Socio-economic and ecological outcomes of community based forest management: A case study from Tobé-Kpobidon forest in Benin, Western Africa

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ABSTRACT

Community forestry, promoted as a "win–win" forest management strategy yielded a variety of results that includes both failure and relative success. The willingness of government to hold control over forest resources while transferring only part of property rights to local communities is one of the major constraints. Therefore, there is a need to explore alternative approaches, which enhance the position and accountability of local communities in community forest management. This study evaluated socio-economic and ecological outcomes of community forestry in a context of important property rights conceded to local communities. The study was conducted using focus groups discussions, forest income evaluation and assessment of forest resources and their dynamics. Findings showed that institutional design with important property rights conceded to local communities partially empowered local communities and reduced threats while improving the condition of forest resources. The approach also yielded positive economic outcomes that enabled bordering populations to make up to 25% of their global annual income from the forest. However, the sustainability of this scheme of forest management was mostly limited by the financial dependency on local non-governmental organization, by local institutions and discrepancy in forest benefits sharing among local forest users.

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1. Introduction

West Africa has recently been tagged as a new hotspot of accelerating loss of forest resources (GFW, 2015). Apart from the key drivers identified to contribute to depletion of forest resources (oil palm expansion, small scale agriculture and illegal logging), the issue of forest governance in this region and its outcome/impact are of great concern. Forest governance in West Africa is complex with multiple forest tenure and coexistence of customary and statutory regulations (German et al., 2010; Marfo et al., 2012).

With regard to forest properties rights in Benin, two categories of forest have been distinguished by the law (n°93–009 of July 2nd, 1993). Forests within the State's domain ("Gazetted forest" and "Non gazetted but protected forest") and forests within the private domain. In gazetted forests, property rights are clear and exclusively held by the State. In the 1990s, important reforms in forest governance policies occurred. These new policies recognized some rights to local people over forest resources, advocated for more involvement of local communities in forest management and protection and consequently promoted the development of community forestry. After three decades of implementation in Benin, outcomes of these approaches in State forests range from relative success to failure (Djogbenou et al., 2011). Similar results were found in other countries (Nagendra et al., 2005; Blaikie, 2006). These inconclusive outcomes are partly associated with the control kept by States over forest resources and the transfer of portions of user rights regarding forest resources to local communities (Cronkleton et al., 2012). As a result, local communities feel less concerned with conservation of forest resources and unable to exert some control over them; this leads to persistent unsustainable forest use practices.

The outcomes of community forestry in situations where property rights are conferred to local people have not yet been investigated in West Africa. The Tobé-Kpobidon forest, located within the protected

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(and not the gazetted) domain represents such a case. Such an investigation will provide insight into ongoing forest governance practices and to help in developing alternative strategies for sustainable management.

Community forestry approach is expected to '*alleviate poverty among forest users, empower them and improve the condition of the forests*' (Maryudi et al., 2012). We expected these outcomes to occur best in community forests where local communities exert their customary property rights on forest resources and have full rights to make decisions regarding access, use and management among others. In this study, we revisit the linkages between forest property rights and institutions at work on one hand, contributions to the livelihoods of local communities and forest conservation on the other hand (See Lambini and Nguyen, 2014) and intend to operationalize the concept of local community in the situation under study. The Tobé-Kpobidon community forest (TK) in Benin has been selected as a case study due to its location. It is in the protected domain (where the State exerts little over the forest and its resources) nearby large forests from the gazette domain. The TK forest is also known among other community forests in Benin to have an outstanding institutional design strengthening the ability of local stakeholders to design collective rules and restrictions in forest resource use and have them enforced. Local stakeholders have been supported by an external stakeholder — Foundation "Aide à l'Autonomie Tobé" (a Non-Governmental Organization) over the last thirty years. Activities alternative to logging and conversion such as ecotourism, beekeeping and a small-scale forest enterprise marketing beehive products sold countrywide under the label "Tobe" have been promoted. Because of its governance model, its exceptional floristic and wildlife richness, the TK forest attracts researchers from the national universities and the national herbarium as well as conservation practitioners.

This paper addresses the issue of the local communities' capacity to sustainably manage their own forest resources. It analyzes the institutional arrangements promoted and assesses the efficiency and the sustainability of an approach intending to empower local communities and protect forest resources while providing enough income to reduce the risk of forest conversion.

