Wildlife Conservation Education

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Emerging challenges of wildlife conservation require a multipronged approach in order to have a lasting impact. Conservation of wildlife species, their habitats, and other natural ecosystems such as water catchment areas and wetlands are increasingly coming under intense pressure and threat of extirpation. The pressure is as a result of an increase in human population, changing land uses, and the ever-increasing need for goods and services from the ecosystems. These ecosystems therefore need proactive management. Management interventions are necessary to ensure wise use for sustainable socioeconomic development. Conservation education becomes a necessary management tool to inform and impart knowledge, particularly to local communities, as well as to enhance indigenous and traditional knowledge that is useful for conservation.

Our starting point

Formal conservation education in Kenya started in 1966 when the first education center was established in Nairobi. The establishment of the education center was inspired by the Nairobi Animal Orphanage, which became operational in 1964 (KWS 1996). The goal of the orphanage was to give orphaned wildlife a place to recuperate and a temporary home before being returned to the wild. The education center was to use animals from the orphanage for educational purposes. Prior to this, there was no organized way of imparting wildlife conservation education to the public. Indigenous knowledge on matters of wildlife ruled, with some knowledge passed on in the form of folklore and myths. From one education center in 1966 the number has grown to 15, and more are planned. Education centers have been established in Lake Nakuru, Tsavo East, Tsavo West, and Meru national parks. Smaller information centers exist in Kisite-Mpunguti Marine National Park, and in Arabuko Sokoke, Watamu, Malindi, Aberdare, Hells Gate, Kakamega Forest, Saiwa Swamp, Kisumu Impala, and Ruma national parks.

Through the Wildlife Act Cap 376, conservation education is anchored as one of the core functions of the Kenya Wildlife Service. In order to execute the mandate, more and more education facilities are in the process of being set up across the country. Existing facilities provide high-quality lessons on conservation of wildlife to diverse audiences. The main target, however, remains students of all levels, including tertiary institutions. Communities that co-exist with wildlife, the public, and the tour industry are also included in our education programs.

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Why conservation education?

One challenge facing conservation is changing the way people perceive wildlife. For as long as they can remember, communities living with wildlife have known a great deal about the animals nearby. Some have used them as a source of food since time immemorial and therefore cannot comprehend the fact that wildlife law prohibits any kind of hunting. Since they have always lived with wildlife, they hold indigenous and traditional knowledge which is very useful to contemporary wildlife managers.

The population of Kenya is changing rapidly from rural to urban. With this change, there is a growing population of Kenyans who do not know much about wildlife, national parks, and nature conservation. To them nature happens to be there and they do not see their role in its conservation (Figure 1). The KWS's value statement declares that "At KWS, we conserve and manage Kenya's wildlife scientifically, responsively and professionally. We do this with integrity, recognizing and encouraging staff creativity, continuous learning and teamwork; in partnership with communities and other stakeholders" (KWS 2008). We recognize communities' and other stakeholders' role in conservation and thus their rights to information and knowledge.

Wildlife management decisions are informed by research. Armed with this information on various aspects of wildlife conservation, the KWS education department aims to change the way people view wildlife. With an informed populace, we aim at gaining support for conservation endeavors and to win participation of the public in the conservation agenda as conceptualized in the KWS mission statement: "To sustainably conserve and manage Kenya's wildlife and its habitats in collaboration with other stakeholders for posterity" (KWS 2008).

Figure 1. An ostrich in Nairobi National Park with the city center in the background.

Involvement of communities is also critical in ameliorating the challenge of decreasing space for wildlife in view of human population growth. By creating awareness, we aim at winning more space for wildlife by encouraging, first, land use practices that are compatible with wildlife conservation and, second, conservancies, which also serve as income generation enterprises. KWS concedes that communities' livelihoods are important and hence promotes conservation approaches that enhance their interests and aspirations, such as community wildlife conservancies and the setting up of income generation enterprises. Conservation education plays a central role in this initiative. To achieve this, KWS's conservation education department works with other players on the delivery of conservation education. These players are mainly nongovernmental organizations and government agencies dealing with matters of environment and nature conservation. Many organizations have supported the KWS conservation initiatives, including the provision of equipment and capacity-building.

