

THE VOICE OF CONSERVATION IN EAST AFRICA

2010: 03 | JULY - SEPTEMBER

SWARA



SAVING LAMU

DEFENDING RESIDENTS' RIGHTS

ANGOLA'S GIANT SABLE

A TRIUMPHANT COMEBACK

AMBOSELI DROUGHT

TIPPING OR TURNING POINT?



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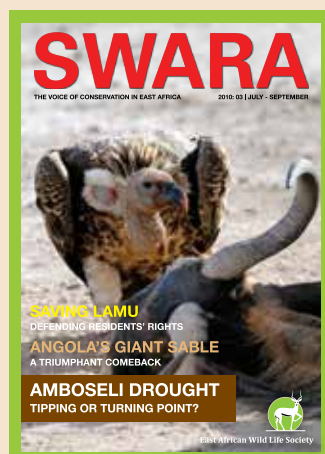


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Greetings to all our readers from wintry Nairobi. We at EAWLS hope this issue of SWARA sparks your interest, whether you read it by the fireside in Africa or in warmer overseas climates. David Western provides our cover story with an examination of the withering drought Amboseli has just suffered and suggests a way forward for both man and nature in this key resource. Proper planning to accommodate both is crucial to the survival of both and is central to the

society's vision of conservation. EAWLS is working and advocating at many levels and in many areas to get positive results where humans and habitat are in conflict. It's not enough to complain. Our arguments are strong but could be reinforced further with more members. Sign up a friend as a member and get one of our much sought-after calendars and a box of cards.

Both feature the lensmanship of Paolo Torchio, who also reminds our readers in Portfolio that Nairobi National Park, one of Kenya's natural treasures, is just a few minutes' drive from the city centre or airport. We continue to look further afield than East Africa for features and are delighted to print good news from Angola about a concerted effort to preserve the Great sable. There is good news too from Kenya's coastal town of Lamu, where the cause of conservation is being championed both on the legal front and on (and under) the ground. Not so heartwarming is our feature on the ring net, a fishing device

that was once seen as a way of lifting artisanal fishermen out of poverty but is now attracting critical notices because of its environmental fallout. EAWLS is very much part of the coast conservation watch.

Finally, to our Eagle-eyed readers, we will observe the different capitalisation conventions used by the birding and wild life communities. That means, for instance, we will be writing Peregrine Falcon but Grevy's zebra. Confusing perhaps, especially if both conventions appear on the same page. But we respect diversity, both in spelling conventions and opinion. We will not shy from printing the provocative, if it adds to informed debate, and we welcome your letters. The views expressed in articles are the authors'. When EAWLS has a point of view, it will clearly say so. ●

Andy Hill
Editor

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MANGROVE KINGFISHER, KILIFI

Dear SWARA,

Last November the short rains failed and our resident Mangrove Kingfisher disappeared; we feared that he had fallen victim to the eternal nuisance on the coast - the - Crow, or perhaps to kids with catapults.

Months went by and there was no sign of him and then, one day in March, shortly before the long rains broke, there he was (or perhaps a relative?). Smart, a little secretive but silently watching us from a perch about six feet above the ground. For

half an hour last Sunday, only five feet from him, I stood, almost eye - to - eye with him, not daring to lift my camera since I thought the flash would alarm him and there was insufficient light for a shot without it. This is a totally wild bird and yet he seems to be so trusting. Food is plentiful for him now; he patiently waits before diving from his perch for grasshoppers, returning to his starting point with the limbs of his victim sticking out awkwardly from his beak. Sometimes he will launch himself unexpectedly into a high - speed horizontal flight towards an unseen target - perhaps just out of range of our prying eyes.

We continue to be plagued by the Crows - they relentlessly harass our resident Verreaux Eagle Owls, they pursue the Terns on the shore, the Fish Eagles on the creeks, the Herons, and their numbers continue to swell as they prosper, succoured by mountains of rotting garbage that litter the township of Kilifi.

**Sincerely,
Joanna Hewitt-Stubbs**

[See SWARA - 2009:3 page 7](#)



the extent that a serious attempt is being made to restore the Mau to good health. I hope that this will be successful. The Kenya Forest Service continues to have a huge backlog in the replanting of its commercial plantations, some of which were clear-felled 15 years ago and have been fallow since. There are few, if any, signs that they are getting their act together.

The salvation for the supply of timber, poles, etc has to lie with the private sector, but while the government persists in making remarks about encouraging farmers to plant for commercial purposes, in reality all the rules and regulations are obstructive and costly and are major disincentives. (We have assisted more than 400 farmers to plant, and have over 100 commercial tree projects in schools and therefore know what the problems are). Our attempts over the past nine years to have a productive discussion with the authorities have failed and the same hostile conditions prevail. Meanwhile the demand for timber will continue to outgrow supply to the detriment of the consumer.

It has just been drawn to my attention that the Town Council of Makuyu is levying a cess of Ksh100 on each tree sold by a farmer. That is about what he gets for his thinnings as firewood, or as posts for the horticultural industry, so he will have had the cost of growing the tree, and will have a net loss when he sells. It is time that everyone in Kenya stops throwing

around ideas which have no practical value, or have the effect of causing anxiety in the minds of tree growers, and concentrates instead on finding a way forward, which will really encourage the planting of more trees for commercial use. The unjustified hate campaign against gum trees must stop. Recently the newly appointed headmaster of a school in Rongai cut down all the gum trees we had helped to plant because he was frightened of being criticised by (Environment Minister) John Michuki. Oh dear!

With best wishes for a more productive future,

Richard Muir,
Chairman of Friends of the Mau Watershed (FOMAWA)

Dear SWARA,

I live close to Lake Nakuru National Park in an area where there is plentiful wild life including zebra. Recently, I took on an abandoned baby zebra who was very obviously hungry but too young to eat grass. This was reported to KWS (Kenya Wildlife Service) who said they would come and get it. Meanwhile, after we had established the right feeding regime, there seemed a good chance of its surviving, and bonding with my two donkeys. It was a rude shock the following afternoon when over 24 hours

later - KWS arrived. The two rangers could see for themselves the zebra had no teeth and was only able to drink milk. One ranger said that as the KWS plan was simply to release her in Nakuru Park, she would be better off staying put. She gave me some phone numbers to call in Nakuru. However the orders were clear from KWS: they were not prepared to listen and were taking the zebra foal.

I am aware of the laws requiring permits to possess wild life, but understand that leniency is possible under certain circumstances. I had a friend staying who has worked closely with KWS and has had over 1,000 animals under permit, but he was out that afternoon. It was horrific to watch the zebra foal being handled roughly, her legs tied, carried upside-down and thrown onto the metal floor of a vehicle: a grim example to the three young female students in attendance. The ranger/driver sped away on the rough road and we could hear agonising crashes on metal as the foal kicked and thrashed in the back as the students screamed. We heard the vehicle stop, later discovering that the zebra calf had jumped out with her legs tied together.

Many phone calls later, having not established if she was injured, we were told she had been released in Nakuru Park "to fend for herself." It was now evening. The following day, we arrived early at KWS headquarters by Nakuru Park. Several hours later, we obtained permission to look for the zebra foal,



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Extract from the website of the 2010 International Year of Biodiversity which encourages participation

“ Let us reflect on our achievements to safeguard biodiversity and focus on the urgency of our challenge for the future. Now is the time to act. Be inspired and get involved! It is the actions of individuals that will ultimately make a difference for safeguarding biodiversity.

Learn

- About biodiversity in your city, region and country. How your consumption patterns and everyday actions may impact on biodiversity, sometimes in distant ecosystems.

Speak

- Make your views known to the government and the private sector.
- Share your knowledge with people around you.
- Send us your success stories.

Act

- Make responsible consumption choices.
- Support activities and organisations that conserve biodiversity.
- Join a local environmental NGO or organise your own activities that will help biodiversity.
- Be creative and find solutions to biodiversity loss.

assisted by a concerned and helpful KWS member of staff. The area in which the young zebra had been released the previous evening was totally devoid of other zebra and plagued by flies and mosquitoes. We discovered that the KWS vehicle had driven off road in a wilderness of waist-high grass, presumably to ensure that throwing out a traumatised and probably injured baby zebra would not be seen, concealing their glaring mistakes and incompetence.

During this unpleasant incident, most of the KWS staff we met were dedicated as well as friendly and helpful, so this is by no means meant as an indictment of the entire institution. However one small incident like this can create bad relations between KWS and the communities around the National Parks, on whom the success of these wild sanctuaries also depends. Indeed, it is “only” a baby zebra we are talking about, not an endangered species, nor even a lucky member of the Big Five; but this story illustrates one aspect of the bigger picture: A young foal was forcibly denied a good chance of future survival in the wild to certain death. It was also treated with shocking cruelty by members of the institution which should be teaching the exact opposite by example.

Juliet Barnes

hotair@swiftkenya.com

Dear SWARA,

Lake Naivasha – February 2010

These are my memories of my holiday trip to Lake Naivasha earlier this year:

A lake that turned red every day. Astonishing. I have never seen a lake turn so red, most lakes (we call them lochs where I live) I’ve seen are clear or blue, never red. Dead fish floating on the surface of the lake. They died because there was no oxygen in the lake for them to breathe - the algal bloom used it up. Foaming, green algal soup in channels draining flower farms right next to well - signposted ‘constructed wetlands’, and security guards who followed me after I took pictures of these ‘constructed wetlands’.

Fish Eagles scanning for fish whilst sitting on poles in the lake, presumably because they can no longer see fish in

the brown, murky water from the trees where they used to sit and wait. The trees are even further from the lake than they were last year, and the papyrus was too – worrying because this was after the rains. The lake has receded further, exposing more of the lake bed – it’s covered with thistles. The floating restaurant stranded high and dry. There were more hippo skulls than last year – apparently one of them died when it got stuck in a channel pumping water to a flower farm. These hippo-killing channels are deep. Candelabra trees cut down to build houses. And more plastic rubbish lying around, every year there is more plastic. I watched a few people collect water from the lake, they must be desperate as the lake is filthy. Thankfully more people were collecting clean water from a pipe.

There are many good memories too. Lovely people – great company. Watching a bachelor herd of giraffes fighting for three hours. Listening to the calls of the Fish Eagles. Talking to local people who really care that Lake Naivasha is in peril, but who despair for the future and wonder whether Lake Naivasha will even exist in a few years. Just being there, in Africa’s great Rift Valley, a privilege.

The United Nations has designated 2010 as the International Year of Biodiversity. Leading up to this year, we had the ‘2010 countdown’. At the global level, the biodiversity target was “to achieve a significant reduction of the current rate of biodiversity loss” by 2010. In Europe, the target was even more ambitious: to “halt the loss of biodiversity” by 2010. That didn’t work, did it?

In my own country, I despair when our government permits Donald Trump, an American billionaire real estate developer, to build a golf course on legally protected sand dunes when we already have 500 other golf courses in Scotland. But, of course, this is big business and we need this ‘economic development’, regardless of the environmental loss.

I’m equally concerned that people buying cut flowers in local supermarkets have no idea where the flowers come from or the environmental devastation their production causes. At best the labels say ‘these flowers may have been air freighted’. Increasingly European consumers do care and not only do they expect corporate social responsibility, they expect environmental responsibility too. These days we are told the



I would personally like to welcome the following members to the East African Wild Life Society:

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environment provides us with 'ecosystem services' and often these services are free. Perhaps we will only appreciate just how many valuable ecosystem services Lake Naivasha provides for local people when there is no lake, or the lake is dead.

Together we will choose the future of Lake Naivasha, either by doing nothing or by taking action. So in 2010, the International Year of Biodiversity, what will you do for Lake Naivasha? Will you be a couch conservationist and simply wait and watch as the lake dies and becomes Kenya's equivalent of the Aral Sea? Or will you participate and take one of the actions recommended on the previous page? As for me, I'm working on some of the speaking and acting activities listed above – if you want to know more please contact me via the editor.

Remember the words of Obama **"Yes, we can. Yes, we can change. Yes, we can."**

Jill Mathews

jill-mathews@tiscali.co.uk

Dear SWARA,

I would like to bring to your attention some concerns about Kenya Wildlife Service's management of Kenya's National Parks, which could be improved.

- The lack of quality merchandise sold in the shops - this could be really exploited to help fundraise for the KWS
- The lack of knowledge of gate staff about what animals are in the parks (e.g. numbers)
- The process time it takes visitors entering the parks
- The lack of maps and information about the parks
- Lack of clean, equipped and functioning toilets

Sam Cole

Braeburn Garden Estate International School, Nairobi

Dear SWARA:

Sure enough, I am in agreement with you on the issue of wild animals living outside of protected areas. I remember, with nostalgia, that in the

1980s and 1990s when I was growing up in the village of Chemoinoi, Rift Valley, I would usually see leopards roaming the escarpment below which we lived, especially at sunrise and sometimes at sunset. Since I went to high school, and left the village, I haven't had time to check if these priceless animals, as well as serval cats, mongoose, hyena, monkeys, baboons, dik-diks etc, still roam our landscape.

One thing I know for sure is that the Yellow Mangabey, which I used to encounter often when I was herding goats in the 1980s is now gone.

Anyway, to cut a long story short, I am now a member of EAWLS since 2008, and I am eager to see that we conserve the biodiversity we have for ourselves and for future generations of Kenyans. I would be happy to send a few euros, perhaps 50 euro for now, towards this worthy cause. My financial situation isn't very good at the moment, but I hope any small contribution I make will go towards making a difference where it matters most.

And while we're still discussing this issue, I wonder who is supporting the conservation of the less visible, but nonetheless important, invertebrate wildlife. I am thinking about the insects, scorpions, the worms etc, that also dot our beautiful landscape, and whose contribution to the base levels of the ecosystem sustains the bigger, more visible, wildlife? I have not seen much of it discussed here or indeed elsewhere in the Kenyan biodiversity fora.

We already know the priceless role of insects in pollination. Let's also do something about them.

Samuel Kibichii

skibichii@yahoo.com

GOT A CONSERVATION POINT TO MAKE?

SWARA welcomes letters from readers. Please send them to swaraeditor@gmail.com with JPEG images if appropriate.

Swara reserves the right to edit letters for length and clarity.

The Editor



GOOD SIGNS THAT GRABBING OF PUBLIC LAND COULD BE HISTORY IN KENYA

BY FREDRICK OWINO

It has been a trend in Kenya that politically well-connected individuals are given public land as state largesse. Indeed, this has been one of the motivating factors behind the often hotly contested presidency elections. Ethnic groups fight for their own candidate to be president so that he/she can dish out some public land, among other benefits. About 10 years ago, the trend climaxed, leading to a chaotic situation where well-connected individuals used all sorts of schemes to grab public land. Forest and wildlife reserves were prime targets for such schemes. This was the time when large-scale forest excisions in the Mau forest complex, South Nandi forest and in Cherangani Hills forests were made for human settlement. As "favoured" individuals were allocated parts of the forests, others followed suit with illegal encroachment in forest and wildlife reserves. The combination of land grabbing and illegal encroachment became a major threat to conservation in most regions in Kenya.

The East African Wild Life Society became a major voice against the grabbing of public land set aside for conservation, and against forest excisions. The Society joined other conservation players in litigations – some of which are

active to date. For example, the former chairman of the Society, the late Imre Loefer, became actively involved in contesting land grabbing within Ngong forest sanctuary. Regrettably, all the efforts the Society and other conservation players made bore little fruit in the climate of corruption and impunity which persists to date.

With the above background, it came as a big surprise in July when the Kenya Anti Corruption Commission handed over some of the grabbed land from Ngong forest and from Nairobi National Park to the Minister for Forests and Wildlife. For Ngong forest sanctuary, the efforts of Imre Loefer and Prof. Wangari Maathai have been rewarded. That the handing over of stolen land was made visible in a high-profile ceremony indicates a most welcome government commitment to crack the whip on land grabbing in forest and wildlife reserves. It is my personal hope that such government actions will be extended to cover forest excisions that have been contested.

However, the greatest sign that grabbing of public land could become a thing of the past is in the draft Kenyan constitution, now being debated publicly. The draft has addressed governance weaknesses, which had been exploited for land grabbing schemes in the past. For example, the presidency will no longer have free rein in giving anybody public land. If the draft constitution is approved by national referendum in August, there

are good signs that grabbing of public land will be checked.

On the EAWLS business front, I am happy that SWARA magazine is now published on time and that great efforts are being made for the magazine to reach more readers worldwide. The Society has concluded a major review of SWARA and we hope that the new-look magazine is appreciated by members and can better champion the conservation cause.

Our Executive Director Nigel Hunter has settled well into the job and has made significant improvements in finance and administration. He, and other staff, continue to play commendable roles in networking NGOs and civil society for information - sharing and mobilising actions for conservation. Through its wetlands programme, the Society is playing a pivotal role in coordinating NGOs and civil society groups challenging the proposed large-scale clearing of biodiversity-rich coastal forest and woodland for growing of *Jatropha curcas* for oil production under unproven technology.

