; variables on household statistics (level of education, marital status and other household data, economic and employment variables, such as: economic indicators and activity and variables related to social capital and political capital, and to environmental knowledge and perceptions. The focus was placed on the process of establishing the community agreements. The data collected was not restricted to information for the current time of the research, but also included information about the history of establishing the agreements, which provided an overall picture about respondents' perception and experience.

2.4 Data Analysis

In order to achieve the aims of research, quantitative analytical was applied. The entire data in the household questionnaires was transferred to SPSS after being re-checked by the author. A section of the questionnaires contained semi-structured questions as a guideline for collecting information on reasons, opinions, comments, and responses about the community agreement on conservation, then coded. For some variables, the answers were typed in SPSS and used for qualitative analysis.

The quantitative approach comprised cross tabulation calculation, t-test, and a Probit analysis. The Probit analysis was used to assess the factors influencing the probability of the households' participation in promoting the agreements. To test the determinants of the participation of the households, this model was estimated in which the dependent variable equals 1, if the households participated, and zero otherwise (McFadden in Gujarati, 1995:563-564):

$$Y^*_i = \beta'X_i + \mu_i,$$

where

$$Y = 1 \text{ if } Y_i > 0, \text{ otherwise}$$

$$Y = 0, \text{ and}$$

$$\text{Probability } (Y_i=1) = \text{Probability } (\mu > \beta'X_i) = 1 - F(-\beta'X_i),$$

where F is the cumulative distribution function for μ .

the β' are maximum likelihood estimates.

3. Results and Discussion

Interpreting the results of the household survey, one has to keep in mind that the survey included only households, whose members do not hold official functions in the village. As explained previously, the aim was

to study the participation and perceptions of the “common villager” concerning the community agreements.

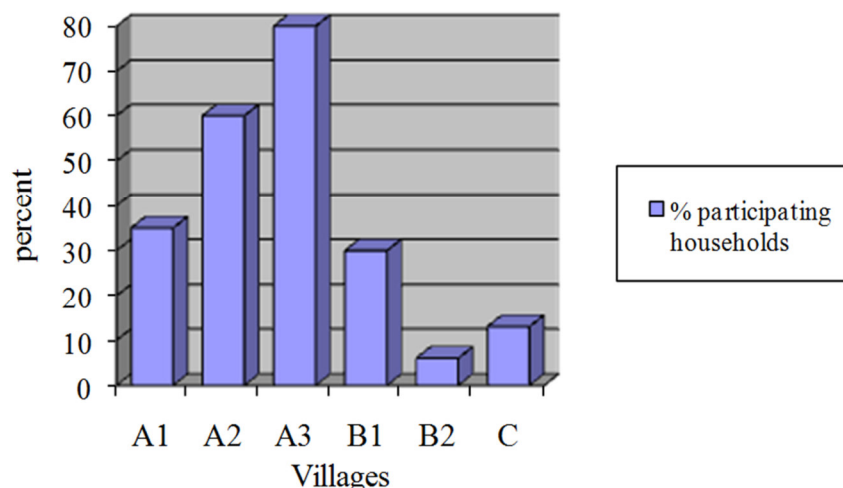
3.1 Socio-economic Background

The characteristics of the socio-economic background of the sample households, which can be categorized into three groups: on demographic, welfare indicators, and human capital characteristics. The villages classified as indigenous show the highest percentage of household heads who were born there, which can reach 70 %, and in the mixed villages mentioned that the availability of land is an important driving factor. The size of the paddy land is a good indicator of wealth at the village level except for Village C, while the most important indicator of human capital is the educational level concerning schooling years.

3.2 Participation in Establishing the Agreements

Depending on the strategy applied by three different NGOs in the process of establishment agreements, the extent to which the local people participated was influenced by the vision and concepts of the facilitators and the village leaders. The presentation on results covers three aspects; knowledge about the NGO activities, knowledge about the agreement and involvement in the process of establishing the agreements, but for this article just focus on the third part. The involvement of the common villagers in the process of establishing the agreement on conservation differed considerably. About half of the common households participated in the villages where YTM facilitated the agreements, while this percentage was below 15 % in the other villages. Figure 1 shows, there were also considerable differences between villages. In Village A1, where YTM facilitated the agreement the participation was only slightly higher than in B1, where TNC facilitated the agreement.

