
HUMAN-ELEPHANT CONFLICT: THE CHALLENGE AHEAD

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INTRODUCTION

This paper was presented as an overview paper at the Mombasa meeting of the African Elephant Specialist Group (AfESG), in May 1994. It draws together the contributions of group members and highlights the key issues, as I see them, that face those working in the field of human-elephant conflict. Several examples are taken directly from the articles which follow mine in this issue of *Pachyderm*, as well as from other reports given at the meeting.

Human-elephant conflict manifests itself in a number of ways. Direct costs to humans include crop depredation, the injury and killing of humans, the injury and killing of livestock, competition over water resources and the destruction of buildings and other property. Indirect costs to humans include social disruptions such as shorter school days for children (in a bid to travel in full daylight to and from schools and thus avoid contact with elephants), and nights spent awake trying to chase elephants from crops, resulting in reduced productivity of people.

Elephants also incur costs as a result of human-elephant conflict. The rampant poaching of elephants for their ivory throughout Africa in the 1970s and 1980s was an aspect of human-elephant conflict - here the interests of man superceding the interests of elephants. Elephants have also been compressed into smaller and smaller areas, and their traditional migration routes have been cut off as a result of human population growth and the expansion of people into areas that were previously elephant range. Elephants also compete with humans over resources such as grazing and water. More directly, an increasing number of elephants are being killed on control by wildlife authorities as a result of human-elephant conflict, and community members themselves also kill elephants in situations of conflict (Thouless, 1994).

The focus on these elements of human-elephant conflict has changed in recent times. From a grave concern with the number of elephants that were being

killed by humans, which resulted in the ivory trade ban, our attention has now turned to the numbers of people being killed by elephants and the damage of human property. The ultimate challenge to conservationists now appears to be reducing the costs to humans of living with elephants, while conserving viable populations of elephants.

THE STATUS OF HUMAN ELEPHANT CONFLICT

Reports in the Kenyan newspapers could lead one to believe that human-elephant conflict has reached crisis levels throughout the elephant range. However, this does not seem to be the case. While reports from Kenya indicate a serious problem of human-elephant conflict, and the elephants of Kaélé in Cameroon surprised us all with the impunity they demonstrate by crop-raiding in large herds during the day, human-elephant conflict appears not to have reached crisis levels in all range states. AfESG members from central and west Africa stated that where both human and elephant densities are low, human-elephant conflict is at a minimum. Uganda, with more than 90% of its elephant population in protected areas, also experiences relatively few incidents of human-elephant conflict. These observations provide us with the first premises with which to predict areas of high human-elephant conflict, or conflict "hotspots". Where elephant populations occur in areas with large human populations and widespread agriculture, conflict will be high. Where elephants are confined to protected areas, opportunities for elephants and humans to meet are minimised, and the incidence of conflict is therefore low.

TRENDS IN HUMAN-ELEPHANT CONFLICT

Trends in human-elephant conflict are difficult to ascertain. An increasing number of elephants are being shot on control in Kenya, and Tanzania reports an increase in the incidence of human-elephant conflict, but it is difficult to determine whether this reflects a real increase in conflict.

We could simply be observing the result of a change in focus. From the concern that too many elephants were being killed by people, we have now turned our attention to the fact that too many people are being killed by elephants. Our attention may also be drawn to human-elephant conflict as a result of the politicisation of conservation. It appears that in Kenya the issue is debated through the media in order to gain political ends.

The theory of bolder elephants moving out into human range as poaching diminishes after the ivory trade ban is a credible one. Studies have shown that elephants responded to heavy poaching by concentrating in “safe” protected areas (Douglas-Hamilton, 1987). Might we not expect that elephants would respond as quickly to a decline in poaching, by moving out of these safe havens into areas where they stand a higher probability of meeting humans, and coming into conflict with them?

Whatever the reasons behind the reported increase in conflict, and whether they are real or not, it is likely that, in the short term at least, human-elephant conflict will increase as the human-elephant interface expands with a growth in human populations.

