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The dual nature of parks: attitudes of neighbouring communities towards Kruger National Park, South Africa

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SUMMARY

The attitudes of neighbouring communities towards protected areas are increasingly being considered in the establishment and management of national parks. In South Africa, more inclusive policies have been introduced which seek to involve neighbouring communities in policy formulation and management of Kruger National Park (KNP). This paper examines the attitudes of 38 communities towards KNP along its western border. A random survey of 240 households was conducted to assess attitudes towards the Park, and what factors might influence them. Attitudes were measured by responses to 12 related questions, which were transformed to construct an attitude index. Attitudes are more varied than previously reported. Notwithstanding KNP outreach programmes, many respondents had had no interaction with KNP, 72.9% had never been in the Park, and only 32.1% claimed they knew of KNP's activities. Having a household member employed by KNP, age and *de jure* Traditional Authority affiliation influenced more positive attitudes toward KNP. Negative attitudes were primarily linked with problems associated with damage-causing animals, including inadequate maintenance of the KNP border fence, poor animal control outside KNP and lack of compensation for affected farmers. These findings on relationships between KNP and its neighbours are relevant for many protected areas in similar contexts elsewhere.

Keywords: attitudes, conservation policies, damage causing animals, Kruger National Park, park-people relationship, protected areas

INTRODUCTION

Communities whose livelihoods chiefly involve the direct exploitation of local natural resources often come into conflict with the institutions of protected areas, which are primarily designated for natural resource conservation or preservation. Many scholars and managers now question the traditional top-down approach of excluding local participation and ignoring local interests in protected area (PA) establishment and management (Kiss 1990; Rihoy 1995). Greater participatory planning is believed to enhance local support for biodiversity conservation goals of PAs (MacKinnon *et al.* 1986; Happold 1995; Heinen 1996). It is also believed that sustainable use of certain PA resources and/or PA outreach programmes will contribute to rural development, especially in underdeveloped countries, and decrease conflicts between local people and park authorities by improving attitudes and altering behaviour (Studsrod & Wegge 1995; Hulme & Murphee 2001; Manfredo *et al.* 2004). However, although the theoretical connection between beliefs and attitudes is relatively well established, the subsequent link between attitudes and behaviour has not been well demonstrated (McKenzie-Mohr *et al.* 1995; Aipanjiguly & Jacobson 2002). Moreover, efforts in different parts of the world to integrate biodiversity conservation and rural development objectives have had mixed results (Alpert 1996; Brandon *et al.* 1998; Newmark & Hough 2000; Hughes & Flintan 2001; Barrett *et al.* 2005; Wang *et al.* 2006). These evaluative studies have shown that synergies between the two do not always occur, they are not a panacea, and must more fully incorporate local conditions and expectations in their design and implementation if they ever hope to succeed. For PA managers, detailed knowledge of the people whose lives are affected by the establishment and management of parks can be as important as information about the flora and fauna to be conserved (Veech 2003).

Prior to 1994, as in other parts of southern Africa, the familiar approach to proclaiming PAs in South Africa was to remove (often forcefully) resident rural people and relocate them elsewhere without adequate compensation (Callimanopulos 1984; Volkman 1986; Lahiff 1997; Campbell & Shackleton 2001). These and other neighbouring communities were then customarily deprived of access to PAs, any participation or input in their management, or any share of their benefits (Khan 1994; Magome & Collinson 1998). The result was that, despite successes gained in conserving biodiversity by producing South Africa's extensive PA network, in the process much human misery and hostile attitudes towards PAs resulted (SANP [South African National Parks] 2000). However, since the democratic elections of 1994, the National Parks Board (NPB), whose name changed in 1997 to South African National Parks (SANP), has undergone major changes with regard to philosophy, policy and organizational structure to reflect the new political, economic and social realities of South Africa as underpinned by the new Constitution. In addition to core objectives of conserving biodiversity and maintaining landscapes, new park management policy

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has moved towards integrating the socioeconomic needs of neighbouring communities.

Policy shifts in SANP towards integrating wildlife conservation concerns with the socioeconomic needs of neighbouring rural communities has been realized in part by the establishment of the Social Ecology Department in 1994. Social ecology is central to the SANP's new vision and is described in its 1998 Corporate Plan as: '. . . a strategy and process that conveys the philosophy and approach of the SANP to neighbouring communities and establishes mutually beneficial dialogues and partnerships with these communities. The process ensures that the views of the community are taken into account to the largest possible extent and are acted upon, that the Parks' existence is a direct benefit to neighbouring communities and that, in turn, communities adjacent to Parks welcome the conservation efforts of the SANP' (SANP 2000, p. 20).

