



Policy Dimensions in Human-wildlife Conflicts in Kenya: Evidence from Laikipia and Nyandarua Districts

1. Policy Concerns

There are increasing cases of conflicts between human beings and wildlife over the use of natural resources (mainly land, forests and water). These are manifested through such incidents as people being killed or injured by wild animals; loss of livestock through predation; competition for pasture and water; wildlife invasion of crop farms and food stores; inadequate or lack of compensation for losses or injuries; encroachment on wildlife areas such as forests and protected areas, blocking wildlife migration routes; and poaching of wildlife for food, ivory, horns, skins and other valuable products. The economic and emotional costs of these conflicts can be quite enormous, both at the national and household levels. Droughts often heighten the scope and severity of these conflicts. Human-wildlife conflicts require comprehensive and innovative management approaches that promote the socio-economic welfare of affected communities. There is need for a facilitative policy framework that can sustainably resolve these conflicts.

Kenya has a unique and economically valuable wildlife resource, which is spectacular both in variety and abundance. The tourism industry is one of the leading sources of foreign exchange earnings and offers great potential for future socio-economic development. Despite being regarded by some affected farmers and settlers as liabilities that ought to be avoided, wildlife accounts for about 70 percent of tourist arrivals. Earnings from tourism have remained high over the years. For example, the tourism sector earned Ksh 21.73 billion in foreign exchange, and was ranked third after tea and horticulture that generated Ksh 34.37 billion and 28.33 billion, respectively, in 2002. Despite these contributions, the expanding human population has extended settlement into areas that have long been occupied exclusively by wild animals, resulting in competition for use of natural resources such as grazing land, water and food. This competition

threatens the survival of Kenya's magnificent wild resources and the predominant agricultural sector.

As human-wildlife conflict intensifies, two major opposing interest groups emerge. First, many local communities often view wildlife as liabilities that should not continue occupying parcels of land (and other natural resources) that could otherwise be used for 'more beneficial' activities. Second, conservationists and the hotel industry, on the other hand, highly value wildlife, essentially due to their contribution to tourist attraction, employment creation and revenue, and would want to jealously conserve it. There are some important policy-oriented questions to this policy dilemma. What is the extent of the conflict? To what extent do farmers value the cost of living with human-wildlife conflict? How much are beneficiaries willing to pay to conserve wildlife in their present locations? What are some of the sustainable solutions to human-wildlife conflicts?

2. Scope of Human-wildlife Conflicts

2.1 Geographical and Economic Dimensions

Competition between man and wildlife has been reported from time immemorial in various parts of the world. The nature and magnitude of the problem varies from country to country depending on human population growth rates, conservation methods and scarcity of critical natural resources, especially land and water. In more recent times, killing of wildlife has accelerated especially as the demand for products from ivory, wildlife skins, and rhino horns has continued to rise and when guns started falling into 'illegal' hands.

Human-wildlife conflicts are particularly rampant in areas bordering wildlife parks and forests. In the ASAL areas, overstocking and grazing in wildlife zones results in depletion of pasture and water for

wildlife, thus forcing some wild animals to wander out in search of it. In other areas, monkeys and baboons are common invaders although large wildlife such as elephants are regarded as more destructive due to their strength and voracity. In many parts of Kenya, large mammals that used to exist in isolated bushes and forests (up to late 1960s) have been considerably decimated as most of these areas have been cleared for cultivation and human settlement. In addition, conversion of wetlands into farmland also deprives wild animals of sources of dry-season water and pasture.

A major bottleneck in wildlife conservation is the inadequate direct benefits that local communities derive from wildlife-related tourism. In many parts of Kenya, local communities often live in the vicinity of areas that support even as high as 90 per cent of wildlife yet they receive as little as less than 1 per cent of foreign exchange earnings derived from wildlife-based tourism. Yet most of these communities have to bear the brunt of many of the direct negative effects of wildlife invasions. Wildlife policy and legislation tends to favour wildlife over local communities. Lack of anticipated benefits from wildlife has contributed to the inability of local communities to appropriately value the usage of land for wildlife conservation and to support conservation initiatives.

2.2 Approaches to Minimize Human-wildlife Conflicts

Since independence, Kenya has adopted various policies to promote wildlife conservation and enhance sustainable wildlife management. These policies have achieved varying levels of success, although their sustainability has been questionable. Indeed, the level of human-wildlife conflict has been so high that, in 2004, the President asked Kenya Wildlife Services (KWS) to confine wild animals within the parks otherwise it would be held responsible for any loss of life and destruction by wildlife.

