



SWM SUSTAINABLE WILDLIFE MANAGEMENT PROGRAMME

Human-wildlife conflict



Elephant

Loxodonta africana

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DESCRIPTION

- Mega-herbivore** Elephants are large land mammals; males measure 3 m in height at the shoulder and weigh 5 000 kg; females are 2.5 m at the shoulder and weigh 3 000 kg on average.
- Longevity** Elephants have a lifespan of ± 60 years.
- Matriarchal herds** They mostly travel in strongly bonded matriarchal herds consisting of family individuals, seldom moving far apart from one another.
- Diet** They spend three-quarters of the time gathering and consuming between 100 and 200 kg of plants daily. Their diet consists of more than 50 different plants, from leafy greens to soft wood of certain trees.
- Reproduction** Elephants reach puberty at around 15 years of age and give birth to one calf (twins are rare). The interval between two consecutive births is 4 to 11 years.
- Communication** Nearby herds are related and remember their geolocated spatial position while acoustically communicating with one another over considerable distances.
- Disturbance** Both sexes seek places of refuge when consistently disturbed or upon receiving a major fright.
 - Females move in herds covering 30 to 50 km seeking refuge.
 - Males move independently (>100 km) often staying away for several months.
- Female herds** Less inclined to crop raiding, they avoid moving through altered landscapes, providing opportunity for coexistence by separating human activity from elephant movement patterns.
- Dung and footprint** Big barrel-shaped dung (diam. > 20 cm); oval-shaped footprint (up to 50 cm long).

BEHAVIOUR TO EXPLOIT

- Strong memory** Elephants remember routes and events both spatially and seasonally, especially conflicting events, preferring to move through places of undisturbed habitat.
- Risk-taking males** More inclined towards crop raiding, they prefer moving independently at night along established corridors, often coming into contact with humans.
- Strong senses** They possess exceptional senses of smell and hearing, but moderate eyesight, which improves at night.
- Territoriality** Elephants are strongly territorial and difficult to deter once accustomed to highly palatable crops.

IMPACTS

- Crop destruction** Inflict serious damage to crops by feeding or trampling upon them as well as damaging granaries where crops are stored.
- Other damage** Rarely attack humans unless provoked in self-defence. Searching for food or water can lead to property damage.

PLACES OF CONFLICT

- Crop fields** Mostly raid crops closest to protected areas, especially within their established corridors.
- Other places** Pathways between villages, especially near the bushes.

Key types of conflict:



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TOOLS THAT CAN BE USED



Chilli String

is a string impregnated with hot chilli pepper or any other strong foreign scent stretched across elephant paths that approach crop clusters.



Chilli pepper gas dispenser

is a plastic device that propels a ping-pong ball filled with chilli oil that bursts on impact, spraying chilli pepper at the elephant.



Warning bells

are metal cowbells and reflective bottles hung from a cross-wire/string on taller poles some 10 to 80 metres from the crops.



Chilli bricks

are hardened bricks made of elephant dung and coarsely crushed pepper. On combustion they produce an extremely irritating smoke.



Electric fences

are barriers that produce electric charges of several thousand volts of very short duration. When touched they produce an unpleasant electrical charge.



LED lights

are powerful torches that emit an intense strobe light capable of confusing animals, and can also be used to alert people for help.



Beehive fences

are fences containing hives spaced every 10 metres, designed to deter elephants based on their natural fear of bees.



Noise deterrents

include making noise using household items like pots, whips, drums, etc., which can scare away crop-raiding elephants.



Trenches

are long, narrow excavations in the ground that animals such as the elephant or the hippopotamus are unable to jump or step over, if the trench is sufficiently wide and deep.

APPROACH AND STRATEGY



Human casualties

The strategy relies on the prevention of accidental close contacts with elephants around homesteads at night or when commuting between communities or elsewhere in the bush.



Property damage

Prevent access to homesteads using warning bells, burning chilli brick, electric fences, and finally the chilli pepper gas dispenser and other similar repellent devices.



Water points damage

Elephants easily detect water underground in pipes and reservoirs.

Avoiding damage requires physically fencing or trenching off, and adding repellent options listed.



Crop destruction

Mitigation measures can be used in various combinations to avoid habituation of elephants.

For example chilli strings/beehive fences will disrupt approach paths outside the habituated area, followed by warning bells and electric fences set adjacent to the crop, completed by the burning of chilli bricks.

Finally, the chilli pepper gas dispenser and other similar repellent devices will be activated to chase away intruders.

The SWM Programme is a major international initiative that aims to improve the conservation and sustainable use of wildlife in forest, savannah and wetland ecosystems. It is being funded by the European Union with co-funding from the French Facility for Global Environment (FFEM) and the French Development Agency (AFD). Projects are being piloted and tested with governments and communities in 19 participating countries. The initiative is coordinated by a dynamic consortium of four partners, namely the Food and Agriculture Organization of the United Nations (FAO), the Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF), the French Agricultural Research Centre for International Development (CIRAD) and the Wildlife Conservation Society (WCS). For more information please visit:

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