According to SANP (2000), social ecology comprises five major functions: community facilitation; economic empowerment; environmental education; cultural resource heritage management; and research and monitoring. Thus, social ecology's overarching role is to educate, economically empower and encourage park neighbours and land users to embrace and support SANP objectives. However, there is widespread belief that emerging policy shifts have yielded minimal benefits to communities, and concrete progress in rural development has remained tentative (Tapela & Omara-Ojungu 1999; Emerton 2001; Maharaj 2005). This may be due to worsening financial constraints in SANP, as the capacity of the Social Ecology Department was downscaled in 2001 under Operation Prevail, which sought to keep the organization from going into liquidation (Moore & van Damme 2002).

Concomitant with these changes, Kruger National Park (KNP), the flagship of SANP, established its own Social Ecology Program, which currently facilitates seven participatory communication structures with the Park's neighbours and affected communities, which consist of about 120 villages and private game farms with an estimated total human population of 1.5 million (SANP 2000). The Hlanganani Forum (representing 27 villages), in whose jurisdiction this study falls, was initiated in 1994, and meets monthly to strengthen park-neighbour relationships by, *inter alia*, engaging in dialogue of concern to the communities such as wildlife depredation on crops and livestock, foot-and-mouth disease, ways to bring about socioeconomic development in the communities and land claims (Anthony 2006).

Studies on attitudes towards conservation and park-people relationships are increasingly being used to inform PA managers about stakeholder interests. Although attitudes towards PAs have been examined elsewhere in South Africa (Infield 1988), surprisingly few empirical studies have been conducted involving KNP's neighbouring communities. Els (1995) compared the value judgements of black KNP personnel, on the KNP and nature conservation, with those in the neighbouring rural areas in the Bushbuckridge region (south of this research's study area) and found no significant difference between them. He concluded that value judgements of adjacent rural communities regarding the value and function of KNP are predominantly negative, in part because of the widespread belief that KNP cares more for wild animals than for people. More recently, a non-random survey of 49 villages adjacent to KNP was conducted to measure the level of community awareness, attitudes and perceptions regarding the park's activities (Mabunda 2004). This study found, in contrast to Els' (1995) findings and other published works (Carruthers 1995; Cock & Fig 2000; Pollard *et al.* 2003), that attitudes and perceptions toward the KNP were, in fact, largely positive.

This study seeks to complement the findings of Els (1995) and Mabunda (2004), by explaining probable proximate factors which influence attitudes towards the Park, and contribute to the wider discourse on the function and effectiveness of state-led community outreach programmes in influencing attitudes towards PAs. Studies of this nature are valuable for a number of reasons. Firstly, they can disclose whether strong attitudes exist towards conservation and/or a PA which, in some cases, may explain behaviour (Lepp & Holland 2006). Secondly, they can inform PA managers and policy makers which factors influence attitudes, thereby assisting in prioritizing avenues for action. Finally, attitudinal studies can reveal opportunities to improve relationships and outreach programmes with neighbouring communities. This holds true not only for KNP's interactions with its neighbours, but also for PAs in similar contexts elsewhere.

METHODS

Study area

The KNP, situated in the north-eastern section of the Republic of South Africa (Fig. 1), is approximately 350 km from north to south, averaging 60 km in width, and covers nearly two million hectares (Mabunda *et al.* 2003). Established in 1926, KNP is unrivalled among South Africa's 21 national parks, being home to an unparalleled diversity of wildlife and maintained by one of the world's most sophisticated management systems (Braack 2000). Internationally, KNP functions as a major tourism destination with over 1 million visitors annually, and serves as an important socioeconomic and ecological component of the Great Limpopo Transfrontier Park (SANP 2006). In keeping with KNP's commitment to involve villages within 15 km of its border in community fora, a household face-to-face questionnaire was administered to randomly selected households of 38 villages within seven *de jure* Traditional Authorities, extending from the Punda Maria gate, south of the Luvuvhu River to the Klein Letaba River (Fig. 1).

Data on sociodemographic variables including age, gender, household income, household size, *de jure* Traditional Authority affiliation, education level and years family has resided in village were collected by trained local field assistants to minimize researcher bias inherent with cross-cultural studies, specifically concerning differences in race