(i) Conservation through protection: The wildlife policy in the country follows the theory of conservation through protection, through which the Government assumed sovereign ownership of wildlife apart from local communities. From the perspective of the conservationists, this was a notable success as it resulted in an increase in the number of tourists visiting the parks rising from 75,000 in 1960, to about 250,000 in 1967, and to 1.03 million in 2000. However, from the perspective of the local communities whose rights to the natural resources were expropriated,

there was nothing much to celebrate over. In fact, most of the national parks barely share their revenues with the local communities.

(ii) Shooting problem animals: Game shooting has been used as a way of reducing human-wildlife conflicts in various parts of Kenya. Buffalos and elephants are often controlled through shooting. For example, in the 1960s, when shooting was commonly used, as many as 1,525 buffalos and 722 elephants were killed in a single year.

(iii) Fencing off wildlife: Fencing is also used to reduce the impact of human-wildlife conflicts. Fences provide an important physical barrier that confines wildlife within designated areas. Fencing minimizes wildlife damage to crops. However, such fencing denies the local communities any access to natural resources such as water and pasture in the game parks. Fencing can adversely change the way of life of wildlife and even interfere with their dispersal and breeding behaviour.

(iv) Re-locating wildlife: Farmers, ranchers and pastoralists seem to favour relocation of wildlife as a desirable measure of reducing pressure on vegetation and human-wildlife conflicts. Successful relocation of wildlife depends on availability of skilled personnel, capacity to locate and trap or dart target animals.

(v) Participatory wildlife management: Involvement of local communities is considered crucial in successful wildlife conservation. In Kenya, participation of local communities in wildlife conservation and management has been promoted through: (i) Tourist viewing; (ii) Safari hunting; (iii) Game cropping; and (iv) Capture of live animals. Recent initiatives to facilitate involvement of local communities include: (i) Conservation of biodiversity resource areas (COBRA) through which classrooms, water dams, cattle dips, health centres, and boreholes have been constructed, and (ii) Conservation of resources through enterprises (CORE) that supports setting up business enterprises in rural localities.

(vi) Monetary compensation scheme: Programs to compensate for wildlife damages have been implemented across the globe with mixed success. Outright failures have been reported from countries or regions where property rights are less secure and administrative controls weak. The failure of most compensation schemes is attributed to lack of funds, bureaucratic inadequacies, corruption, cheating, fraudulent claims, time and costs involved, moral

hazard and the practical barriers that less literate farmers must overcome to generate a compensation claim. This often leads to delayed decisions, inadequate payments or rejection of compensation claims. Since 1986, compensation for wildlife damage exceeded the government ability to pay besides its awesome administration burden. Compensation rates were set at such low rates that they could not address social opportunity costs borne by people who were affected by wildlife. For example, compensation for loss of human life has been pegged at Ksh 30,000, which is not enough to even meet funeral expenses.

3. Research Methods

3.1 Analytical Framework

The study set out to assess the causes and extent of the conflict and to estimate the value of wildlife to beneficiaries and the opportunity cost of wildlife to local communities. It also sought to estimate the extent to which farmers can place value on the effect of wildlife on their socio-economic well-being. Traders and conservationists were asked what they were willing to pay to conserve wildlife. Contingent valuation method (CVM) was selected as an appropriate analytical framework and applied to capture both use and non-use values associated with wildlife. CVM is usually applied on non-market goods based on interviews. In this approach, oral interviews are usually conducted with structured bids, starting from low bids and gradually increasing to a maximum possible for willingness to pay (WTP) or vice versa for willingness to accept (WTA) compensation.

3.2 Study Sites

This study was undertaken in Laikipia and Nyandarua districts. Besides supporting farming activities, these districts have a diverse range of wildlife including elephants, rhinos, zebras, bushbucks, baboons, leopards, hippos, buffalos, cheetahs, lions, primates such as monkeys, and wild pigs. Wild life in large-scale ranches that occupy over 50 per cent of Laikipia district, are exposed to poaching, disturbances by pastoralists, increasing settlements, cultivation and fencing off agricultural land. Increasing demand for land has resulted in frequent human-wildlife conflicts in Nyandarua district, where common resource management problems include poaching, illegal timber harvesting, forest fires caused by honey hunters, illegal tapping of water, and gradual disappearance of some bird species.

