Contents lists available at ScienceDirect

Biological Conservation

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journal homepage: www.elsevier.com/locate/biocon

Models for the collaborative management of Africa's protected areas

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ARTICLE INFO

Keywords: Co-management Delegated management Financial-technical support Government Non-profit organisation Public-private partnership

ABSTRACT

Africa's protected areas (PAs) are under severe and growing anthropogenic pressure. Resources for PA management are a small fraction of what is necessary in most countries, and many PAs are failing to fulfil their ecological, economic or social potential as a result. Collaborative management partnerships (CMPs), where nonprofit organisations partner with state wildlife authorities, have the ability to improve PA management by facilitating long-term financial and technical support. While many have demonstrated success, there are barriers to setting up CMPs, including concern among some states that some partnerships may undermine sovereignty or appear an admission of failure. We interviewed 69 experts from state and non-profit partners about 43 PAs covering 473,861 km² in 16 African countries and analysed responses with principle component analysis to identify how partnerships differ, particularly in how they allocate governance and management responsibility. We identified three main CMP organisational structures: 1) delegated management, where a non-profit shares governance responsibility with the state and is delegated full management authority; 2) co-management, where a non-profit shares governance and management responsibility with the state; and 3) financial and technical support (advisory or implementary), where a non-profit assists the state with aspects of management without formal decision-making authority. Delegated models were associated with higher funding than co-management and financial-technical support partnerships, but models did not differ in PA land area size. Our study identifies the strengths and weaknesses of each model and offers recommendations for implementing successful CMPs, many of which are already playing a significant, positive role in conservation.

1. Introduction

Terrestrial and marine protected areas (PAs) represent the "cornerstone" of global conservation efforts (Geldmann et al., 2013; Mascia et al., 2014), and are the basis for some of the most successful global conservation achievements. PAs currently cover 15.4% of the world's land—an area larger than the African continent—and 3.4% of oceans (Juffe-Bignoli et al., 2014). Through the Convention on Biological Diversity, governments worldwide have committed to increasing PA coverage to 17% of terrestrial areas and 10% of marine areas by 2020 (Convention on Biological Diversity, 2010). Achieving that target will require strong multi-stakeholder partnerships to leverage and maintain the necessary political will and financial resources.

Africa's PA networks support the world's highest diversity and abundance of megafauna and as such, host biodiversity of substantial global value (Ripple et al., 2016). Several African nations have been

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https://doi.org/10.1016/j.biocon.2017.11.025

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Received 8 August 2017; Received in revised form 10 November 2017; Accepted 21 November 2017 0006-3207/ © 2017 Elsevier Ltd. All rights reserved.

highly rated on a global index of contributions towards the conservation of megafauna, due in part to the presence of large PA networks within and across countries (Lindsey et al., 2017a). However, Africa's PA network is severely threatened by ineffective management resulting from under-funding and lack of capacity (Lindsey et al., 2017b; Mansourian and Dudley, 2008; Watson et al., 2014). Acute and growing human threats, combined with inadequate financial and human resources, have contributed to widespread, steep declines in wildlife populations (Bouché et al., 2012; Craigie et al., 2010; Lindsey et al., 2014; Struhsaker et al., 2005). Elephant populations have declined significantly in several countries due to intense poaching and inadequate law enforcement, and populations of many other species are being lost due to illegal hunting for bushmeat and other wildlife products (Thouless et al., 2016). In some PAs where substantial funding exists, donor funding is nevertheless not spent effectively due to inefficiency, poor choice of focal projects and corruption (Alcorn et al., 2005; Lindsey et al., 2016; McBride et al., 2007). Donor funding that is allocated in large, non-recurrent, or inconsistent and unpredictable amounts can also fail to deliver lasting improvements in PA management (Lindsey et al., 2016). State (here used interchangeably with 'government') wildlife authorities frequently do not have the capacity to absorb such large, one-off quantities of donor funding effectively, nor the human resources necessary to deliver effective wildlife management (Bewsher et al., 2016; O'Connell et al., 2017).

The establishment of collaborative management partnerships (CMPs) between state wildlife authorities and non-profit organisations (hereafter 'non-profits') have potential to address several of these challenges. Though CMPs have existed for many decades, in recent years their number has increased in parts of Africa (Hatchwell, 2014; Nyirenda and Nkhata, 2013). This proliferation mirrors a global trend towards reduced reliance on state funding and management for PAs, increased participation by stakeholders in PA management and associated changes in legislation (Alcorn et al., 2005; Dearden et al., 2005). Given the wide array of CMPs in existence, a framework would aid in understanding the differences between various partnership models, understanding the tradeoffs between them and ultimately identifying the situations in which each model is most appropriate and likely to succeed. Such a framework, by clarifying the types of CMPs and the language used to describe them, also has potential to address concerns about CMPs that persist among some states, non-profits and sectors of civil society, and that may thereby inhibit CMP establishment and effectiveness (Kunambura, 2017).

