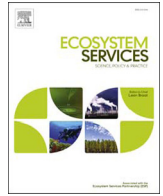




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The power of consensus: Developing a community voice in land use planning and tourism development in biodiversity hotspots

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ABSTRACT

In regions rich in natural resources, nature-based tourism is advancing rapidly. This form of development is identified as an important economic opportunity for local communities but can impact ecosystem services through rapid landscape transformation, threatening the livelihoods of the most impoverished sectors of a community. While it is accepted that communities should participate in the planning process, variation in community and household-level landscape dependencies and priorities can create a fractured viewpoint that is difficult to integrate into the land planning process. Power structures and special interests can subvert participatory processes and input at the community level. In the Chobe District, Northern Botswana, tourism, and other related developments had occurred at a rapid pace around the Chobe National Park creating access barriers, in some instances, to essential natural resource areas. We evaluate community landscape dependencies and participatory approaches to the development of inclusive land use maps. Spatial information on land use dependencies from household surveys were used to form the bases of reiterative village-level participatory mapping exercises ($n = 179$ households, six villages). The activities were conducted through traditional leadership structures. Landscape dependencies were widespread across study villages in both natural resource and agricultural sectors. Cluster and CART analysis of household data identified important variation in landscape dependencies between and within study villages. Fishing was the most important factor predicting gender of headship with male-headed households using this resource more frequently. Spatial data from these household consultations were used to create a draft map that was reiteratively refined through participatory map building exercises until final approval was provided by community members and their traditional leaders in a village. Scaled consultations and involvement of the traditional leadership limited the ability of power structures to control the process and/or subvert the interests of more vulnerable members of a community. Mapping outputs were later successfully used in land planning exercises and consultations. Development of inclusive community consensus on landscape dependencies should be undertaken before lucrative tourism ventures and land allocations are advanced in competition to the needs of more vulnerable and often voiceless sectors of a community.

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1. Introduction

Nature-based tourism ventures and accompanying developments are on the rise in Africa particularly in biodiversity rich landscapes (Balmford et al., 2009). These enterprises are often promoted as providing important economic opportunities for local communities with related revenue streams considered an

opportunity to offset associated resource costs, contributing to improved livelihoods (Stronza, 2007). However, demands for land access around these resources rich sites is noted as a growing conflict influencing both wildlife conservation and community livelihoods (Fisher and Christopher, 2007; Hansen et al., 2002).

While nature-based tourism developments can provide important economic opportunities, it is not necessarily a substitute for existing rural livelihoods, but a mechanism to diversify activities and stabilize incomes for a subset of households (Mowforth and Munt, 2015). Opportunities may also only be available to a subset of a particular community. Rapid development in these regions can have significant negative impacts on ecosystem services and local populations when land use changes occur at the expense of the

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environment and livelihood needs of a community (reviewed (Xu et al., 2017)). Here, development can become an engine of spatial conflict among community members, where infrastructure and exclusive land use rights create barriers to traditional natural resource access and land use, impacting livelihood elements, particularly of the more vulnerable members of a community. There is an urgent need to increase the involvement of communities in order to ensure that household landscape dependencies can be identified and secured in a balanced manner with other landscape needs before land transformation and ecosystem service provisioning is lost.

A large body of work has focused on the importance of empowering local communities to participate and benefit directly from nature-based tourism (community based tourism, reviewed in (Stone, 2015)). Here, community participation in the land planning process is seen to be a fundamental component of landscape sustainability and social equity (Eizenberg and Jabareen, 2017; Fraser et al., 2006). These considerations are particularly important in landscapes where traditional land ownership and common use practices have historically prevailed and underscore household livelihood strategies (Kalabamu, 2000). In these systems, traditional land access and extended land use rights were reciprocally engaged across households in a community, providing a platform to support the development of diverse livelihood strategies resilient to changing landscape conditions (e.g., drought and wet cycles, household needs, etc.) and varying land suitability (Kalabamu, 2000) reducing household vulnerability. However, in transitioning landscapes, where land reform and land allocation processes replace traditional land control practices, communities can be rapidly separated from essential land areas and associated resources without replacement opportunities, undermining livelihood strategies (Juru, 2012).

