



Tourist preferences for ecotourism in rural communities adjacent to Kruger National Park: A choice experiment approach

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ABSTRACT

This paper analyses the potential for development of ecotourism in rural communities adjacent to Kruger National Park (KNP) in South Africa. We determine preferences of tourists, according to origin and income levels, for ecotourism and their marginal willingness to pay (MWTP) for three ecotourism attributes: village accommodation, village tours and visits to crafts markets. Data were collected from 319 tourists through choice experiments, and analyzed using a conditional probit model. Findings indicate reluctance on the part of all tourists to use accommodation facilities outside KNP, but interest to purchase village tours and visit village-based craft markets. MWTP was negative for accommodation for all income groups, but positive for village tours and crafts markets. Among international and high income groups of tourists, tourists were willing to pay much higher fees than proposed by communities. These findings suggest the potential for development of some limited ecotourism services in villages adjacent to KNP.

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1. Introduction

The concept of ecotourism and its implementation in the tourism industry has raised interest and debates on international fora such as the 2002 World Ecotourism Summit held in Quebec, the 2002 World Summit on Sustainable Development held in Johannesburg, and the Global Ecotourism Conference 2007 of Oslo. Although the potential of ecotourism to contribute towards poverty alleviation, biodiversity conservation, and employment creation has been acknowledged (Fennell, 2001; World Ecotourism Summit, 2002), the challenge remains in finding ways to implement ecotourism in a manner that jointly addresses these issues.

The key principles of ecotourism as laid out in the Quebec Declaration on Ecotourism (World Ecotourism Summit, 2002) are (i) active contribution to cultural and natural heritage; (ii) inclusion of local and native communities in the planning of ecotourism and a contribution to their well-being; (iii) visitors are familiarized with the cultural and natural heritage of the places they visit; (iv) better independent travelers and organized tours of small-sized groups. It

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has been argued that ecotourism has comparative advantage as a driver for rural development because it tends to occur in peripheral and non-industrialized or rural regions, where opportunities for expanding the economy can be realized at a relatively low cost (Boo, 1990). The involvement of local communities in ecotourism can also improve their attitudes towards conservation. Controversy exists, however, over the meaning of the concept, its operationalization (Fennell, 2001; Weaver & Lawton, 2007) and its potential to yield socio-economic benefits for rural communities (Isaacs, 2000; Wunder, 2000).

Operationalization of ecotourism that promotes the goals of contributing to nature conservation and rural development, requires that rural communities and managers of protected areas have information on the tourist preferences for ecotourism, its attributes and economic potential (Hearne & Salinas, 2002). From an economic perspective, demand and supply side considerations are also important. The success of ecotourism hinges on the extent to which local communities are willing and able to be involved, in the planning and implementation of ecotourism projects (Munthali, 2007; Spenceley, 2006). At the same time, the preferences of tourists for specific ecotourism activities and their willingness to pay for the ecotourism goods and services that communities supply are also important.

There is no consensus on the exact definition of ecotourism in literature (Weaver & Lawton, 2007), and there is a lack of information on tourist preferences for ecotourism and how it can be

operationalized in local communities. Lack of capacity for business development in the local communities and limited information on possible ecotourism businesses have been identified as problems limiting the potential of ecotourism (Munthali, 2007; Spenceley, Dzingirai, & Tangawamira, 2008) around protected areas in Southern Africa. A study conducted by Mabunda (2004), also indicated that although rural communities adjacent to the Kruger National Park (KNP) in South Africa were interested in sharing their cultural heritage with the tourists, the park management framework did not enable them to do so. Mabunda (2004) also highlights the need for research that investigates tourists' experiences and expectations in and around the KNP.

The main aim of this study is to analyze tourist preferences for ecotourism and their willingness to pay for ecotourism activities in rural communities adjacent to the KNP in the Greater Limpopo Transfrontier Conservation Area (GLTFCA). In addition the study examines the opinions of tourists regarding the relationship between ecotourism and rural development. There are plans at local, municipal and transfrontier levels to develop ecotourism in rural communities through investment in tourist accommodation facilities of various types and promotion of cultural tourism (Joint Management Plan Working Group, 2001; Mhinga, n.d.; Thulamela Local Municipality, 2009). We provide answers to two questions. First, what sort of ecotourism goods and services are tourists interested in? And second, how much are tourists willing to pay for these services? To enable a better understanding of tourism preferences we distinguish between tourist nationality and income groups as preferences have been shown elsewhere to be heterogeneous between international and local tourists, and also between different income groups (Hearne & Santos, 2005; Kepe, 2001; Weaver & Lawton, 2007).