Although not all CMPs are with non-profit organisations, for the purposes of this study we focused solely on partnerships between states and non-profits. While there is already a wealth of literature on CMPs between local communities and state authorities (e.g. Borrini-Feyerabend et al., 2013; Carlsson and Berkes, 2005; Koontz, 2016; Lockwood et al., 2012), relatively little attention has been paid to the structure of relationships between states and non-profit partners for PA management (Dearden et al., 2005; Hatchwell, 2014). In order to understand and categorise these CMPs, we focused on two distinct and fundamentally important dimensions of PA decision-making authority: governance and management (Borrini-Feyerabend et al., 2013). Governance arrangements describe who has the power to set overall priorities and strategies, and how such decisions are made. Management, by contrast, involves the practical, day-to-day implementation of governance decisions. Most discussions about CMPs have not clearly distinguished between governance and management authority (Borrini-Feyerabend et al., 2013; Carlsson and Berkes, 2005; Dearden et al., 2005; Sen and Raakjaer Nielsen, 1996). However, whether decisionmaking is shared at a governance or a management level (or both) yields markedly different arrangements with varying implications. As a result, although 'co-management' is now a buzzword in conservation, it can also be a source of confusion since it encompasses a wide variety of governance and management arrangements (Lockwood et al., 2012; Zurba et al., 2012). Similarly, the terms 'public-private-partnership' and

'public-private-community-partnership' are commonly and inconsistently used to describe a broad range of relationships. Establishing a clear typology is essential for understanding the range and implications of different partnership models.

We examined CMPs as they currently exist in Africa with the goal of answering four questions: 1) Do distinct partnership models exist and if so, 2) what are their characteristics? If distinct models do exist, 3) what are the strengths and weaknesses of each, and 4) what are the conditions under which each model might be most successful? We focus our investigation on partnerships between states and non-profits across Africa and discuss the implications of our findings for PA management globally.

2. Methods

We focused on CMPs for the management of state-owned, terrestrial PAs in Africa. We excluded partnership arrangements for community conservation areas and between private companies and wildlife authorities where the primary objective is delivering financial profit (e.g. trophy hunting or photographic tourism). We identified as many PAs as possible in which management decision-making authority for a state PA is formally shared with or delegated to a non-profit partner. We also identified numerous partnerships in which non-profits provide financial and technical support without formally sharing in governance or management decision-making. Because of the abundance of this latter type of PA support, we sampled only a subset of these arrangements. The sample included different types of support spread across different parts of the continent; interviews on this model were ceased when they became repetitive and no longer generated significant new insights. We identified CMPs through networking with professional colleagues in African governments, PA authorities, non-profits and donor sectors, and through reading peer-reviewed literature. We used snowball sampling to exhaustively pursue leads.

2.1. Semi-structured interviews

We conducted semi-structured interviews orally over the phone and, where this was not possible, through written surveys. We interviewed several respondent groups: a) senior officials from state wildlife authorities; b) senior management representatives from non-profits involved in CMPs; c) park level representatives from state wildlife authorities; d) park level representatives from non-profits; and e) independent consultants working in multiple PAs. Between May 1 and October 31, 2016, we interviewed 69 respondents (Appendix A Table S1): 22 participants from state wildlife authorities in 16 countries, 45 participants from 21 non-profits and two independent consultants. Of our non-profit respondents, 17 were from the national and international level and 35 from the PA level (levels were not mutually exclusive since some respondents had experience at both levels). Of the state respondents, 15 were from the national level and seven from the PA level. The two independent consultant respondents worked at an international level. Respondents provided information on CMPs in 43 PAs, encompassing 473,861 km² primarily across southern, central and eastern Africa (Fig. 1, Appendix A Table S2). Most PAs (93%) fell in IUCN Protected Area Categories I through IV.

Respondents were asked open-ended questions about the characteristics, strengths, and weaknesses of CMPs. Questions addressed the following main themes: constraints to effective management of the PA; funding needs of PA; motivation for engaging in CMPs; how the CMP originated; description of CMP structure; legal agreement; likeliness to pursue future CMPs; and lessons learned. We asked respondents to provide answers for specific CMPs with which they had direct experience. Interviews were transcribed and answers coded into categories for analysis. Interview methods were approved in advance by Oxford University's Research Ethics Committee.

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