The Society is pursuing the establishment of a branch in Uganda and is also exploring opportunities to work with and to support conservation players in Tanzania in our future activities. ●

Fredrick Owino
Chairman, EAWLS

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WHAT ODDS ON DOING ANYTHING SENSIBLE?

BY NIGEL HUNTER

I want to concentrate on several different issues in this letter.

POSSIBLE LAMU AREA DEVELOPMENTS

Let me start with the Lamu port initiative. Assuming the government is committed to developing a new harbour with transport links to Ethiopia and Sudan, will the government seize the opportunity to apply a well coordinated, properly planned and transparent approach to this undertaking? This is a golden opportunity to pull away from the tradition of undertaking haphazard development that does not apply Kenya's laws governing planning and development. The development of a port at Lamu does not stop with the port. A township will grow up around the port, requiring the planning of commercial and residential areas, the provision of services, full respect for the social and cultural values of Lamu Town as a World Heritage Site and full respect for the significant environmental values and services that apply in this unique coastal area of Kenya.

When a development of this scale is being contemplated, one course of action would be to set up a specific development authority that coordinates the multi-disciplinary approach required to undertake the planning and to oversee proper implementation. However, such an authority must be headed and staffed by people with the right technical skills and experience, rather than by people appointed because of their political affiliations. The authority must be neutral, objective and transparent. No such body currently exists. It would have to be created from scratch. It must also be shored up so that those seeking to serve their own interests, rather than Kenya's, are not able to bypass it.

With the above in mind, we think it is important to bring to people's attention some of the issues and characteristics relating to the Lamu area that need to be highlighted and considered. There are two articles in this edition of SWARA that set the ball rolling.

CLIMATE CHANGE

Dr. Mike Norton-Griffith's article in a recent (SWARA, Jan-March 2010) and his two Loefer talks at Karen country club and Muthaiga country club on climate change have certainly provoked reaction. However, some misunderstandings appear to have crept into the debate. As I see it, Norton-Griffith is not denying the reality of climate change. He is highlighting a growing body of research that suggests that the cause of this change may not be carbon emissions but other more natural influences, which are only now being understood as scientists get better at distinguishing short-term trends and patterns in long-term cycles.

You could ask 'does this matter?' In one sense, it does because if the 'natural influence' explanation gains acceptance, the current political adoption of climate change as the cause of our environmental problems could backfire. The reality is that we should not lose sight of population growth, changing land use and other influences that were there before the focus on climate change and that will continue to be primary causes of environmental change. A three-day conference on Kenya's Biodiversity, Land Use and Climate Change, to be held in Nairobi in September, should help us understand these relationships better. That said, we should also not row back on reducing carbon emissions, if for no other reason than they are bad for our health.

DAKATCHA WOODLANDS AND JATROPHA

I would like to quote EAWLS deputy Director Michael Gachanja's article, which was published in the Star newspaper on July 8:

"For some time, the society has expressed concerns over large-scale growing of Jatropha in marginal land, and in particular an area comprising 50,000 hectares of the Dakatcha woodlands. Other organisations share the same concerns, which were expressed at a public hearing. By then, we did not know that our opposition to the project would not be taken kindly by those supporting



the project. On 9th June, an ugly and nasty incident orchestrated by those in favour of the project (and) aimed at silencing anybody with a divergent view occurred at Dakatcha where staff of Nature Kenya and journalists were physically attacked. During this incident, people were injured and a car damaged. Nobody carrying out the assault was arrested. It appears that the company (with support from the local government and local administration) is determined to move on with the project at all costs. I, on several occasions, have emphasized that we should all support development if we are to achieve Vision 2030, BUT any development that undermines social, economic and environmental dimensions should not be supported. We certainly should not be supporting projects that result (in) intimidation."

The article reiterates the reasons why this proposal to plant Jatropha should not be approved and concludes as follows:

"It is these social, economic and environmental considerations that have been ignored by those promoting the project. And we all should deplore those who try to get their own way by subverting the implementation of the processes required by the Environmental Management and Coordination Act (EMCA) and by trying to intimidate those who present valid arguments as to why the project proposal may be badly flawed."

I am happy to say that these developments have caused widespread concern and alarm, and the matter is being actively followed up within the government, with the full support of EAWLS, Nature Kenya and the private sector. ●

Nigel Hunter
Executive Director
EAWLS

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CLIMATE CHANGE A REAL THREAT TO ECOSYSTEMS

BY RICHARD LEAKEY

Dear SWARA,

I was surprised to see the article by Dr. Mike Norton-Griffiths on climate change (SWARA, Jan-March 2010) appear without any back-to-back counter opinion. Climate change is rather central to the future viability of many natural systems but certainly national parks and other conservation areas are especially important to the East African Wild Life Society and its members.

Norton-Griffiths writes of his amazement that a meeting of 1,500 climate scientists held recently in Geneva has had so little public attention! I suggest that it is not the number of scientists but what they say that gets the attention. I can provide countless examples of large gatherings of scientists who have met to refute evolution but the evidence for evolution is very robust, as is the case

for human contributions to the climate change crisis.

Norton-Griffiths uses a diagram to show that "climate" is actually getting cooler, but no serious observer will fail to ask why the time frame on his chart covers only 15 years! I was a visitor to the Antarctic Peninsula in February 2009 and on the western margin, several scientific bases that I visited confirmed that the western Antarctic has warmed by 2.5°C over the past 10 years. This is a rise of mean annual temperature. Similar observations are recorded from the Arctic Circle and in other areas of the world. The equatorial belt is likely to experience less temperature change.

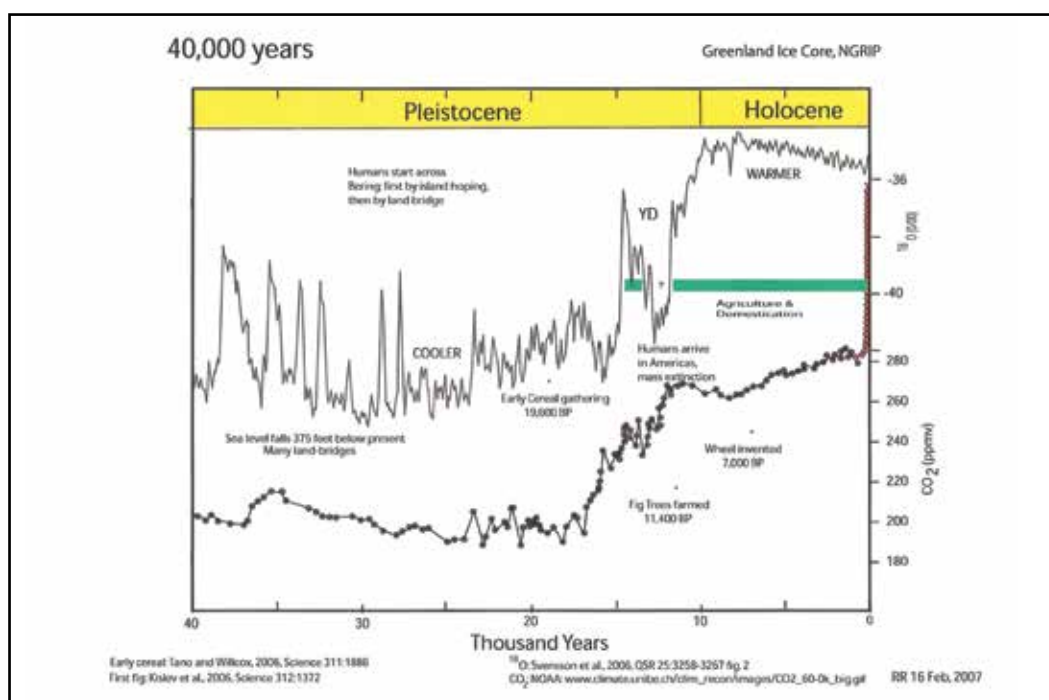
I attach four illustrations, which graphically represent the consensus of scientific opinion. Whether we like it or not, the plight of East Africa's ecosystems, wild life and people has never been more

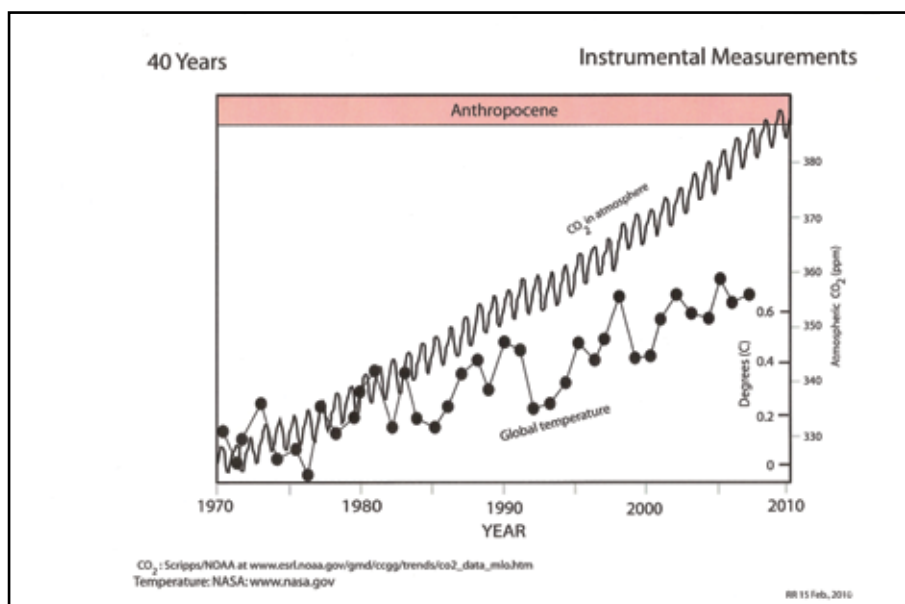
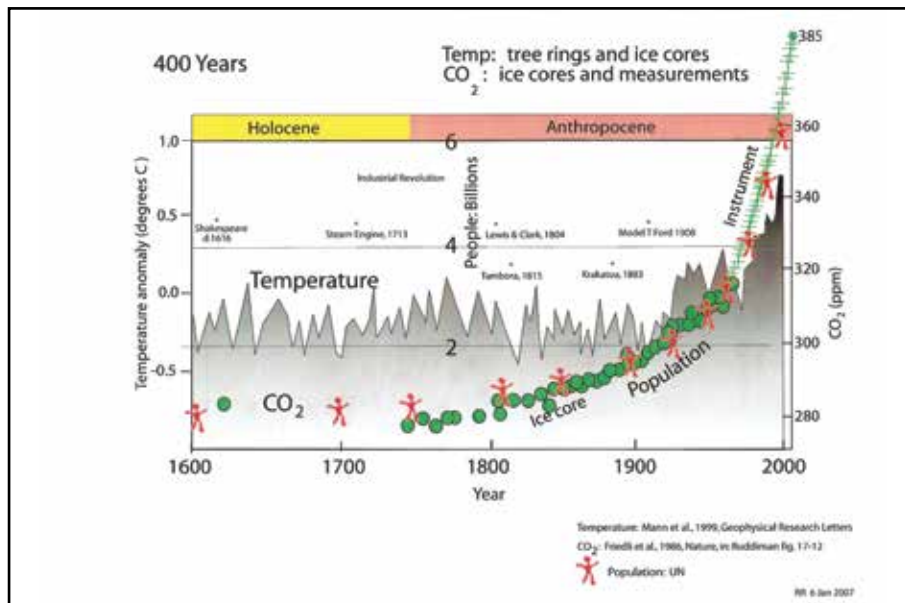
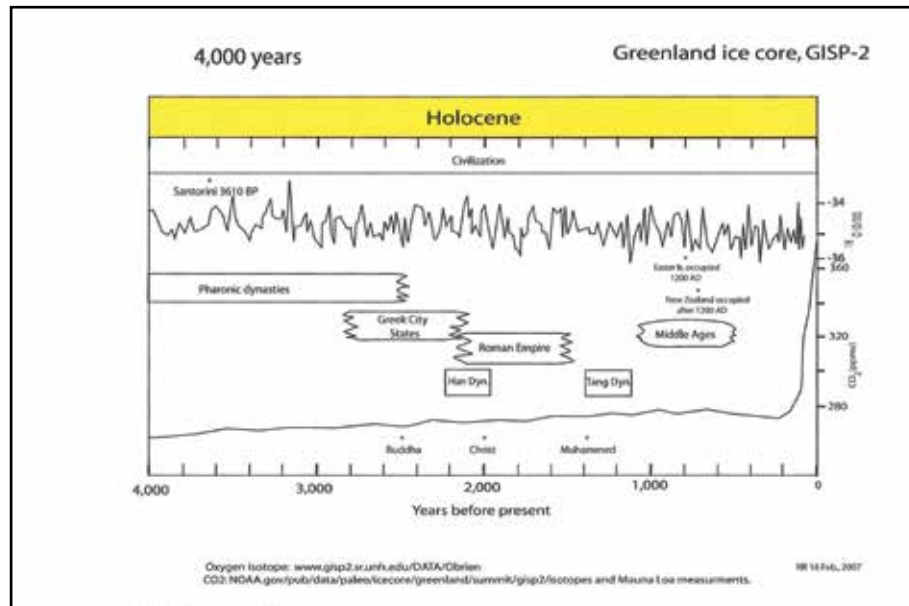
challenged and your readers should know this.

Dr. Norton-Griffiths, who has a good scientific background, should know that climate change is one of the most fundamental issues in the experience of human existence on this planet. It is real and the past shows what has happened before. Today the human population is headed for 12 billion; this is why it will be such a crisis for our species and all other life on the planet.

Your magazine is not the place to have this debate in depth but there is plenty of data to be found on the web and in learned publications. Those in the doubting camp really are a minority but, as often is the case, they are vociferous. ●

RICHARD LEAKEY
Fellow, Royal Society







CONSERVATION

THE WORST DROUGHT

TIPPING OR TURNING POINT?

BY DAVID WESTERN



A dead buffalo that got stuck in a swamp trying to get drinking water.



Amboseli was more like an abattoir than a national park in early September last year. Over 3,000 wildebeest, zebra, buffalo and elephant carcasses littered the tourist circuits around the swamps. Hundreds more animals lay dying. Emaciated animals waded deep in the marsh, searching out the last green sprigs. Hyenas attacked straggling, weakened zebra, barely eating one before bringing down another. By late September, tourists were so upset by the sight and stench of death that the warden was fork-lifting carcasses out of sight.

The carnage was far worse than during any drought I've seen in four decades of research in Amboseli. But with the Met Department predicting El Nino floods in late September, it would soon be over. What if the forecast was wrong though? The outlook was numbing. To gauge the impact, Jeff Worden, deputy to the Amboseli Conservation Project, and I intensified the monthly monitoring that field assistant, David Maitumo has been doing for 35 years.

The rains did fail, and by mid-October, 100 animals a day were dying of starvation. A few more weeks of failed rains would see a wholesale collapse of Amboseli's large herbivore population, leaving the lions and hyenas little to eat.

As devastating as the drought was, it could have been far worse. I counted fewer than 40 cattle carcasses close to the park in September, where in earlier droughts I had counted thousands. The Maasai knew this was a drought like no other they'd seen and had left for distant pastures before their animals succumbed. By May, after the long rains failed, hundreds of thousands of pastoralists across Kenya's rangelands were trekking to the highlands, down to the coast and into neighbouring Tanzania, Ethiopia and Somalia in search of fodder. They drove their starving animals onto farms, along city verges and into national parks. Despite the mass exodus, cattle died by the hundreds of thousands when the grazing ran out.

At the African Conservation Centre (ACC), we began monitoring the losses

and interviewing herders across southern Kenya. Pastoralists were bewildered and distraught, some to the point of suicide. None had ever experienced such a drought. Before it was over, three-quarters of the cattle and two-thirds of their small stock had died of starvation. More died on the long journey home when the rains fell in December.

Back in Amboseli, 6,000 animals had died of starvation by November and the death rate was climbing. Only 1,000 of the 7,000 wildebeest clustered into Amboseli at the start of the drought had survived by then, and we projected that the population faced extinction unless fed. I reported the dire projection to Kenya Wildlife Service (KWS) Director, Dr. Julius Kipng'etich and urged he provide food relief as he had done for hippos starving by the dozens at Mzima Springs in Tsavo. The director asked the ACC to arrange emergency supplies immediately. By the time the trucks arrived, fewer than 200 wildebeest were alive and the zebra and buffalo numbers had tumbled. With so few animals left, the swamp grazing had suddenly begun rebounding. The feed was no longer needed: the re-growth far outstripped the needs of the depleted herds.

The regenerating swamp grasses ended the starvation of large herbivores, but not their losses. By late November, the park's 57 lions and many more hyenas were killing far more emaciated animals than they could eat. The wildebeest were still endangered, unless the rains came soon and the herds migrated out of predator reach. But the rains would pose a new and more troubling threat. Having lost most of their prey, the carnivores turned on Maasai livestock returning after the drought. Devastated by their losses, the Maasai were in no mood for predator attacks.

