

KARURA FOREST

MUCH MORE THAN JUST A PLEASANT WALK IN THE WOODS

Half past four in the morning. Normally the quietest time of day in suburban Nairobi. And there it is again: the unmistakable guttural waking call of a male colobus monkey. Rawr-rawr-rawr... But we are not in Kakamega Forest or the Aberdare Range -- we're six kilometres from the capital's central business district.

The black-and-white proclaiming his territory in the pre-dawn could also be celebrating the restitution of his new home (see companion article), the 1,000-hectare Karura Forest Reserve, one of the few forests in the world fully within a major city limits and a shining example of successful community-based participatory forest management.

In seven years, since the formation of the Friends of Karura (FKF), the forest has become one of Nairobi's most popular places to escape the mayhem of city life. It currently ranks number four of over 100 TripAdvisor attractions in Nairobi; 70 per cent of its visitors are Kenyan citizens.

There are numerous attractions: a 20-metre waterfall, prehistoric caves, a lily-strewn lake, bird-rich wetlands and five rocky streams,

antelopes and butterflies to watch in pristine forest patches, bamboo groves and grassy glades, 50 kilometres of maintained trails for walking-jogging-biking, an education centre, four picnic areas, two event grounds, a tennis court, an obstacle course and a world class café. But the main attraction for many is the recovering upland forest ecosystem itself.

At the turn of the 20th century the Gikuyu inhabitants were shoo'd out of Karura Forest by the colonial British government as it earmarked patches of the vast sclerophyllous forest covering the lower slopes of Mount Kenya and the Aberdares ranges to feed the newly-laid Uganda Railway.

By the time Karura was gazetted as a Forest Reserve in 1932, only one-quarter of its nominal 1,042.3-hectare surface was covered with indigenous tree species. The rest was a patchwork of exotic plantations, a commonwealth forestry collection of *Eucalyptus* and *Araucaria* from Australia and Cyprus from the Indian subcontinent.

For the following half century, Karura loomed on the northern Nairobi slopes as a place of



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foreboding, briefly visited to buy seedlings from the still-splendid nursery. The forest was popular with poachers cutting Muhugu (*Brachylaena*) for the wood carving cottage industry.

A few intrepid Nairobi-ites would walk their dogs, often armed with a golf club or sidearm, but generally Karura was taboo to the public. There was a clandestine chang'aa (illegal liquor) distillery on the shores of today's Lily Lake, a religious sect occupying the Karura River caves for several years, and undesirables using the forest cover to raid upmarket houses and then to hide and divide up the loot.

Even the chief forester was mugged on one of his patrols. By the mid-eighties, with skyrocketing demand for housing, developers had marked out nearly one-third of the forest into choice plots, and a complicit bureaucracy was handing out title deeds like party favours. Karura seemed doomed.

What happened next has become a proud moment in Kenya's recent history, contributing to the anointing of Kenya's first Nobel Laureate Wangari Maathai. Her heroic stand against land-grabbing and illegal development in northern Karura in January 1999 put a stop to the rape of Karura by turning the spotlight of public opinion on it, as she and her grassroots Green Belt Movement had done successfully with Uhuru Park in downtown Nairobi.

In the years that followed the forest had a breather. The only irritations were dumping of garbage and the occasional body along the numerous porous entry points, the snaring of small mammals by interlopers from the

LEFT: African Crowned Eagle – Kenya's most powerful eagle and Africa's top forest avian predator – is back and breeding, sure sign that the Karura ecosystem is on its way to recovery.

RIGHT: A male suni, Karura's smallest antelope. With all the snares removed its numbers are increasing, and thus so is the prey supply for top predators like the crowned eagle and rock python.

surrounding informal settlements, uncontrolled tree-harvesting and wood-gathering, and lopping off Cyprus tree tops around Christmas time. A decade after Wangari made her stand, other stakeholders took up the cause.

Kenya's Forests Act 2005 made visionary provision for the establishment of Community Forest Associations (CFA's) for each forest in the republic. In 2009, a group of Karura Forest neighbours joined forces to establish and launch the Friends of Karura Forest CFA.

Since then, with unprecedented support from local corporations and communities and under the aegis of the Kenya Forest Service (KFS) five-year Strategic Plan, FKF and KFS have worked together within the terms of a carefully negotiated joint management plan for Karura to ensure sustainable husbanding of the precious water catchment and to conserve it for future generations. The overarching objective has been to restore Karura to a functioning natural ecosystem and replace the nearly 75 per cent of exotic plantation tree cover with 100 per cent indigenous species.

The results speak for themselves: Karura has been transformed from a place of crime and danger to be avoided, into one of the best-loved recreational destinations for Nairobians and foreign visitors. From virtually zero in 2009, Karura now welcomes an average of 16,000 visitors a month.