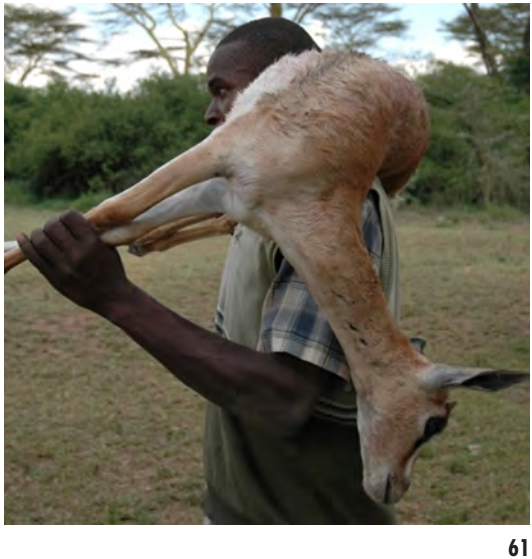
The challenge of poaching

Poaching poses the greatest challenge that KWS faces in its efforts to conserve Kenya's wildlife heritage, especially endangered species such as the rhino and elephant. Some cats, especially leopards, are also targeted by the poachers for their pelts, which are in great demand. Many other animal species are killed either for their skins, trophies, or other parts. Elephants and rhinos are poached for tusks and horns, respectively. The demand is fueled by the growing market in Asian countries. Prices for tusks and horns are extremely high and thus poaching is tempting, and the number of players involved in the market supply chain is huge.

Other species are killed for their meat and a number of them are threatened by unsustainable offtake. Antelopes for instance are killed usually for the commercial bushmeat trade or for subsistence to provide animal protein to families living in the rural areas (Figure 2).

In earlier days, hunter communities used to kill a few animals for food, and because they used crude weapons, wildlife had higher chances of survival by escaping. Then in came the guns and hunters succeeded more than ever before to kill wildlife. Using their knowledge of the behavior of wildlife under different conditions, they devised ingenious methods of killing antelopes *en masse*. Once meat is obtained it is then transported and sold in town centers where demand is always high. The meat is not always sold openly but customers know where and how to get it and the price is cheap hence more appealling.

Figure 2. A poacher with his catch.



Conservation education addresses this vice by highlighting the negative aspects of uninspected meat, including

the dangers of contracting zoonotic diseases. We also enlighten the people on the importance of wildlife to the economy and hence the need for its conservation. Our education programs emphasizes the values and benefits attached to wildlife, the need for its conservation, and the enhancement of human–wildlife co-existence and tolerance.

Education, therefore, becomes an effective means for KWS and our partners to achieve the target goal of having an informed and involved citizenry on important matters of wildlife conservation. Such as citizenry will understand the value of our wildlife resources as a national heritage, and appreciate that conservation and management of terrestrial and water resources is essential to sustaining healthy aquatic and terrestrial wildlife, the environment in which we live, and the quality of our lives.

Human–wildlife conflicts

Human–wildlife conflicts are a perpetual problem at KWS. The problem is growing by the day as more and more land is brought under cultivation. Human settlements are on the increase, thus reducing areas available to wildlife, and increasing chances of interaction between people and dangerous animals. Most people will report sighting an elephant even if it is innocently foraging. Lions attack livestock especially when prey diminishes due to various factors. These factors could be migration of prey leaving the predators behind, prey number decline due to poaching, and land use changes. The same also occurs due to livestock incursion into protected areas, where they become easy prey. In some instances the encounters between wildlife and humans turn fatal, while in other instances nonfatal injuries occur to either the people or the wildlife. Human death caused by wildlife is always a big issue, irrespective of the circumstances that lead to it.

Destruction of crops is another reason for numerous cases of conflict. In most such cases, retaliatory killings of wildlife occur. Killings may also occur under a pretext of human–wildlife conflict. Other conflicts occur when farmers invade such habitats as wetlands with the aim of cultivation. Where this has occurred, hippos become a menace especially when their habitats are reduced or access to pasture is blocked. To address this issue, we educate communities on various ways of reducing damage to crops and injuries to people.