KWS and ACC called an emergency meeting in mid-December to size up the crisis and head off the conflict. By the close of the meeting the community, KWS, conservation organisations, tour operators and researchers had agreed to coordinate predator tracking and plans to avert attacks on livestock.

The rains arrived as the meeting ended and the lions began killing livestock within days of the wildlife herds migrating out of Amboseli and the Maasai moving back in. KWS, more than usually

short-staffed over the Christmas recess, was unprepared. Lions were soon attacking settlements every night. The Maasai were given little help and the conflict soon spiralled out of control as lions broke into settlements and Maasai killed them in self-defence. By the time the zebra and wildebeest began returning in early June, 18 lions had been speared or poisoned and several starving cubs had died.

We anticipated that Amboseli's hyenas would be even more troubling for the Maasai than the lions, but they made few attacks on livestock for weeks. The delay was puzzling, until our monitoring showed hyenas living off the 10,000 carcasses left by the drought. The ever-adept hyenas have some canny ways of getting by when prey runs short: they render mummified chunks of hide edible by soaking them in water and eating the sodden flesh like rehydrated biltong.

What made the 2009 drought in Amboseli so devastating?

It is tempting to dismiss the drought as a recurrent hazard in the rangelands. But the speed and depth of the wildlife and livestock losses compared to earlier droughts suggests Amboseli had reached a tipping point. Droughts have become more persistent as well as socially and ecologically more disruptive over the last 20 years, far more so than rainfall shortages can explain. In Amboseli, the results of our 43 years of monitoring wildlife, livestock, pasture and rainfall show that droughts - measured by forage shortfall - are now explained more by heavy animal stocking rates than by rainfall. Based on my research, I wrote an article in the national press on the 2000 drought warning that Kenya had not seen anything yet. Far worse times lay ahead, unless action was taken to arrest the mounting degradation across the rangelands.

Three factors best explain the tipping point reached in Kenya's rangelands a decade later.

Most important is the loss of land. Human numbers across the rangelands have grown four-fold in 40 years. Highland forests and lowland woodlands and swamps that buffered



DAVID WESTERN



This page:

Top, Bottom Left, Bottom Right: Amboseli was more like an abattoir than national park during the 2009 drought.

Opposite page:

Top: Jeff Worden and David Maitumo counting carcasses.

Bottom: Buffaloes grazing in a swamp.

wildlife and livestock in droughts have been cleared and drained for farms and settlement. Rivers have been diverted for use in urban homes, horticulture, and industry. In all, over a quarter of all pasture has been lost to wildlife and pastoral herders, squeezing them into the least productive areas. The story of shrinking space and mounting pressure is told in the spread of erosion.

Less land and fewer drought refuges is hastening the collapse of a once productive and sustainable pastoral economy. Drought-tolerant migratory cattle were well adapted to the erratic rains and ephemeral pastures of the savannas. For generations, the Maasai and other pastoralists sustained their herds and grasslands, and indirectly the richest wildlife populations on earth. No longer. Rising pastoral numbers far outstrip the capacity of their milk herds. Their falling livestock holdings per family spell poverty. And with

the government spending so little on education and development in the rangelands, pastoralists have few other prospects. Trapped in poverty, pastoralists sell whatever they can when their herds die - land, sand, rocks and charcoal, notwithstanding the cost to the land. Game meat is another source of money, whether using home-made traps or inviting in poachers if that proves too hard and risky.

The wholesaling of natural resources in the rangelands comes about because there are too many people for the herds and land to support. The fallout for wildlife is far too large a problem for KWS or conservation organisations to solve. No amount of coercion can stop hard-pressed landowners chasing off or fencing out wildlife that eats their pasture or kills their stock. The solution lies in tackling the root causes of the social dislocation and ecological disruption.

Adding to the land pressure, pastoralists are pushing for subdivision and settling down in the hopes of protecting their traditional lands and a better life. Yet carving up rain-poor, open range and subjecting it to year-round grazing saps the productivity of grasslands and weakens their recovery from drought. Land fragmentation and settlement is now the biggest threat to Kenya's richest wildlife areas.

A third contributing factor is less

visible and more difficult to grasp: an uncoupling of ecological processes that account for East Africa's large herds and rich panoply of wildlife. Migrations increase the growth rates and milk yields relative to static herds of herbivores in the seasonal savannas. Drought refuges dampen starvation and death in harsh years. The loss of mobility and drought reserves has taken a heavy toll on wildlife in the last 30 years. Carving up the open savannas into parks and ranches has added to the problem of range loss for livestock and wildlife alike.

Ecological fragmentation and dislocation intensifies competition between wild and domestic animals. Coupled with the loss of stand-by drought food that wildlife once gave them, pastoralists no longer have reason to tolerate it. Range compression and the loss of migrations exact a heavy toll on vegetation. In Amboseli, a compressed elephant population destroyed the extensive fever tree woodlands, causing a loss of habitat and wildlife diversity. Browsing species such as giraffe and impala have all but disappeared and zebra, wildebeest and buffalo numbers have risen steeply with the growing elephant population. The resulting grazing pressure has whittled down the swamp sedges until the herds have barely enough to eat in average rainfall years, let alone during droughts. The 2009



DAVID WESTERN

down to countering the loss of range and disruption of migrations that are pushing down wildlife numbers, diversity and resilience to drought. Wildlife censuses offer a ray of hope: parks do better when neighbouring communities set aside wildlife conservancies to attract tourists and diversify their income. These new parks-beyond-parks are a windfall for hard-pressed communities. They create employment and redress the disparities in wildlife income, they relieve the visitor pressure and seasonality of viewing in parks and, ultimately, they will raise the tourism capacity of Kenya and increase county council and government revenues.

Above all, the win-win combination of parks and conservancies counters the ecological dislocation at the root of wildlife declines. Elephants and other migrants have begun moving onto safe conservancies in northern and southern Kenya, reversing decades of range loss and ecological dislocation. Short of fixing the ecological dislocation and restoring the wildebeest and zebra and other populations on which the large carnivores depend, there can be no solution to restoring Kenya's plummeting lion population.

Amboseli is taking a lead in planning wildlife and pastoral economies at the level of ecosystems. In the last few months, an Amboseli Ecosystem Trust has been launched to oversee the implementation of a conservation plan drawn up by the Maasai community, KWS, conservation organisations and tour operators. The plan aims to improve both wildlife conservation and livestock production over 10 years. The ACC has established a community-based

IN AMBOSELI, THE RESULTS OF OUR 43 YEARS OF MONITORING WILDLIFE, LIVESTOCK, PASTURE AND RAINFALL SHOW THAT DROUGHTS - MEASURED BY FORAGE SHORTFALL - ARE NOW EXPLAINED MORE BY HEAVY ANIMAL STOCKING RATES THAN BY RAINFALL.

wildlife migrations, moving across the savannas with the seasons, are gone.

The challenge for the pastoralists lies in fully securing their lands, raising fewer livestock with a higher market value, and conserving pasture production. The pressure on the land can only be solved by better education and by alternative livelihoods and jobs. This calls for a heavy investment by government and support agencies in schools, social services and infrastructure to make up for decades of neglect that have caused a widening poverty gap.

The challenge for conservation comes

drought tipped the narrow balance of forage demand and supply, triggering a population crash.

Amboseli was hit harder by the drought than other parks, but its loss of animals is no exception. Wildlife numbers have fallen by 40% across Kenya's parks over the last 30 years, matching the losses outside parks. The large migratory herds are declining and many parks are losing their diversity of habitats and wildlife. The 2009 drought signifies a turning point in the Kenyan rangelands: the days of large co-existing pastoral and



DAVID WESTERN



DAVID WESTERN

The loss of habitat in Amboseli added to the severity of the drought.

40%

REDUCTION OF WILDLIFE
NUMBERS IN KENYA'S PARKS
IN THE LAST 30 YEARS

cattlemen's association to improve livestock breeds and range management practices and to restore degraded rangelands.

Private conservancies and community wildlife sanctuaries are springing up across Kenya. Some are exclusively ecotourism operations. Others combine livestock development and wildlife enterprises. The combination approach offers far more scope and hope for wildlife and communities than exclusive wildlife sanctuaries. The South Rift Association of Landowners spans the

entire area between the Mara and Amboseli and secures large migratory space as well as drought refuges vital for wildlife and livestock. The Northern Rangelands Trust has created dozens of community livestock and wildlife enterprises across northern Kenya.

The new associations work because the combined income from tourist fees and conservation covers the costs of conserving wildlife and provides communities with money for education and development. Novel collaborative conservation enterprises are being forged between landowners, conservation bodies and commercial operators. New conservation tools offer more prospects ahead. These include conservation easements and leases, carbon markets, grass banking and trading to reduce drought exposure, and drought insurance schemes.

Then there are prospects for energy production in the rangelands as Kenya pushes towards self-sufficiency under its Vision 2030. Income from biomass, wind and solar energy will diversify livelihoods and raise incomes in the

rangelands. The 2009 drought could be a turning point rather than a tipping point for wildlife, pastoral communities and the rangelands, if these new opportunities are seized in the next few years when livestock numbers are low and the range is recovering. Seizing the moment calls for rethinking rangeland conservation policies and practices, and for larger-scale integrated land management. If the new tools are pushed by government, conservation organisations, aid agencies and most especially landowner associations, the vulnerability of wildlife and pastoral communities to drought - and climate change - will recede. ●

DAVID WESTERN

Chairman and founder of the African Conservation Centre, Nairobi. He established Kenya's Wildlife Planning Unit, was founding president of The International Ecotourism Society, chairman of the Wildlife Clubs of Kenya, director of Kenya Wildlife Service.



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CITES Conference in session.

CONTROVERSY AT CITES CONFERENCE IN QATAR

BY ESMOND BRADLEY MARTIN AND LUCY VIGNE

The 15th meeting of the Conference of the Parties of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) took place from March 13-25, 2010 in Doha, Qatar. This small country has the highest per capita income in the world and the economy is expected to increase at a faster rate in 2010 than even China's, mostly due to gas exports. There were 1,500 or so people registered at this meeting, mostly staying in lavishly tall, new hotel buildings situated dramatically on the fringe of the Arabian desert. Delegates took buses along the expensively landscaped corniche to the conference centre at the luxurious Sheraton Hotel. During the two-week conference, delegates took breaks to visit the city and its large, traditional-style market called Souk al Waqif, which has been totally rebuilt with small shops and stalls selling everything from Peregrine Falcons to household goods to souvenirs such as old Arab daggers and swords with ivory handles, and even cat skins.

African countries and the media were most interested in the three

proposals concerning the African elephant put forward by Tanzania, Zambia and Kenya. The first proposal, put forward by Tanzanian officials, advocated the downlisting of the African elephant in their country from Appendix I of the Convention to Appendix II to allow them to export live elephants, hides, and trophies, and most controversially, 90 tonnes of ivory stockpiles to Japan and China. Later, on the floor, Tanzanian officials split the proposal so that the ivory sales would be voted for separately. The Kenyan delegation and the East African Wild Life Society opposed Tanzania, partly because the country has been a major route for tonnes of illegal tusks moving through to Asia. Work carried out by the Elephant Trade Information System (ETIS), some NGOs, and the CITES Panel of Experts supported this concern. In any event, Tanzania did not obtain the necessary two-thirds vote and the proposals failed.

Zambia had a similar proposal to downlist its elephants to Appendix II, also to permit the sale abroad of live elephants, hides and trophies as well as the sale of 22 tonnes of ivory from government stocks to China and Japan. Again, on the floor, Zambia split its

proposal to have a separate vote on ivory sales. The CITES Panel of Experts reported that "poaching, however, remains a big problem in several protected areas, notably in Lower Zambezi". The Panel also noted "annual expenditure on patrols in Zambia is currently about USD 50 per km² which is far lower than the generally accepted norm of USD 200 per km² required to provide adequate patrol of protected areas across southern and eastern Africa". Partly due to these apparent problems and intense lobbying, led by Kenya and some other countries, the proposals did not receive enough votes to succeed.

The final elephant proposal was submitted by Kenya, joined by the Republic of Congo, Ghana, Liberia, Mali, Rwanda and Sierra Leone – countries where poaching has been severe or whose elephants have virtually disappeared. It proposed that CITES prohibit all international government sales of ivory for all of Africa's countries for 20 years. At the previous CITES conference, it had been agreed that no ivory sales should be allowed from Botswana,



LUCY VIGNE

Esmond Bradley Martin and Mangel Man Shakyas of Wildlife Watch Group Nepal talking at a news conference in Doha.

Namibia, South Africa and Zimbabwe - countries on Appendix II - for nine years following ivory auctions held in 2008. After much discussion, lobbying and emotional speeches, Kenya submitted a draft decision accepting the original nine year moratorium, but requesting this to be applied to all African countries and not just the four southern African countries. This amended draft decision did not receive enough support and therefore Kenya withdrew it.

The Parties, NGOs, conservationists and media provided information to support and oppose these various proposals. Some of their statements gave incorrectly high prices for ivory and the CITES Secretariat expressed concern publicly that this could encourage more poaching. A wholesale figure quoted of USD 1,800 a kg for a typical tusk of just less than five kg being sold in Asia was way above the true figure. According to published statistics collected by ivory trade expert and author Dan Stiles, in 2008 in Thailand, traders and craftsmen were in fact paying USD 286 to 429 per kg for such a tusk. In 2009 we were in

Japan obtaining information for the CITES conference, and traders in Tokyo and Osaka said they paid from USD 200 to 284 per kg for a five kg tusk and between USD 284 and 340 per kg for a 10 kg tusk. Regrettably, figures on prices for ivory in China are not available, although China has been importing large quantities of illegal African tusks recently and is the biggest ivory market for new ivory in the world. These figures could easily be collected in a few days in China if NGOs put a higher priority on this work. African and Asian governments need to know if prices for ivory are rising in the world's markets and if anti-poaching efforts need to be strengthened; in some markets in Africa, Thailand and Japan, the US dollar price for tusks has been rising over the last few years.

Another issue discussed at some length at the conference, and especially relevant to East and Southern Africa, was a revision offered by Kenya of resolution 9.14 (previously revised at the 14th Conference of the Parties). The old resolution urged parties "to identify, mark, register and secure rhino

THE PROBLEM OF POOR GOVERNANCE, ESPECIALLY MISMANAGEMENT AND CORRUPTION, WAS FREQUENTLY EMPHASISED AS ONE OF THE PRINCIPAL CAUSES OF THE MASSIVE ILLEGAL TRADE IN WILDLIFE PRODUCTS.

horn stocks, implement legislation to reduce the illegal trade in rhino products and evaluate the effectiveness of actions to reduce the illegal trade". Kenya's revision suggested an option for stockpile destruction or use for scientific and educational purposes – this was extremely controversial and was finally withdrawn. Before the conference, it had been announced in India that authorities in Assam would destroy their huge stockpiles of rhino horns, the largest in



ANOTHER ISSUE DISCUSSED AT SOME LENGTH AT THE CONFERENCE, ESPECIALLY RELEVANT TO EAST AND SOUTHERN AFRICA, WAS A REVISION OFFERED BY KENYA OF RESOLUTION 9.14 (PREVIOUSLY REVISED AT THE 14TH CONFERENCE OF THE PARTIES).



Some of the most divisive proposals at the conference dealt with marine issues. Efforts to list the Atlantic Bluefin tuna on Appendix I failed to get the necessary support, despite an 85% decline in their numbers over the past 50 years due to both legal and illegal international trade. This is a highly prized fish in Japan for sushi. Sharks are in considerable demand by the Chinese, mainly for shark fin soup, and some species were considered to be over-exploited by the proponents of proposals to put them onto Appendix II, but these also failed. Red and pink corals, which have been heavily harvested in the Mediterranean and the Pacific for jewellery and to make ornaments, especially by the Chinese, Taiwanese and Italians, failed also to be put onto Appendix II.

South Asia. After the conference, some Nepalese officials stated they would do the same in the near future. Kenya further requested that the resolution strengthen the role of the Standing Committee to tackle those countries not complying with CITES regulations and to urge countries to improve their law enforcement. These revisions were adopted, along with the need for greater penalties, help from Interpol, more funding for rhino conservation and data collection, amongst other points added also to the resolution.

Kenya wished to strengthen this resolution 9.14 against rhino product trade as rhino poaching has recently increased in Africa. In 2009 in Kenya, at least 14 black and 6 white rhinos were poached, leaving populations of 635 black and 353 white rhinos needing greater protection. Four of these rhinos were

killed in Tsavo East National Park and the rest on private land, according to the Kenya Wildlife Service. In Zimbabwe, 175 to 200 rhinos were poached from the end of 2007 to mid-2009, based on the number of known rhinos at the beginning and end of this period (860 down to 730) and estimating an annual natural growth rate of a modest 5%. This is the most meaningful way to estimate poached rhinos as there has been under-reporting in state areas. Heavy poaching in these areas has not been surprising: only 3% of poachers are convicted and only USD 10 per km² is being spent on park management, according to a rhino conference report presented at the Mandel Training Centre, Harare, in October 2009.

In South Africa, at least 122 rhinos were poached out of about 1,500 black rhinos and 17,000 white rhinos in 2009.