The forest is fenced, patrolled, maintained and signposted; infrastructure is improving all the time; and numerous activities are taking place in



PHOTO BY: H.CROZE

the forest every day, ranging from visits by parties of urban schoolchildren learning about their natural heritage to lavish wedding receptions in the setting sun. As of today, reforestation has brought indigenous tree cover to 33 per cent, up from 25 per cent in 2009.

The thrust of the initial five-year joint management plan was security and infrastructure. The first key step was to fence the forest completely. The 20-odd kilometre forest perimeter was by good fortune already half fenced with walls and wires protecting the neighbouring properties of the Muthaiga, Gigiri, Wispers and Runda estates.

Funding for the remaining 10 kilometres of top-grade electric fencing was raised from East African Breweries, a donation that set a wonderful precedent for the next few years -- virtually all capital improvement in the forest was initially undertaken with CSR (corporate social responsibility) donations from Kenya corporations, organisations and individuals.

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The Karura River waterfall in the heart of the forest is one of the most popular sites for visitors to pause during a walk in the woods. The biological pollution load of the river is cleansed fivefold by aeration and relief from periurban domestic sewage as it passes through the forest.

Vivo Energy (formerly Shell) generously offered its lease for the six-hectare sports and event area and the buildings for KFEET (the Karura Forest Environment Education Trust), a joint venture between Vivo, KFS, FKF, Green Belt and the Oshwal community. The only external funding came from the British Army to train and discipline the newly-hired Forest Scouts (recruited from the neighbouring informal settlements -- 'poachers into game wardens'), and the UN Office in Nairobi and ICRAF for clearing exotics and augmenting the fence along their common boundary with the forest.

Keeping the trails clear of *Lantana* and broken trees, collecting litter and emptying some 30 bins (including newly-designed monkey-proof ones), repairing infrastructure (tracks, bridges, access steps, signage), clearing the electric fence of weeds, patrolling to ensure the safety of visitors, walking with groups of school kids and overseeing tree-planting -- these are routine tasks FKF staff carry out 365 days of the year.

More than 40 people are permanently employed to keep the forest in good shape for visitors, and members of the surrounding informal settlements earn in total nearly KES 1.3 million (\$13,000) every month as Scouts, tree-carers or casual labourers to



PHOTO: LUCY NJOKA, KFEEET

clear invasive *Lantana* shrubs and Mauritius thorn creeper (*Caesalpinia*) and to help maintain newly-planted indigenous tree seedlings. This is paid for with closely audited funds from gate-takings, event fees and donations for tree planting.

In keeping with the recently signed second joint management plan (2016-2020) Karura is now a popular research location with students and scientists. The International Centre of Insect Physiology and Ecology (ICIPE) is conducting honeybee genetic selection for docility and yield, and, with FKF, training surrounding communities in cottage honey production.

A previously unknown species of fruit fly was recently discovered by a visiting entomologist and aptly named *Rochmopterum karurae*. Inventories of plants are underway (558 different species so far), and a bird list compiled with the help of Nature Kenya (220 species and growing).

Archaeologists from the National Museums of Kenya excavated the Mau-Mau caves and unearthed an array of prehistoric artefacts -- stone and obsidian tools, pottery, teeth and bones -- evidencing human habitation in the forest as far back as the Middle Stone Age, 50-300,000 years ago. Palynology studies looking at pollen and seeds in the soil showed the evolution of climate and vegetation in the forest over several centuries.

Four camera traps have been deployed since 2013 to record occurrence and relative frequency

FKF Forest Scout, Dunstan Mutalibi, guiding a group of kids from Nairobi International School along Middle Track.

INSERT: Nobel Laureate, Prof. Wangari Maathai (upper right) exhorts the people at her last visit to Karura Forest

of mammals, some 21 species so far, from giant pouched rats to bush pigs. The image sequences have revealed a little-known antelope behaviour we have called 'growing', which is what selective browsers -- bush bucks, Harvey's duikers and sunis -- do when 'growing' on fallen canopy leaves off the forest floor. It is clearly an important forest antelope feeding strategy.

As a fitting counterpoint to the colobus re-introduction project, a post-graduate student from Kenyatta University is studying the African crowned eagles that have re-occupied their enormous nest abandoned in the 1980s and 90s.

The eagles are particularly fond of monkeys and small antelopes, and it is heartening to see top predators settling back into the Karura ecosystem, further evidence that the recovery and rejuvenation of Karura Forest are working well.

We hope that research carried out in the forest will continue to help fine-tune the management of its conservation and recovery, and that targeted education programmes will pass the ethos of environmental conservation to future generations. Such efforts make Karura much more than just a pleasant walk in the woods: it is a national treasure and an encouraging example of how a well-managed community-based association can catalyse cooperative action among government and non-government bodies to achieve good conservation results.