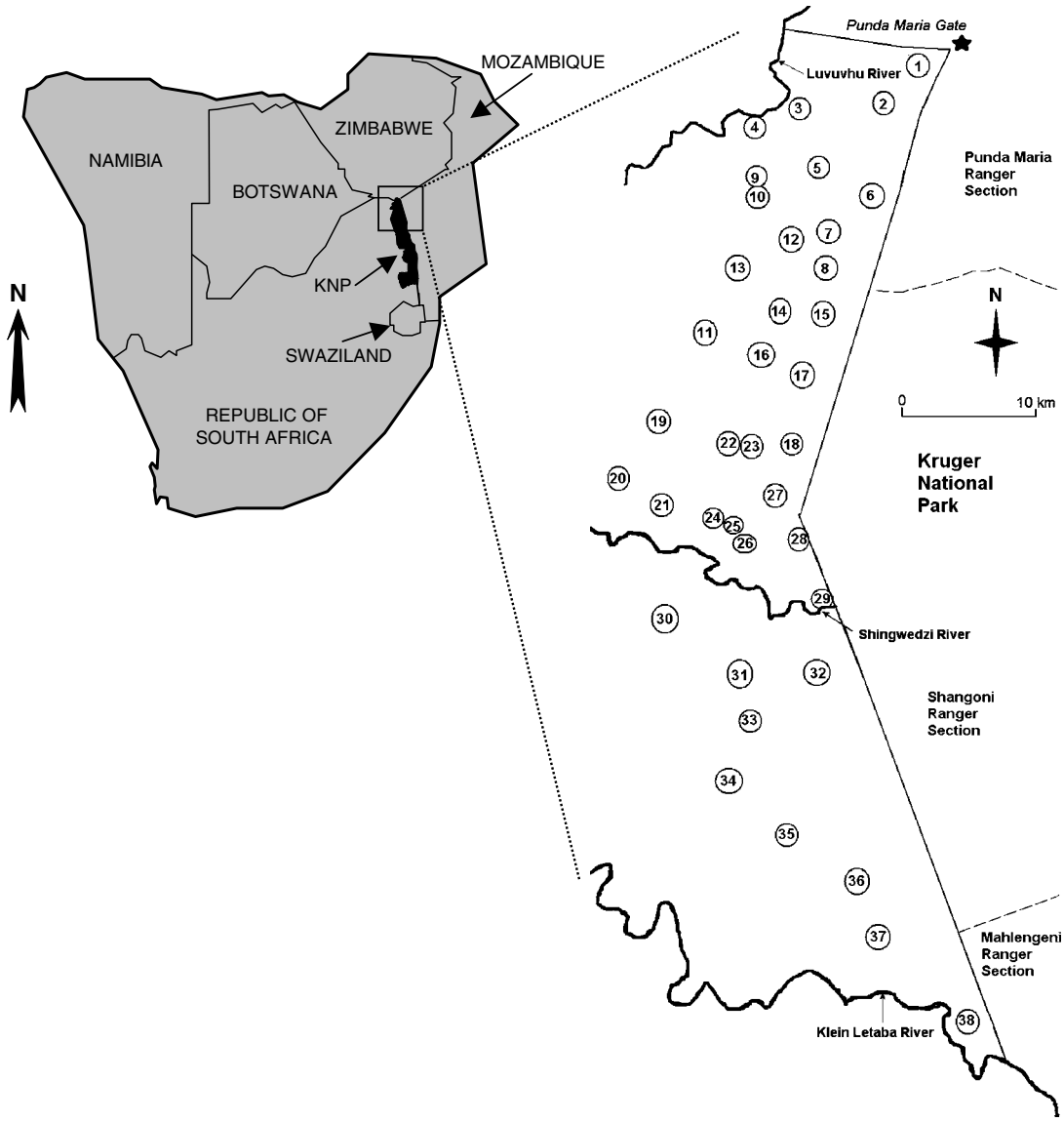

Figure 1 The location of Kruger National Park (KNP) in Southern Africa. Expanded view illustrates study area with villages (listed below with associated *de jure* Traditional Authorities [TAs]). Mhinga TA: Matiyani (1), Josepha (2), Mhinga (3), Botsoleni (4), Maphophe (5), Maviligwe (6), Makuleke (7), Makahlule (8); Shikundu TA: Ximixoni (9), Saselemani (10), Nkovani (11); Bevhula TA: Ntlhaveni D (12), Nkavela (13), Makhubele (14), Bevhula (15); Magona TA: Nghomunghomu (16), Mashobye (17), Magona (18); Madonsi TA: Gijamhandzeni (19), Matsakali (20), Halahala (21), Peninghotsa (22), Govhu (23), Merwe A (24), Shisasi (25), Jilongo (26); Mtititi TA: Lombaard (27), Plange (28), Altein (29); Xiviti TA: Mininginisi Block 3 (30), Mininginisi Block 2 (31), Muyexe (32), Shitshamayoshe (33), Khakhala (34), Gawula (35), Mahlathi (36), Ndindani (37), Hlomela (38).

and language barriers (Barrett & Cason 1997). The field assistants, who spoke the local dialect and were familiar with the area, originated from a village adjacent to the study area. A series of questions concerning costs and benefits of the KNP to local communities were also incorporated. These included incidents involving damage-causing animals (DCAs), including lion (*Panthera leo*), elephant (*Loxodonta africana*), spotted hyena (*Crocuta crocuta*), and Cape buffalo (*Syncerus caffra*), all of which originate from the Park. DCAs in this sense refer to animals causing crop and livestock depredation and/or threatening human well-being. The questionnaire incorporated both closed- and open-ended questions, the latter primarily used to allow respondents to express their beliefs in their own words, and were manifest (content) coded using a contextual method based on positive/negative or topical classifications (Weisberg *et al.* 1996). Likert-type questions, which use a rating scale to measure attitudes (Anderson *et al.* 1983), were limited to three points only because this form is most frequently used in African contexts (Bless & Higson-Smith 2000).

