



# Position Statement:

The Threat Posed by Unregulated Use of Poison to Africa's Biodiversity, Ecosystems and Human Health



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International Union for Conservation of Nature





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## **POSITION STATEMENT: THE THREAT POSED BY UNREGULATED USE OF POISON TO AFRICA'S BIODIVERSITY, ECOSYSTEMS AND HUMAN HEALTH**

The International Union for Conservation of Nature (IUCN) Species Survival Commission (SSC) hereby outlines its position in relation to the increasing incidence and scale of the use of poison causing catastrophic declines in wildlife populations across Africa in recent years.

The use of poisons to kill wildlife has a long-established place in African history. However, the rapid acceleration in this use, coupled with the move to synthetic pesticides, has been shown to have a devastating effect on populations of many scavenging species ranging from hyenas to vultures. Numerous other species, especially those of high economic value, are similarly showing a steep and disturbing decline due to the use of poisons. Many of these species are Threatened, according to IUCN's Red List of Threatened Species.

There is increasing evidence that agricultural pesticides are being misused for the illegal killing of wildlife, partly because these poisons are cheap, easy to obtain and use, silent in their destruction and extremely effective. Targeted poisoning is used for: controlling those species that cause damage; harvesting for food and traditional medicine; and poaching for wildlife products – increasingly for elephant ivory, rhino horn and furs<sup>1</sup>.

Poisoning is often targeted at particular species, but the consequences are frequently unintentional and affect any species scavenging on poisoned carcasses. The use of poison to kill elephants has been reported with increasing frequency, both to facilitate poaching and in retaliation for crop damage. In one incident in 2013, large numbers of African Elephants *Loxodonta africana* were killed when waterholes were poisoned with cyanide in Hwange National Park in Zimbabwe<sup>1</sup>. An estimated 400-600 vultures, mainly White-backed Vulture *Gyps africanus* and Lappet-faced Vulture *Torgos tracheliotus* (both Threatened species) died after feeding on a poisoned elephant carcass in the vicinity of the Bwabwata National Park in Namibia's Caprivi-region in July 2013. In southern Africa, particularly in Mozambique, Zimbabwe, and South Africa, the poisoning of rhinos is increasingly favoured by poachers due its silent action making it easier to avoid of detection.

These are not isolated poisoning cases. There is evidence that a number of different species and ecosystems are being systematically targeted: Lions *Panthera leo* and other predator species are poisoned in retaliation for depredation on livestock<sup>2,3</sup>, and deliberate poisoning is now considered to be one of the most serious threats to large mammalian carnivores (including hyenas, wild dogs,

leopards, jackals and caracals<sup>1</sup>; wild waterfowl are poisoned and then sold for human consumption to unsuspecting consumers<sup>4</sup>; vultures, in their role as wildlife sentinels, are increasingly targeted with deliberate mass poisoning by elephant poachers to prevent the birds swarming in areas (and hence drawing attention to) where illicit activities have taken place<sup>1</sup>. Poisons (including synthetic and natural poisons extracted from plants) are also commonly used by fishermen in both freshwater and marine ecosystems contributing to overexploitation, incidental and harmful by-catch and habitat damage<sup>5</sup>.

Many of the species negatively affected by poisoning are keystone species that play vital roles in maintaining ecosystem health. Their removal, or depletion of their populations, will have alarming cascading negative ecological effects as well as adverse impacts on human health. For example, the precipitous decline (97-99.9% in 10-15 years) of three highly threatened vulture species, Indian Vulture *Gyps indicus*, White-rumped Vulture *G. bengalensis* and Slender-billed Vulture *G. tenuirostris* on the Indian sub-continent over the last 20 years<sup>6,7</sup>, caused by poisoning from widespread use of certain anti-inflammatory drugs for veterinary purposes, has resulted in a proliferation of feral dogs (drawn to an increased food supply) followed by a substantial increase in the incidence of human rabies from dog bites<sup>8</sup>. Given that vultures provide a similar scavenging role in Africa, comparable negative impacts are anticipated throughout the continent.