LUCY VIGNE



Lucy Vigne seated with some of the delegates at the CITES meeting in Doha.



Vietnamese 'sport hunters' have bought licences to hunt White rhinos legally and to take their trophies home legally. The Vietnamese are also buying poached horns in South Africa and smuggling them into Vietnam. The driving force has been a new belief in Vietnam that rhino horns cure cancer. Some Chinese are also known to have been smuggling rhino horns from South Africa. For example, in February 2009, three Chinese men were accused in Middleburg Regional Court of smuggling out 50 rhino horns, mostly from Kruger National Park. While South Africa has had the most rhinos poached in 2009,

Zimbabwe's population has been hardest hit and has been declining in number.

The amended resolution 9.14 on rhinos and their products refers to the need for more information - gathering to reduce poaching. Virtually nothing is known about the rhino horn trade in eastern Asia, notably the main illegal markets of Vietnam and China. In Africa, a major reason for the increase in rhino poaching in Kenya, Zimbabwe and South Africa is that the trade routes are not well understood and therefore traders are able to export the horns relatively easily. In Kenya, horns may be still going

to Yemen, but nobody has been to there to study the routes since January 2008. In Zimbabwe, some conservationists believe many rhino poachers in the Hwange area cross over from Zambia and take back the horns to Zambia, but little is known about where they go from there.

Other rhino horns from Zimbabwe are thought to be taken to South Africa. Domestic routes through South Africa for rhino horns are not known, nor are the main routes for smuggling the horns out. No prices are known for rhino horns in Zimbabwe or South Africa for the last five years. The Greater One-horned rhino in Nepal and India has also suffered poaching and more information is needed on trade routes there. We do know that horns move from southern Nepal and northern India to Tibet but we do not know their final destination. In the past, people in China did not buy many Asian horns because they were so expensive compared with African horns. Has this now changed?

In Doha, there were daily side events, such as book launches, films, lectures and debates, outside the formal sessions of the conference, and they were well attended and often controversial. The problem of poor governance, especially mismanagement and corruption, was frequently emphasised as one of the principal causes of the massive illegal trade in wildlife products. One evening talk was about the atrocities and illegal activities linked to the natural resources of northeast Democratic Republic of Congo. The authors of the new United Nations Environment Programme (UNEP) publication, *The Last Stand of the Gorilla, Environmental Crime and Conflict in the Congo Basin*, presented their findings, saying that rebel groups are heavily involved in the bushmeat trade which has resulted in a loss of up to 80% of large animals in the region's national parks; they also named international businesses which are directly involved in illegally exploiting the natural resources of the country.

Another presentation was on data collected by ETIS on the smuggling of African and Asian tusks, again emphasizing the issue of poor law enforcement that directly relates to CITES. Nigeria, Thailand and the DRC have been arresting very few ivory poachers or traders and have been allowing ivory to move in and out of their countries with little attempt to seize



LUCY VIGNE

A zebra skin, amongst other items, for sale in Doha's Souk al Waqif.



THE OUTCOME OF THE CITES CONFERENCE WAS POSITIVE FOR MANY SMALLER SPECIES, SUCH AS A BEETLES, SEVERAL REPTILES AND AMPHIBIANS AND VARIOUS PLANTS THAT WERE GIVEN GREATER PROTECTION IN INTERNATIONAL TRADE.

these smuggled goods; they have also been permitting domestic sales of ivory items openly in markets. Several slides at the presentation showed many large illegal ivory items for sale recently in the Bikeko market (which happens to be near a police station) in Kinshasa, DRC. A senior DRC delegate who attended the lecture commented that the Congolese do not buy these illegal ivory objects, ignoring the fact that they were openly on display.

These three countries have continued to undermine CITES policy with impunity, despite having been asked at the last four Conferences of the Parties to stop the blatant illegal ivory trade in their countries. It was stressed also at this presentation that China was “the single most important country in terms of influence on the illicit trade in ivory”. The growing demand for wildlife products in China was a frequently voiced concern at the side events and in the main two conference halls.

The outcome of the CITES conference was positive for many smaller species, such as a beetles, several reptiles and amphibians and various plants that were given greater protection in international trade. A proposal to move the polar bear from Appendix II to Appendix I failed because it did not meet the biological criteria needed and because it was shown that trade is not threatening the species. The Japanese and Chinese delegates were happy at the decisions not to restrict certain fish species from trade. The Japanese ivory traders attending the conference, however, were disappointed that no ivory sales were permitted from



Stuffed animals for sale in this souvenir shop in Souk al Waqif in Doha Qatar.

Tanzania and Zambia. This decision was consistent with the view of the East African Wild Life Society and the Kenyan delegation, but greatly disappointed the Tanzanian and Zambian delegates. This caused a major split among African delegates, which has been the case at most CITES meetings since 1989. However, African delegates agreed to strengthen the rhino document which demonstrates that agreement is possible among African nations.

There is an overriding need before the next Conference of the Parties in Bangkok, Thailand, in 2013 to collect more trade data so that prices and trade routes can be better understood to ascertain trends and poaching pressures. This is especially the case for ivory and rhino horns. Without knowing the entrepôts and end markets, law enforcement and efforts to reduce

demand for wildlife products cannot be effective. We also need clearer facts on population numbers and trends. If the decisions at future Conferences of the Parties were based more on scientific data rather than on emotions and politics, the conservation of many endangered species would be enhanced. ●

ESMOND BRADLEY MARTIN

Member of the EAWLS Council, he has been attending CITES meetings regularly since the mid-1980s, representing IUCN, WWF and EAWLS at different times. He has been investigating the trade in illegal wildlife products for more than 30 years.

LUCY VIGNE

Has worked for IUCN and WWF and has been studying poaching and the trade in elephant ivory and rhino horn in Africa and Asia.



RING NET FISHING

MONEY MAKER OR SCOURGE OF THE SEA?

BY DISHON MURAGE, HALINISHI YUSUF, STEVE TROTT & SIMON HEMPHILL

The ring net was introduced in Kenya in the late 1990s in the hope it would be used to target offshore fish and ease pressure on stretched inshore waters. Almost 20 years later, the jury is still out on whether this means of fishing is a boon or a curse.

It was first introduced in Vanga, Kwale district, where it continues to be used extensively, and then further north in Kilifi, Watamu and Malindi in 2002 and 2003. Its benefits were thought at the time to be increased food security and creation of employment -- key aspirations for any Kenyan community.

Kenya's fisheries include capture fisheries (both marine and freshwater) and culture fisheries (both freshwater and marine).

Marine capture fisheries include the fisheries' resources found within the 12 nautical miles territorial waters and the 320 nautical miles Exclusive Economic Zone (EEZ). By and large, the marine fisheries' resources are divided into inshore and offshore. It is recognized that the marine capture fisheries provide sustenance to most of the coastal communities and they are an integral part of the local culture. In addition, these resources have high potential for exploitation and economic development and thus can be instrumental in helping the country attain the development goals espoused in Vision 2030.

But due to limitations in technical skills, vessels and gear, most of the local coastal communities can only exploit

fisheries' resources within a five nautical mile zone. This zone is exploited predominantly by artisanal fishermen who operate some 4,800 mostly un-motorized boats to produce around 6,000–7,000 tonnes of fish annually, valued at over Ksh 500 million (Ministry of Fisheries Development figures). As a result most fisheries within this area are over-exploited or depleted.

The offshore fisheries zone is exploited by vessels from Distant Water Fishing Nations (DWFNs). The main species sought are highly migratory tunas including Skipjack, Yellowfin and Bigeye. Some of the fish is landed in Kenya and shipped overseas. However, a big percentage



is landed directly in the Distant Nations with most going unreported. For vessels that are licensed to fish offshore, the government earns around Ksh 30 million per year (approximately USD 400,000) with a standard fee of USD 20,000 per purse seine net. This was increased to USD 50,000 in 2009. The ring net is a long, continuous stretch of netting, up to 300 metres long and 30 metres deep. It has been in existence since the early 19th century when it was used in the North Sea to fish for schooling varieties such as herring.

Since the introduction of the gear within our coastal waters, there have been mixed perceptions with some supporting its use and others opposing. Opposition has been vocal in Malindi, Watamu, Kilifi, Lamu, Ngomeni and Msambweni. Most of the opposition stems from its use within inshore marine waters, a direct violation of mutual understanding between users and other stakeholders that it should be deployed offshore. As a result, a number of detrimental effects have been reported including intensive over-fishing of reef and lagoon fish, especially specific fish species, destruction of fragile coral and the slaughter of endangered sea turtles caught in the nets.

As a means of catching fish, ring netting does not work in deep water nor can it be employed to chase mobile schools of fish – they move too fast for the net to be closed around them.

As a result, ring netters are confined to the narrow shelf along most of the Kenyan coast from Malindi to the Tanzanian border, where the water depth is no more than 30 metres with many coral reefs at risk from the gear.

Other implied negative effects include destruction of cultural values and reduction in earnings for local fishermen due to flooding of the market by catches from ring netters, reduced catches for local fishermen from areas already fished out by the nets, conflicts between various stakeholders and weakening of the Beach Management Units (BMUs) through undue pressure from ring net owners to accept the use of the gear within their waters.

It is feared that ring net use within inshore waters presents a threat to other important sectors of the economy such as tourism - dive operators, sport fishermen and tour boat operators - since most operators depend on a healthy and functioning marine ecosystem, which is being destroyed through depletion of fish, and other damage. A serious concern is the use of ring nets in Marine Protected Areas. In the Watamu Marine Reserve, ring nets have been operating almost continuously since October 2008 and

often within 500metres from the shoreline. They target shallow water coral reef areas where there are high densities of reef fish. It is feared that such intensive fishing over a small area may have already severely damaged the Reserve for years to come. The Kenya Wildlife Service has also voiced its opposition to ring nets operating in the Reserves and has attempted to stop them. This has resulted in conflict between KWS and the Fisheries Department. It is hard to board a ship carrying 50 or more men or seize their net if they are absolutely determined to prevent it. The Wildlife Act states that only traditional methods of fishing should be carried out in the Reserves. Ring net fishing is clearly a commercial-scale, intensive and non-traditional fishing method.

Other known negatives include the use of sacks of sand, which are emptied over the coral reef to flush out reef fish which are then encircled by the ring net. The sand smothers the corals and other sedentary marine animals, affecting their function and well-being.

Perceived positive impacts of the nets include increased incomes for users, investors, and fish dealers and increased employment of fishermen.



Main page: Ring net fishing less than 500m from the shore in Watamu Marine Reserve

Top: Juvenile coral, approximately five years old, destroyed by ring net.

Of particular concern is:

1. The cost –benefit equilibrium
2. The sustainability of the catches
3. The impact on local livelihoods
4. The impact on the ecosystem
5. The effectiveness of current monitoring and enforcement methods
6. Conflicts between the gear users and other stakeholders.

It is undisputable that ring net catches, and therefore earnings, are enormous in comparison to traditional fishing gear but most of the earnings go to the owner of the vessel and the gear, and the captain, who between them take home nearly 75% of the catch. The remaining 25% is shared out by the crew,

SINCE THE INTRODUCTION OF THE RING NET, CATCHES HAVE BEEN DECLINING, RESULTING IN RING NET FISHERMEN MOVING TO NEW AREAS TO COMPENSATE, CAUSING INCREASED CONFLICT WITH OTHER USERS.

which can sometimes number as many as 40 people. The average take-home earning for each fisherman is between Ksh 4,500 and 7,000 per month.

In addition, the sustainability of the catch from ring nets is highly doubtful. Since the introduction of the ring net, catches have been declining, resulting in ring net fishermen moving to new areas to compensate for, causing increased conflict with other users. The Kenyan inshore fishery waters have become highly unproductive with most of the fishing concentrated in shallow waters where resources are highly overfished

and depleted. Current efforts in regard to the inshore fishery should be directed towards reducing the use of ring nets and encouraging protection measures to ensure these fisheries recover. At the same time, the potential of artisanal fishermen to exploit deeper waters, beyond the fringing reef and five-nautical mile zone where fish harvests will be increased, should be developed.

To address some of the conflicts arising from the use of ring nets within Kenyan waters, the Ministry for Livestock and Fisheries Development (the precursor to the Ministry of



Fisheries Development) established a Task Force in 2005 to evaluate the dynamics of ring net fishing and come up with recommendations. Members of the Task Force included the Fisheries Department (FiD), Kenya Marine and Fisheries Research Institute (KMFRI), Coral Reef Degradation in the Indian Ocean (CORDIO), Coral Reef Conservation Project (CRCP), Wildlife Conservation Society (WCS), Kenya Marine Forum (KMF) and ring net owners. It worked for eight weeks and assessed socio-economic and environmental impacts of ring net fishery and reviewed current legislation, monitoring and surveillance capacity including field surveys and available literature and research data.

A number of conclusions were drawn including recognition that the fishery supports a wide array of people including boat owners, crew, fish traders, net menders, mechanics etc. and if used appropriately, conflicts would be minimal. As a precautionary measure, the Task Force made a number of recommendations allowing the use of the net under special licence and strict conditions. These included the minimum distance and area of fishing, the target species, the mesh size, the fishing season and payment of an annual licence fee.

It recommended that a strategy be adopted to manage the fishery on a long-term basis through close monitoring and management measures based on available research information.

A number of stakeholders have raised concerns that the Task Force recommendations were not implemented by the FiD and that the use of the ring net within the Kenyan coastal and marine water continues without due regard to its detrimental effects. Research by KMFRI indicates that ring netters on the south coast fish in inshore areas which are mostly shallow (< 20m depth).

There is an urgent need to address the issue of the use of the ring net in inshore areas particularly as it has the potential to escalate conflicts between BMUs, especially where the gear is used within fishing grounds shared by a number of BMUs. Under the Fisheries BMU Regulations Legal Notice 402, BMUs are allowed to develop management measures and designate co-management areas and can apply controls including permissible gear types. A majority of BMUs currently oppose use of the ring net within their waters.



ALL PHOTOS BY DISHON MURAGE

A precautionary approach in managing the gear is required as it has been shown from other fisheries in the region that use of the gear within the outer reef reduces spillover from the outer reef into the inshore waters. Local fishermen, to a large extent, depend on this spillover for their catches with the incoming tide. There are fears that this fishery will be exhausted within the next five years, resulting in the destruction of community livelihoods, if the ring net continues to be admitted within inshore waters.

It has been claimed that the Fisheries Department has not made sufficient efforts to address conflicts. Stakeholder consultative meetings tend to be called at the last minute and include only the supporters of ring net fishing, and there has been a cycle of banning/unbanning the use of the net at least three times, with the first re-opening of the fishery after the Task Force report in October 2008.

The Fisheries Department has constituted a new Task Force to conduct field surveys to gather information on the environmental degradation, fish marketing and legal issues in relation to use of the ring net within protected areas, use of the net in specific areas of Kwale, Kilifi and Watamu and the presence of foreigners within the fishery.

It is hoped that efforts to address the various issues in relation to the ring net will take place through a consultative, participatory process under which the views of other stakeholders such as the tourism industry, civil society and

scientists are taken into consideration. In addition, to complement government efforts in monitoring and surveillance, the role of BMUs should be clearly specified and their support sought to ensure that ring nets are not used illegally within inshore waters. ●

STEVE TROTT

Chief Executive Officer for Watamu Marine Association. WMA is made up of more than 30 member organisations from the community, tourism and environment sectors working together to promote sustainable marine resource practices and quality tourism development.

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SAVING KENYA'S LAST COASTAL WILDERNESS

BY DEFENDING RESIDENTS' RIGHTS

BY KEVIN M. DOYLE

In early January this year, a handful of residents in the coastal Kenyan village of Mkokoni noticed land surveyors setting up equipment on a stretch of undeveloped dunes. Tension in the community had been growing as outsiders brazenly acquired prime beachfront property while, under Kenyan law, the villagers themselves were still considered “squatters” on land they had lived on for generations. Villagers attributed these new developments to possible corruption and backroom deals.

On this occasion, the residents rushed back to the village to spread the news. Soon a crowd gathered, words were exchanged, sticks and stones wielded, and

tempers flared. The surveyors packed up their gear and left. The beach regained a measure of peace – temporarily. Shali Mohamed, a Mkokoni resident, said: “We feel that if we didn’t show them that we are prepared to fight for our land, then all of it will be taken right out from under our feet.”

The confrontation was a microcosm of the pervasive land tenure issues facing coastal residents of Kenya, as conflicts intensify between traditional users of land and outside speculators and developers.

Forty-six years after independence from Britain, Kenya is finally beginning to address one of the most fundamental

and contentious issues that the country and its people have faced: in December 2009, a new national land policy was adopted which, if and when implemented, will address historical inequities and emphasize the rights of citizens to the use of and access to land.

Mkokoni is just one of many villages in the northernmost corner of the Kenyan coast, just south of the Somali border, in one of Kenya’s last wilderness areas. This region includes the Lamu archipelago, home to a most unique and diverse ecology on both land and sea.

