Primary school student visitation in Serengeti National Park, Tanzania

Abraham Eustace and Daud Mathew Gunda
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Abstract: Tanzania National Parks are heavily dependent upon international tourism. This study examines the potential for sustainable domestic tourism, specifically considering primary school student visitation in Serengeti National Park (SENAPA). We surveyed five primary schools located in Bunda district. At each school, 70 students were allowed to fill out the questionnaires which were analyzed by descriptive statistics. A majority of the primary school students recognized the presence of SENAPA (95%), but few (24%) had visited the park. Those who had never visited, in spite of its proximity, indicated the lack of money, lack of transport, lack of awareness, and inaccurate interpretation of free education policy as hindering factors. Surveyed students offered suggestions to improve student visitation, indicating that public and private organizations should assist with students’ visitation to protected areas; the government should have a reliable transport to take students into protected areas; education should be provided concerning the importance of visiting protected areas and what is meant by the free education policy. The authors agree that these steps would significantly improve students’ opportunities to access Serengeti National Park.

Subjects: Biodiversity & Conservation; Tourism Public Relations; Tourism Planning and Policy; Tourism Behaviour

Keywords: student; serengeti; tourism; primary school; education

ABOUT THE AUTHOR
Abraham Eustace is wildlife warden at Tanzania Wildlife Management Authority stationed at Serengeti Zone. He's College of African Wildlife Management, Mweka graduate with interest in wildlife management and wildlife tourism. This research is part of ongoing project aimed at understanding primary and secondary school awareness on wildlife conservation and tourism.

PUBLIC INTEREST STATEMENT
Serengeti National Park faces many conservation challenges. If these challenges are to be met and park resources sustained for the economic benefit of Tanzanians, support of adjacent communities, including the youth who are future stakeholders, is essential. Although majority of primary school students who live adjacent to Serengeti National Park are aware of the park and its attractions, only few of them have visited it. Those who report that they have not visited the park indicate lack of money, unavailability of transport, and lack of awareness of the importance of visiting protected areas as factors. The students suggested that, different ways of addressing costs, transportation, and awareness should be implemented by both private and public organizations in order to maximize primary school student’s visitation to protected areas in Tanzania. Increased visitation provides opportunities for deeper education and involvement that is critical for the future.

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1. Introduction

Serengeti National Park (SENAPA) is an International Biosphere Reserve and World Heritage Site that attracts tourists from many different countries worldwide (Okello & Yerian, 2009). Located in northern Tanzania which borders with Kenya’s Maasai Mara Nature Reserve (Kaltenborn, Nyahongo, & Kideghesho, 2011), the park covers 14,763 km² and is surrounded by Ngorongoro Conservation Area, Maswa Game Reserve, Ikorongo Game Reserve, Grumeti Game Reserve, Kijereshi Game Reserve, Ikona Wildlife Management Area and Loliondo Game Controlled Area (Kaltenborn et al., 2011). SENAPA is rich in biodiversity and is famous for its herbivore migrations, especially wildebeests, although resident herbivores like giraffe, hartebeest, African buffalo, waterbuck, Thomson and grant’s gazelles are also noteworthy (Kaltenborn et al., 2011; Sinclair, Packer, Mduma, & Fryxell, 2008). Carnivores of the park include leopard, lion, cheetah, African wild dog, hyena and jackals. The park includes high diversity of bird species (Kaltenborn et al., 2011; Sinclair et al., 2008).

The natural environment and wildlife draw people to SENAPA from around the world (Kaltenborn et al., 2011; Kweka, Morrissey, & Blake, 2003; Mariki, Hassan, Maganga, modest, & Salehe, 2011; Wade, Mwasaga, & Eagles, 2001). Tourist facilities in this park are well developed including roads, tracks, accommodation facilities and security (Kaltenborn et al., 2011). In 2013 the park received over 400,000 visitors (Ministry of Natural Resources & Tourism, [MNRT], 2013), the highest number of visitors received by any park in the country.

International visitors contribute significantly to the national economy (MNRT, 2013), making the tourism industry and also the nation dependent on visitors from abroad. This presents challenges. International visitors need high quality services which can be difficult to provide (Mariki et al., 2011). There is also the challenge of competition from other countries with similar tourism products and prices (Mariki et al., 2011; Wade et al., 2001). Tanzania needs to promote domestic visitors to its attractions and avoid near-complete dependence upon international visitors.