Questionnaires were first written in English, and then translated into Tsonga-Shangaan by a linguist. The

Tsonga-Shangaan version was then translated back into English by one of the hired field assistants. Inconsistencies and/or clarifications in the text were then discussed and modified in a joint meeting between the two translators and the author. Questionnaires were pre-tested on the research assistants, as well as a sample of 20 people from rural villages adjacent to the study area (Sudman 1983). As a result of the pre-testing and discussions, some questions were deleted and others modified to improve clarity.

Sampling procedure

Based on available village household numbers from Traditional Authority offices, simple random sampling was used to obtain a sample of 240 households from the target population (sampling error $\pm$ 6.28; confidence level of 95%). In order to minimize sampling error, when possible the research team attempted to sample at least one village within a day. The questionnaire was administered within 32 days in May–June 2004, extending from north to south through the study area.

Whenever possible, household heads were surveyed at each selected household. The household head can be either a male or female individual who assumed responsibility for the household (Budlender 1997); here the respondent decided who the household head was. Sampling was carried out when household heads were likely to be home (for example during daylight hours, weekdays only). In cases where the household head was not at home, the household occupants determined who would respond to the questionnaire. Research assistants were instructed to avoid gatherings of neighbours or other household members when individuals were being interviewed. Before administering the questionnaire, cultural norms were followed, i.e. an introduction of the administrators, the form and rationale of the questionnaire and an explanation of its intended purpose(s). Finally, all selected households received a small gift whether or not they chose to participate in the survey.

To deal with non-responses (for example adult household member not at home), the following strategy was used: (1) return to household at a different time (later in the day or the following day); and (2) if still no response, another household was selected based on the last digit of the random number which was selected for the original household. In doing so, households alternately to the left and right of the original household were selected.

Data analyses

Quantitative analysis used SPSS (version 13.0). Community attitudes towards the KNP were measured by responses to 12 related questions with three possible responses, i.e. negative, neutral or positive. Each of these questions also included an open-ended question allowing respondents to indicate why they made the choice they did. Individual responses to the 12 questions were then converted to numeric values (negative $= -1$; neutral $= 0$; positive $= +1$) and summed to create a single community attitude index. Cronbach's alpha, an index of reliability of a set of items measuring a single uni-dimensional latent construct (Cronbach 1951), was used on the attitude index, obtaining a score of 0.81. Linear regression conducted on the scale determined which variables helped explain why some respondents held more favourable attitudes than others. Chi-square tests were used to identify relationships between nominal data.

RESULTS

The questionnaire sample consisted of 83 males (34.6%) and 157 females (65.4%), ranging from 18–102 years old (mean $= 32.33$, SD $= 17.631$). Number of people per household ranged from 1 to 18 (mean $= 5.8$, SD $= 2.65$). Families had lived in their current villages on average for 23.2 years ($R = 51$, SD $= 12.593$).

Household incomes were highly skewed (skewness $= 0.854$, SE $= 0.157$) with almost 90% of households sampled receiving ≤ 1000 ZAR month^{-1} (1 ZAR $=$ US\$ 0.155), and only 1.7% with an average household income > 5000 ZAR month^{-1}. Unemployment rates were high in the study area, with only 8.75% of the respondents being employed. This value may be an underestimate of employment in general, as those who were employed, especially those working for an employer, were unlikely to be at home during the administration of the questionnaire. Conversely, the value falls within the range of ward employment figures (7.0–14.4%) from Census 2001 (Statistics South Africa 2003).

There was a bimodal frequency distribution for education levels, with 42.9% of respondents completing primary school level or less and 57.1% attending high school level or higher. Those with higher education tend to be younger ($r = 0.708$, $p < 0.001$) and male ($\chi^2 = 11.196$, df $= 5$, $p < 0.05$).

Of the respondents, 72.9% had never been in KNP and 12.1% claimed that their household had experienced DCA damage within the last two years, including almost one in five households within 3 km of the Park border. There was a negative relationship ($r = 0.170$, $p < 0.01$, $n = 240$) between the incidence of damage caused by DCAs and distance from the KNP border.

