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The potential of the Global Person Generated Index for evaluating the perceived impacts of conservation interventions on subjective well-being

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ABSTRACT

There is growing interest in the importance of ensuring that biodiversity conservation is not achieved at the expense of local people's well-being. It has been suggested that when evaluating the impact of an intervention, the affected population should be allowed to define well-being (requiring a subjective measure), and impacts (requiring a participatory approach), but very few, if any, conservation evaluations live up to these standards. We used a participatory impact evaluation approach with the Global Person Generated Index (GPGI) to investigate the relative impacts of strict protection and community forest management on local well-being in Madagascar's rainforests. The GPGI captures the subjective and multidimensional nature of well-being by asking respondents to identify the five most important domains for their quality of life, to evaluate their own performance in each domain, and the relative importance of the five identified domains. Participatory impact evaluation establishes local perceptions of the cause-effect relationship between an intervention and respondents' performance in each domain. Over half the respondents perceived no positive or negative impacts from the conservation interventions. We found no significant difference between strict protection and community forest management in the measures we used to examine the magnitude of their relative impacts, but there were differences in the characteristics of domains impacted and in the priority domains that could be targeted to improve well-being in locally meaningful ways. Because of its subjectivity, the GPGI cannot provide quantitative information on the magnitude of impacts. Its strength lies in the wealth of information it provides on what life domains people value and their performance in these domains. Combined with the participatory impact evaluation approach, the GPGI provides highly relevant insights that can be used to improve interventions in ways which increase the local legitimacy and acceptability of conservation initiatives.

1. Introduction

Debate surrounds how best to conserve biodiversity while avoiding negative impacts of conservation on the well-being of local communities, who are often poor and politically marginalized (Brockington & Wilkie, 2015). Consideration and understanding of the well-being impacts of conservation interventions matters for ethical reasons, as project implementers are morally responsible for ensuring that conservation interventions do not undermine the rights and livelihoods of local communities (Hutton, Adams, & Murombedzi, 2005), and because negative impacts on well-being will erode local support and therefore jeopardize conservation success (Adams & Hulme, 2001; Woodhouse et al., 2015). Increasingly international funding for conservation is explicitly linked with development spending and has both poverty alleviation and biodiversity conservation goals (Milder, Hart, Dobie, Minai, & Zaleski, 2014; Miller, 2014). The majority of studies evaluating the well-being impacts of conservation interventions use a relatively narrow range of externally defined and objective indicators dominated by income or its proxies. While these indicators are valuable for providing credible evidence to external stakeholders, they fail to capture the complex and multidimensional nature of well-being, may miss impacts significant to local communities, and therefore lead to conservation responses unfit for local realities (Dawson, Martin, & Danielsen, 2018; Woodhouse et al., 2015). There have been recent calls for putting local people at the center of evaluation studies and a more holistic approach to

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studying human well-being in the conservation community (King, Renó, & Novo, 2014; Milner-Gulland et al., 2014; Woodhouse et al., 2015). These calls have been accompanied by methodological guidelines, but empirical studies are rare.

Putting local people at the center of impact evaluation involves letting them define well-being (Woodhouse et al., 2015). Subjective well-being is a multi-dimensional concept reflecting people's own assessment of their lives and the circumstances under which they live (Diener, 2006). Putting local people at the center of impact evaluation involves also letting them define impacts. A crucial issue in evaluating well-being impacts of conservation interventions is how impacts can be attributed to the intervention rather than other confounding factors (Ferraro & Pattanayak, 2006). The participatory approach to impact evaluation involves asking local people directly about their perception of the cause and effect relationship between the intervention and their well-being (Woodhouse et al., 2015). Although subjective well-being and local perceptions can be influenced by the respondents' mood, orientation, cultural norms, and by timing (Camfield & Skevington, 2008), locally perceived well-being impacts are important because they represent people's perspectives on their own circumstances. Such information is valuable because it may predict likely support, or lack of support, for conservation from the local community (Bennett, 2016; Woodhouse et al., 2015).

