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**Prominence of Problem Behaviors among Visitors to Maasai Mara Game Reserve in Kenya: Revelations of Wardens**

A study was conducted in April 2007 to identify problem behaviors and rate their prominence among visitors to Maasai Mara Game Reserve, Kenya. Self-administered questionnaires describing 20 behaviors with a response scale of “Major Problem” (1), “Minor Problem” (2), “Not a Problem” (3), and “Not sure” (4) were served on all (30) wardens who monitor visitor conduct within the reserve. Fifteen (75%), four (20%) and one (5%) of the described behaviors were rated as major problems, minor problems and non-problems respectively. Development of an effective Visitor Impact Management (VIM) strategy is recommended to promote responsible and sustainable wildlife based tourism.

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**Key words:** Kenya, Maasai Mara, problem behavior, visitors, wardens

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## **Biography**

Fredrick N Kassilly is a Biodiversity Fellow of the United Nations University, a Senior Lecturer and Chairman, Department of Biological Sciences at Masinde Muliro University of Science and Technology in Kenya since 2003. His research interests include human dimensions of natural resource and biodiversity conservation. He is currently a visiting researcher at the Institute of Wildlife Biology and Game Management at the University of Natural Resources and Applied Life Sciences, Vienna.

## **Introduction**

Wildlife is Kenya's foremost natural resource and the country's major foreign tourism income earner. In spite of the beautiful scenery, friendly people and miles of excellent beaches, it is the country's wildlife which draws foreign tourists to Kenya (Kassilly, 2000). Managers of Kenya's heavily visited wildlife protected areas acknowledge that some visitor behaviors impact negatively on wild animals and their habitats (Wesley, 1992). Sustainable wildlife tourism in Kenya requires that adequate protection be given to the natural resources on which it is based. This calls for effective management of visitor behaviors to prevent environmental degradation and animal harassment.

Maasai Mara Game Reserve with 450 animal species (Kassilly, 2000) is one of Kenya's most popular tourism destinations. Visitor conduct within the reserve remains a major management concern. Information on specific visitor habits, however, remains largely observational with little documentary support. It has become necessary to accurately identify and control visitor behaviors that imply negative impacts on wild animals and their habitat for purposes of preserving a healthy wildlife ecosystem. Wardens who patrol the game reserve and monitor visitor activities are in a good position to identify problem behaviours among the visitors and rate their prominence.

A preliminary study was conducted to identify problem behaviors and rate their prominence among visitors to Maasai Mara Game Reserve to provide basic information for the development of an appropriate Visitor Impact Management (VIM) strategy for the reserve.

## **Study Area**

The study was conducted within Maasai Mara Game Reserve. The reserve was established in 1948, measures 1510 square kilometers and lies between 34°45' and 35°25' East and between

1°13` and 1°45` South. It consists of four habitat types namely: grassland plains, scrubland, riverine bush and forest and is co-owned by Transmara and Narok county councils which manage 690 and 820 square kilometers respectively.

## **Methods**

A self-administered, closed-ended, drop-and-collect questionnaire, prepared following Dillman's Total Design Method (Russell, 1988) describing 20 common habits among visitors to Kenya's wildlife protected areas was served on each of the 30 wardens who patrol and monitor visitor behavior within the game reserve in April 2007. The response scale ranged from "Major problem" (1), "Minor problem" (2), "Not a problem" (3) and "Not sure" (4). A major problem was described as an activity that occurs frequently, a minor problem as an activity that occurs only sometimes, and a non-problem as an activity that is rare or does not occur. The "Not sure" option was provided for respondents who were undecided about a given behavior. To ensure a high questionnaire return rate, two reminders were sent to the respondents before the researcher went round collecting the questionnaires.

Evaluation of the seriousness of each behavior was accomplished by taking the average of all scores on it from individual respondents. The overall score for visitor conduct was the mean of the scores on the 20 described behaviors.

## **Results**

Questionnaire return rate was 100%. According to the wardens (Table 1), visitor conduct in Maasai Mara Game Reserve is a major problem. Only one activity (visitor vehicles colliding with animals) was evaluated to be a non-problem. Four activities (touching and poisoning animals plus lighting unnecessary fires and destroying vegetation at camp sites) were evaluated to be minor problems. Fifteen activities (disobeying game reserve rules, off-road

driving, feeding animals, crowding around or persistently following certain animals, irresponsibly waste disposal at camp sites or within the general reserve environment, making noise to draw animals' attention, crowding around animals' drinking or nesting sites, forcing animals to go into hiding, disrupting animal activities, river pollution within the reserve, interfering with animal movements, and throwing items at animals to elicit response) were evaluated as major problems. The score for overall visitor conduct was 1.72 which translated to a major problem.