THE CHALLENGES AHEAD

Given the current status and trends of human-elephant conflict, the key issues surrounding human-elephant conflict seem to be the need to recognise the political arena or context of elephant conservation; the need to draw up policies and legislation for dealing with human-elephant conflict at various levels; the need to mitigate conflict when it arises; and the need to deal with conflict in ways that are within the capacity of the range states in order to ensure long-term conservation strategies.

Recognising the political arena

Elephant conservationists need to recognise that when elephants impinge on people, solutions to the problem are needed. Pressures on governments to find these solutions come from grassroots level. A good example of this pressure is that of the demonstrations we have heard about in Gabon, where the citizens have stated that the Minister must choose between elephants and people. We have also heard of demonstrations against the government on the issue of human-elephant

conflict in Cameroon. Kenyan newspapers have quoted local people asking the government whether elephants have become more important than people. The need to find solutions to the problems must be taken seriously. At the end of the day governments will have to make choices in favour of its citizens - that is until elephants get the vote!

Policy issues

We have been reminded that many attempts to deal with human-elephant conflict have been crisis-management orientated. The lack of clear policies on the human-elephant conflict has to be one of the largest set-backs to solving the problem.

Policies on human-elephant conflict are needed at a number of levels. On a national scale, the designation of areas for elephant conservation within broad land-use policies is of crucial importance. That is, there needs to be a definition of the present and future elephant range in the context of land-use planning.

We have seen how the whole of Namibia has been classified into areas with different levels of elephant use and the key elephant areas identified. The challenge now is to feed this sort of map into a national land-use scheme, so that plans for development may take into consideration the template of key elephant conservation areas, both inside and outside the protected area system.

Land-use planning can also take place at a more local level. In Zaire, for example, local people have made a decision to put all fields for cultivation near settlements, so as to reduce the amount of damage to crops by elephants.

Perhaps some pragmatism is needed in the designation of elephant conservation areas. We need to face the fact that there are some areas where elephants cannot be maintained. High potential areas suitable for human settlement and agriculture are not likely to be areas where elephants can be maintained without considerable levels of conflict, which would require intensive and expensive means to reduce conflict.

Policies are also required on how to deal with the results of conflict. It needs to be ascertained who holds responsibility and what actions are appropriate in a specific conflict situation.

Mitigating human-elephant conflict

In what we have heard about the methods used to mitigate human-elephant conflict, there appear to be three main strategies in use: the erection of barriers between elephants and people; the use of problem animal control (PAC) measures; and the distribution of revenues from wildlife to local people, in the hope that this will influence people to tolerate wildlife.

Barriers of various designs have been erected as an attempt to separate elephants and humans, and experience shows that elephants are capable of going through the most sophisticated barriers, including highly electrified fences. From all reports, it seems that an elephant will roam where it wills: it will go through a six-strand 7,000 volt fence, yet be kept out of another field by a non-electrified two-strand fence. An expedient approach at this stage may be to examine the ecological reasons why elephants require access to certain areas. The strategic placing of barriers in this context may prove more effective.

The PAC measures we have heard about fall into two categories: those that are fatal to the elephants and those that are non-fatal. By most accounts, elephants habituate quickly to non-fatal measures such as thunder flashes and rubber bullets. These methods are, therefore, not effective in the longterm.

With regard to the control shooting of elephants, several very different activities are going on under the same name, making it difficult to generalise on their effectiveness in mitigating conflict. Historically, elephants have been shot on control to minimise conflict by reducing elephant numbers. Elephants are also shot on control at the sight and time of crop-raiding to condition them against it, and also as a public relations exercise to demonstrate action on the part of the government in the event of elephant damage.