Beyond the economic issues of developing a domestic clientele, there are issues of education and sustainability. Early visitation, i.e. at the primary school level, provides students with early learning opportunities, establishing their basic knowledge of the importance of local wildlife and environmental conservation. This is a foundation upon which their education can continue to build until adulthood, including education about the relations of conservation, economics, and sustainability. There is also evidence that outdoor visits contribute to development of cognitive skills (Dillon et al., 2006; Eaton, 2000).

Domestic tourism in Tanzania is low (Mariki et al., 2011; Wade et al., 2001). Most locals visit their friends and relatives in the country as they cannot afford park fees or money to hire a tourist vehicle or stay at tourist hotels, camps and lodges (Mariki et al., 2011; Musonda, 2000; Wade et al., 2001).

Mariki et al. (2011) studied local visitors to the three protected areas of the northern tourism circuit of Tanzania (Lake Manyara National Park, Tarangire National Park and Ngorongoro Conservation Area). Their study assessed educational levels of local visitors and found that most had a secondary school, college or university education. Kara (2016) assessed demographic characteristics of visitors travelling in the northern tourism circuit, Zanzibar and Pemba islands. Of 230 local visitors responding, most had, likewise, a secondary, college or university education. These studies do not indicate how many of these educated visitors had visited when they were in primary school. Most of the studies related to tourism specifically in SENAPA, focusing on tourist and local community perspectives (Eagles & Wade, 2006; Kaltenborn et al., 2011; Nelson, 2008; Sekar, Weiss, & Dobson, 2014; Tear & Loibooki, 1996), do not give serious attention to primary school students.

When we visited several primary schools in Bunda district adjacent to SENAPA, we found that most of the students reported they did not visit the Park. Since there had been no previous attempt to study or understand the reasons behind this, we decided to conduct a preliminary study to assess student visitation to SENAPA in order to begin filling the information gap, provide information to
tourism stakeholders, and turn an eye towards expanding local tourism and tourism awareness among primary school students.

2. The study
This study involves five primary schools located in Bunda district (Figure 1), near SENAPA (Emerton & Mfunda, 1999). From Bunda people can access the Park easily by road through Ndabaka Gate.

2.1. The population
We started by consulting District Executive Director (DED) of Bunda district for permission to conduct this study. The Director was asked to provide a list of primary schools from Bunda district. From the list, we selected randomly five primary schools. A letter from the Director was presented to each school selected. From each class, standards three to seven, fourteen students were randomly selected by their teacher, to include from each class seven girls and seven boys. Collectively, at each school, 70 students were selected to participate in the study. We did not select students from standards one and two as they are very young, spend few hours at school, and have little knowledge of reading and writing.

We gave questionnaires to a total of 350 primary school students (175 boys, 175 girls) from the five schools known as Nyatwali, Tamau, Rubana, Balili “A” and Balili “B” primary schools, all in Bunda district adjacent to SENAPA.

2.2. Data collection
Our questionnaires were originally constructed in English, but before taking them to students we translated them to Swahili as most of the students understand Swahili better than English. The questionnaires had 16 questions related to student demography, knowledge on SENAPA, visitation to SENAPA, reasons for visiting or not visiting the park and suggestions for the park on how student visitation might be facilitated. Most questions were multiple choice, with a few inviting students to write in a different answer. One item was completely open ended: “Please comment on what should be done in order to improve student visitation at SENAPA.” In each school, the questionnaires were
administered by one of the authors (AE and DMG) with the help of two teachers. Later, we did have a talk with those two teachers about student visitation in Serengeti National Park especially on challenges and mitigation measures. We used this data to support our arguments in discussion.

2.3. Data analysis
We used descriptive statistics in summarizing the information collected. The quantitative responses were summarized and compiled in tables where frequencies and percentages were calculated. The qualitative responses were analyzed using content analysis, which involves summarizing and grouping together similar issues and ideas and then assigning frequencies to them. Then percentages were calculated. As our data was frequency in nature, we employed Chi-square test ($\chi^2$) to understand if there is significant difference in number of students from the five schools who are aware of the park vs. who are not and the one who visited the park vs. who did not. Also we used $\chi^2$ to test if the reasons for visiting the park did vary significantly between the schools. We did run binomial logistic regression analysis where awareness was a response and schools were explanatory variable and multinomial regression analysis where schools were response while awareness and visitation were explanatory variables. Both of the logistic regression analyses were run under R version 3.4.2. We also added some quotations from students and teachers to support our arguments and the quotes were translated from Swahili to English.