The Global Person Generated Index (GPGI; Martin, Camfield, & Ruta, 2010) can be used to assess subjective and multidimensional aspects of human well-being. The GPGI collects information about individual's quality of life. Subjective well-being and quality of life are synonymous concepts (Camfield & Skevington, 2008); thus, the GPGI can be used to assess subjective well-being (Britton & Coulthard, 2013). It was developed from the closely related instrument the Patient Generated Index, which has been extensively used to assess health-related quality of life (Camfield & Ruta, 2007). Both instruments define quality of life as the measure of "the difference, or the gap, at a particular period of time, between the hopes and expectations of the individual and that individual's present experiences" (Calman, 1984, p. 124). The GPGI is "global" in that it is not specifically related to any particular quality of life domain (e.g., health) but captures the multiple dimensions of well-being (Martin, Rodham, Camfield, & Ruta, 2010). It is "person generated" because it permits an individual to select, rate and weigh the relative importance of domains that matter most for his or her quality of life rather than just selecting from a predefined list of domains that may miss case-specific domains (Britton & Coulthard, 2013; Camfield & Ruta, 2007). The GPGI has been used and validated in many developing countries including Bangladesh, Thailand, Ethiopia, Sri Lanka and Uganda, and in contexts ranging from the social and cultural construction of well-being to the exploration of the quality of life of HIV patients (Camfield & Ruta, 2007; Jayasinghe, De Silva, & De Silva, 2015; Martin et al., 2010; Mutabazi-Mwesigire, Katamba, Martin, Seeley, & Wu, 2015). The GPGI is among the tools in the framework developed by the Wellbeing in Developing Countries project (McGregor, Camfield, & Woodcock, 2009) and there have been recent calls to extend the use of the framework for evaluating and tracking well-being impacts of conservation interventions (King et al., 2014; Milner-Gulland et al., 2014; Woodhouse et al., 2015). However, despite these recent calls, to our knowledge, there has been no study that uses the GPGI, or any of the Wellbeing in Developing Countries framework tools more generally, in the context of conservation in developing countries. We also know of only one study (Raboanarielina, 2011) that uses explicit measures of quality of life in relation to conservation.

The principle that protected areas should not harm local people was adopted at the World's Park Congress in 2003 (Pullin et al., 2013), but injustices towards local communities such as eviction, restricted access to sources of livelihoods, and social and cultural disruption due to the establishment of protected areas remain a concern (Brockington & Wilkie, 2015; Poudyal et al., 2016; Snodgrass, Upadhyay, Debnath, & Lacy, 2016). In the last few decades, conservation efforts have increasingly shifted towards community conservation approaches (such as community forest management, CFM) which are explicitly designed to be more locally inclusive and to have more positive impacts on local well-being (Adams & Hulme, 2001; Hutton et al., 2005). However, the relative well-being impacts of CFM and protected areas (particularly strictly protected areas, which CFM has attempted to replace or complement), and comparison of well-being impacts of different conservation approaches more generally are not well considered in the literature (Brockington & Wilkie, 2015). Such evidence is important to directly determine whether CFM has indeed addressed the potential negative well-being impacts of strictly protected areas.

With 78% of its population living below the international poverty line of US$ 1.90 per person per day, Madagascar is one of the poorest countries on earth (World Bank, 2016). Over 70% of the island's population live in rural areas, depending directly on natural resources (e.g., agriculture and pastoral lands, forest resources) for mainly subsistence livelihoods (Scales, 2012). The use of natural resources is also deeply entangled with aspects of Malagasy culture and tradition (Osterhoudt, 2017; Rakotonarivo, Bredahl Jacobsen, Poudyal, Rasoamanana, & Hockley, 2018). For example, most Malagasy people see their lands as possessions endowed to them by their ancestors, who, though dead, stay in contact with their living descendants according to Malagasy belief. Many rural Malagasy believe that following traditional land use practices and taboos helps them maintain positive relations with their ancestors, who in return bless both the land and people (Evers & Seagle, 2012). Swidden agriculture is seen by many as a key part of ethnic identity. Trees and forests are central parts of many rituals connecting the livings and their ancestors (Scales, 2012).

Madagascar is known worldwide for its exceptionally rich and unique forest biodiversity (Brooks et al., 2006). Faced with a high degree of threats to its natural forest habitats, the island country has attempted a range of conservation approaches. Establishing its first protected area in 1927 (Raik, 2007), Madagascar has over 61,000 km^2 of its land under some form of protection, covering over 10% of the country's total land area (Alvarado et al., 2015). The last two decades have also seen a rapid expansion of CFM across Madagascar with over 1000 sites covering more than 30,000 km^2 of land in 2014 or about 15% of the country's natural forests (Rasolofoson et al., 2017). Given the close relationships between natural resources, livelihoods, culture and tradition, these conservation initiatives could have repercussions on multiple dimensions of local people's well-being (Rakotonarivo et al., 2017). A number of studies have investigated the impacts of protected areas and CFM on human well-being in Madagascar (Ferraro, 2002; Raboanarielina, 2011; Rasolofoson et al., 2017; Sommerville, Jones, Rahajaharison, & Milner-Gulland, 2010). However, very few of these studies explore the multidimensional nature of well-being, and none directly compare strictly protected areas and CFM.

We use the GPGI and participatory impact evaluation to compare the perceived impacts of a strictly protected area and CFM on people's subjective well-being in the eastern rain forests of Madagascar. First, we explore the validity of the GPGI for our particular case study. Validation of the GPGI is not the main goal of this study as this has been done elsewhere (Camfield & Ruta, 2007; Martin et al., 2010). However, as this is the first time the GPGI is used in relation to forest conservation in difficult to access rural forest communities, we perform a brief validation of the tool.