Several of the species targeted by poisoning (e.g., elephants, lions and leopards) are of immense value to the tourism industries, and hence to the economies of several African countries. Secondary impacts of poisoning cascade through many other species, many of which also have high tourism value and play important roles in the natural food webs.

Chemicals of major concern include the systemic carbamate pesticides Carbofuran and Aldicarb, which are commonly used to poison wildlife. Carbofuran has been banned in Canada, the United States and the European Union because of its acute toxicity to both humans and vertebrates. In addition, various toxic organophosphates and organochlorines, as well as cyanide, strychnine and arsenic, are widely available in several African countries and are often subject to insufficient controls. Exposure to these toxic substances, either through direct handling or indirectly through the food chain and contamination of water supplies, also poses major risks to human health.

In 2006, the governments of India, Pakistan and Nepal (with Bangladesh following suit in 2010) imposed a legal ban on the use of Non-steroidal Anti-inflammatory Drugs (NSAIDs) containing diclofenac sodium to prevent the further decline of vulture populations. This ban, complimented by awareness-raising targeting the public, pharmaceutical organisations and veterinarians, together with the promotion of an alternative product, has had a positive role in improving the status of the subcontinent's vultures<sup>9, 10, 11</sup>, although the continued presence of residues of diclofenac in ungulate carcasses highlights the urgent need to ensure that human formulations of the drug are not sold widely as a veterinary substitute<sup>12</sup>. Similar actions would also help to reduce the indiscriminate use of poisons that result in the loss of large numbers of wild species in Africa, although a holistic approach in interventions, which extend across the full range of health fields, is clearly needed.

The African Convention on Conservation of Nature and Natural Resources, signed by most countries on the continent, prohibits use of poison and poisoned or anaesthetic bait as a method for hunting wildlife. The convention was signed by 40 African countries in 1968, and a revised edition was adopted in 2003. As of 2010, only eight countries had ratified the revised convention, which falls

below the 15 countries necessary for its ratification. In accordance with this commitment, IUCN SSC requests governments and environmental authorities across Africa to consider urgent implementation of the following:

- Develop and enforce appropriate legislation to control, ban or restrict the sale, storage, distribution, use and disposal of toxic chemicals known to be used in the indiscriminate killing of wildlife. Bans on the use of some chemicals, like Carbofuran should be considered where practical, especially where these have already been banned in other countries because of their threats to humans and ecosystems;
- Introduce and enforce penalties on those found guilty of being responsible for wildlife poisoning incidents that reflect the serious nature of the crime and act as sufficient deterrent to those who may contemplate perpetrating such acts in future;
- Train and logistically support conservation staff to act swiftly and minimise the damage that can be caused by any future poisoning incidents;
- Enhance analytical capacity and increase sampling, testing and monitoring efforts of relevant institutions across the region, including regular reporting of poisoning incidents;
- Increase grassroots educational initiatives to develop and disseminate good practice for predator control and enforcement; and
- Work together through multi-stakeholder regional structures to ensure that the above actions are implemented as widely as possible.

In the longer term, IUCN respectfully appeals to the governments and other conservation actors in Africa to make a strong commitment to seeking effective strategies to address the root causes of the poisoning problem, to prevent it becoming more pervasive. There is a high likelihood that increasing development and demographic pressures could continue to worsen the problem, which makes it an urgent priority to find sustainable solutions to managing human-wildlife conflicts, and to take all measures necessary in curbing illegal trade in wildlife products. These strategies should be accompanied by global efforts to curb the circulation and use of highly ecotoxic compounds in general circulation, while increasing investment in non-ecotoxic alternatives and organic methods of crop production (e.g. by implementing international treaties and regulations, such as the Stockholm Convention on Persistent Organic Pollutants).

## References

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<sup>12</sup>Cuthbert, R. *et al.* 2011. Effectiveness of Action in India to Reduce Exposure of *Gyps* Vultures to the Toxic Veterinary Drug Diclofenac. *PloS One* 6: e19069