



## Review

# How do community-based conservation programs in developing countries change human behaviour? A realist synthesis



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## ABSTRACT

Community-based conservation programs often target local communities with the aim of altering their behaviours to achieve conservation outcomes. However, these programs can underestimate the complexities of human behaviour, and hence jeopardize their effectiveness. We applied a realist synthesis to 17 community-based conservation programs in developing countries that quantitatively measured behavioural changes linked to conservation outcomes. A realist synthesis identifies the critical mechanisms operating within a program and the outcome(s) caused by these mechanisms, and also identifies how the context affects these mechanisms. Our synthesis identified three main mechanisms that best explain the reasoning of individuals to engage in conservation behaviours: i) conservation livelihood provides economic value; ii) conservation provides benefits that outweigh losses of curtailing previous behaviour, and iii) giving local authority over resources creates empowerment. The success of each mechanism was affected by various context factors, including the proportion of income generated for the family, capacity to engage in livelihood, cultural acceptability of livelihood and the livelihood being logistically achievable to partake in. Despite conservation education being a common strategy, there was very little evidence provided of the reasoning of individuals and subsequent behaviour changes from education programs. This is the first application of a realist synthesis to community-based conservation programs. The results advance our understanding of the decision-making processes of communities subject to such programs, and highlight how different contexts influence changes in conservation behaviour. Future reporting of behavioural outcomes and the associated reasoning of individuals and communities to engage, as well as the relevant contextual data, is required for more informed and effective design of community-based conservation programs.

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## 1. Introduction

Community-based conservation (CBC) aims to simultaneously achieve development and conservation goals, therefore meeting the objectives of both local communities and conservationists (Berkes, 2004). CBC programs utilize various strategies to engage with local communities and encourage participation, in order to achieve desired conservation goals. Examples include linking conservation and human development goals, creating socio-economic incentives for conservation and giving communities control over local natural resources (Brooks et al., 2012). Incentives to change behaviour can be created when the benefits of conservation outweigh the costs (e.g., Butler and Marshall, 1996; Campbell et al., 1996; Butler, 2000; Salafsky and Wollenberg, 2000; Wood et al., 2013). However, while some programs have succeeded in favourably changing individual and community behaviour towards conservation (Bajracharya et al., 2005; Cranford and Mourato, 2011), many others have failed (Lewis and Phiri, 1998; Waylen et al., 2009; Sommerville et al., 2010). Programs often underestimate the complex nature of human behaviour and the social and

cultural contexts which often determine outcomes (Knight et al., 2010; Rands et al., 2010; Waylen et al., 2010).

Whether explicit or implicit, the premise behind community-based conservation programs is that changing human behaviour is often a prerequisite to achieving desired conservation outcomes. However, informed strategies to change behaviour are often overlooked in the program design, implementation and management. Evaluating how past programs have successfully or unsuccessfully influenced human behaviour in varying contexts could improve these strategies, but behavioural outcomes are not often measured both explicitly and quantitatively in program evaluations (Brooks et al., 2013), which makes large-scale reviews difficult.

Despite the long history of community-based conservation programs, there have been few reviews of the determinants of success or failure (Kothari et al., 2013). A review of incentive-based conservation programs (Spiteri and Nepal, 2006) found problems in identifying target beneficiaries and program sustainability. Roe (2008), in a conservation-poverty review, concluded that climate change could be a catalyst for bringing together conservation and development communities due

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