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Exploring stakeholder perceptions of conservation outcomes from alternative income generating activities in Tanzanian villages adjacent to Eastern Arc Mountain forests

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ABSTRACT

Critical evaluation of the impact of conservation actions is essential to meet the challenges posed by the biodiversity crisis. Conservationists need to understand which interventions work or fail, and how to improve them in order to invest limited funds wisely. Alternative income-generating activities (IGAs) are widely implemented within conservation and development projects, but their impact is rarely evaluated. The "ranked outcomes" evaluation methodology converts qualitative information on planned and realised outcomes into a score for comparison between projects. We test this methodology in two ways using a set of small scale IGAs implemented in communities adjacent to the Uzungwa Scarp proposed Nature Reserve in the Tanzanian Eastern Arc Mountains. The first approach used an independent evaluator and the second assessed project impacts from the perspective of target communities. Both evaluations rated Tree Planting as the most socially beneficial IGA, followed by Fish Farming. However, there was a high level of heterogeneity of perception between and within stakeholder groups (implementers and target communities), both in terms of which outcomes were most important and how well they had been achieved. Ranked outcomes emerged as a flexible framework that defines the terms of the evaluation for all stakeholders from the outset, even in cases when evaluation and clear goal-setting are omitted from original project design and planning. It can be modified for use as a component of rigorous impact assessment, to incorporate perspectives of all stakeholders, and provides important insights in data-poor situations and where baselines are not available.

1. Introduction

Evaluation of conservation projects has become a focal issue for policy makers at the macro level, with the Convention on Biological Diversity (CBD) driving the agenda (Mascia et al., 2014). At a micro level, conservation practitioners have limited budgets and there is both a moral duty to spend money wisely and a practical need to do so cost effectively (James et al., 1999). Rigorous, evidence-based analysis is a pre-requisite to demonstrating that progress in conservation is being made (Sutherland et al., 2004) and also to validate that the strategies being deployed to achieve conservation goals are appropriate and do not have unintended consequences for people living in the area (Ferraro and Pattanayak, 2006); indeed a natural extension of this is involving communities affected by an intervention in the process of the evaluation itself.

In spite of its importance, it is widely accepted that evaluation has been under-utilised in conservation (Stem et al., 2005; Mascia et al., 2014). In one of the few published analyses of the determinants of project success, a meta-analysis of 136 published evaluations concluded that project design is particularly important for the success of community-based conservation projects (Brooks et al., 2012). In the last decade, a growing number of organisations have published best practice frameworks to address this critical need for effective project design and evaluation. Examples include IUCN's Framework for evaluating Protected Area effectiveness (Hockings et al., 2006) and the GEF's Monitoring and Evaluation

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Policy (GEF, 2010). In addition, conservation NGOs have published their own guidance, such as The Nature Conservancy's "Five – S Framework for site conservation" (TNC, 2000). Moreover, support tools are being developed by academic groups, for example the Cambridge Conservation Forum Conservation Evaluation Tool (Kapos et al., 2008) and the Ranked Outcomes approach (Howe and Milner-Gulland, 2012). Common features of these frameworks and tools include a focus on "outcomes" (the change resulting from an intervention) as well as "inputs" (what resources were expended), "activity" (how were they expended) and "outputs" (what was delivered; Cambridge Conservation Forum Measures of Success Project). The variety of frameworks available presents practitioners with a new challenge – which of the available approaches will best suit their particular project's need to return reliable and informative results, cost-effectively, as part of their ongoing programmes?

Despite the policy-level commitment to evaluation and the development of various evaluation tools, conservation organisations, governments and development agencies worldwide are still implementing numerous local-scale interventions without strong evidence for whether, where, or under what conditions these approaches are effective. Furthermore, local-scale evaluations are still not standard practice, and some types of intervention are implemented with only blind faith that they are working. In particular, there is a lack of evaluation of the effectiveness of alternative livelihoods or alternative income-generating activities (IGAs) as a conservation strategy (Wicander et al., 2014).

The logic of IGAs, which are very widely implemented in the developing world, often by local NGOs with limited capacity (Wicander et al., 2014), is that providing small scale local activities that focus on certain types of income generation activity, such as tree planting and small animal husbandry, will give local people the resources they need and hence reduce their need to go into protected areas to harvest resources. The lack of evidence for the effectiveness of alternative livelihoods was noted as a concern at the 2012 IUCN World Conservation Congress, where a resolution was passed that called for evidence to be gathered urgently on these kinds of interventions. In response, an evidence-gathering exercise from existing literature has been launched (Roe et al., 2014). However, Wicander et al. (2014) warn that post hoc meta-analyses are unlikely to succeed, given the poor evidence base which currently exists.