2. The issue of "community forestry"

Community forestry seen as a project or policy intervention emerged in the 1980s with changes in forest property and user rights (Sunderlin, 2011; Cronkleton et al., 2013). However, for a long time, this concept has been vague and diversely implemented (RRI, 2012) resulting in confusion. In 2010, researchers, policy-makers and practitioners reconsidered definitions and scopes of community forestry during the conference of Montpellier on "Taking Stock of Smallholder and Community Forestry: Where do we go from here?"(Cronkleton et al., 2013).

Accordingly, community forestry now encompasses situations where people manage forests either inside or outside of community forestry projects, through traditional or adopted institutions, on land they own and use, with or without formally recognized rights and with or without secure tenure. It may include the management of forests, but also of landscape mosaics of forests, trees and farms contributing to livelihoods through both on-farm and off-farm activities.

Community forestry has three interconnected objectives which include alleviation of poverty of direct forest users, their empowerment and the improvement of forest conditions (Maryudi et al., 2012). By involving people in the decision-making process, they are expected to acquire a sense of ownership and start using forest resources in more conservative ways (Agrawal, 2002), leading to various positive outcomes for forest resources and for themselves (Kellert et al., 2000; Shrestha, 2005; Blaikie, 2006). Different indicators have been elaborated and proposed to measure the efficacy of community forestry in delivering these outcomes (Maryudi et al., 2012; Schusser, 2013). To date, community forestry has resulted in both failure and relative success

(Nagendra et al., 2005; Blaikie, 2006; Wollenberg et al., 2008; Devkota, 2010; Maryudi et al., 2012). A major determinant seems to be the lack of clear understanding of property rights in community forests where direct forest users may not have clear rights, may have their rights contested or when the official regulations exclude customary rights and practices (Cronkleton et al., 2013). While context dependent, studies converge to the conclusions that, provided community ownership is secured, the likelihood that communities would defer forest use for the future is increased (Lambini and Nguyen, 2014).

3. Methodology

3.1. Study area

The study was conducted in the Tobé-Kpobidon (TK) community forest (Fig. 1) and its three bordering villages (Itchokobo, Issale and Akpaka). The TK forest is located in Mid-West Benin (8°18–8°20′ N and 1°50–1°52′ E), in the Sudano-Guinean phytochorological transition zone (White, 1983). The rainfall regime is bimodal with a trend to unimodal regime. Population size has been increasing considerably in the region (Table 1). However, the population density is one of the lowest in the country (Judex et al., 2009). TK forest covers about 550 ha. In this region, first settlers were hunters, who delimited large lands (including forest reserves) and considered these as under their control. These lands were bequeathed to their descendants, who in turn exerted customary ownership rights including use, management, allocation and intergenerational transmission. People from other lineages were granted user rights (with some restrictions) by landowners over these lands and forests. Such user rights are per se temporary and late migrants who were clearing forest patches into farmland in the seventies have been subsequently evicted by first settler lineage leaders.

Based on the forest law in Benin (n°93–009 of July 2nd, 1993), TK forest belongs to the private domains. Customary ownership including the use and management rights is recognized to communities bordering the forest. As such, TK forest has escaped from government control and has been administrated by local communities.

In the 1990s, a local NGO (*Foundation Aide à l'Autonomie Tobé*) working in natural resources protection built an alliance with some elders in the communities especially those from the first lineages. Later in 2004, after the decentralization reform, the alliance has been extended to local government. Sets of rules concerning uses and restrictions in use of forest resources and traffic flows were agreed upon jointly. Alternative sources of forest products were promoted (home gardens) and innovative sources of income encouraging forest conservation were developed actively (i.e., beekeeping and ecotourism).

3.2. Methods

3.2.1. Social outcomes (empowerment) of TK forest management

Involvement in decision-making is an important step for empowerment. To assess the involvement of local communities in decision-making process, a preliminary survey was carried out to identify different stakeholders involved in forest management using a snowball sampling technique. Stakeholders included organizations like NGOs, committees and individuals having traditional or religious authority to manage TK forest. For each group, 1 to 3 key informants (leaders, elder or referee person) were selected for in-depth interviews. They were asked about their role in the forest management and how decisions were made and implemented.

Using a Likert scale, informants were asked to score their position as well as those of participating actors in *decision-making and access to forest land and resources*. These are considered as the key elements of empowerment (See Maryudi et al., 2012). The SWOT (Strengths, Weaknesses, Opportunities and Threats) tool was used to assess internal and external drivers of the institutional design through a global focus group discussion.