## **Discussion**

Study findings reveal the dilemmas faced by managers of popular tourism destinations in Kenya. Often, such managers are torn between winning popularity among visitors by abetting their unacceptable conduct or conforming with their professional responsibility and strictly enforcing the "Dos" and "Don'ts" governing visitor conduct for the preservation of the scenic beauty of the tourism destination and prevention of animal harassment and the destination's environmental degradation.

Predictable consequences of the described problem behaviors within the game reserve would include animal harassment and environmental degradation resulting from water pollution, surface deterioration and vegetation destruction which are common indicators of poorly managed tourism destinations. Empirical evidence reveals that some of these consequences are already prevalent within some sections of the game reserve which corroborates the rating of overall visitor behavior in this study as a major problem. Overall, study findings are a reinforcement of the caution by Fitter (1986) that although wildlife viewing is considered one of the most sustainable forms of its utilization, attention should

be paid to the potential harm to wild animals and their habitat that may result from some visitor activities within protected areas.

Study findings highlight a commonly acknowledged but largely undocumented phenomenon in most of Kenya's wildlife protected areas. Visitor harassment of animals is observed to result in behavior change. Some day hunters reportedly resort to night hunting due to day time harassment by visitors during game drives while predators are often harassed off their kill by visitors getting too close to them (Wesley, 1992), more so when the visitors shout or yell to draw animals' attention, a behavior evaluated as a major problem in this study. Some herbivores are also reportedly forced to graze or browse into the night due to persistent visitor harassment during day time (Kassilly, 2000). In a way, study findings corroborate the observation by Muthee (1992) that feeding activity among cheetahs in Maasai Mara Game Reserve was lowest during visitors' game drives and highest during visitors' rest times.

Nature and wildlife define the base of Kenya's tourism industry. Continued marketing of Maasai Mara Game Reserve as a nature and wildlife destination requires sound practices in the use of its tourism resources. Regular Environmental Impact Assessments (EIAs) of visitor presence within the game reserve will facilitate determination of its visitor carrying capacity for different seasons to perpetuate an ecologically healthy wildlife ecosystem.

The role of tour companies in promoting eco-tourism in Maasai Mara Game Reserve cannot be overemphasized. Often, tour drivers are accomplices in visitor problem behaviors within tourism destinations for example off-road driving in pursuit of the popular "big five" of Kenya. Tour drivers need to be people with a strong commitment to nature conservation and ready to supervise visitor conduct for promotion of responsible tourism.

### **Conclusion and recommendation**

Wardens in Maasai Mara Game reserve are collectively agreed that visitor conduct in the game reserve is a major problem. A more comprehensive study of visitor behaviors and their impacts on the wildlife ecosystem in Maasai Mara Game Reserve should be undertaken and an effective Visitor Impact Management (VIM) strategy be developed for protection of wild animals and their habitat from recreationists.

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**Table 1: Prominence of Problem behaviors among visitors within Maasai  
Mara Game Reserve**

<b>Item</b>	<b>Habit</b>	<b>Score and Interpretation</b>
1.	Visitors touching animals	2.40 (Minor problem)
2.	Visitors offering food to animals	1.40 (Major problem)
3.	Visitors poisoning animals	2.90 (Minor problem)
4.	Visitors making noise to draw attention of animals	1.70 (Major problem)
5.	Visitors crowding around certain animals	1.00 (Major problem)
6.	Visitors persistently following certain animals	1.40 (Major problem)
7.	Visitors crowding around animals' drinking sites	1.20 (Major problem)
8.	Visitors crowding around animals' resting sites	1.60 (Major problem)
9.	Visitors presence disrupting animals' activities	1.30 (Major problem)
10.	Visitor presence forcing animals to hide away	1.75 (Major problem)
11.	Visitor vehicles colliding with animals within the reserve	3.00 (Not a problem)
12.	Visitors lighting unnecessary fires at camp sites	2.60 (Minor problem)
13.	Visitors destroying vegetation at camp sites	2.30 (Minor problem)
14.	Visitors throwing wastes/litter in rivers within the reserve	1.70 (Major problem)
15.	Visitors presence interfering with movement of animals	1.50 (Major problem)
16.	Visitors throwing waste/litter within the reserve environment	1.40 (Major problem)
17.	Visitors throwing wastes at camp sites	1.35 (Major problem)
18.	Visitors throwing item at animals to elicit response	1.20 (Major problem)
19.	Visitors driving off the roads	1.25 (Major problem)
20.	Visitors disobeying game reserve rules	1.40 (Major problem)
<b>Overall Mean</b>		<b>1.72 (Major Problem)</b>