4. Study Results

4.1 Severity of Human-wildlife Conflicts

Invasion by wildlife is frequent in both Laikipia and Nyandarua districts. Elephant invasions are reported almost on a daily basis. Invasion by monkeys and hippos are reported, at least, twice a month while those by leopards and wild pigs were reported once a month. Incursions by the lion, baboon, hyena and birds were also reported but at with lower frequencies. In general, these and other problem wild animals were causing disturbance and frightening people, killing livestock (mainly sheep and goats), destroying fences and crops (e.g., oranges, potatoes, avocados, maize, beans, fodder, peas, vegetables, wheat, oats, carrots). Farmers in these areas are powerless and cannot keep away elephants from their crops, which are sometimes all destroyed in a single overnight invasion by a herd numbering up to 30 elephants. The resulting damage to both crops and property is devastating with serious impacts on expected income, food security and potential investments in agriculture.

4.2 Type of Wildlife Damage

The commonest source of human-wildlife conflict is damage of crops by wildlife, which was reported by all respondents in Laikipia and Nyandarua. The magnitude of the problem varied from farmer to farmer. More than half of the respondents reported that over 60 per cent of their cropland is invaded by wildlife every season. The human-wildlife menace explains why many households in the two study districts face serious food insecurity. Many farmers have to rely on external sources of support such as remittances and relief food in order to cater for their household needs.

Another critical source of human-wildlife conflicts is the damage to property, particularly fences, structures and buildings by wildlife. About 70 per cent of the respondents had their property damaged by wildlife. Elephants often break down food granaries and destroy tonnes of stored maize and wheat. Obviously, this results in heavy post-harvest losses and exacerbates the pain of chronic poverty and food insecurity for many farmers and their families. Most farmers have to guard their farms 24 hours a day and call in the KWS warders whenever wildlife invade their farms. Households headed by women reported higher losses resulting from destruction of crops because of less capacity to

protect their property. Moreover, farmers incur high expenses erecting fences that are always damaged by roving wildlife.

4.3 Loss of Confidence in Monetary Compensation

Almost all respondents have never received any form of compensation for damages, injuries, etc. despite reporting to KWS. Only 5 per cent of the respondents did not report damages to KWS. Claims by 20 per cent of respondents, who reported, were rejected while one third of the respondents had claims accepted but did not receive actual payment. Consequently, most of the farmers no longer think that monetary compensation should be one of the options of resolving human-wildlife conflicts. The majority of them (72 per cent) feel that there was no need to even attempt designing a scheme for compensation for crop damage because it will still fail.

4.4 Average Compensation Preferences

Damages caused by wildlife are generally costly. Only 30 per cent of the respondents would accept compensation of Ksh. 50,000 per year to co-exist with wildlife. About 50 per cent were willing to accept Ksh. 100,000 per year while 70 per cent were willing to accept Ksh. 200,000 per year. Up to 30 per cent of the respondents were not willing to accept even Ksh. 200,000 and would either have preferred a much higher level of compensation or complete relocation of wildlife from their area. The overall average WTA by farmers was estimated at Ksh

80,714. With an estimated 32,835 farmers in the study area, the total WTA is estimated at a minimum of Ksh 2.65 billion per year for the two districts. This shows the seriousness of the problem in the study area. On the other hand, the average willingness to pay by traders was estimated at Ksh 11,000 per year. This discrepancy was due to the other beneficiaries such as hotels, ranchers who were not captured during the survey (for logistical reasons) but does not change the orientation of policy concerns.

Unlike crop damage, about 50 per cent of farmers still think compensation for loss of livestock such as cattle, goats and sheep can work. However, they consider the current compensation rates to be rather too low. Farmers proposed the compensation rate to average Ksh 2,500 per goat or sheep and Ksh 26,428 for a cow. Respondents felt that the current compensation for loss of human life of Ksh 30,000 is too low and should be significantly adjusted upwards. They proposed an average compensation rate of Ksh 1.84 million. These proposed rates are not far from what has been proposed by other stakeholders in other studies in Kenya. Recently, it was proposed that compensation for loss of human life be increased to Ksh 1 million. These findings therefore strengthen the need to appropriately adjust compensation rates especially for loss of human life. Majority of respondents were of the view that complete fencing off the park and relocation of wildlife to other areas would help solve the problem, particularly if their fear of fraudulent claims became true. There is also need to increase involvement of local communities in wildlife management and sharing of benefits emanating from conservation.

For a detailed discussion of the issues contained in this Brief, refer to IPAR Discussion Paper No. 065/2005: **Policy Dimensions in Human-wildlife Conflicts in Kenya: Evidence from Laikipia and Nyandarua Districts** by Paul O. Obunde, John M. Omiti and Anne N. Sirengo. ISBN 9966-948-78-3.

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