Lamu, which is separated into East and West districts, is home to the Bajuni and the Boni (or Aweer as they are also



KEVIN DOYLE



Opposite page: Pristine coastline of Kiwayu Island, Kiunga Marine National Reserve.
Top: Newly hatched Green sea turtle (Kiunga Marine National Reserve).

often called.) and a designated UNESCO World Heritage Site. The Bajuni, closely related to the swahili, are seafarers, fishermen, boat-builders, farmers, and craftsmen – their lives are intricately intertwined with the land and sea on which they live. The Boni, one of Kenya's last hunter-gatherer groups, still collect honey and wild fruits from the forest, have sacred forest shrines, and are romanticised for their ability to whistle to birds, which then lead them to honey.

For centuries, life was simple for the people of this region and natural resources were abundant. But in the 1960s, new forces came into play in these remote corners of the archipelago, shaking the foundations of the age-old society, and setting the stage for the fundamental challenges facing the area today.

The Shifta War broke out soon after Kenyan independence when ethnic Somalis in Kenya's Northern Frontier District attempted to secede and become part of the Republic of Somalia. They simultaneously attacked and plundered most of the villages in the area, sparking a mass exodus and migration southwards. Locals refer to the period as "daba", or when "time stopped." In some ways, particularly when it comes to economic development and social services, the clock has seemingly never been reset. The Bajuni abandoned many of their

villages along the coast, and either moved to the safety of the islands or to Lamu, or points further south. Inland, the Boni were even more affected. Most were moved to makeshift camps along government - controlled roads with the promise of security, social services and other benefits. This movement eroded a large part of their delicate relationship with the forest.

The Shifta War officially ended in 1967, although armed bandits from Somalia continue raiding even to this day. To make things worse, soaring demand and prices for elephant ivory in the late 1970s led to a poaching epidemic in Kenya. Nowhere was spared, and the inland areas of the Lamu archipelago, at the time considered to have one of the highest densities of elephant (*Loxodonta africana*) in East Africa, came under severe attack. From an estimated 30,000 in the 1970s, the current population of elephant in the region is estimated to be about 300, and yet poachers are still at hand.

Fortuitously, it was at about the same time that the Kenyan government, through the Wildlife Management and Conservation Department (WMCD) - the predecessor of Kenya Wildlife Service (KWS) - recognised the unique biodiversity of the region and gazetted the Boni and Dadori National Reserves in 1976, and the Kiunga Marine National Reserve in 1979.

THE CONFRONTATION WAS A MICROCOSM OF THE PERVASIVE LAND TENURE ISSUES FACING COASTAL RESIDENTS OF KENYA, AS CONFLICTS INTENSIFY BETWEEN TRADITIONAL USERS OF LAND AND OUTSIDE SPECULATORS AND DEVELOPERS.

KEVIN DOYLE

The Kiunga Reserve incorporates 250 km² of coastal wilderness. Including over 50 calcareous islands and atolls, it forms a rare mosaic of terrestrial, estuarine, and marine ecosystems. Gazetted primarily as one of the only nesting areas for the Roseate Tern (*Sterna dougallii*) and other migratory seabirds, and a critical nesting area for Green sea turtles (*Chelonia mydas*), it persists as one of the few remaining places in East Africa where intact wilderness meets the sea. The waters of the region host rich coral reefs and sea grass beds, which host the critically endangered Dugong (*Dugong dugon*), and six species each of dolphin and sea turtles, while the coastline is hugged by the most extant mangrove forests in Kenya, boasting seven varieties.

The Boni National Reserve contains 1,339 km² of indigenous coastal forest, harbouring densities of almost implausibly tall hardwood tree species and at least five threatened plant species. It opens out to the west into acacia bush, supporting herds of over 1,000 buffalo, with associated predators such as lion, leopards, and hyenas. Gazetted primarily as a dry season refuge for elephants and other wildlife, not least of which are the Golden-rumped Elephant shrew



KEVIN DOYLE

(*Rhynchocyon chrysopygus*), African wild dog (*Lycaon pictus*), Abyssinian bushbuck (*Tragelaphus sp.*), Ader's duiker (*Cephalophus adersi*), Desert warthog (*Phacochoerus aethiopicus*) and the critically endangered Hirola (*Beatragus hunteri*) or Hunter's hartebeest as it is also known.

The Dodori National Reserve covers 877 km² of coastal savanna, woodland and mangrove forest, sustained by the Dodori Creek which flows out of the Boni forest through the reserve which now bears its name to the sea. A crucial water source for diverse populations of wildlife, it was primarily gazetted as a breeding ground for Coastal Topi (*Damaliscus lunatus spp.*) and Hirola. Today it still hosts large populations of buffalo, Coastal topi, and unknown populations of lion, leopard, and other species.

"These three reserves," said Michael Gichure, the senior warden for KWS in Lamu, "are true gems, even if they may not shine as bright as some of the well-known parks and reserves in the country. And it is our hope that through scientific research we will better understand this unique ecosystem, which will help us better manage it in partnership with the communities in the region."

But the reality is that the wildlife and the viability of their habitats in the Lamu region are under severe threat. As is the case along the shoreline in and around Mkokoni, irregular land allocations on Kiwayu and other islands to land speculators and developers, with

no formal or public announcement, threaten turtle nesting sites and other habitats within the Kiunga Reserve. And although legal, mangrove harvesting is difficult to regulate and current practices risk being unsustainable. For the Dodori Reserve, unclear boundaries invite encroachment by farmers, and there is even a call by some to degazette all or parts of the reserve to make way for expanded farming and other unspecified enterprises. And in the forest areas adjacent to the Dodori Reserve, called the Boni-Lungi forest, illegal logging, widespread slash-and-burn agriculture and shifting cultivation threaten to wipe out a forest rich in biodiversity and essential to maintaining a semblance of the Boni way of life. Outside the national reserves, rumours persist that large areas, ranging from 2,000 - 5,000 hectares, have been irregularly allocated to multinational companies to be turned into ranches.

Other ideas, such as the proposed Lamu Port and associated railways, roads, oil refineries, etc., have so far been floated with no plan for mitigating the potential negative impact on tenure security of residents, possible escalation of conflicts, land speculation, or the effects on fragile ecosystems. A new project to tarmac the often impassable dirt road, which cuts through the corridor between the Boni and Dodori Reserves and ends in the border town of Kiunga, is overwhelmingly welcomed by residents for the improved security and access to markets it will provide.



KEVIN DOYLE

Top: Yellow-Billed Storks (Ibis ibis) in Kiunga Marine National Reserve

Below: Slash and burn agriculture and illegal logging of hardwoods is destroying large swaths of the ungazetted Boni-Lungi forest.

But little if any consideration has been given to the potentially devastating impact the paved road could have by facilitating land grabbing, illegal logging and slash-and-burn agriculture, not to mention the blow to the fisheries of the Kiunga waters, regarded as perhaps the richest in Kenya, as the road would allow for fish and shellfish to be shipped to Lamu and Malindi within hours of being caught, perhaps stimulating overfishing if proper controls are not put into place.

But it is not all bad news. There have been some attempts to counter these questionable deals. A coastal advocacy group called the Shungwaya Welfare Association has initiated litigation against a number of land transactions, and has trained residents to look after their own interests. Non-governmental organisations, like the Kibodo Trust and World Wildlife Fund (WWF), are working to help communities better manage their natural resources and develop alternative livelihood opportunities. With improved security in the region, the potential for ecotourism is enormous.

The debate about land rights should become clearer now that the Kenyan parliament has passed a National Law Policy, after almost five years of discussion. This new policy should demystify land ownership, address historical injustices related to land, release land for the resettlement of the landless, and economically empower youth, women and the disadvantaged and vulnerable.

Under the old tenure system, land in Kenya was designated as government land, trust land and private land. The National Land Policy calls for a new tenure classification: public land, private land, and, community land. It is this latter category that is of great interest to many communities throughout the country, but in particular along the coast, where picturesque landscapes, pristine beaches, and abundant natural resources have caught the covetous eyes of land speculators and surveyors. The arrival of these developers often signals the demise of customary community rights,

KEVIN DOYLE



Forest areas outside of protected areas are under assault by slash and burn farmers, but poor soils force them to search for new land after just a season or two, called shifting cultivation, which leads to more deforestation

as well as biodiversity. Victor Liyai, deputy director of the Land Rights Transformation Unit of the Ministry of Lands, the department responsible for the development of the land policy, says: "The policy calls for a Land Act which is now being drawn up by the Ministry. This act will amalgamate and modernize at least 67 laws and statutes, many of which date back to colonial times at the beginning of the 20th century, that affect land ownership and its usage."

Enter the USAID-funded Kenya SECURE Project, facilitated by ARD Inc in collaboration with the Ministry of Lands and KWS. This pilot project began, in September 2009, to test many of the principles of the land policy and develop a process for securing customary land and resource tenure for indigenous communities along the north coast. Clarifying and securing land rights, particularly those of resident communities, will mitigate and prevent conflict over land and resources and motivate residents to actively participate in the co-management of natural resources with agencies such as KWS, Kenya Forest Service and the Fisheries Department, with the assistance of local NGOs such as the Kibodo Trust (see SWARA, Jan-March 2005). Prevention of conflict and sustainable use and management of resources will in turn help conserve biodiversity in this region. "As much as the SECURE Project is about land rights and biodiversity, this is really about the Kenyan government reforming the way it conducts itself as it moves towards a more open and transparent

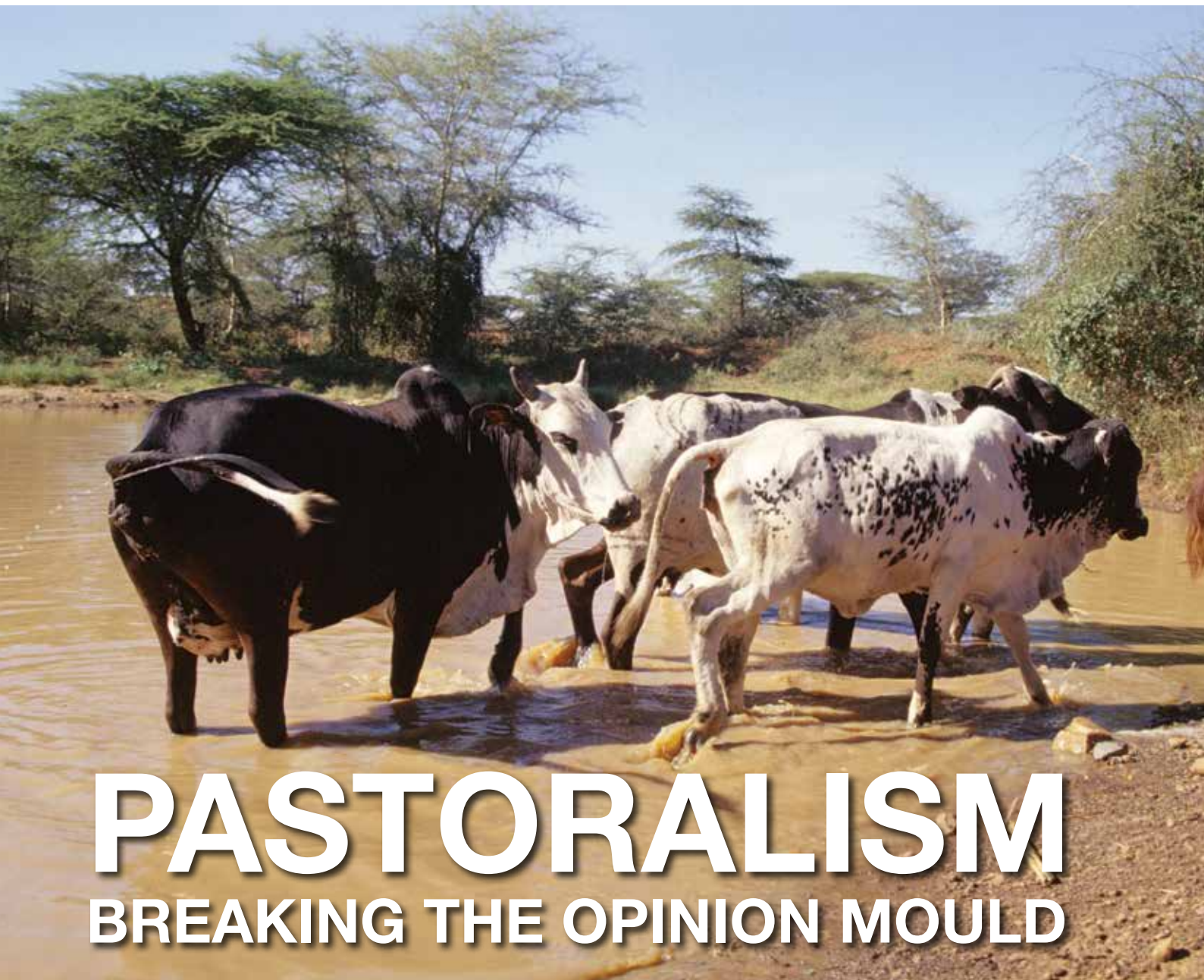
democracy," says one senior Western diplomat.

As tempers and accusations flared among residents who felt cheated and disenfranchised by their own government and greedy speculators, the SECURE Project worked to start a dialogue between community members, the Ministry of Lands and other government officials and to forge a plan of action to secure land and resource tenure that will satisfy a consensus so that communities can more confidently pursue their livelihoods and play a meaningful role in managing the resources on which they depend.

The process is painstaking. After all, it stresses greater transparency, equity, and accountability – principles that were not always evident when land was allocated and transferred in the past, as the government admits. The sea turtles and Hirolas, and the Boni and Bajuni ways of life, hang in the balance. ●

KEVIN DOYLE

is the Team Leader for the USAID-funded SECURE Project based in Lamu. The project is being implemented by the Ministry of Lands with facilitation by contractor ARD, Inc., and in collaboration with the KWS, as well as a number of civil society organisations and community-based organisations, and the members of the targeted communities themselves.



PASTORALISM

BREAKING THE OPINION MOULD

ALL PHOTOS BY CURTIS ABRAHAM

BY CURTIS ABRAHAM

The image is everywhere: hunger and malnutrition killing pastoralists because of their irrational, backward and chaotic way of life. But is that fair or true? There is much thought that the plight of the pastoralist usually stems from ineffective government policies that have tried to change effective and viable production systems into something inferior.

This has been widely documented in scientific literature. In 1995, Professor Ian Scoones, of the Institute of

Development Studies at the University of Sussex in the Britain, published *Living with uncertainty* where he demonstrated that pastoralism is not only viable, but is by far the best option for arid and semi-arid areas, and that African livestock systems can produce more energy, protein and cash per hectare than Australian and US ranches.

"The trouble has always been that administrators and service providers don't like mobility, and in many cases neither do neighbouring communities,"

says Dr. Jonathan Davies, regional drylands coordinator for Eastern and Southern Africa at the IUCN, the International Union for Conservation of Nature. "So everything possible has been tried to settle pastoralists. This restricts the opportunistic strategy of pastoralism and undermines its viability, leading to the images that sometimes appear on TV."

The development of pastoralism in Africa was a brilliant innovation. Grasses and shrubs, which have little to no nutritional value for humans, were



THE CREATION OF NATIONAL PARKS AND WILDLIFE RESERVES HAS UNFORTUNATELY LED TO THE FURTHER IMPOVERISHMENT OF SOME LIVESTOCK HERDERS IN EASTERN AFRICA.

converted into nutritious milk, meat and blood. According to recent scientific evidence, this ingenuity was homegrown as ancient African populations appear to have independently domesticated cattle.

The creation of national parks and wildlife reserves has unfortunately led to the further impoverishment of some livestock herders in Eastern Africa. Pastoralists are also threatened by land-use change in protected areas for private commercial interests. Land conflicts between pastoralists and governments have been chronic.

The scramble for the preservation of East Africa's wildlife and its habitat started during the colonial era with the establishment of animal sanctuaries, controlled hunting areas, game parks and reserves, nature reserves, protected forests and 'wildlife corridors'. Kenya initially led the way with four national parks and six game reserves. By the end of the last century, it boasted 26 national parks and 26 national reserves, plus a number of animal sanctuaries and nature reserves, occupying no less than 7.5 percent of its total land area. An additional three percent of Kenya's land is protected forest. Concern with preservation is spurred by economic considerations. Tourism provides Kenya with 30 percent of its foreign exchange earnings.

The underlying philosophy of the colonial and post-independence African governments was that natural resources needed to be protected from traditional communities. However, conservation schemes have deprived many pastoralist groups of valuable land and water resources. Furthermore, national parks normally exclude human settlement and livestock foraging. Game reserves and



Top: Dr. Dominique Gommery excavating the remains of a 15-19 million year old rhinoceros on Napak mountain.

Opposite page: Cows at a watering hole in Nadunget, Moroto.

controlled areas allow multiple uses, yet still have disadvantages for mobile herders.

Take the case of the herders of Karamoja, a semi-arid region the size of Wales or Israel in eastern Uganda bordering Kenya. Both E.J. Wayland and N.V. Brasnett, two geologists employed by the colonial government in Uganda, shared this paternalistic belief about local peoples destroying their environment. How ironic it is that environmental destruction today has been caused more by developed countries - the places that Wayland and other imperial types called home - than by the "Third World" peoples they ruled over.