Knowledge of KNP

Knowledge questions in the community questionnaire consisted of whether respondents knew of KNP's activities and, if so, where they gained this information. Only 32.1% indicated that they knew of KNP's activities and information on these was received primarily from KNP staff, radio and interpersonal relationships (Fig. 2). Those with knowledge of KNP activities were likely to have visited KNP ($R^2 = 0.240$, $t = 6.608$, $p < 0.001$) and have had a household member employed at KNP ($t = 3.408$, $p < 0.001$).

Table 1 Attitudes towards KNP by community respondents. Mean ranges from −1 (negative) to +1 (positive).

Attitude question	*Responses (%)*			*Mean*	*SD*	*n*
	−	0	+			
1. Have you or anyone in your household ever benefited from the KNP?	77.9	1.7	20.4	−0.58	0.810	240
2. Do you think the KNP will eventually help your household economically?	39.7	10.6	49.7	0.10	0.943	179
3. Do you think the KNP will eventually help your community economically?	35.6	13.9	50.6	0.15	0.918	180
4. Have the actions of the KNP resulted in any improvement in your community?	34.0	39.5	26.5	−0.08	0.776	238
5. Does the KNP offer any community development programmes?	30.8	53.3	15.8	−0.15	0.668	240
6. If you interact with KNP staff, do you like or dislike them?	4.2	61.3	34.5	0.30	0.554	238
7. How does KNP staff treat the local people in your village?	6.3	59.4	34.3	0.28	0.573	239
8. In general, do you think KNP staff care about your village's interests?	43.3	32.5	24.2	−0.19	0.801	240
9. Are you satisfied or dissatisfied that your village is located near the KNP?	16.7	12.5	70.8	0.54	0.764	240
10. Do you agree/disagree that the KNP exists for the betterment of your community?	17.1	23.3	59.6	0.43	0.767	240
11. Are you getting the help from the KNP which you think they should be giving?	46.7	1.3	52.1	0.05	0.994	240
12. Overall, do you like or dislike the KNP?	7.9	3.3	88.7	0.81	0.562	239

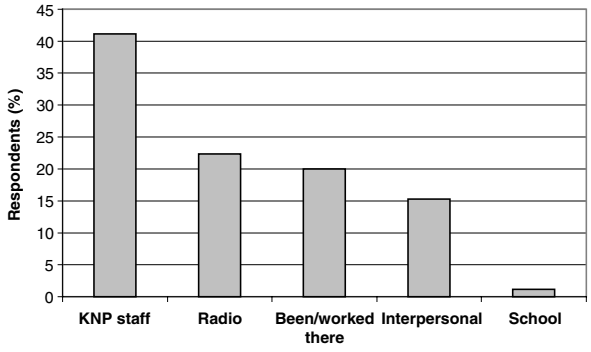

Figure 2 Sources of information regarding KNP activities, for those respondents who know of them ($n = 77$).

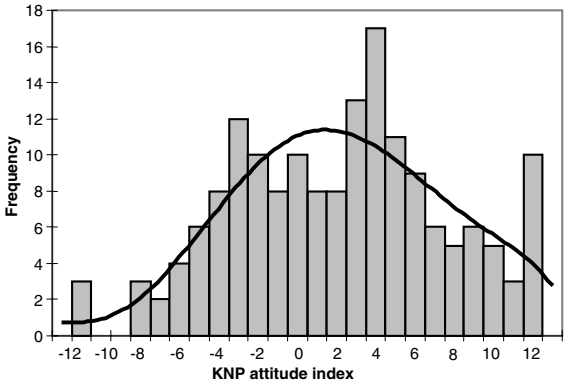

Figure 3 Frequency and range of index scores for attitudes towards KNP (−12 = strongly negative; 12 = strongly positive).

Attitudes towards KNP

Attitudes towards KNP by community members were varied, with a wide range of positive, neutral and negative responses (Table 1). Responses were positive with respect to perception of KNP (88.7%), satisfaction with living close to KNP (70.8%) and the perception that KNP exists for the betterment of the community (59.6%). Strongly negative responses related to whether households had benefited from KNP (77.9%) and the opinion that KNP does not care about village interests (43.3%). Neutral responses were most prevalent concerning opinions of KNP staff (61.3%), and whether staff treat people well (59.4%), both of which were supported with remarks that respondents had had little or no interaction with KNP staff in their villages. Other largely neutral responses included lack of knowledge of any community development programmes offered by KNP (53.3%), or improvements to villages resulting from KNP activities (39.5%).