3. Results

3.1. Demographics
Respondents’ ages varied from 10 to 15 years old. Most of the school children belong to Sukuma tribe (75%) followed by Jita (15%) and others (10%). Category of “others” includes five tribes, Ikizu, Taturu, Kurya, Jaluo and Ngulimi. When we asked if they kept livestock or had farms at home, most of the respondents (75%) claimed to have both, while 15% claimed to have only livestock and 10% claimed to have only farms. This is an indication that the students come from agro-pastoralist communities.

3.2. Awareness of the park
A majority of the primary school students (95%) recognize the presence of SENAPA. All students from Nyatwali, Rubana and Tamau primary schools recognized the presence of SENAPA while a few students from Balili “A” and Balili “B” primary schools did not ($\chi^2 = 29.05, df = 4, p < 0.0001$) (Table 1). Binomial logistic regression revealed that, students awareness to the park varied significantly only in Balili “A” primary school ($z = 5.45, p < 0$) while multinomial logistic regression showed that the log odds of being unaware of SENAPA will increase by 0.26 in Balili “B” primary school; while decrease by 9.97 in Nyatwali, Rubana and Tamau primary schools than in Balili “A” primary school.

<table>
<thead>
<tr>
<th>Name of school</th>
<th>No. of respondents</th>
<th>No. of students who know about SENAPA</th>
<th>No. of students who don't know the presence of SENAPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nyatwali</td>
<td>70</td>
<td>40 27 30</td>
<td>70 0</td>
</tr>
<tr>
<td>Tamau</td>
<td>70</td>
<td>35 35 22</td>
<td>70 0</td>
</tr>
<tr>
<td>Rubana</td>
<td>70</td>
<td>35 26 29</td>
<td>70 0</td>
</tr>
<tr>
<td>Balili “A”</td>
<td>70</td>
<td>30 21 37</td>
<td>62 8</td>
</tr>
<tr>
<td>Balili “B”</td>
<td>70</td>
<td>25 32 27</td>
<td>60 10</td>
</tr>
<tr>
<td>Total</td>
<td>350</td>
<td>165 185 128</td>
<td>332 18</td>
</tr>
</tbody>
</table>
Those who knew about the park understood that the park has migratory animals which are wildebeests and other varieties of wild animals such as elephants, zebra, and lion. Students reported that their information on SENAPA came from different sources including books, newspapers and magazines, from songs and media, from churches and through stories their parents tell about wildebeest migration and other mammals. Since wildebeest used to pass in some areas near students’ farms, their relatives tend to tell their kids stories about Serengeti wildebeest. Students also get information from school and from government institutions like Malihai Clubs of Tanzania Lake Zone and from staff of SENAPA. Malihai Clubs raise awareness among students and community concerning Protected Areas in Tanzania and their importance to society and government.

3.3. Visitation

Although, most of the students recognized the presence of SENAPA, very few had actually visited the park. Of the five schools visited, Nyatwali, Tamau and Balili “B” had student(s) who had visited the park while Balili “A” and Rubana primary schools did not have any students who had visited SENAPA (Table 2). Comparing the five schools, the number of students who visited SENAPA and those who didn’t visit the park, varied significantly $\chi^2 = 75.24, df = 4, p < 0.0001$ (Table 2). Comparing Balili “A” Primary School with the other four primary schools on student visitation to the park, the log odds of visiting the park will increase by; 13.04 in Balili “B”, 13.30 in Nyatwali and by 13.71 in Tamau primary schools while the log odds of visiting the park will decrease by 6.71 in Rubana Primary School.

Of those who visited the park 45% were taken by their family, 20% were taken by church, 10% by Non-Governmental Organizations (NGO’s) and 15% by the school itself while 10% were taken by school through donation ($\chi^2 = 34, df = 4, p < 0.0001$). They visited the park for different purposes (Table 3), study and/or leisure and these reasons did not differ significantly between schools ($\chi^2 = 1.216, df = 2, p = 0.5444$).