In 1938, Wayland and Brasnett recommended that vast areas be fenced off as forest reserves to protect the land from pastoralist-induced degradation.

And so the 1940s and 1950s would see the creation of game reserves and the expansion of forest reserves, since most highland areas of Karamoja were gazetted as Central Forest Reserves, enabling the authorities to introduce a variety of regulations restricting their use by local populations. An estimated 213,336 hectares was gazetted in Kotido district and 108,443 hectares was gazetted in Moroto district and 5,977 km² was cordoned off for the creation of the Matheniko, Bokora and Pian-Upe game reserves.

There was little incentive for the Karimojong to assist with wildlife conservation. Moreover, the relationship between Game Department staff and the Karimojong was strained. Post-independence African governments continued the colonial trend of



Top: Lions at the Kidepo Valley National Park, northern Karamoja.

Below: A zebra - striped cow belonging to the Karimojong pastoralists who live in the semi-arid Karamoja region of northeastern Uganda.

Opposite page: A Karimojong girl holding a lamb.

confiscating pastoralists' land. It's not surprising that these negative attitudes have led to failed policies. Behind these lay ancient and deeply rooted stereotypes, which still persist today. It was, and still is, widely believed that livestock herders are primitive and inefficient users of natural resources. Similarly, overgrazing by livestock is often seen as the main cause of land degradation and desertification. However, recent analysis shows that land degradation in dryland Africa has been overestimated. Long-term satellite monitoring of biomass shows a cycle of contraction and expansion of the northern vegetation limits of the Sahel, and little has changed since 1970. Where degradation occurred, it was usually due to long-term climatic trends and not livestock.

But in spite of the scientific evidence, the international community continues to be biased in favour of conserving Africa's wildlife at the expense of supporting livestock development.

What the colonial and post-independence African governments failed to understand was that pastoralist communities have from time immemorial depended on their natural surroundings for survival and, precisely for that reason, they have devised ways of sustaining their environment in the long run. So pastoralists are directly responsible for the biodiversity, both plant and animal,

that has made large parts of their homelands worthy of conservation as national parks or wildlife reserves.

"Pastoralists have historically helped maintain the rich range of biodiversity of pastoral lands, which are filled with an impressive variety of animals and plants," says Davies. "This ecological wealth has translated into a wide variety of protected areas and national parks being located within pastoral areas, such as the Serengeti-Mara region of East Africa."

In bygone days, a Karimojong warrior who had killed a dangerous animal such as a buffalo, lion or elephant with a spear would slit the ears of his favourite ox as a sign of his courage. These warrior herdsmen traditionally used wildlife products for a variety of purposes. Karimojong women continue to wear ostrich eggshell beads around their necks; ivory bracelets and rings are donned by men as a sign of wealth and prestige.

And yet, the Karimojong cherished the wild animals around them. The entire body of a selected bull would have its skin burnt into zebra stripes in memory of a time when zebras and cattle grazed together. Even the traditional dance of the Karimojong paid tribute to wildlife by copying the moves of animals like the giraffe. At a traditional marriage ceremony, the groom would carry the tail of a giraffe, zebra or oryx and wear a leopard skin to identify himself.

However, this was not the blind and indiscriminate slaughter of wild animals that was being perpetrated by late-19th century Europeans and coastal Swahili and Zanzibari Arab hunters/slave traders on their expeditions into the interior.

It is also a fact the East African herders have been instrumental in conserving the environment to the benefit of wild species. For example, the last significant, unrestricted, wild ungulate populations, hooved or pawed mammals such as zebras, rhinos and giraffes - surviving in Africa, are associated with pastoral systems. Tensions do exist between pastoralist and wildlife carnivores that prey on their herds. Herders have often used poisons, and increasingly today carbofuran, to kill lions, hippos and hyenas. The use of carbofuran is severely restricted in the United States and Europe because it is extremely poisonous to animals.

Another worrying trend has emerged over the past few years. Land is



continuously appropriated within the pastoralist zone by state enterprises. Over the past decade the Ugandan government, for example, has adopted the pattern of considering protected areas as lands available for private appropriation, particularly when dealing with foreign investors.

A few years ago, the Pian-Upe Wildlife Reserve in the Karamoja region was initially gazetted as a game reserve to control hunting so that revenue could be obtained from trophy hunters.

The Karimojong were excluded from settling or hunting in Pian-Upe but, in certain areas and at certain times, they were allowed to graze their cattle. The Pian and the Pokot retained access to grazing and water sources and clearly continued hunting whenever they could.

The reserve's wetlands, the only permanent example in this semi-arid region, are an important stopover for migratory birds from Europe and are therefore being considered for higher level protection under the RAMSAR Convention. The wetlands, including those adjacent to Lakes Opeta and Bisina, harbour the globally threatened Shoebill Stork and the Papyrus Gonolek.

Furthermore, in addition to being the habitat of buffalo, lion, leopard, giraffe, zebra, eland and hartebeest, Pian-Upe is also home to Uganda's remaining Roan antelope population, which is threatened by extinction. The reserve also provides pasture and water for hundreds of thousands of livestock belonging to the Karimojong and Pokot communities during the harsh dry seasons.

A government order to degazette about 2,000 km² of the reserve's 2,300 km²-area, which stretches from the foothills of the Kadam mountains near the Kenya/Uganda border to Lake Kyoga, to allow Libyan investors to grow fruit and cotton collapsed because it contravened the government's own land laws on wildlife reserves. Such land giveaways are not exclusive to wildlife conservation but also occur for large



multinational factories and the like. The Kereyu in Ethiopia lost two-thirds of their land to the Wonji Sugar Estates. The Barabaig lost some 14 percent of their land to the National Food Corporation of Tanzania, international seed companies and wheat farms. In Loliondo, Tanzania Breweries took 10,000 acres of Maasai land to produce barley. Large tracts in Uganda's "Cattle Corridor" were taken by ill-fated ranching projects.

"It's easy to blame aboriginal people for being welfare dependent after taking away their resources," says John Scott, social affairs officer at the United Nation's Permanent Forum on Indigenous Issues in New York. "Everyone would be welfare-dependent if they had lost their land and their right to make decisions about their own lives."

The cumulative impact of land loss has been to render pastoralism unsustainable in its pure form in many areas. There is simply not enough land or water, or the required variety of pasturage and forage, to maintain the herd size and quality needed by the average household.

As a result, East African pastoralists have implemented several coping strategies to deal with the loss of essential natural resources such as land and water. Migration is one way to handle impoverishment, and settlement, and increased dependence on agriculture is yet another. This is rapidly advancing throughout Eastern Africa and the Horn, from the Maasai region of Tanzania to the Somali region of Ethiopia.

This is the shape of the future, as the mobility of pastoralists becomes increasingly constrained, their habitat progressively degraded, and their strategies for coping with successive, mounting crises are exhausted. Global climate change is only the latest challenge in a long list that threatens the future of pastoralism in sub-Saharan Africa.

The growing dependence on intensive

livestock production for food has also brought to light the issue of infectious diseases that affect both African wildlife and domestic farm animals. The status of endemic diseases in many African countries is a barrier to trade and a key concern for policy-makers. But not enough is known about the interconnection between wildlife, livestock and the environment in relation to infectious diseases.

And yet African pastoralism, like African tourism, has so much to offer. "The combination of rising population, rising per capita consumption and urbanization means Africa will require an additional 100 million tonnes of livestock products over the next 20 years," says an (OAU-IBAR) Organization of African Unity-Interafrican Bureau for Animal Resources report *Africa Needs Animals*. ●

CURTIS ABRAHAM

Science writer based in East African and New York. He is writing two books about East African pastoralists, *The Bahima* and *Karimojong*.



SOLIO

THE HEARTBEAT OF RHINO CONSERVATION FOR 40 YEARS

BY FELIX PATTON



Over 200 white rhinos have been born in Solio.

Solio Game Reserve is the premier rhino breeding sanctuary in Kenya. Over the 40 years it has been in existence, Solio has provided 93 Black and 52 White rhinos to other reserves while maintaining a healthy population itself. It all started from small beginnings. Courtland Parfet bought Solio Ranch in the Laikipia area of central Kenya in 1966. It was mostly grassland used for beef cattle but with a range of indigenous wildlife including many buffalo, zebra, gazelles and leopards. Mr Parfet's wife, Claude, a committed conservationist, persuaded her husband to fence an area of the ranch to protect the wildlife and

allow the animals to live their natural life without interference or threat from humans. The 55 km² area was surrounded by a 2-metre fence to create the first fully enclosed private game reserve in Kenya, a model that was later to be replicated many times.

At the outset, there were no rhinos in the reserve. Sport hunting and poaching of the once abundant Black rhino in Kenya had left many small remnant populations, sometimes just a single individual, spread around the country with no hope of long - term survival. The animals often endangered nearby human settlements and were still under

threat from poaching. Courtland Parfet was approached by Kenya's Wildlife and Conservation Management Department (WCMD) - the forerunner of the Kenya Wildlife Service - and asked if he would look after a few of these Black rhinos while WCMD found them a permanent home.

So when the first five individuals were moved in from Kiboko in the southeast in 1970, Kenya's first rhino sanctuary was established. With no other secure areas to call on, the WCMD came back several times over the next 10 years, asking to move in more rhinos. By 1980, Solio Game Reserve was home to 27 individuals from nine different areas.

Table 1. Source of Black Rhinos

Location	Number	Year
Kiboko*	5	1970
Embu	2	1971, 1980
Tsavo East*	3	1971, 1977
Isiolo	1	1972
Solio Ranch	2	1972, 1975
Nyeri Forest	1	1974
Darajani*	1	1974
Lamuria Ranch**	9	1975, 1979
Nyeri Forest	2	1980
Rumeruti	1	1980

* located in southeast Kenya, others in reasonable proximity to Solio

** ranch being subdivided



Between 1970 and 1980, the number of Black rhinos in Kenya crashed by over 90%, from 20,000 to 1,500. By 1990, only 400 were left, just 2% of the 1970 population. For the most part, these deaths were caused by poachers seeking a lucrative income from the sale of the horns. While the largest market for rhino horn was, and is, as an ingredient in traditional Chinese medicine, Kenyan horn was mostly smuggled through to North Yemen where the horns were fashioned into handles for 'Djambia' daggers.

While the Black rhino lives mostly by grazing on bushes and trees, the reserve had abundant grassland, which is the food source of the other species of African rhino, the White rhino. In 1980, Solio established a founder herd of 16 individuals imported from South Africa.

Over the years, Courtland and Claude Parfet developed a vision for Solio as the prime rhino breeding sanctuary in Kenya, allowing them to provide rhinos to others. In the excellent habitat and securely hidden from view, Solio rhinos bred and prospered so well that the reserve had to be extended to 68 km² in 1991. In the meantime other areas in Kenya, in both national parks and private ranches, were made sufficiently secure to house rhinos and Solio became the prime source of many founder populations. Some 30 individuals were moved out of Solio to help form nucleus populations in other new reserves including Nakuru National Park, Sweetwaters Game Reserve, Lewa Downs Conservancy and Ol Jogi. The remaining rhinos continued to thrive and so did the translocations.

To date, some 93 Black and 52 White rhinos have left Solio for new homes with six Whites even leaving the country to help Uganda reintroduce rhinos. Truly,

20,000

NUMBER OF BLACK RHINOS
IN KENYA IN 1970

Table 3. White Rhino Translocation History

	Total
Ol Jogi	5
Mt Kenya GR	3
Chem Chem	3
Nakuru NP	8
Lewa	5
Kongoni Ranch	6
Ziwa(Uganda)	6
Meru NP	12
Kitale	2
Maasai Mara	2
Total Dec 2009	52

Solio represents the heartbeat of rhino conservation in Kenya.

However success brings with it problems and with Black rhino numbers in Kenya dropping to 400 in 1990, and Solio having the largest single population, the reserve became a major target for professional poachers. Both White and Black rhinos were murdered - either shot or caught in snares. By now Courtland Parfet's son Edward had joined the company as general manager and was determined to stop the slaughter. A security and monitoring system had to be established.

To monitor and manage the rhinos, it was essential to know how many there were and how to recognise each individual. In September 2005, Solio staff set about photographing and cataloguing the 85 Black rhinos in the reserve. Using the photographs, a team of rhino monitoring rangers was trained to recognise each individual and each patrol group was given a book of photos that it could use in the field.

Patrol teams were in place and the first monitoring record was entered into the computer on November 13, 2005. Fittingly, this was for Karanja, a male believed to be one of Solio's founding population and aged well over 35 years. Karanja is also one of the only rhinos in

FELIX PATTON



Darting a rhino in Solio as part of East Africa's largest ever rhino translocation.

Table 2. Black Rhino Translocation History

	Total	Male	Female
Nakuru NP	15	7	8
Ol Pejeta	39	24	15
Lewa Downs	8	4	4
Ol Jogi	9	5	4
Tsavo East	16	8	8
Aberdares	2	1	1
Mugie Ranch	4	2	2
Total Dec 2009	93	51	42



DENVER BRYAN

400

NO. OF BLACK RHINOS LEFT
IN KENYA IN 1990

per km² where 0.5 would normally be considered high. Unless the population was drastically reduced, the rhinos would eat themselves out of food. A plan was developed to move up to 30 of the Solio rhinos to nearby Ol Pejeta Conservancy, where they would colonise an area that was free of rhinos and had abundant acacia. In February 2007, East Africa's largest ever rhino translocation took place with 24 Solio rhinos going to Ol Pejeta Conservancy and three to the Ol Jogi reserve.

As Solio's Black rhino population was being reduced, so the White rhino population was continuing to grow. Poachers do not care if the horns are from the Black or the White rhino so the White rhino population had also to be catalogued and monitored. By the end of 2009, Solio recorded 155 White alongside 73 Black rhinos.

The poaching pressure is ever present with professional gangs operating throughout Laikipia. While the initial investment in the security system was funded by establishing a fledgling dairy unit, there was a need to bring in further income to ensure the rhinos' security and protect their habitat. Among other projects, the dairy unit will be expanded during 2010 and a newly built exclusive tourist lodge will be opened. Occupancy and tourist vehicles will be limited while revenues will be secured and increased.

Solio's managers/owners believe that conservation enterprises based on donor funding are not sustainable as finance may end at any time with dire consequences. That most wildlife conservation efforts are moving in this very dangerous direction is a trend that should be reversed. Wildlife conservation at Solio is run wholly on a commercial basis with no donor funding. With a range of sources of income available, if

Top: Solio monitoring rangers learning how to identify each of Solio's Black rhinos.

Bottom: Solio - born Black rhino Kolio with her first calf, Gachembe.

the world to have grown a third horn.

The amazing breeding performance of Solio's Black rhinos had dealt a blow to their habitat. A survey of the rhinos' food sources showed that the mainstay *Acacia drepanolobium* was almost eaten out and all other appropriate species were severely depleted. Solio had a Black rhino density of 1.2

OVER THE YEARS, COURTLAND
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DEVELOPED A VISION FOR SOLIO
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RHINOS TO OTHERS.

FELIX PATTON





FELIX PATTON



one area struggles for a time, there are others to compensate. But the rhinos and other wildlife will be put first and only those changes that will not have an adverse effect on their behaviour and environment will be considered.

Solio's continued breeding success will enable Courtland and Claude Parfet's vision to be maintained with more rhinos being made available to move to new areas in future years. A plan is already under discussion regarding the translocation of a group of Solio Black rhinos into Aberdare National Park to develop, along with the few remaining individuals, a renewed founder population in this unique forest environment. ●

FELIX PATTON

Is a rhino ecologist writing and broadcasting about the species from Africa and Europe

Some 150 black rhinos have been bred in Solio.

Singita Grumeti Reserves

SASAKWA & FARU FARU LODGES
SABORA CAMP
Serengeti • Tanzania





B.O'HARA

ANGOLA'S GIANT SABLE MAKES A TRIUMPHANT COMEBACK

BY JOHN FREDERICK WALKER

The huge, green Angolan Air Force MI-8 transport helicopter thunders over our heads as it circles the forest clearing in Cangandala National Park. As it descends, its powerful downwash flattens the field of straw-yellow grass. Game guards, police, villagers, biologists and a camera crew

start moving, then sprint toward the helicopter, even before the huge rotors stop turning.

On board is the national animal of Angola, a splendid, black bull of a sub-species thought by many to be extinct: *H. niger variati*, the Giant sable antelope. Drugged, blindfolded, kneeling on a

stretcher and held steady by game guards gripping his knurled sweeps of horn, he twitches and works his jaws. The crowd of handlers, alternately arguing and hushing each other, stumble and shuffle as they move the 500-pound antelope from the cargo bay to the back of a pickup for the brief ride to the holding boma



JOHN FREDERICK WALKER



To understand what this all means for Angola, you have to go back a century.

