PHOTOS BY MUNIR VIRANI

WILDLIFE POISONING

The Long Road to Vulture Recovery in Kenya

At the core of poisoning is human-carnivore conflict, which happens when pastoralists lose livestock and retaliate with poisons.

BY KARI MUTU

In Laikipia County, northwest of Mount Kenya, seven Rüppell's vultures, eleven tawny eagles, and a jackal died in April after eating poisoned camel meat. The incident happened after a camel herdsman allegedly lost two of his animals to lions.

In December 2015, the Marsh Pride lions in the Maasai Mara National Reserve, a group made famous by the BBC television series *Big Cat Diary*, were poisoned after purportedly attacking livestock. Along with two lions, six White-backed vultures were killed.

These are only two examples of high-profile vulture fatalities. Populations are plummeting across Africa, by 90 per cent in some countries. In South Africa, West Africa, and parts of Tanzania, vultures are hunted for their body parts, which are used for traditional medicine. In Kenya, poison is the main threat, with 60 per cent of reported deaths linked to poisoning. Five out of eight vulture species in Kenya are listed as endangered or critically endangered by the IUCN.

Some ivory poachers poison vultures because they give away the location of dead elephants. But most poisonings happen when vultures consume contaminated bait intended for lions or hyenas suspected of depredation.

"The vulture problem is not really a vulture problem but a predator problem," says Munir Virani, Executive Vice President and Global Director of Conservation Strategy at The Peregrine Fund. His organisation is at the forefront of vulture conservation in Kenya, through a rapid response programme and community interventions.

It followed years of research and was spurred partly by the collapse of critically endangered vultures in south Asia. The

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The Rüppell's vulture is the world's highest-flying bird. This critically endangered species is vital to Africa's ecology, flying long distances to eat carrion and keep ecosystems healthy. This species will spend much of its time soaring through the skies at great altitudes searching for food, sometimes staying in the air for six to seven hours each day.

TOP
Rüppell's vultures on an elephant carcas. As scavengers, Rüppell's vultures have the added adaptation of being able to consume rotten meat.

RIGHT
Munir Virani directs the Africa and South Asia programs for The Peregrine Fund, a US conservation organisation dedicated to conserving birds of prey worldwide.

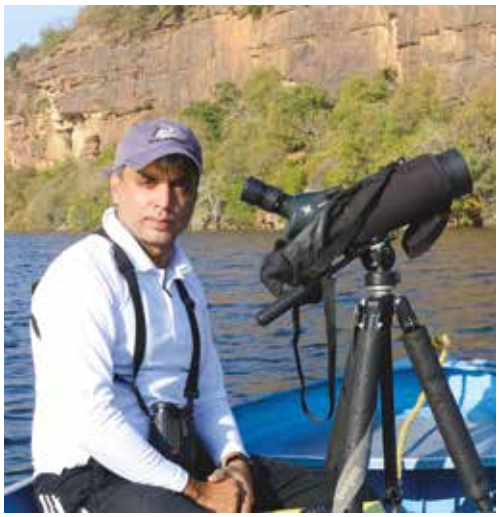
In 2016, the Peregrine Fund and partners conducted a poisoning intervention course in the Maasai Mara with various predator conservation groups.

Peregrine Fund and its associate partners - Nature Kenya and Birdlife Africa Secretariat, the Kenya Bird of Prey Trust and the Mara Raptor Project - realised that it was time for transformative action.

In 2016, the Peregrine Fund and partners conducted a poisoning intervention course in the Maasai Mara with various predator conservation groups. “If a lion is dead, the problem doesn’t end there. We needed to figure out how to get rid of the contaminated lion to prevent a domino effect,” said Kenya-born Virani, who served on the Swara editorial board.

The course was taught in communities through local languages. In 2017, the Peregrine Fund Kenya recruited five Kenyan biologists as Vulture Liaison Officers (VLOs). They have become the first responders in reported vulture emergencies and champion the conservation message.

Once a report reaches them, the VLOs quickly mobilise and travel to the scene together with the Kenya Wildlife Service (KWS) officers. The tell-tale signs they look for include a limping walk, a vulture dropping on its side, dead flies around the mouth or specific pointers of *rigor mortis*.



Emergency treatment is administered on the spot to any live vultures. “You can massage the crop and try to get the meat out,” explained Ralph Buij, the Africa Program Research Director at The Peregrine Fund. “Atropine [a medication given by injection] is a good way to kickstart a bird if it’s fully down,” he added.

Poisons used to kill carnivores are mostly agro-pesticides or rodenticides. They are easy to obtain, fairly cheap but highly toxic to lions and other animals. The toxins remain in the grass and can seep into waterways to affect people, which is why the VLOs must efficiently destroy the remains of vultures and any other dead animals at the scene. The carcass is placed on a pile of wood and burned to ashes. “Burying them doesn’t help because they will simply get dug up,” said Buij.

Depending on the level of ingestion, vultures can recover from poisoning. Sick ones are taken for further treatment to a rescue centre in the Mara or the Kenya Bird of Prey Trust at the Kilimandege Sanctuary near Lake Naivasha, about 100km west of Nairobi. It can take up to three months to nurse a vulture back to full health. "We release them into the same area or in other vulture range areas," said wildlife biologist Eric ole Reson who heads the vulture liaison team.

At the core of poisoning is human-carnivore conflict, which happens when pastoralists lose livestock and retaliate with poisons. "When we are able to manage human-wildlife conflict then we have managed 80 per cent of vulture problems," said Ole Reson.