Wildlife utilization

Wildlife habitats have shrunk drastically over the last four decades. Wildlife, however, remains an important cog in the tourism industry and up to 80% of safaris in Kenya depend on wildlife. Most of the available land is owned by individuals or by groups and very little of it is trust land. To get more land for wildlife, the people must be involved. In order for them to share their land with wildlife, they must reap benefits from wildlife. The KWS education program enlightens the landowners on the benefits to be gained through wildlife enterprises. Attitude change has been drastic and many landowners have organized themselves and formed wildlife conservancies which are now benefiting them through ecotourism ventures. Many other small landholders have started game farming that does not require large tracts of land. Animals farmed include game birds, crocodiles, tortoises, butterflies, chameleons, and

snakes. All these combined have had the intended result of availing more land to wildlife while improving the livelihoods of the local communities.

Over the past 10 years, a total of over 240 game farms have been licensed to keep guinea fowls, quails, tortoises, crocodiles, chameleons, Egyptian geese, doves, pheasants, ostriches, and peacocks for ecotourism, personal, commercial, and educational purposes. The benefits accruing from such operations have resulted in the landowners appreciating wildlife conservation. Through these efforts, more land has been brought under wildlife utilization and the number of people involved is growing. Private sanctuaries on their part are delivering benefits to the people and bringing more land under wildlife conservation. Some of the successful private sanctuaries include but not limited to Lewa Conservancy, Laikipia Ranch, and ranches within the Machakos Wildlife Forum. There are also community conservancies such as Mwaluganje, Shompole, Il Ngwesi, and Kimana, among others. Some wildlife conservancies such as Ol Pajeta have very effective education units that pass on invaluable lessons on wildlife conservation to visitors.

Target audience

Our target for conservation education is the Kenyan public. According to statistics compiled by the United Nations, youth aged 24 and under comprise 32% of Kenya's population. The majority of youths are still in school and most of our education programs target this group. In executing our education mandate, we aim at enriching the students' experiences on every park visit. Our programs are designed to augment what they learn in school, especially in areas of biology, ecology, geography, history, and nature conservation. Various themes are addressed, among them wetlands, climate change, energy, species, and forests. We have in place standard operating procedures that guide implementation of various programs. Among the most popular programs are in-house and outreach. Under the two programs we work with teachers and community leaders in deciding on the topics to be handled during their visits. Mode of delivery is then decided on, as is the venue. For most institutions of higher learning, our national parks are classrooms without walls. In addition to the national parks, we have the Nairobi Safari Walk, a facility designed purposely to address educational needs. Here students have the opportunity of seeing firsthand a simulation of three ecosystems: namely, the wetlands, forest, and savannah. The ecosystems are complete with the relevant plants and animals that inhabit them. Students interested in learning about behavior of various animals have an opportunity at the Nairobi animal orphanage. This facility has animals brought in as orphans and others brought in to receive veterinary treatment.

The education that we offer to all is that of creating awareness on issues related to wildlife conservation. Rarely do we encounter the same group of students twice or thrice in any given year. We occasionally meet students from the same school more than once but almost always they are students from different classes with different requirements. Most of what constitutes conservation education is covered in the school curriculum in subjects such as biology, agriculture, and geography. To have conservation education in the school curriculum requires identification of gaps between conservation education and other subjects, and this is not clear-cut. Instead of pushing for this line, we work with teachers to enrich the

school subjects with information that is relevant to our conservation education needs. Jointly with teachers we have developed guidebooks for some parks to help teachers instruct their students whenever they visit.

The spread of awareness of wildlife conservation is not uniform across the country. The remote areas with poor physical infrastructure are almost always lacking in many things. Education levels are low and exposure to what is happening in the rest of the world is also low. We target these areas with special programs tailored to address unique conservation issues. These issues include, among others, the dangers of charcoal burning and its effects on rainfall patterns and climate change, wildlife movements and distribution, human–wildlife conflicts, and degradation of the environment. Other issues are deforestation, drainage of wetlands, poaching, banditry, farming in the midst of wildlife areas without adequate barriers, and the dangers posed by invasive species of both plants and animals. The negative aspects of each of these are highlighted and wise use of resources advocated.