In 1909, Frank Varian, a British engineer in charge of constructing a railway across Angola, reported that sable antelopes with record-length horns had been shot some 300 miles inland. It was the first published mention of the last great African quadruped to become known to the outside world, recognised as a sub-species in 1916. Tantalising photographs of bulls taken in the 1920s revealed for the first time their breathtaking horns (reaching 60 inches in length) and sculptural proportions. Overnight, the Giant sable was transformed into the ultimate trophy, and it was relentlessly pursued by big-game hunters and museum collectors before being given a measure of protection by the Portuguese colonial authorities.

Two parks - Cangandala National Park and the larger Luando Strict Nature Reserve just to its south - make up the sable's known range. But by the mid-1970s, it had nearly vanished, swept up in the horrific civil war that followed Angola's independence and finally ended in 2002. With its habitat turned into a war zone, the country's parks unstaffed and poaching rife, many Angolans feared that their *palanca negra gigante* lived on only in its majestic profile shown on the country's postage stamps, currency, the tail fins of the country's airline, and the jerseys of its soccer team.

Still, some biologists, like Pedro Vaz Pinto, refused to give up. The Lisbon-trained researcher is environmental adviser to the Catholic University of Angola's Centre for Scientific Research and Studies and head of its Giant Sable Conservation Project. Recognising that one of the reasons for the failure of several high-profile but abortive postwar attempts to capture the animal on film was insufficient field research, he began a "shepherds" programme with the Songo people at the edge of Cangandala park.

The Songo share the sable's habitat and have a traditional respect for it, making them ideal game guards for the neglected park. In 2004, with their help, Vaz Pinto set up remote cameras with

Opposite page: A Giant sable bull darted, tagged and collared in Luando Reserve.

Top: Pedro Vaz Pinto, head of the Giant Sable Conservation Project, readies a radio collar.

of the newly fenced breeding sanctuary. He'll join the copper-coloured female sables previously darted and transported there. By the time the capture operation is over, his instant harem will number nine. This is the climax of a dramatic

effort to save a critically endangered antelope. The rescue of this iconic animal, organised by Angolan biologist Pedro Vaz Pinto, came just in time: he estimates there might be less than 100 of these magnificent creatures left.

TANTALISING PHOTOGRAPHS OF BULLS TAKEN IN THE 1920S REVEALED FOR THE FIRST TIME THEIR BREATHTAKING HORNS (REACHING 60 INCHES IN LENGTH) AND SCULPTURAL PROPORTIONS.



JOHN FREDRICK WALKER

Top: Vaz Pinto and the Giant sable "shepherds" hold a tranquilized female in the boma.

Bottom: The capture team discusses darting strategy.

infrared triggers near natural salt licks. In early 2005, he was rewarded with the first images of Giant sables taken in over two decades. One, a photo of a herd that included a pregnant female, was hailed

as proof of the sub-species' survival. But careful study of the images from his growing bank of remote cameras soon revealed a grim sub-story: the formerly viable populations of Giant sable and roan in the park were reduced to remnants — and were interbreeding.

"After everything that the Giant sable has endured," Vaz Pinto lamented to me in 2008, "now some of them could actually be bred out of existence." The only way to ensure a future for Cangandala's Giant sables, Vaz Pinto realised, would be a captive breeding programme in their natural habitat. That meant isolating surviving Giant sable females from

opportunistic roan bulls as well as the hybrids. And he'd have to bring in a Giant sable bull from the Luando Reserve, where the greatest population of *palancas negras* had always been found - even though, at that point, he had no direct evidence there were any left there.

With the biological clock ticking away for the Giant sable females, Vaz Pinto raised funds and organised an expedition in August, 2008 to collar at least part of Cangandala's mixed herd. But the helicopter crew failed to show up and the mission was doomed. Nobody had to point out to him that if the next expedition failed, there might not be enough Giant sables left to make another attempt worthwhile.

But Vaz Pinto's luck - and with it the Giant sable's - changed.

A year later, with critical funding from Angolan energy companies and the aid of the Ministry of the Environment





JOHN FREDERICK WALKER



Top Left: A Giant sable bull is brought to the breeding sanctuary.

Top Right: Vaz Pinto confers with the capture team; a military transport helicopter waits for the arrival of the bull.

Bottom: A stark reminder of the dangers the giant sable still faces: Vaz Pinto shows game guards poaching snares.

THE ONLY WAY TO ENSURE A FUTURE FOR CANGANDALA'S GIANT SABLES, VAZ PINTO REALISED, WOULD BE A CAPTIVE BREEDING PROGRAMME IN THEIR NATURAL HABITAT.

and Angolan military, he was able to put together the full-scale expedition needed. He recruited a crack wildlife capture team including veterinarian Pete Morkel,

veteran field biologists Richard Estes (who conducted a year- long study of the Giant sable in 1969-70) and Jeremy Anderson, a dozen-strong support group and twice as many shepherds - and pulled off a conservation triumph.

Vaz Pinto later described his feelings after touching a living (but tranquilized) Giant sable. "It was a very special moment to grab and feel those massive and spectacular horns for the first time. It was no longer a creature of myth – it was there, bones, flesh and horns."

In fact, locating, darting, tagging and sometimes collaring these sables became almost routine on the expedition. The shepherds gathered around our camp's thatched dining-hut in the early evenings as we reviewed photos and video footage on our laptops, hoping to glimpse their animal. They cheered and laughed at a sequence showing Vaz Pinto leaping back as one darted *palanca negra gigante* bull lurched to its feet with unexpected speed after the antidote was administered. At

the end of the operation, when the bull and the females had been released into the sanctuary, hopefully to produce calves by the following year, we had time to reflect on the antelope's future.

That the Giant sable deserves protection, and not just because of its cultural importance, is beyond doubt. The questions raised by some about the antelope's sub-species status have been laid to rest by recent genetic research confirming its distinctiveness and silencing those who claim there's little difference between it and the typical sable found in neighboring Zambia. Still, Vaz Pinto was careful to collect DNA samples (in the form of ear snips) to supplement the teeth and skins that are still being studied in museums.

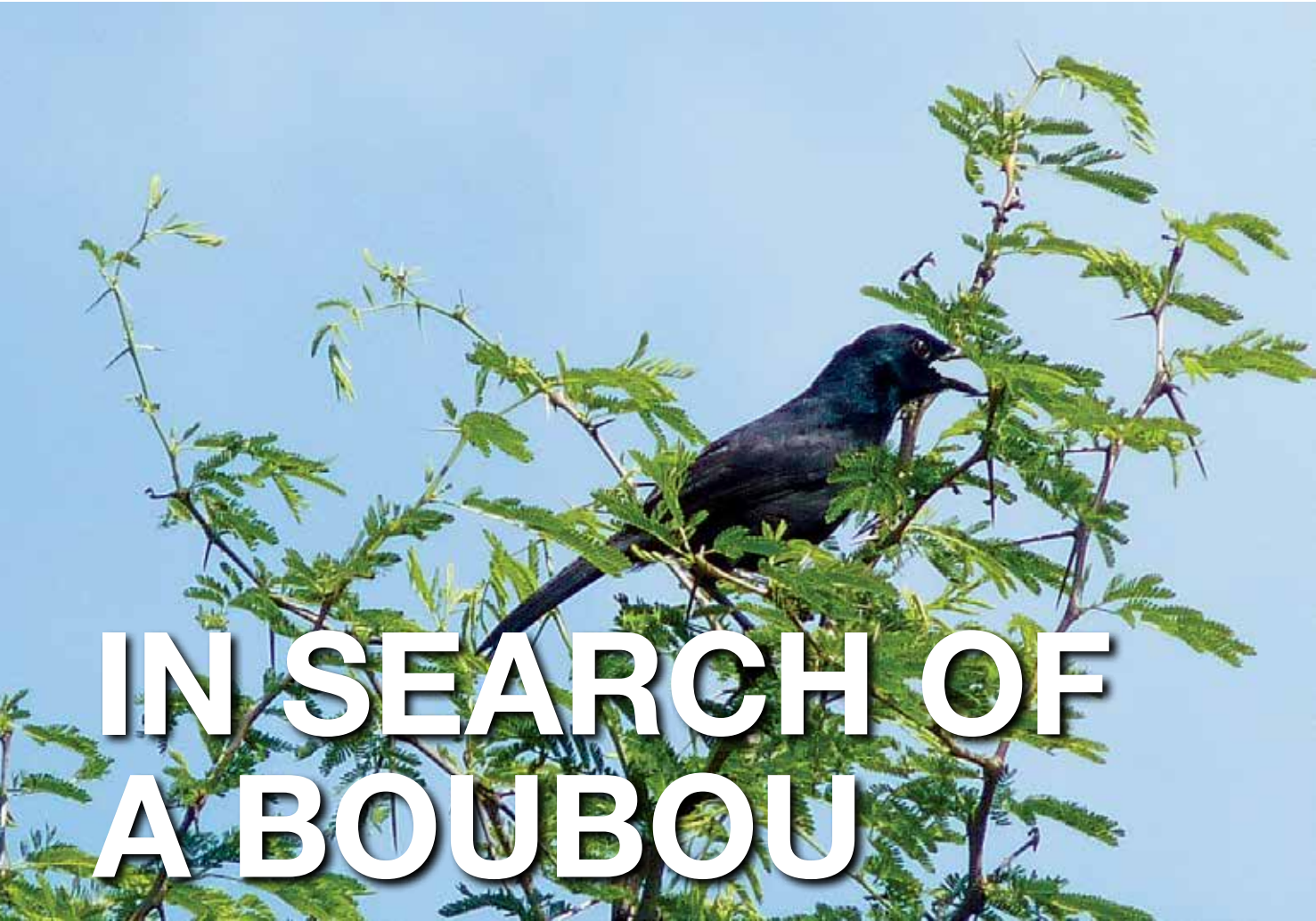
The Giant sable's return seems assured, as long as habitat loss and poaching, the twin scourges of African wildlife conservation, are kept firmly under control. ●

JOHN FREDERICK WALKER

Author of *A Certain Curve of Horn: The Hundred-Year Quest for the Giant Sable Antelope of Angola*. His latest book is *Ivory's Ghosts: The White Gold of History and the Fate of Elephants*.

JOHN FREDERICK WALKER





IN SEARCH OF A BOUBOU

A NEW SPECIES FOR KENYA AND EAST AFRICA?

BY BRIAN FINCH & NIGEL HUNTER

Ornithologist and guide Brian Finch had always been intrigued by references in birding literature to the East Coast Boubou *Laniarius (aethiopicus) sublacteus* having a curious, black morph living alongside the typical black-and-white birds. He had questioned a number of observant ornithologists and none could testify as to ever having seen a black Boubou on the Kenyan coast. Elsewhere through the extensive range

of *sublacteus*, the bird is non-varying, being black above with no white on the wings, and all white below. So why should a *Laniarius* suddenly throw a melanistic morph into the mix in a restricted coastal area when it does not happen anywhere else in Kenya? It was time to find out the real story. Brian suspected that the bird might be the southern Somali endemic Erlanger's Boubou *L. erlangeri*¹.

An opportunity arose to visit the coast for a few days and Brian asked EAWLS Executive Director Nigel Hunter if he would like to get to know the Kenyan coastal Boubous, and track down this

mysterious black morph of *sublacteus*. He was as eager as Brian and they started to read the literature to find out where the birds occurred. Brian wrote to fellow bird expert Colin Jackson and asked him if he knew of the birds' whereabouts. He replied he had not heard of any sightings, and in fact had not heard about the black Boubous. From the literature, it appeared that the claims originated from Manda Island in the Lamu chain - probably one of the most popular tourist destinations on the entire Kenyan coast and home to Lamu airport. We invited Colin to come with us but he had an obligation in

¹Redman N. et al. 2009. *Birds of the Horn of Africa*. London; Christopher Helm



Opposite page: The black Boubou.
Top: East Coast Boubou.

Naivasha for the same period. However as he passed through Nairobi, he called in at the National Museum and, on checking the tray of Tropical Boubou specimens, found no less than seven black Boubous. Six were collected at Manda Island, and one came from southern Somalia. This was great confirmation and a good indication as to where the myth of melanistic Boubous originated. Armed with this information, we set off by road for Manda Island, first landing on Lamu where we found some excellent contacts to visit Manda Island the next day. We took a speedboat and within two minutes of leaving the bustling wharf of Lamu were on Manda Island. The incredibly dense, low forest/bush was full of birds, and we could hear *sublacteus* calling all around us. We called in black/white pairs of *sublacteus* with playback recordings. Walking along the airfield perimeter fence, Nigel was the first to spot an all black Boubou moving through mid-levels but we unfortunately lost it. Playing *sublacteus* recordings only succeeded in bringing in more aroused *sublacteus*. We birded along the road that takes off from the end of the airstrip, and after 100 metres turned right onto a broad track that cut through the forest.

A deep, throaty call was heard and recorded. The sound was completely unfamiliar, and on playback an all-black Boubou climbed to the top of a bare tree. After several minutes of hopping around in the open, it answered the playback call

with a completely different and novel, ringing call. On recording this call and playing it back to the bird, it became far more aggressive and flew to the top of another acacia, calling from the unconcealed perch. Three very different calls were recorded, all alien to us, and none of them remotely like anything produced by the familiar *sublacteus* constantly around us.

Frequently after a bout of calling from a tree-top, the bird would parachute with slow, rowing wingbeats and fully spread tail to land either in the scrub or on another high perch. As well as recording the vocalisations, Brian filmed and photographed the bird. We continued walking along the road for another two kilometres, and whilst *sublacteus* was very common in identical pairs, we only heard a few of the now familiar calls of the black Boubou some distance away. On returning a couple of hours later, we went to the territory of the previously obliging bird and played the call, with the male bird coming in aggressively and challenging us from the protruding tops of the trees, and engaging in the parachute display. Whilst the male called, the identical black female would complete the duet with a throaty churr after every call.

More recordings were made. Then we returned to the place where the initial black Boubou had been seen, and played back the recordings of the cooperative pair. Instantaneously, this pair flew in

with the male climbing to the top of the tree and swearing at us, until attacked by a Bare-eyed Thrush. At 10:30 am, having first seen the bird at 6:30 am, we felt that to endure the heat longer was unnecessary as we had accumulated so much data.

DESCRIPTION

A small Boubou, appearing quite diminutive when seen perched with African Drongo, *Dicrurus adsimilis*, and when attacked by the Bare-eyed Thrush, *Turdus tephronotus*. Maybe as much as a couple of centimetres shorter than sympatric East Coast Boubou *Laniarius sublacteus*. The only known dark Boubou species in Kenya is the Slate-coloured Boubou *L. funebris*, and compared to this bird, the tail was longer and the entire bird appeared slimmer. Overall, a glossy, black bird.

HEAD

All black and shiny with reflections of blue and green. The black of the head continued over most of the underparts. The eye was a dull red and the hooked bill grey-black and quite deep.

UNDERPARTS

Entirely black, in direct bright sunlight sometimes giving a greenish or at times a violet wash, and becoming greyer on the vent.

UPPER PARTS

Upperback glossy black, remainder of upper parts less shiny black. Tail entirely black, fairly long, and very broad when fanned.

Wings all black, slightly darker than back. Underwing coverts all black contrasting in flight with translucency of greyer undersides to the flight feathers.

LEGS and FEET:

Grey and strong.

HABITS

A bird of mid-levels, spending its time in the canopy, especially when calling or investigating an intruder. An extravert bird, readily perching for long periods on exposed treetops. The tail is frequently flicked, and carried slightly cocked. Closed it shows as a narrow tail with a notch, but when calling it raises and slightly flares it. The female is far less obtrusive, calling from concealed or less conspicuous perches than the male, though she joins



BRIAN FINCH

The black Boubou calling on Manda Island

him when foraging through the tops of bushes. Male indulges in a parachute display, with deep, rowing wing-beats making slow progress, tail fully fanned, and back feathers raised.

CALLS

Four different calls were recorded, three of these ringing and loud with an almost “Gonolek” quality to them.

1. A repeated, loud “wee-ooo” given from an exposed perch at a rate of slightly more than one per second.
2. A loud, double “weerk-weerk” also from an exposed perch, the call lasting not much more than a second, and the spaces in between sets slightly more than this.
3. A throaty, four-note set “jhi-jhi-jhi-jhi” lasting a little more than a second with a second or so pause between each set.
4. The female answering the male as part of the duet, with a throaty, soft churr starting almost the same time as the males “wee-ooo” single call, and lasting fractionally longer.

HABITAT

The habitat of Manda Island is quite extraordinary. The floor has much reddish, sandy cover but with some coral rag on the surface. The bushes only grow to a couple of metres, but are impenetrable where undisturbed. Only the very occasional tree reaches beyond

ERLANGER'S BOUBOU
HAS BEEN RECENTLY
CONSIDERED A
SOUTHERN SOMALI
ENDEMIC, CONFINED
TO TWO RIVERS WHERE
IT HAS BEEN FOUND IN
GALLERY FOREST.

three metres. There is much scattered acacia species and *Dichrostachys*, amongst the unidentified broader leaved non-legumes. We are given to understand that this growth is over much of the island although we only covered some two kilometres from the airfield.