Figure 1: Participation of Households in Negotiation Meetings



Source: Author's household survey

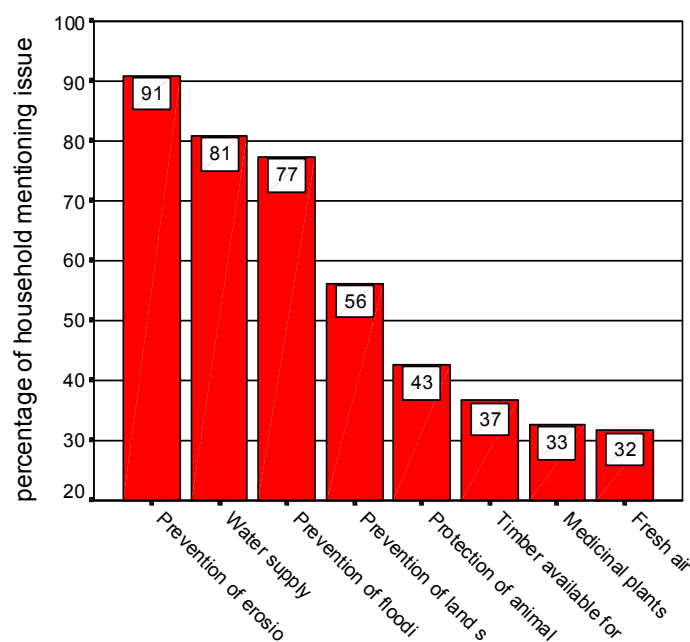
Interpreting the figures on the involvement of the households in meetings concerning the agreement, one has to consider that different “models of participation” were implemented in the different villages. In the villages facilitated by YTM, the meetings concerning the agreement were linked to the general advocacy activities of the local NGO, where the goal of the village leaders was to reach a high participation of all groups of villagers, so the traditional and formal village leaders also selected the common villagers as participants. In Village C, the meetings concerning the agreement were linked to the general development activities of CARE, which targeted the poorer sections of the households. Even though many controversial issues were discussed during the meetings, the impression about the meetings depends on the strategy applied by NGOs.

3.3 Perceptions of Respondents Concerning the National Park

The knowledge and perceptions of the local people concerning the advantages and disadvantages of the Park are obviously an important factor for the success of the agreement approach. Therefore, questions on these aspects were included the fact that the local community has become more aware of the functions of the Park can be seen from the survey data at Figure 2.

The research explains that almost 80 % of the participant household mentioned that controversial issues were discussed during the meeting, mostly focusing on park boundaries, land rights inside the park, and rattan and timber as income source. About one third of both the participants and the non-participants were worried about the future of these village agreements if the *Lembaga Adat* would not be able to apply this agreement with clear sanctions that were equal to all. The role of the *Lembaga Adat* in enforcing the agreements is, however, crucial, because in many cases of conflicts, national regulations cannot be implemented

Figure 2: Advantages of Forest Protection Mentioned by Respondents



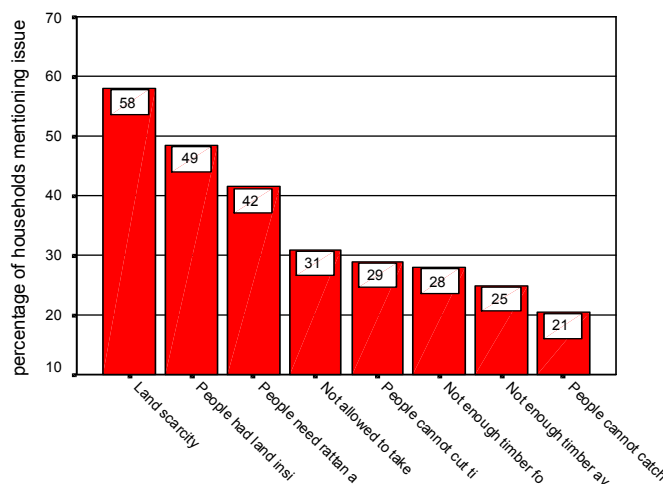
Source: author's household survey

As expressed during the stakeholder interviews, most of them think that these village agreements are fair to all society's members. Nevertheless, there is an opposition who regards the agreements as unfair. For example, after recognizing the village agreement, the headman of Village C made a business deal with foreign and local logging companies. Through a long process, finally, the local people are allowed to be involved in the park management. Forest products can be harvested based on participatory planning, which will have to define the operational implementation of the community agreements. Surprisingly, the indigenous people of Village A3 are allowed to collect rattan for commercial purposes in certain parts of their customary land rights based on the agreement, while other villages are allowed to do so only for daily needs. This could result in a big question of the communities to the authority of the LLNP and create envy among the neighboring villages.

Furthermore, the disadvantages of the National Park, as perceived by the respondents with mentioned at least one problem caused by the Park, either related to them as individual or their community, as shows at Figure 3.

This does not mean that 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 would not be enough land available for their children. Even in Villages A2, A3 and B1, where land scarcity is not yet a problem, 55 percent of the respondents expressed this concern. It's in line with Lewis (1996), he found that conflict concerning park management arise in relation to lack of attention to the process of involving local people and others who care about protected area planning, management and decision making, and also people in nearby communities who having need that are in conflict with the objective of protected areas.

