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Urban planning the Maasai way

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Covered in ochre-dusted red cloth, four young Maasai men guide a herd of cattle across the busy road to Nairobi. Among the herd are several zebras, not ready yet to be separated from the livestock. The herders don't seem to mind their presence.



Wildlife and domestic animals share the plains of the Kajiado

From this town — Kitengela, in the Kajiado district — Nairobi's skyscrapers are clearly visible in the distance. Human activities in the area seem to be growing by the day as new inhabitants stream into the city, attracted by the possibility of a better life. But their presence has initiated a bloody conflict.

For centuries, the indigenous communities living on the plains of the Kajiado — mainly of Maasai origin — have reared livestock in the expansive grasslands, which also provided an ideal home for wildlife. They have mastered the art of coexisting with the wild.

So when urbanisation began creeping in from the outskirts of Nairobi some 40 kilometres north in the early 1980s, the people of Kitengela struggled to adapt.

James Ole Ntulele, a livestock herder in the town, was among the first in the community to embrace the land subdivision and ownership that came hand-in-hand with urbanisation. Traditionally, land is commonly owned by the community, allowing herdsman to cross vast distances in search of pastures for their livestock. Never before has it been divided.

Like most of the community, Ole Ntulele thought dividing up the land was the panacea for getting a loan at local banks. Some people were so elated by the idea that they wanted the process fast-tracked.

Ole Ntulele knew that with his own piece of land and a title deed in hand, he could acquire loans and engage in meaningful economic activities to supplement his livestock farming. But to his dismay, land subdivision and population growth have taken a toll on his farming.

Following the land demarcations, which peaked in the 1990s, the new legal owners erected perimeter fences on their farms, blocking the migratory paths of wildlife. These routes connected the wild animals' wet-season range south of Kitengela with their dry-season range in Nairobi National Park, which lies between Kitengela and Nairobi.

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Land subdivision has led to the erection of hundreds of kilometres of fencing in Kenyan plains

Wildebeests, lions and other animals use the migratory pathways to go south into Tanzania's Serengeti plains. But since the fences went up, lions, leopards and hyenas have begun killing the livestock with abandon, something that was a rarity in the past.

Divide and suffer

The slaughter of domesticated animals by wild predators has angered the Masaai, who are renowned for the pride they take in their livestock. "The Maasai believe they descended from heaven with their livestock," says Ole Ntulele. In essence, the fences are creating a conflict between the herders and local wildlife.

The fences have caused other problems for the farmers of Kitengela. "They made it hard for us to access water points," says Ole Ntulele. They also put a squeeze on the available land, leaving families with too little to graze their herds, which can traditionally support as many as 500 animals.

"The Maasai community members were not prepared to handle cash or to undertake better land utilisation and modern farming methods," he says.

Population growth has compounded the problem. Fifteen years ago, Kitengela was a simple marketplace with a handful of inhabitants and three shops. Today, the population has swelled to 15,000 and more are arriving every day. With the steadily burgeoning human presence, the numbers of migrating wildebeest have dropped from 30,000 to 8,000 in 20 years, and numbers of zebra and gazelle passing through have also shrunk.

This trend has in its turn reduced the variety of food available for the 'big cats' and other predators. The cattle, which sleep in open sheds, provide too tempting an alternative.

So in early 2003 scientists in Nairobi initiated a scheme they hope will help restore the peace. Researchers at the International Livestock Research Institute (ILRI) have developed mapping software that, in combination with data collected on the ground, will show where fences have been erected.

With the fences mapped, researchers can see where they block wildlife migratory routes. They then pass the information on to a land-leasing scheme that was launched three years earlier. Under this scheme, herders are paid to forego fencing or developing their land, and so allow the wildlife to migrate.

The scheme is run by Friends of Nairobi National Park, a conservation lobby group, with support from the World Wildlife Foundation (WWF) and other stakeholders.

Lay of the land

The ILRI mapping exercise is ongoing, and so far involves 15 members of the Maasai community. ILRI has provided them with training in Global Positioning System (GPS) technology to map important features in the area, says David Nkediaye, a rangeland scientist at the institute. The herders note down not just fences, but also water sources, roads, towns, open pastureland, and quarries in Isinya division of Kajiado district in the southern part of Kenya.



The mapping project shows where the fences block migratory routes

For Kajiado, its proximity to Nairobi meant that many people were settling and interfering with wildlife movement.

"During the mapping exercise, and with minimal supervision from ILRI personnel, the Maasai went round the whole place to capture vital information which was later represented on a map," says Nkediaye.

Nkediaye says that armed with the information supplied by the new maps, the Maasai — through different landowners' associations — are striving to influence municipal and government planners to support a local master plan to rationalise fencing in the district, starting in the southern Isinya division. The local county council has already adopted findings from the maps to plan for the future of the district.



David Nkadiaye explains how the mapping project works

The long-term success of this programme will depend on the continued participation of community members collecting data on the ground. The researchers hope to cover areas around Kajiado, Maasai Mara, Narok and Northern Tanzania where both wildlife and livestock roam. They are currently verifying the data, which they expect will give a clearer picture of the areas of conflict.

The programme is one of five in pastoral areas in Southern Kenya and Northern Tanzania where mapping is helping to solve local problems. Some of these are being run by ILRI and the WWF, some by other organisations. Participants call the programme *reto-a-reto*, which translates "I help you, you help me" in the Maasai language.

Because of their participation in the mapping process, the Maasai community has welcomed the idea of the local master plan, and seems confident that mapping will help them plan their land use and avoid future human-wildlife conflict.

Herders like Ole Ntulele are happy with the project, hoping that it will open up more grazing land and ease access to watering points. "Everybody, whether Maasai or not, needs Kitengela. However, no one needs Kitengela when it is in conflict," he says.

Photo credit: ILRI

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