In other areas the energy plight is addressed. Up to 90% of rural households depend on firewood for cooking and 70% of urban households depend on charcoal. Energy-saving methods are demonstrated with the assistance of local agencies that engage in this field. Similarly, for water we involve agencies that deal with water. Kenya is classified as a water-stressed country. Compared with our neighbor Uganda, for every one liter of water that a Kenyan has, a Ugandan has six liters. Water harnessing and conservation methods are needed urgently to green our nation.

How to benefit from wildlife

Loss of habitats due to various factors, loss of biodiversity, deforestation, soil erosion, the fuel energy crisis and dependency on fuelwood—all of these pose big threats to conservation. The communities need to meet their day-to-day requirements before they can conserve. Tangible benefits are what they want to see. We address the knowledge gap that exists among community members by shedding light on the aspects of nonconsumptive utilization that they can engage in to enable them reap benefits from wildlife conservation. By so doing, we have won the support of the communities living adjacent to the national parks and reserves. These are the people who bear the brunt of livestock predation and crop destruction occasioned by wildlife. They live with wildlife, and unless they get benefits, they may view wildlife as pests and an unbearable burden. In our education programs, we exchange ideas with the communities on ways of minimizing damage to crops and predation. We communicate new research findings on best ways to deal with various wildlife species and the "dos and don'ts" necessary for co-existence between humans and wildlife.

Traditionally, most Kenyan communities valued wildlife as a source of food, medicine, and, occasionally, as totems. As the world becomes a global village, the perspective of looking at wildlife and assigning it a commodity value is now with us. Only a few in our population see the aesthetic value. We make an effort to make them see the greater and broader values of this invaluable resource.

Modes of delivering messages

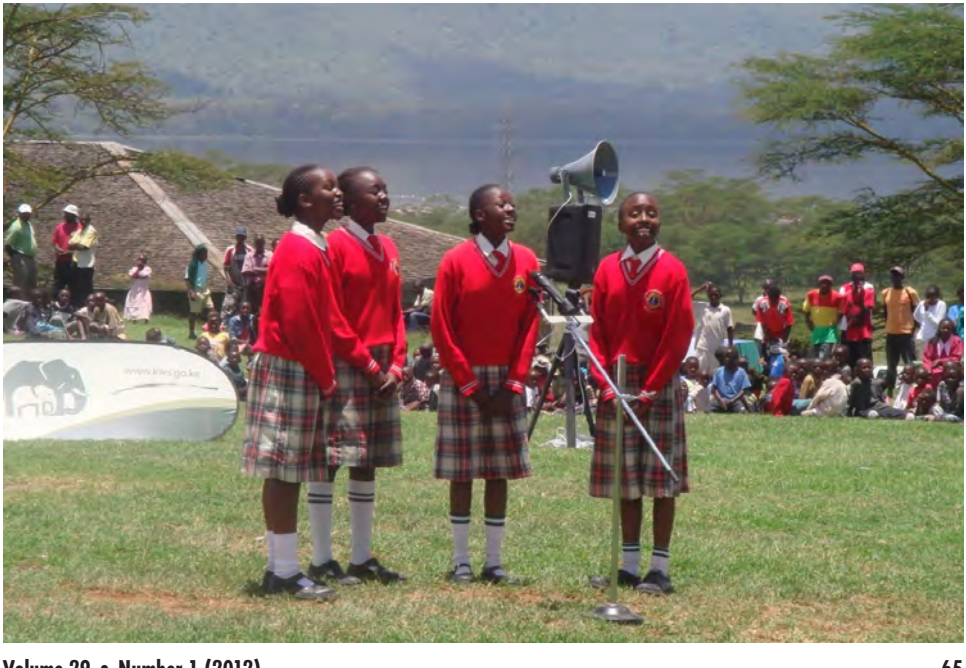
For effective delivery of messages, we have used a combination of methods. At our education

centers we have used audio-visual equipment to communicate our in-house and outreach programs. In some instances, students are engaged in practical aspects of conservation such as litter collection and mechanical removal of invasive species, while in others students participate in nature games. In order to reach a wider audience, KWS has sponsored some conservation themes to be competed for by schools in the National Music Festival. The festival is one of the most powerful tools for conveying messages to Kenyans (Figure 3).