Figure 3: Disadvantages of the National Park Mentioned by Respondents

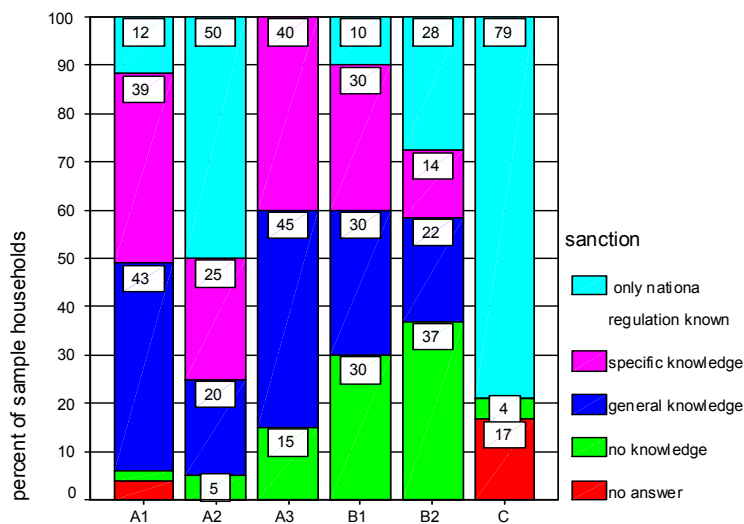


Source: author's household survey

3.4 Knowledge on Sanctions

Monitoring and applying sanctions can be considered as an important aspect for assessing the ecological success of a community agreement on conservation. It is in line with the situation surrounding the Protected Biosphere of Lore Lindu which mostly people have vested of interest to utilizes the area for extend their garden, and also collect forest product, even though they aware that this action already broken the regulation (Mappatoba, 2016). In all villages except Village C, the agreement stipulates that the traditional village council, the Lembaga Adat will be in charge for deciding upon the sanctions to be imposed, if villagers or outsiders are found to have violated the regulations of the agreements. The strongest sanction is to evict a person from the village, as illustrated in Figure 4.

Figure 4: Knowledge on Sanctions



Source: author's household survey

4.5 Factors Determining Household Participation

In line with the analytical framework, a probit analysis was used to determine the factors influencing the probability of the households' participation in promoting the agreements. The dependent variable AGR_PAR in the estimated model signifies the participation of the household head/ member in at least one meeting dealing with the establishing of the community agreement on conservation, as Figure 3.

The result shows that the higher the education level of the household head (EDU_HHH), the more likely he/she participated in establishing the agreements. Also, the number of local organizations in which household members are involved (ORG_NUMB) show the coefficient is significant and has the expected positive sign. This variable can be categorized as an essential manifestation of personal ability to build a good network, thereby

indicating a potential to negotiate controversial issues. The results supports the argument in the literature that households with high social capital will be more willing to invest their time or resources to public interests. It was supported by Mueller (1995), that the term of participation has abroad meaning, from political point of view it refers to involving people in the decision making process, from social point of view it refers to the interaction among the social groups. However, the household head has a function in this organization (ORG_FUNC) are measures of social capital in this analysis is unexpectedly negative, and a possible reason is that leaders of organizations may already be occupied with their functions that are not related to Park management.

Table 3: Factors Influencing of Household Participation (n = 200)

Variables	Coefficien	Standard Error	T-ratio
UPL_CULT	0.1175	0.1516	0.775
EDU_HHH	0.1097	0.0494	2.441**
TOT_HHM	-0.1204	0.0670	-1.797*
HH_AGEY	0.0452	0.0123	3.681***
LA_CONTA	0.8239	0.3495	2.357*
FOR_FUCT	0.0668	0.3009	0.222
ORG_NUMB	0.3165	0.0588	5.378***
ORG_FUNC	-0.4907	0.2817	1.724*
NP_NEGAT	1.1503	0.5090	2.260**
CONSTANT	-6.3258	1.0220	-6.189
Log likelihood = -74.0243			
Chi-square = 94.58			
R-square = 0.35			
N = 200			
SignificantLevel = 0.00000			
% Predicted Correctly = 78			

Note *** = significant at 1 % level, ** = significant at 5 %, and * = significant at 10 %.

Possible strategies to deal with the problem of land scarcity may include restrictions on migration to the area, the improvement of irrigation capacity, soil conservation techniques to maintain the fertility of the already utilized lands, and the development of non-agricultural income opportunities such as small-scale enterprises. It is also worthwhile to consider the promotion of high value crops such as spices like cardamom, pepper, and vanilla, which can be grown in a sustainable way but require the development of marketing capacities. The same strategies may be suitable to address the problem that rattan collection is important income source, especially for poor households.

4. Conclusions

The explanation of challenging household participation in establishing agreements is to involve the community in the negotiation process. Under the usual village conditions, it is very unlikely to involve all villagers in the process of drafting the agreements, especially in large villages. Therefore, communication and creation of awareness and knowledge about the agreements within the communities is an important task. The long-term success of the agreements will certainly depend on the possibilities of overcoming these problems. The agreements promoted by YTM and TNC address especially to customary land rights inside the Park as the most important problem perceived by the household, that can be used for the collection of non-timber forest products for domestic purposes and rattan collection is recognized as source of income. Meanwhile, the findings of the probit analysis show that the households with more social capital and better access to political decision-makers were more likely to participate. Similarly, people with a higher human capital, i.e. well-educated and older people, were more likely to be involved. Since 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.

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