The impacts of most conservation-focussed IGA interventions are hard to evaluate because of their complex nature, small scale and case-specific outcomes. Perceptions of project success, particularly in terms of the social components, are inevitably subjective and dependent on the perspective of the person being asked. Post-hoc evaluation is generally based on academic publications, project reports or questionnaires aimed at project managers (e.g. Brooks et al., 2012; Wicander and Coad, 2014; Roe et al., 2014). However, managers' perspectives on what constitutes success, and on whether projects have fulfilled their goals, may well differ from the perspectives of the people targeted by the projects. These issues call for flexible evaluation frameworks which are inclusive of a range of stakeholders, including both the staff of the implementing organisation and the target communities. When interventions are implemented in developing countries, and particularly by local NGOs, there is also a need for low-tech, relatively simple but robust approaches that can be implemented without high level statistical skills and which can incorporate both quantitative and qualitative assessment of project outcomes. Frameworks that can use retrospectively gathered materials, including project reports, are also more likely to be adopted.

When considering which evaluation approaches can be used in a particular situation, a key question is why that evaluation is needed. Evaluations can be used to build an evidence-base to guide future conservation interventions (e.g. Brooks et al., 2012; Roe et al., 2014). They can also be aimed at donors or internal priority-setters, in which case there may be a need to calculate a return on investment (Murdoch et al., 2007), or the quantitative effect size of the impact of the intervention on some metric of poverty or biodiversity loss (e.g. Clements and Milner-Gulland, 2015). These two needs are best met by rigorous, externally-valid evaluations which may be costly in both time and technical expertise. Alternatively, an organisation may require an evaluation of project outcomes to date, in order to guide learning and adaptive management (Jenks et al., 2010). It may be more important that this type of evaluation is internally valid (i.e. rings true to those involved in the intervention) than that it generates externally-valid results, as this makes it more likely to highlight areas in which changes could be implemented to improve project performance in the future.

Here, we explore the potential of a recently published evaluative approach, the Ranked Outcomes (RO) method (Howe and Milner-Gulland, 2012). This novel approach was selected for its apparent, although as yet untested, ability to provide a structured framework for guiding the adaptive management of conservation interventions in a low capacity setting. The approach enables the post hoc evaluation of the outcomes of individual projects within a portfolio with over-arching objectives. It translates qualitative statements about hoped-for, or achieved, outcomes at the portfolio level into quantitative scores reflecting the success of individual projects within the portfolio towards meeting these objectives. It may be particularly valuable when objectives are poorly defined, or the assessor wishes to include outcomes which were unanticipated when the projects were initiated. It is also potentially helpful for outcomes which cannot easily be expressed in quantitative terms or are not easily comparable with a single metric. The method was developed for the evaluation of qualitative statements about diverse outcomes achieved by projects funded within the portfolio of the UK Government's Darwin Initiative, contained in final reports by project leaders; Howe and Milner-Gulland (2012) demonstrated that the approach compared well to two less flexible approaches (Threat Reduction Assessment, Salafsky and Margoluis (1999); and scoring of quantitative outputs).

We explore the potential of the RO method using a portfolio of projects funded by a Tanzanian conservation funding organisation, the Eastern Arc Mountains Conservation Endowment Fund (EAMCEF; www.easternarc.or.tz) in the Kilolo district of Iringa region in the Southern highlands of Tanzania, adjacent to the Uzungwa Scarp proposed Nature Reserve (USpNR). In order to address the critical need for conservation evaluations to hear the perspectives of the people targeted by IGA-type projects, we modified and extended the framework to gather the views of local villagers as well as those of project implementers. We then used the approach to carry out a preliminary evaluation of EAMCEF's interventions in four villages and make initial recommendations to EAMCEF. We end with an assessment of the general applicability of the method to project evaluation within conservation and recommendations for improvement of the method in future applications.

2. Methods

2.1. Study site

Uzungwa Scarp proposed Nature Reserve (USpNR) is a central government-managed forest reserve that is in the process of being upgraded to the status of Nature Reserve. It is located within the Eastern Arc Mountains and is one of the most important sites for biodiversity in that globally recognised centre of endemism (Burgess et al., 2007; Rovero et al., 2014). The reserve is surrounded by eight villages (Tanzanian national census data, 2012). Monitoring between 1998 and 2008 identified that biodiversity