By sponsoring categories of poetry and song in both English and Swahili, and suggesting conservation themes for these, we effectively engage the students in reciting conservation messages for three months (Figure 4). These messages are rehearsed at home, thereby involving the parents in one way or the other. The themes suggested give the students and their teachers an opportunity to get more information on the topics to aid them in composing winning poems. In the end, students and their families and friends end up learning more about conservation and the need to support its endeavors.

Figure 3 (left). Pupils displaying a KWS-sponsored trophy they won in a recent Kenya Music Festival.

Figure 4 (below). Students passing on conservation messages through poetry.



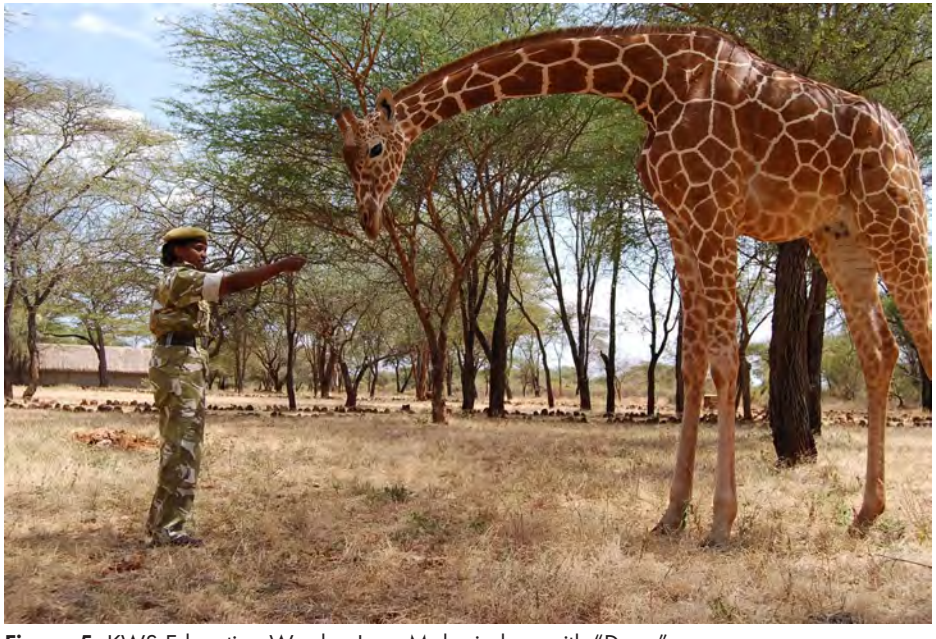


Figure 5. KWS Education Warden Lucy Makosi plays with "Duse."

Essay competitions are organized from time to time, with the aims of gauging the student's level of understanding of conservation themes to enable us plan our programs, and to pick out workable ideas of conservation from the students.

Radio still remains an important tool for conveying messages. Out in the rural areas, there exist local radio stations that broadcast in vernacular languages. Rural populations listen to these stations and messages passed have ready audiences. Our education department has used these channels effectively. Electronic and print media are also used though the reach of these is rather small and confined mostly to urban areas. Other audiences are reached through exhibitions and fairs held from time to time across the country. For adult groups in the local settings, local meetings (Barazas) and occasional seminars are used.

Over the past 50 years, wildlife numbers and diversity have declined. If we take decisive action now we will be rewarded with a natural environment far richer than it is today (Figure 5). Concerted efforts by all are required to save our wildlife species from extinction. Today we stand at a crossroads, and the challenge facing wildlife is colossal but not insurmountable. Kenya Wildlife Service is up to the task. We believe we can and we will.

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