Our paper makes the following contributions to the literature. First, it adds to the limited amount of non-market valuation studies on ecotourism in sub-Saharan Africa by means of choice experiments which is a relatively new technique in this field of study. Second, our study contributes to the debate on the extent to which ecotourism can yield socio-economic benefits for rural communities. As such, the study describes a case study that provides information that can assist managers of protected areas, local level planners, entrepreneurs and rural communities in decision making processes and development of ecotourism in the GLTFCA.

1.1. Ecotourism in the Greater Limpopo Transfrontier Conservation Area

Transfrontier Conservation Areas (TFCAs) encompass one or more protected areas which cross frontiers between two or more countries. The GLTFCA was established in 2000 and straddles Zimbabwe, Mozambique and South Africa. In South Africa the GLTFCA encompasses the Kruger National Park, private game reserves and rural communities adjacent to the KNP (see Fig. 1). In the GLTFCA, it is envisaged that communities residing on the borders of the park will be able to engage in ecotourism which is seen as a bridge between nature conservation and rural economic development. Ecotourism's main attraction lies in its potential to provide complementary or alternative solutions to problems of low incomes, high unemployment and limited economic opportunities for rural communities within the GLTFCA whilst ensuring sustainability of wildlife conservation (Joint Management Plan Working Group, 2001; Munthali, 2007).

The KNP, which attracts over a million tourists per year, has in recent years made a concerted effort through its People and Conservation Division to contribute towards the socio-economic development of communities in and bordering the park (South Africa National Parks, 2008). Past studies by Spenceley (2006)

and Spenceley et al. (2008) in the GLTFCA and KNP have noted that efforts to shift to conservation approaches that benefit local people have only resulted in a few community members being employed in existing and upcoming private tourism facilities, without proper empowerment of rural communities and creation of sustainable economic opportunities to enable them to benefit more from tourism.

Some of the rural communities interested in starting ecotourism projects, but lacking information on tourist preferences or possible ecotourism projects, are situated on the northern borders of the KNP, near Shingwedzi and Punda Maria camps (Fig. 1). The communities fall under the jurisdiction of Mhinga Traditional Authority and are amongst those least developed in terms of opportunities for employment and tourism related businesses, and would benefit from viable ecotourism development. This study investigates possible ecotourism development on this remote side of the KNP using choice modeling approaches.

2. Theoretical background of the choice modeling approach

Microeconomic foundations for choice models derive from Lancasterian consumer theory (Lancaster, 1966) which postulates that a consumer derives utility not from the good itself but from attributes of the good that cannot be purchased independently. These attributes can in turn take on different levels, and by varying these attributes and their combinations it is possible to create different goods from which a consumer chooses (Hanley, Mourato, & Wright, 2001). Econometric representation of consumer choices in non-market evaluation and marketing studies is most commonly done through random utility theory which can be used to model multinomial choices where there is no ordering in the alternatives.

To illustrate the basic model behind choice experiments, consider a tourist's choice for a trip from a set of different possible ecotourism trips. Suppose that each trip (j) consists of K different attributes, which among others include the location of accommodation, the price of the trip, and the possible inclusion of a village tour. Each of these attributes can take on different levels. Assuming that the utility that the tourist derives from trip j is a function of the trip's attributes (i.e., $U_{ij} = U_i(\mathbf{X}_j)$, where \mathbf{X}_j is a $K \times 1$ vector of attributes), and the tourist can choose from a set of J trips, then he or she will choose trip 1 if it gives the highest utility of all available trips:

$$U_i(\mathbf{X}_1) \geq U_i(\mathbf{X}_j) \quad \forall j \in J \quad (1)$$

Random utility theory assumes that U_i can be divided into a deterministic component (V_{ij}) and a non-deterministic component (ε_{ij}). The non-deterministic component follows a pre-determined distribution and is due to unobservable characteristics (Manski, 1977). Accordingly, the utility (U_{ij}) derived by tourist i from trip j is expressed as:

$$U_{ij} = V_i(\mathbf{X}_j) + \varepsilon_{ij} \quad (2)$$

Under these assumptions, the probability of individual i choosing alternative 1 over all other alternatives in choice set J is equal to:

$$V_i(\mathbf{X}_1) + \varepsilon_{i1} \geq V_i(\mathbf{X}_j) + \varepsilon_{ij} \Rightarrow V_i(\mathbf{X}_1) - V_i(\mathbf{X}_j) \geq \varepsilon_{ij} - \varepsilon_{i1} \quad (3)$$

The exact estimation method used depends on the assumptions made regarding the probability distribution of ε_{ij} . If ε_{ij} can be assumed to be independently and identically distributed, and to follow a Weibull distribution (Greene, 2003), one can use the conditional logit model. In this model the conditional probability of alternative 1 being selected out of a set of alternatives from set J is specified as:

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