The mean attitude index score on a scale from -12 (strongly negative) to +12 (strongly positive) was 2.14 (SD = 5.43, $n = 167$) (Fig. 3). Linear regression showed that more positive attitudes toward KNP were mainly influenced by having a household member employed by KNP ($t = 6.964$, $p < 0.001$), age (younger; $t = 2.677$, $p < 0.01$) and affiliation with Mtititi Traditional Authority ($t = 2.438$, $p < 0.05$). Furthermore, although attitude index scores for those respondents who had been in KNP (mean = 3.06, SD = 6.264, $n = 50$) were not significantly different ($p = 0.155$) from those that had not (mean = 1.75, SD = 5.010, $n = 117$), attitudes were more favourable ($p < 0.05$) for those who had personally worked in KNP (mean = 5.27, SD = 6.420, $n = 11$) compared to those who had either never been in KNP, or had visited for reasons other than employment.

DISCUSSION

The relationship between KNP and local communities is two-sided. Local communities perceive KNP as a potential source of income, yet at the same time as the source of much of their anguish. The attitude index score indicated that attitudes towards KNP are more varied than reported earlier (Els 1995; Mabunda 2004), and are influenced by a number of factors discussed below.

Positive attitudes

More positive attitudes were influenced primarily by having a household member employed by KNP. Although it is usually implied that employment (in this case within KNP) is correlated with increased household income, the present findings show that these variables were discrete in influencing attitudes. Increased household wealth has been shown to positively influence attitudes in similar studies from Tanzania (Newmark *et al.* 1993) and KwaZulu-Natal, South Africa (Infield 1988). However, household income per se in this study had no significant influence on attitudes. Conversely, having a household member employed by KNP did, indicating that attitudes towards KNP were shaped first and foremost by employment benefits emanating from the Park. Qualitative responses indicate that local community members equated community improvement, development, treatment and betterment with access to jobs in KNP. Indirectly, employment may also nurture more positive attitudes through increased exposure to, and presumably appreciation of, the Park's functioning and conservation efforts. Moreover, there were notable results on the relationship between Park visitation and attitudes. Although attitude scores were not significantly different between respondents who had and had not visited the Park, attitudes were significantly more positive for those who had personally worked in KNP compared to those who had either never been in KNP, or had been there for reasons other than employment. These findings indicate that mere visitation to KNP by its neighbours does not significantly improve attitudes towards the Park. Rather, employment in KNP, even if for another household member, has greater influence in shaping more positive attitudes. In an area with high unemployment, jobs within KNP, even temporary ones, can make a marked difference in household livelihoods and thus, employment strategies by KNP should reflect this fact. For example, temporary employment for both men and women alike could be offered during periods when households are most vulnerable to shocks and when they are least likely to interfere with other livelihood diversification strategies (Shackleton 2004). In this manner, KNP can complement the diverse livelihood strategies within a household, especially for the poorer sectors of rural society.

Secondly, attitudes towards KNP were influenced by age. Congruent with Fiallo and Jacobson's (1995) findings in Ecuador, the present study demonstrates that younger respondents may hold more favourable attitudes towards the KNP. This may be explained by two factors. Firstly, older community members are more likely to have personally experienced past injustices of the Park, among other government policies and practices under Apartheid, which might contribute to more negative perceptions of the KNP (Cock & Fig 2000). Secondly, greater attempts have been made by KNP to educate neighbouring school children through in-Park educational excursions highlighting the positive role that KNP plays in conserving biodiversity for future generations. Although outreach programmes incorporating environmental education can influence attitudes towards PAs, whether this translates into changed behaviour is still being debated (Kramer *et al.* 1997; Brandon 1998; Hackel 1999; Attwell & Cotterill 2000; Manfredo *et al.* 2004). Nonetheless, environmental education components of community outreach programmes can also have important indirect benefits, including opportunities for dialogue and improving understanding (Bosch *et al.* 1996; Byers 1996).

Respondents within the jurisdiction of Mtititi Traditional Authority also held significantly more favourable attitudes towards the KNP than those within other Traditional Authorities (TAs) in the study area. Possible explanations for this influence include the vital role that KNP has in employing people from these communities and the relationship built between KNP staff and village members. The proportion of sampled households having a family member employed by KNP was higher in Mtititi TA (26.7%) compared to all other TAs combined (16.7%). This higher employment ratio is likely attributable to the access to KNP gained through the private Shangoni Gate adjacent to Altein village, where the Shangoni section ranger post is located and a number of employees are housed. Moreover, KNP had sought employees from these villages when constructing the new border fence north of Lombaard village, which contributed to local employment and, in all probability, to the belief that KNP is making a tangible effort to protect local communities from DCAs. Considering that the villages in this TA are relatively remote from any urban or peri-urban centres, employment was and is extremely limited and thus jobs within KNP are highly valuable. The second explanation for more favourable attitudes in Mtititi TA lies in the close relationship fostered between Shangoni section staff with local communities. Good relations with Park staff have been shown to influence community attitudes elsewhere (Newmark *et al.* 1993; Fiallo & Jacobson 1995), and should be a continued focus of KNP's efforts in its outreach.