Elephants are usually shot on control as a result of a human death or following persistent crop-raiding. In all cases, the people experiencing the elephant damage are required to report the incident to their local wildlife authority. The wildlife authority then arranges to have an elephant shot. Shooting thus takes place long after the event and, for the most part, becomes a public relations exercise with no opportunity to condition the elephants. Part of the problem is that the authority required to shoot elephants on control is centralised.

A possible solution may be to decentralise the authority to shoot elephants and thus increase the opportunities for shooting culprit elephants on sight. This would maximise the deterrent effect of control shooting, as studies have shown that elephants lend themselves to negative conditioning and do avoid situations that can prove fatal (Kangwana, 1993).

This decentralisation may seem a risky option, with much room for abuse, and it will require careful consideration. However, we are already advocating for the need to distribute the benefits of wildlife to the people who live with wildlife, in order to conserve it successfully. We already recognise that effective fencing schemes need the support of local people for their maintenance. Perhaps the next step in this evolution is to provide local people with the ability to respond quickly to situations of conflict with elephants.

I have touched on the concepts of revenue or resource-sharing schemes with local communities, and of encouraging local people to participate in conservation, in a bid to change attitudes to wildlife and offset some of the costs of living with wildlife. This mode of mitigating conflict raises some interesting questions. For instance, are the benefits sufficient to offset the costs of living with elephants and to encourage coexistence?

Another problem noted with regard to the distribution of benefits from wildlife is that these benefits usually go to the community as a whole, but the costs of living with wildlife are incurred by individuals. Some resolution is required here if these efforts are going to work.

An important aspect to consider with respect to local people and wildlife is the ownership of the wildlife resource. In the longterm do we really expect people to conserve a resource that is not theirs? Even in situations where the government has gone as far as devolving custodianship to the local people, there is the perception that the status quo may change with a change in government or government policy, and so maximum benefit must be made of the wildlife resource before this happens.

Conservation within capacity

Overriding all efforts to solve the problems of human-elephant conflict, and indeed all conservation in Africa

today, is the need to conserve within local capacity. With respect to human-elephant conflict the temptation has been to apply the newest technologies and donor-funded schemes with little regard for their sustainability. Methods used to mitigate human-elephant conflict must be financially and technologically within the capacities of the people implementing them, if they are to belong-term solutions.

APPROACHES TO THE PROBLEM OF HUMAN-ELEPHANT CONFLICT

The last decade or so has seen some very interesting attempts to understand human-elephant conflict. Several studies have been done to determine the extent of damage in economic terms. Coupled with this effort has been the attempt to understand the costs of living with wildlife as perceived by the local people themselves, and also an attempt to quantify the impact of human-elephant conflict on elephants.

The articles which follow mine are fine examples of how the economics of elephant damage to human property has become a science. One must now ask how far we should go in developing these techniques for assessing damage. At what point do we know enough about a situation of human-elephant conflict, and would be better off spending resources solving the problem? We must also decide what level of damage is supportable, and at what point authorities should intervene to mitigate conflict and reduce loss. When we know that farmers in a certain area are supporting over 40% damage to their crop each season, what do we do next? What percentage loss is high enough to warrant action?

LOOKING BEYOND THE CONVENTIONAL

Elephants and humans have lived together for thousands of years. The question of how they coped

must be of interest to those trying to maintain mixed-use regimes in modern times. The example from my own work, of the spearing of elephants by Maasai resulting in avoidance of Maasai by elephants, and consequently the temporal separation of elephants and Maasai with minimal conflict in one range, has potential as a way of maintaining elephants and Maasai in the same range (Kangwana, 1993).

Currently experiments are underway in Zimbabwe to examine the use of a chemical derivative of *Capsicum* as a deterrent for elephants. What needs to be developed is the technology to deliver this chemical to the elephants from a safe distance (Osborn, L., pers. comm.).

In conclusion, I would postulate that there is much scope for looking beyond the conventional for possible solutions to human-elephant conflict. While numerous steps have been taken in the direction of understanding and dealing with human-elephant conflict, we are still faced with many challenges.

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