Born and raised in the Maasai Mara, he fully understands the anguish felt by cattle owners and their antagonism towards predators. Conducting his PhD research on drivers of poisoning to African White-backed Vultures of southern Kenya, two years ago he interviewed people in the Mara who admitted to using pesticides to kill problem wildlife.

The Wildlife Act of Kenya (2013) has stiff penalties for causing harm to or killing wildlife but there has never been a successful prosecution of any poisoning cases. Virani acknowledges mixed feelings by conservationists about prosecuting people because it could lead to more revenge killings. The organisation's approach is to "work with adversaries until it becomes ingrained in their culture about protecting vultures."

Vultures were traditionally revered in Maasai culture and, according to Ole Reson, people were attached to different species. The endangered Lappet-faced Vulture was admired for its size and feisty nature. Young warriors made head masks of their feathers to wear at dances and celebrations. "Somebody with a Lappet-faced mask is almost in the same rank as someone with a lion's mane," said Ole Reson.

Much of this traditional wildlife knowledge is disappearing, which is why the VLO teach about the hazards of poisoning and the value of vultures in the ecosystem. There is a consensus amongst scientists that vultures help to clean up the environment by rapidly consuming carrion and preventing the spread of infectious diseases.

Ole Reson is confident that community intervention is averting unnecessary deaths and changing mindsets. "Now there are minimal cases that go unnoticed because somebody will always call us. Our numbers have become like hotlines," he said. "We also try to build in the old stories so that people

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Vultures are more often collateral damage in battles between humans and predators. Herders who lose livestock to lions, hyenas, and other carnivores will sometimes sprinkle toxic pesticides over the felled animals' carcasses in retaliation. The poison kills the predator, but it also kills the vultures who swoop in to eat the poisoned animals.

PHOTOS BY MUNIR VIRANI

Rüppell's Vultures from Hell's Gate National Park and the Lake Magadi areas in Kenya fly every day to the Maasai Mara, a distance of over 200km.

can relate back and draw lessons from what used to happen."

Mitigating human-wildlife conflict could be as simple as community wildlife scouts to rounding up stray cattle and corralling them in a safe area until the owners can collect them. On visits to homesteads, the liaison officers examine the *bomas* (cattle enclosures) to assess their sturdiness against predators. Reinforced *bomas* can be effective deterrents with measures, said Buij "like making the doors solid enough, ensuring there are no holes or by digging in the fence."

Virani has seen a change in Mara landscape since he first started research work there in 2003. Driving around the ecosystem these days the team sees more vultures and, noted Virani, "nesting vultures have increased from 2016 to 2018."

Ten years ago, in collaboration with Corinne Kendall of Princeton University, 5 of 16 vultures tagged with research GPS-GSM transmitters died of poisoning in less than a year.

Since 2017, Virani and his team have tagged 20 birds with transmitters and only three have died of poisoning. "Although the sample size is small, they are flying longer, their survival rate is significantly greater than what we saw 10 years ago."

Whilst this may be a good sign of conservation efforts in southern Kenya, a lot more work is needed across the border in northern Tanzania where poisoning cases go unreported. Furthermore, the small team of vulture liaison officers cannot cover the vast area traversed by vultures.

Rüppell's vultures from Hell's Gate National Park and the Lake Magadi areas in Kenya fly every day to the Maasai Mara, a distance of over 200km. "They go to Hell's Gate or Kwenia to nest but in the Mara, there is plenty of forage," said Ole Reson.

The Peregrine Fund has recorded tagged white-backed vultures moving between southern Kenya and northern Tanzania. "Some criss-cross all the way to Ethiopia, South Sudan, come through Uganda and come back to the Mara," Ole Reson added.

"Because we can't be everywhere all the time we have to focus on the hotspots as our key areas to prevent poisoning and work with these communities," said Buij. He is developing a GPS tracker that can notify them in real-time when a vulture is poisoned, based on abnormal behaviours that suggest toxin ingestion.

In the field, the liaison officers depend on local scouts and community informers to spread the conservation message and sound

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Vulture poisoning in Africa can be separated into two categories. In southern Africa mainly, poachers will lace dead elephants and rhinos with poison to intentionally kill vultures that might tip off park rangers to their illicit activities.

PHOTO BY DARCY OGADA

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Martin Odino, Project Manager at The Peregrine Fund and an ornithologist keen on raptors holding an immature Rüppell's vulture.

the alarm when poisoning is suspected. Collaboration with predator conservationists in the Mara, such as the Mara Predator Program, provides an opportunity to integrate vulture conservation into the work of partners.

In recent weeks, social restrictions due to the COVID-19 pandemic is having an impact on the fieldwork. Community meetings, which involve large gatherings, are suspended. VLOs are still responding to emergency call outs, however, according to Ole Reson, "We have not had a lot of incidences now, possibly because nobody is moving a lot." That raises the concern that vulture incidents went unnoticed in areas without scouts or informers.

The Peregrine Fund does not take all the credit for vulture recovery. They recognise the achievements of other agencies like Big Life Foundation and Lion Guardians working to protect lions in the Tsavo and Amboseli National Parks. "Where you have lions, you have got vultures because vultures come and clean up," explained Ole Reson.

Although vultures are not yet out of the woods, Virani expresses cautious optimism. "Vultures are slowly, steadily coming back and it has to do with the conservation efforts of a lot of organisations working together."

To learn more about African vultures visit: ***peregrinefund.org/projects/african-vultures***

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