



Towards sustainable coexistence: People and wild mammals in Baluran National Park, Indonesia

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ABSTRACT

The paper offers a critical discussion of resource use in a national park, Baluran, in Indonesia. In general, an increasing accept of the need for livelihood security, also for people living in or near natural conservation areas, are challenging traditional systems of national park governance. Finding ways to balance the needs of local populations against the necessity to secure biodiversity and environmental sustainability becomes important, and the main question in our research is how to accommodate an existing society in Baluran without a further negative impact on endangered mammals. Based on common pool resource management and co-management theories and thorough empirical investigations among the population living in Baluran, we conclude that alternative solutions exist for combining the interests of livelihood and conservation, but that resolute restrictions must be set by central government authorities, and that local institutions and livelihood practices must be developed based on experiences gained in the region through the last decades. Our findings may have relevance for solving similar problems of coexistence in other conservation areas.

1. Introduction

Baluran National Park in East Java, Indonesia, represents an interesting case study of the relation between local people, central and regional government, and national park authorities in balancing the conflicting interests of livelihood and conservation. An illegal settlement of nearly 1000 people (our count) exists within the park borders. Inhabitants use a relatively small area for crops cultivation, but cattle are pasturing in larger areas of the park, with a proven negative impact on endangered mammals, especially the banteng (*Bos javanicus*). Other species that are characterized as endangered or vulnerable by the IUCN (International Union for Conservation of Nature) include the Javan leopard and the Javan rusa deer.

Worldwide, the establishment of protected natural areas has been the most popular strategy to safeguard the existence of world biodiversity. Restrictions on human activities and displacement of people have been common in protected areas, aiming to isolate plants and animal species, ecosystems and landscapes from human influence (Redford and Fearn, 2007). The practice of “fortress conservation” involves the preservation of wildlife and their habitat through the creation of protected areas that exclude people (Brockington, 2002).

Over the last decades, however, the paradigm of protected area management has gradually shifted from top-down protectionist to

bottom-up participatory, which accommodates the aspirations and rights of local people. Conservationists increasingly recognize that if conservation initiatives are to succeed in the long term, they need the support and cooperation of those people living in and near protected areas. Local organizations supported by international NGOs have strongly pushed for community-based conservation (Dressler and Roth, 2011). The change means moving beyond biodiversity and wildlife conservation as the sole goal, towards an integration with local economic development and the use of protected areas as means for poverty alleviation (Gurney et al., 2014; Pelser et al., 2013). According to this paradigm, the success of protected area management depends on the ability of managers to integrate the conservation goals and socio-economic issues and to promote greater compliance of local community activities with the protected area goals (Andrade and Rhodes, 2012). To support this change of management, more empirical research is needed to understand the socioeconomic benefits of people utilizing park areas, the impacts of human activity on biodiversity conservation, and the reasoning and practices of agents, such as community groups, business interests, and local governments.

This paper discusses how the current land-use conflict can be solved and aims to offer suggestions for sustainable coexistence of people and wild mammals in Baluran National Park, and possibly also in similar protected areas. More specifically, we want to identify sustainable

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livelihood strategies for park residents, discuss preconditions for successful common pool resource management, and assess the socio-political organization of the local society and conflicting overall goals of park management. Based on theory and previous research findings on common pool resource management (CPRM) and community-based conservation, we analyse the potentials of collective action for implementing best-practice livelihoods and discuss how local and national institutions and governance can be improved to utilize existing resources for the best of people and nature. The study is based on repeated visits to the park, a survey of socio-economic factors covering all 303 settlement households, in-depth interview with 50 key respondents, and a focus group discussion.

After this introduction follow discussions of relevant theories and previous findings. Section 3 gives an overview of natural conservation paradigms in Indonesia, combined with a description of the Baluran National Park. Section 4 presents our research methodology. We reveal our findings in Section 5, followed by the analytical discussion in Section 6, and finally a brief section with conclusion and policy recommendations.

2. Theory and previous research findings

As discussed earlier, there is a tendency to accepting and paying more respect to local peoples' use of natural resources in national parks and protected areas, in Indonesia as elsewhere. Conclusions from studies of common pool resource management (CPRM) are often used to support arguments for the capability of native populations to undertake collective action for combining household livelihoods and environmental sustainability. In this section we shall briefly introduce recent livelihood discourses in economic development theory, then challenge the “community homogeneity assumption” in much of CPRM theory, touch the issue of local elites as potential free riders in the use of commons, and finally discuss contributions from co-management theory.