Diverse household priorities across a community can, however, be difficult to identify and summarize equitably into the land planning process. These problems are compounded by the complexity of integrating traditional knowledge systems with technology-dominated management processes, a further hurdle to the creation of common knowledge sets of natural capital stocks and landscape needs. So, while inclusive community involvement in tourism, land development, and natural resource planning is pursued ideologically; practically, communities are not positioned to participate and remain bystanders in the process, particularly the impoverished and more vulnerable sectors of a community. These effects may be particularly pronounced when community decisions are focused on profit-making land allocations, such as wildlife-based tourism ventures, where expectations of benefits are an anticipated outcome. Here needs of affected households may be unknown or ignored. Tourism developments (i.e., hotels and lodges) are also often promoted to communities as an income generating “win” for everyone, irrespective of differences in landscape dependencies, vulnerability, and/or likelihood of benefit streams reaching divergent household types. Of critical importance is the concern that power structures within a community will influence the consultation process, potentially subverting concerns of disempowered members. This is of particular concern when livelihood concerns of a minority of households are placed in competition with more lucrative nature-based development opportunities. The challenge here is creating inclusive approaches that identify the diversity of household landscape needs in an inclusive and transparent manner *before* land transformation plans are proposed and agreed.

Participatory land planning approaches have been used extensively to address these types of problems and can provide powerful tools for incorporating communities into the planning process across a myriad of sectors (natural resources, agriculture, public health etc., (Kapiriri et al., 2003; McCall, 2003; Talen, 2000)). The

primary aim in this methodology is to ensure that socially and economically marginalized people are incorporated into decision-making processes that involve them directly (Guijt and Shah, 1998). However, it is also recognized that these approaches may also be compromised in their effectiveness where age, economic status, religious beliefs, caste systems, ethnicity, gender, and other power subverting structures among community members may limit equal participation in the process (Guijt and Shah, 1998). Here, gender is recognized as being particularly important (Guijt and Shah, 1998), with gender inequality a persistent barrier to sustainable development goals across many regions of the world (UNICEF, 2006).

In Northern Botswana, a region rich in natural capital, early development of the tourism industry concentrated along the river front (hotels, lodges, jetties) within the towns of Kasane and Kazungula. Properties were then fenced, blocking river access over much of the region, limiting the ability of local community members to access associated river resources over a large stretch of the river reach. Leases were developed for larger tourism land allocations with the local land authority (Land Boards), but community needs were not specifically incorporated as they were largely unknown. Over time, access to the riverfront in Kasane and Kazungula has continued to diminish, and with it, associated provisioning ecosystem services, causing anger and resentment among households that were once dependent on those resources. Once the developments were in place and consequences realized, little could be done to address these problems. Preventing community conflict is difficult, however, without agreement on the spatial land needs required for agriculture production and natural resource abstraction (i.e., food, fiber, and fuel) among communities; information that is most effectively identified before land transformation is proposed.

With reduced availability of land, focus rapidly transitioned to available areas around communities on the other side of the Chobe National Park, an area termed the Chobe Enclave. While a number of socio-economic studies had been conducted in this region (Ecosurv, 1996; Painter, 1997; SIAPAC, 1992), the spatial attributes and characteristics of household landscape dependencies were inadequately understood and more commonly determined by third parties when land planning or allocation processes were advanced at the community level. Here, we investigate variation in land use dependencies among households in the village of Kazungula, a transitioning urban center, and five villages in the Chobe Enclave and describe an approach for participatory land mapping that is hierarchical in nature (household to community under the control and guidance of traditional leaders). We evaluate the overall utility of this scaled approach in its ability to proactively and inclusively place communities in front of the land-planning process.

2. Materials and methods

2.1. Study site

Botswana is a politically stable, landlocked country located in Southern Africa. It is considered a semi-arid country where only 5% of land area is suitable for agricultural production and 80% considered desert (Republic of Botswana, Central Statistics Office 2000). Tourism is Botswana's second biggest foreign exchange earner after the diamond industry and contributes significantly to Botswana's economy (4.5% GDP) (Mbaiwa, 2005). Botswana's tourism industry is wildlife-based, with 39% of the country utilized for nature-based tourism, predominately focused in Northern Botswana (Jones, 2002). We conducted our study in this region of the country in Chobe District (Fig. 1) and focused on one larger, urban-transitioning village of Kazungula (pop. est. 4113) located

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