Neutral attitudes

Notwithstanding positive contributions KNP has made by employing local people, however, many respondents have had no interaction with KNP, which has fostered negative attitudes in similar contexts in Tanzania (Holmes 2003). Many of the neutral responses were from those who had never talked with KNP staff, believed KNP was doing nothing in their villages, or were unaware of any KNP activities or benefits to its neighbours. Considering that families had lived in these villages on average for almost 25 years and KNP initiated outreach programmes over a decade ago, this low level of awareness is a strong indication that its efforts in this regard need to be improved. This lack of awareness may, in part, be the result of obstacles the Hlanganani Forum has faced in terms of legitimacy, community representation, and organizational and resource constraints (Anthony 2006).

Negative attitudes

Negative attitudes toward KNP primarily centre on DCA problems, including the lack of adequate maintenance of the KNP border fence, control of animals once they escape from the Park and affected farmers not being financially compensated for losses, despite promises that compensation would be forthcoming. According to records of the Limpopo Province-Environmental Affairs (LP-EA), a total of 386 DCA incidents were reported between October 1998 and October 2004 in Mopani District, which lies between the Shingwedzi and Klein Letaba Rivers (Fig. 1). This number is probably a gross underestimate due to weaknesses inherent in the reporting and record-keeping protocols (Anthony 2006). Nevertheless, of these reports, 39.4% involved Cape buffalo, 21.5% lion and 14.5% elephant, all of which originated from within KNP and had no natural populations in the study area. Although not all DCAs in the study area originated from the KNP, households located closer to KNP were more likely to have had DCA incidents than those located further away. Qualitative responses from the community questionnaire also shed light on the extent of the DCA problem within the study area. Next to the need for job creation, the most often-cited and acute complaint from community members regarding KNP was related to damage caused by DCAs and lack of compensation for this damage, with many reporting that financial compensation had been promised by both KNP and LP-EA staff. These aspects of DCAs and their control threaten, and in some cases prevent, the pursuit of sustaining or enhancing livelihoods through agricultural practices. Further, for those who stated that they are dissatisfied with their village being so close to KNP, DCAs were cited as the primary reason (90%). A number of statements regarding the interaction between KNP and villagers indicate how DCAs affected livelihoods: '. . . two weeks ago my cow was killed by a lion and last week I had to run for my life from elephants' (58-year-old woman, Ndindani village); 'We are not interested in keeping livestock because of wild animals' (54-year-old woman, Makahlule village); 'I'm dissatisfied being close to KNP because when their animals escape, we're the first victims' (22-year-old man, Jilongo village); 'their [KNP's] fence is in poor shape and they take too long to drive their animals back . . .' (27-year-old man, Matiyani village); and '. . . although we're neighbours, KNP has done nothing for us . . . we always live in fear of animals escaping.' (24-year-old woman, Matiyani village).

Conflicts between humans and wildlife are the product of socioeconomic and political landscapes and are exceptionally controversial because the resources concerned have economic value and the species involved are often high profile and legally protected (McGregor 2005). There is a certain paradox concerning PA management in that successful wildlife conservation potentially leads to greater conflicts with neighbouring communities in the form of DCAs. This dichotomy has been highlighted by Hill (1998) in Uganda, where community attitudes were generally positive towards elephant conservation, but attitudes were more negative when elephants destroyed gardens. Although the problem of wildlife escaping from KNP and causing damage has been highlighted previously (Tapela & Omara-Ojungu 1999; Cock & Fig 2000; Freitag-Ronaldson & Foxcroft 2003), the present study was the first attempt to correlate DCA damage with attitudes in the study area. Community perceptions of DCAs are an important aspect of KNP's interaction with its neighbouring communities, and have great capacity in shaping attitudes, as those who had suffered DCA damage were less likely to believe that KNP would ever help their household economically ($\chi^2 = 7.295$, $\mathrm{df} = 2$, $p < 0.05$). Although DCA control in the study area has been shown to be a highly complex ecological, political and socioeconomic issue (Anthony 2006), it is evident that more rigorous efforts to minimize DCAs escaping from the Park, and improved effectiveness of control once outside, are needed.