The sustainable livelihoods idea was firstly introduced by the Brundtland Commission on Environment and Development in 1987 and taken into use by the United Nations Conference on Environment and Development in advocating the achievement of sustainable livelihoods as a broad goal for poverty eradication. Livelihood security means adequate access of households to income and resources to meet their basic needs (Chambers and Conway, 1992). It concerns people's chances to achieve not only economic, but also social and ecological sustainability. A livelihood is regarded sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets and secure necessary income for the next generation without undermining the natural resource base. Strong arguments have been raised in defense of livelihood diversification strategies, especially in rural areas of poor countries (Ellis, 2000). From Africa, empirical findings indicate that program interventions combining livelihood diversification and income generating activities with environmental protection may really improve rural households' welfare, while also ensuring improved environmental protection (Kebebe and Shibru, 2017).

Measuring the “carrying capacity” becomes important when discussing sustainable livelihoods and poverty reduction versus wildlife and biodiversity conservation in protected areas. The concept of carrying capacity assumes that plants and animals are in a state of equilibrium and that certain limits mark the maximum use, e.g. the number of livestock utilizing pastoral resources in a certain area. However, measuring capacities and setting limits are difficult and open for ideological assumptions and socio-political priorities (Benjaminsen et al., 2006), and for disputes among various economic interest groups and government layers (Haller, 2010). Conservation has been and still is very much about issues of political power and environmental justice (Dahlberg et al., 2010).

Much of theoretical contributions and empirical research on

collective action for securing livelihoods while protecting nature is based on Garrett Hardin's (1968) tragedy of the commons thesis and Elinor Ostrom's work to prove that communities with certain non-market and non-state institutions can manage shared resources sustainably and economically efficient. Ostrom's theory on common pool resource (CPR) management has gained iconic status, not least after the Memorial Nobel Prize award in 2009, and the influence of her work also in non-academic circles is strengthened by her respect for and concern with praxis. Thus, since the 1990s, CPR projects have become prominent in rural development strategies, especially in poor countries. The theory assumes that rural communities are motivated by opportunities in cooperation, and that they are the best placed organizations to decide, control and make sanctions regarding the use of common resources. In practice, however, such projects have generated disappointing outcomes and are extensively criticized from both ecological and sociological perspectives (Shackleton et al., 2010). CPR theory may in fact ‘have contributed to the poor performance of commons projects’ (Saunders, 2014).

The following points represent the major preconditions for successful CPR management in Ostrom (1990, 2005): 1) physically and organizationally well-defined units of resource use; 2) correspondence between benefits and costs for individual users based on rules for resource allocation that are in congruence with local conditions; 3) collective choice arrangements, so that individuals affected can participate in discussing and modifying user and operational rules; 4) monitoring, including full accountability of the monitors to the resource users; 5) graduated sanctions applied to appropriators that deviate from the regime or violate the rules; 6) easy and low-cost mechanisms for the resolution of conflicts among resource users; 7) users have the rights to organize and make autonomous decisions, which are recognized by external government authorities; 8) authority is allocated to allow for adaptive governance at multiple levels, from the local through the regional and national, to the global level, when resources are parts of larger social and ecological systems. The last point calls for a polycentric governance structure, as also discussed in more detail by Ostrom (2010). We shall return to these eight points in our discussion of findings in Section 6.

Instead of blaming the CPR theory, reasons for poor performance of commons projects should rather be sought in the social, economic and political complexity of even small communities, in the limited understanding of community contexts, and in elite interests and patterns of exchange between community members and outsiders (Haller, 2010; Saunders, 2014; Sunderlin et al., 2008). That also leads us to revisit co-management theory and into discussing how responsible resource users may take constructive roles in environmental management systems (Jentoft et al., 1998).

Assumptions of community homogeneity are implicated in much of the CPR theory (Tsing et al., 2005), although many societies given CPR management responsibilities are not social groupings with the necessary cohesion and incentives, demarcation lines, legitimacy, and resilience to organize themselves and act independently (Murphree and Hulme, 2009). Research clearly indicates that group compliance and cooperative behaviour depend on close communication, shared social norms, and the legitimacy of common rules (Baerlein et al., 2015). Community-based natural resource management and conservation are clearly vulnerable to elite capture at local levels (Ostrom and Nagendra, 2006), especially when ‘the poor are not empowered enough to withstand the pressures and influence of the local elite’ (Platteau, 2004). Many rural communities, not least in poor parts of Asia, are highly differentiated and stratified in terms of power, income and wealth, and social status (Agrawal and Gupta, 2005). Platteau and Abraham (2002) observe a tendency to downplay community imperfections while stressing market and state failures. Community-based projects run a high risk of causing undue appropriation of resources by local elites operating within the logic of patronage (Fritzen, 2007; Platteau and Abraham, 2002). Saunders (2014) finds that some commons projects

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