For those who were unable to visit the park, lack of money and transport, lack of awareness and bad interpretation of free education policy were hindering factors.

### Table 2. Number of students who visited SENAPA

<table>
<thead>
<tr>
<th>School</th>
<th>Visited</th>
<th>Not visited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nyatwali</td>
<td>26</td>
<td>44</td>
</tr>
<tr>
<td>Tamau</td>
<td>33</td>
<td>37</td>
</tr>
<tr>
<td>Rubana</td>
<td>0</td>
<td>70</td>
</tr>
<tr>
<td>Balili “A”</td>
<td>0</td>
<td>70</td>
</tr>
<tr>
<td>Balili “B”</td>
<td>22 (1 Female)</td>
<td>48</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>269</td>
</tr>
</tbody>
</table>

Note: Out of 350 interviewed students only 81 students had visited SENAPA.

### Table 3. Reasons for visiting SENAPA

<table>
<thead>
<tr>
<th>Primary School Name</th>
<th>Reasons for visiting (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Studies</td>
</tr>
<tr>
<td>Nyatwali</td>
<td>20</td>
</tr>
<tr>
<td>Tamau</td>
<td>21</td>
</tr>
<tr>
<td>Balili “B”</td>
<td>15</td>
</tr>
</tbody>
</table>

Note: Majority (69%) visited for the purpose of studying and a few (31%) responded that they visited for the purpose of leisure and studying.
4. Discussion

4.1. Lack of money

Most students in the study had never visited the park at all. The lack of student visitation was attributed primarily to lack of money and (related to lack of money) lack of transport. Many student families are very poor. In our survey some students claimed to have one meal per day. Example student from Nywatwali Primary school said “my family doesn’t have money to buy food as I used to take a single meal”. The family with no money for food will certainly not have money for children’s visitation to protected areas. Visiting protected areas is costly, requiring money for transport, food, accommodation, fuel, entrance and guide fees, payment of which is difficult for students in communities adjacent to protected areas in Tanzania (Holmern, Mkama, Muya, & Røskaft, 2006; Laibooki, Hofer, Campbell, & East, 2002; Ndibalema & Songorwa, 2007). Nearly 80% of Tanzanians have daily income of about 1 USD, making it difficult to afford leisure visits to protected areas (Mariki et al., 2011). Most primary school students have toured beaches in Zanzibar as they are affordable and cost free (Kara, 2016). “Some parents can afford to pay the park entry fees but the other associated costs like accommodation and food are higher in national parks and difficult to be afforded by parents” mentioned Rubana Primary School teacher.

4.2. Lack of transport

Transport was a significant barrier preventing students from visiting SENAPA. In order to access protected areas and participate in activities like game drives, a means of transport is necessary (Tierney, Dahl, & Chavez, 2001). During our survey we noted that none of the schools have student transport or administrative vehicles. Although transport can be obtained for hire, neither students nor their schools have money for hiring a vehicle (Kijazi, Shelutete, Mbena, Lyogello, & Ratsim, 2013; Mariki et al., 2011). The average cost for hiring a safari bus in Bunda is Tanzanian Shillings 500,000 ≈ 250 USD per day (Nata Raha Bus Agent personal communication, April 27, 2017). Primary school teachers also mentioned the issue of transport as a challenge for student’s visitation to national parks;

“Transport is the major challenge for taking students to national parks” claimed Tamau Primary School teacher.

“If our school would have its own vehicle, we will have visited Serengeti many times, as entrance fee is affordable” Ballili “B” teacher.

4.3. Lack of awareness

Lack of awareness on domestic tourism among students and parents was one of the factors indicated for few student visits to SENAPA. Although they know about SENAPA, they believe that tourism is for foreigners and the people who have money. They have little or no awareness that the park is a place where they might go.

“Previously, I didn’t know if we can visit Serengeti National Park until we were taught by teachers from Malihai Clubs of Tanzania” said Ballili “B” student while one student from Tamau Primary School mentioned “tourism is for white people”.

“My parents know nothing about tourism and study tours and I know tourism if for rich people like Americans” said student from Rubana Primary School.