Other negative responses focused on the lack of education provided by the Park in neighbouring areas, and KNP not fulfilling promises of informing communities of development or employment opportunities, factors which have influenced attitudes towards conservation policies elsewhere (Wang *et al.* 2006). Also noteworthy were accusations that KNP staff arrested people for illegal resource exploitation outside the Park. According to KNP section rangers, KNP staff have no legal powers or jurisdiction outside the Park except to apprehend illegal offenders witnessed leaving the Park or searching residences outside the Park suspected to harbour elephant tusks or rhino horns, when cooperation is usually sought with South African Police Services. Further investigation into these allegations revealed that confusion exists amongst many community members in distinguishing KNP and LP-EA staff uniforms. When asked how they distinguished the two, respondents stated that 'KNP staff wear green or khaki uniforms. LP-EA staff wear camouflage.' In fact, rangers from both institutions wear green or khaki uniforms, leading to the false belief by some respondents that LP-EA officers were KNP staff. This misunderstanding has important implications for both institutions, but especially for KNP's image. This case of mistaken identity has led at least some respondents to subsequently hold less favourable attitudes towards KNP, and could be relatively easily rectified through changes in staff uniforms.

Implications

At an international level, although it has been postulated that PAs cannot coexist in the long term with communities that are hostile to them (West & Brechin 1991; Pimbert & Pretty 1997; SANP 2000), there are arguments that conservation can be imposed, and flourish, where the rural poor are weak and can be easily ignored (Brockington 2003; West *et al.* 2006). For KNP, its success in terms of biodiversity conservation has given it worldwide recognition, both before the political changes in 1994 when it largely excluded

its neighbours, and now as it seeks to involve them in its activities. As PAs including KNP attempt to integrate biodiversity conservation and socioeconomic objectives, their task becomes more formidable, both philosophically and practically. Consequently, their 'success' is now being measured according to a set of more diverse indicators.

For many PAs facing the combined effects of severe budgetary constraints, increased threats to biodiversity both within and outside their borders and legislation which increasingly embraces PA resource use by communities, attempts to conserve valuable biodiversity and build a better future for their rural neighbours becomes especially demanding. In KNP, by redressing past injustices through facilitating land claims and extending benefits, especially employment and environmental education, the Park hopes to become more fully integrated into the broader socioecological landscape and garner support for its activities amongst its neighbours (Freitag-Ronaldson & Foxcroft 2003). Concurrently, KNP was perceived by many as contributing to current injustices by harbouring dangerous animals causing extensive damage and threatening livelihoods of the very communities it seeks to empower. A growing literature critiques attempts to integrate conservation and development, demonstrating that it has not achieved the changes in behaviour sought, at least not on the scale or with the speed desired (Barrett & Arcese 1995; Neumann 1997; Wells *et al.* 1999; Newmark & Hough 2000; Marcus 2001). The approach has also come under profound criticism from biologists who do not think it will, nor can succeed (Kramer *et al.* 1997). These critics believe that community outreach is no panacea, can be problematic in implementation, and in some cases, a call to return to a more authoritarian protectionist approach has been posited (see for example Spinage 1998; Brechin *et al.* 2002). However, when dealing with long-standing and complex social and political situations, community outreach programmes should not be expected to achieve rapid changes that have not been amenable to solutions by administrative or coercive means. This conundrum is particularly exacerbated in situations where comparative studies are lacking, such as longitudinal inquiries that examine attitudes both prior to, and following, policy changes.

CONCLUSIONS

One of the core lessons learned from studies elsewhere is the potential danger in generalizing findings from one study and applying them in other contexts. Cases differ between countries, and even between PAs within countries. In light of this limitation, however, these findings do have noteworthy relevance and resonance beyond the case examined.

The dual nature of many protected areas, like that of KNP, can produce mixed perceptions. Those who profit from PA benefits that directly address community needs, especially in terms of employment opportunities, can hold significantly more favourable attitudes towards PAs, and extension of these benefits, in addition to locally relevant education, may have the greatest potential in shaping attitudes towards conservation. Conversely, lack of interaction, poor communication, unfulfilled promises in terms of financial compensation, costs and disadvantages of PAs vis-à-vis DCAs and even misunderstanding over uniforms, can create confusion and mistrust with respect to the purposes of a PA and its alleged commitment to improve relationships with its neighbours. This is particularly the case with DCAs, as associated problems create obstacles to improving livelihoods, pursuing economic diversification and leaving many community members with a sense of hopelessness.

These factors have important and far-reaching implications in terms of PA legitimacy as perceived by local communities, and in negotiating future partnerships. If PAs wish to move to a more participatory management style and incorporate the needs and aspirations of local stakeholders, they must recognize the tangible limitations to partnerships involving the integration of conservation and development and deliver on their promises. Barrett *et al.* (2005) illustrated how synergies between poverty reduction and resource conservation in the tropics do not naturally emerge, thus more flexible and adaptable approaches are critically needed in developing partnerships. Akin to most relationships, both honesty and addressing real concerns are key elements that need to be promoted between PAs and people. Otherwise, current relationships will be tarnished and collaboration derailed, with the prospect of future partnerships seriously jeopardized in the process.

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