These notions were also pointed out by Kijazi et al. (2013). Even Tanzania’s first president, the late Julius K. Nyerere, was quoted saying “I personally am not interested in animals. I do not want to spend my holidays watching crocodiles. Thousands of Americans and Europeans have the strange urge to see these animals” (Kideghesho, 2008, p. 2; Levine, 2002, p. 1047; Mariki et al., 2011, p. 67).
It seems this notion is common in Africa. For example South Africans believe that protected areas are for the whites and/or foreigners to enjoy (Department of Environmental Affairs and Tourism, 1996). These notions may be attributed, at least in part, to low conservation awareness (Mariki et al., 2011) and lack of understanding of the value of protected areas and their flora and fauna.

4.4. Lack of understanding of free education policy
Since the introduction of free education policy in 2016, schools in Bunda have admitted many additional students. Schools are challenged by the large numbers of students, and study tours are more difficult to provide. Tanzania president Dr John Pombe Magufuli announced during the opening of 11th Parliament, that free education would be assured from January 2016. Parents would no longer have to pay fees for their children to attend primary and secondary school (Ben, 2016). The government will cover the costs previously born by families, including school fees, examination fees, school building maintenance, desks, security and other running school costs (Ben, 2016).

“The problem of Tanzanians, if told something is for free, they will not contribute anything” said a Teacher from Balili “A” Primary School.

Parents still need to provide school uniforms, exercise books, graduation costs, transport, and other personal student needs. Study tours, including visits to protected areas, are not covered, but there seems to be confusion about this. If the school asks for parent contributions, many parents refuse as they think free education policy covers it.

“Now days it become difficult to ask contributions from parents due to free education policy” said Nyatwali Primary School teacher.

“Most of the parents think that all costs related to students are covered by the government under free education policy, even to contribute for other school and students development is difficult” claimed a teacher from Rubana Primary School.

**Box 1. Suggestions provided by students to increase student visitation to SENAPA**

(1) Public and Private organizations should assist students to enter into protected areas
(2) There should be a reliable transport to take students into protected areas.
(3) Education should be provided to people so that they can understand the importance of visiting protected areas present in Tanzania.

5. Conclusion and recommendations
The majority of students in this study know SENAPA but few of them have visited. The few who have visited did so for the purpose of studies and/or leisure. Impediments to park visitation, as identified by students, include lack of income, lack of transportation, lack of environmental awareness, and misunderstanding of free education policy.

Students recommendations (Box 1) included ways of addressing costs, transportation, and awareness. They suggested that public and private organizations assist with entry into protected areas, including assistance with transportation. This idea is supported by Kijazi et al. (2013). Grumeti Fund through community department does provide transport for free to secondary school students for study tours in Ikorongo and Grumeti Game Reserves (P. Mkilindi personal communication, April 27, 2017). This model could be replicated by other organizations to support primary school students. Tanzania National Parks Authority (TANAPA) also supports the community development projects costs by 70% (Kijazi et al., 2013), an effort that might be expanded to assist with student tours to the national parks.
Students also recommended that education be provided to adults as well as children so that they can understand the importance of visiting protected areas. In fact, primary students are dependent upon adults for their visitation. Adult awareness of the value of protected areas and the value of visitation becomes a crucial factor in primary school visitation (Tierney et al., 2001). Low conservation education and low awareness of the very concept of domestic tourism is a constraint contributing to low domestic visitation to SENAPA. Most Tanzanians have poor knowledge of the country’s tourism attractions and destinations (Mariki et al., 2011). Educating parents and teachers would seem especially important. Educating parents about free education policy is also essential for encouraging those who are ready to contribute for their children to visit protected areas.

In order to improve domestic tourism in Tanzania the problem of high costs of transport and accommodation in protected areas should be mitigated. The park managers can arrange or own the transport facilities such as buses which will be available for minimal costs. The park can have domestic tourism packages such as holiday season package, family package, student’s package which will be available at affordable price. These packages should be promoted by the park starting from adjacent communities and expand to other communities.

6. Implications for future study

This preliminary study points in directions that SENAPA can follow. Educational efforts specifically addressed to parents, teachers, and organizations can be focused on increasing awareness of reasons to visit protected areas and on reasons to engage children at an early age with issues of the environment and sustainability. These efforts can themselves be the subject of additional study as we attempt to deepen our understanding of the factors that inhibit visitation and ways of overcoming those factors.

It would also be useful to see additional studies from other parks and other developing countries, especially studies of problem solving strategies that have had some success in overcoming economic and logistical barriers to primary school engagement with national parks.

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