DISCUSSION

Erlanger's Boubou has been recently considered a southern Somali endemic, confined to two rivers where it has been found in gallery forest. On the Jubba river, it is said to occur in two morphs, one black and the other black-and-white, whilst on the Shabeelle river, that runs parallel with the coast, only the all-black bird is found. Because of its location in a region long torn by war, there is little information available on the species. East Coast Boubou (*sublacteus*) occurs along the Kenyan coast from the Somali border to south of Dar es Salaam. It penetrates

inland in both Tanzania and Kenya. In Somalia, it only occurs south of the *erlangeri* populations in the Boni Forest in the extreme south of the country. The two species have not been found to occur sympatrically until now.

The perpetuation of misinformation can be seen in the documented history of the black morph of the Tropical Boubou on the Kenyan coast. It was first collected on Manda alongside *sublacteus*, then forever treated as a black morph of it. It is mentioned in Mackworth-Praed and Grant: “There is a wholly black colour phase on the coast of Kenya Colony and Manda Island.”

Zimmermann & Turner also refer to the *sublacteus* having “an all-black coastal morph”.

Stevenson & Fanshawe refer to “a glossy all- black morph,” under their treatment of *sublacteus*.

The *Handbook of (the) Birds of Africa* says “an entirely black morph occurs” in *Laniarius aethiopicus sublacteus*, when Tropical Boubou encompassed all. Also under “Field Characters”, the same book says “an all-black morph occurs in Somalia and coastal Kenya and Tanzania.”

Britton doesn't even mention it as it has no racial identity, having been shut away in a drawer and left as Tropical Boubou!

And finally, Sinclair & Ryan in *Birds of Africa* state that the Tropical Boubou “... also occurs in all-black morph which is glossy black (not dark slate-grey, like Slate-coloured Boubou).”

We can only imagine that the original collectors on Manda were just that, and merely brought in the specimens with no details of what the birds said, did or any other vital piece of information. Then, as it seemed unlikely that two species of Boubous would inhabit an offshore island, it was decided, without any investigation whatsoever in a most unscientific manner, to treat them as a melanistic morph of *sublacteus*.

Not only are these black boubous distinctively coloured, much glossier and smaller than *sublacteus*, they remain in like pairs, inhabit a different strata, are extravert as opposed to the skulking, intravert *sublacteus*, have an entirely different set of vocalisations and an aerial, open parachuting display. In short, not only are they a different species, but they belong in a completely different grouping within *Laniarius*. The calls are ringing but not bell-like, suggesting



WE HAVE NO DOUBT THAT THE BIRDS OF MANDA ISLAND LIVING SYMPATRICALLY WITH *SUBLACTEUS* REPRESENT A KENYAN RESIDENT POPULATION OF WHAT IS THOUGHT OF BY SOME AS A SOMALI ENDEMIC, ERLANGER'S BOUBOU *L. ERLANGERI*.

Gonoleks. When we experimented with playback and known recordings of *sublacteus* taken in situ, we only succeeded in bringing in other *sublacteus*, whilst the black Boubou showed no interest.

Likewise playback of the black Boubou taken in situ impressively attracted others of its kind whilst *sublacteus* showed no interest whatsoever. The parachute display reminded Brian of the display flight of Sooty Boubou *L. leucorhynchus*, the churring of the female in duet and the male's penchant for finding high perches from which to call is reminiscent of Red-naped Bush-shrike *L. ruficeps*, but nothing is reminiscent of anything to do with the Tropical Boubou group.

Recently Nguembock, Fjeldså, Couloux and Pasquet published a thorough revision of the genus *Laniarius* in "Phylogeny of *Laniarius*: Molecular data reveal *L. liberatus* synonymous with *L. erlangeri* and "plumage coloration" as unreliable morphological characters for defining species and species groups." Their work revised the Tropical Boubou complex, breaking the birds in Kenya into Great Boubou *L. major* of the Kenyan uplands and west of the Rift Valley; East Coast Boubou *L. sublacteus* on the entire Kenyan coastline extending inland as far

as Garissa, Taita and Makindu; and along our, (northeastern) border, the Ethiopian Boubou *L. aethiopicus*.

In the old treatment of Tropical Boubou, there was a fourth member of the group, and this was *erlangeri*. Nguembock et al's DNA studies on Somali specimens from two populations show that the bird has nothing whatsoever to do with the Tropical Boubou clade, and is more closely allied to *ruficeps*. Whilst treating the Tropical Boubou complex, the authors, like everyone else, state that "within *sublacteus*, occasional birds along the Kenya coast are black morphs," but extend the range to incorporate the Tana delta.

Whilst claiming to have taken DNA material from every race of every *Laniarius*, they completely ignored the black Boubou of the Kenya coast stating; "*L. a. sublacteus* also has a black morph in the area around the mouth of the Tana River in Kenya (Stresemann, 1947)." To complete their study, they should get some DNA material from the six specimens collected on Manda Island that are in the Nairobi National Museum.

We have no doubt that the birds of Manda Island living sympatrically with *sublacteus* represent a Kenyan resident population of what is thought of by some as a Somali endemic, Erlanger's Boubou

L. erlangeri. However our conviction that the Manda birds are the same as the Somali birds will probably require DNA sequencing. If that proves them to be the same then *L. erlangeri* would be replaced by *L. nigerrimus* as the first specimen was collected at Kapini in 1878.

If our conviction is right, then the presence of the bird in scrub along Lamu's airstrip just goes to show that highly visited locations are not without their surprises. What remains is to ascertain and map the extent of the habitat on Manda Island and the extent of other forms of land use (which may not be extensive yet, due to lack of drinking water).

We also need to determine the threat to Manda Island from the development of the proposed Lamu Port and from burgeoning tourism development, which has already resulted in a road that crosses the island, bisecting the forest/scrub. This road has resulted in an inordinate amount of motorbike traffic and has encouraged uncontrolled charcoal burning. It will be important to explore the possibility of getting local agreement and support for a protected area to ensure this Boubou avoids extinction in Kenya. ●

BRIAN FINCH

A leading Kenyan ornithologist. He is the co-author of *The Birds of East Africa*, and *The Birds of the Horn of Africa*. He also specialises in reptiles and butterflies.

NIGEL HUNTER

Currently Executive Director of EAWLS. Has been a keen ornithologist since he was a teenager.



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SPOTLIGHT

Alley



WANTED!

ONE OF OUR CHIMPS IS MISSING

BY DIANA HUNTER

Consider this fence. It is 14 feet - high, has a "Y"-shaped top, outrigger wires sticking out three feet, chicken wire rising four feet from the ground, and it is charged with between 6.2 and 8.0 kilovolts, - more than enough to kill you if you held on to it. But the amps are low, so you'd probably just get hurled backwards instead. I personally wouldn't go near it.

But I am not Alley, the supreme escapologist of the Sweetwaters Chimpanzee Sanctuary on Kenya's Ol Pejeta Conservancy. I am fascinated by this female chimpanzee, who has become a heroine of mine because she has actually escaped regularly over this fence that has been modified again and again to cope with her extraordinary exploits. So, how on earth does she do it?

It all started when Alley, then aged six, arrived at the sanctuary in 1993 as part of an original group of 10 chimps from the Jane Goodall Institute in Burundi. She was a happy and healthy chimp but David Mundia, a caregiver who has worked with the chimps since the beginning, quickly noticed Alley's early leanings towards the art of escapology and her exceptional flair for using tools, and indeed keys. A *National Geographic* feature (February 2010) on the chimps of Congo's Goulougo Triangle, who are remarkable for displaying very advanced behaviour without having had any human contact, says that it is not uncommon for chimps to use tools, but less common for them to use a succession of two tools, modified

by or known to the chimp for performing a specific purpose. David Mundia tells the story: "A colleague had dropped a bunch of keys in the chimpanzee house a few months after she arrived. Alley got a stick, poked it through the grill to get the keys, and methodically tried one at a time in the padlocks. I was new then, but I thought: 'Wow! These animals are really intelligent.'" Does this make her a kind of Chimp Mastermind? Alley is a gentle chimp and very expressive, and that time she understood she had to give the keys back in exchange for her favourite food: a ripe banana.

When chimps arrive at the sanctuary, they are introduced gently to the concept of an electric fence by the caregivers, who show them what it does, starting with a very low voltage. The first fence was basic but specifically designed for chimps and copied from the Chimfunzi sanctuary in Zambia. Only about 10 feet high, it proved to be a mere inconvenience to Alley, who became a professional escapee from early 1997. Amazingly, she always came back. At first, the rangers didn't usually detect her absence unless she failed to appear at the chimps' house for food at noon. As it turned out, she was, quite literally, out to lunch...

The team of fencers had to find out exactly how she was getting out: a dangerous hobby given the many predators prowling the Ol Pejeta. The fencers mounted an ambush and, sure enough, caught her using a long, perfectly dry stick propped up against the fence as a ladder, allowing her to jump smartly over the top. They found she had secretly collected a ready arsenal of sticks and placed them strategically along the fence

to enable quick re-entry, as well as exit. She knew that preparation was everything. When the caregivers couldn't see her, they would start to call her, and often she was back inside before they caught a glimpse of her on the wrong side of the fence.

But why does she escape, and what does she do when she gets out? David Mundia isn't entirely sure. "Usually she just sits outside and doesn't go far. Perhaps she likes being on her own, or maybe she is just curious and wants to see what it's like to be a human, looking at her own kind from the other side. She knows it's not a good thing to do though, because we get upset with her, so when we know she's been out and tell her off, she makes submissive sounds as a kind of apology. I think this is why she is so secretive because really she doesn't want to upset us."

The fence was modified further. Needless to say, this only increased the challenge for Alley. She managed to swing over the overhang of live wires at the top and not touch the earthed ones that would shock her. When the whole fence was then earthed, she worked out that by standing on a dry stick as a ladder while twisting the middle wires together, she could short circuit the fence and also make a handy gap. She would 'Superman' though the gap, landing with a neat forward roll on the other side, dry sticks at the ready. Masterful.

With Alley continually one step ahead, the caregivers wondered if her temporary escapes were her way of



expressing boredom. Enrichment (such as finding hidden food, or toys to play with) isn't generally necessary for chimps in such a large area (the sanctuary covers about 240 acres), but they decided to give her the most important job they could think of. They made her adoptive mother to a three-year-old orphaned chimp called Zee.

This seemed to work wonderfully: Alley didn't attempt to escape for almost a year and a half. In fact, unbeknownst to the caregivers, she was training Zee as her accomplice in her secret methods.

Lulling the caregivers into a false sense of security, Alley also made sure that Zee bonded with her best friend, another female chimp called Cheetah. Now, she could start breaking out again. Her forays weren't as frequent as once a week, but with Zee being distracted by Cheetah, Alley no longer ran the risk of the younger chimp having a screaming tantrum when she was away. Things had become a little trickier also because the fence had been alarmed for short circuits.

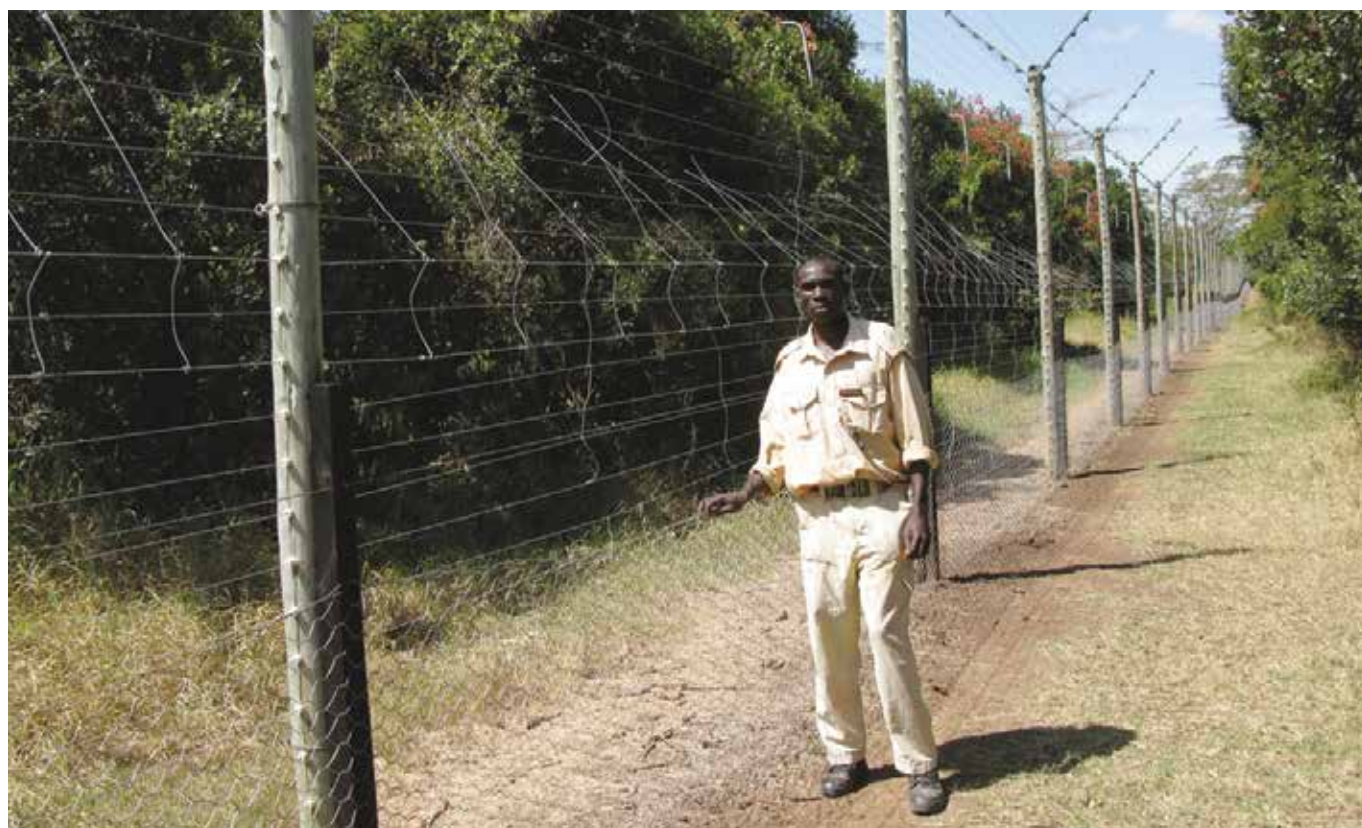
In 2005, the sanctuary got an entirely new fence courtesy of the Arcus Foundation. This is the fence it has today.



DIANA HUNTER

The fencers even made sure that the chimps couldn't see them working in case it gave them ideas. This fence stopped Alley for a year or so, and the caregivers hoped it was finally 'Alley-proof'. Not quite. After a year of studying it, Alley

simply lifted the bottom wire with a stick and rolled underneath. What to do? A four foot-wide panel of chicken wire was secured along the lower part of the fence to prevent the twisting-the-middle-wires-together technique, the ability to make a



DIANA HUNTER

Top: Alley in the sanctuary.

Bottom: Caregiver Anthony Kamau checks the most complex section of the fence, where Alley likes to try out her new techniques.



The electric fence that surrounds the Chimpanzee Sanctuary

WHEN CHIMPS ARRIVE AT THE SANCTUARY, THEY ARE INTRODUCED GENTLY TO THE CONCEPT OF AN ELECTRIC FENCE BY THE CAREGIVERS, WHO SHOW THEM WHAT IT DOES, STARTING WITH A VERY LOW VOLTAGE.

gap, or to go underneath. Outriggers were fixed on the inside of the fence to prevent the use of ladders. Surely, all this was going to work?

No chance. Do not underestimate the powers of Alley. David says: "I've seen many chimps escaping, but none of them do it like she does with such thinking, planning, reasoning and logic." No one really understands how she works out her methods without getting shocked in the process, but somehow, this time she knew the chicken wire was earthed. This meant that she could twist the live wires together with the chicken wire, *et voila!*, the fence was shorted, a trusty dry stick was instantly employed as ladder to get above the outriggers, and out she popped, shock-free and ready for action.

The only solution was again to distract Alley. Victoria, another young orphaned chimp, was successfully adopted by Alley, but again, by 2006, Victoria was being happily palmed off on Cheetah so that Alley could give Zee further training in stick selection, escape

timing, etc. They became a double-act, going out together. Sometimes Victoria informed on them by screaming when Alley was away, so the caregivers learned that when Victoria was with Cheetah, and Alley and Zee weren't around, Alley was definitely up to something. The alarms were checked, they patrolled the fence, and the emergency fencing team was put on alert.

The last time Alley got out was about five months ago, when David was talking to a group of visitors and saw several chimps further down the fence, on the same side as him. As soon as they spotted him, some chimps dived back through the gap in the wires into the chimp enclosure. The others were gently persuaded back in by the caregivers, but not before David noticed how the chimps inside and out had lined up to stare at each other – "just like the tourists look in on them."

"The other chimps definitely think Alley is their heroine. They like to follow her. When they see her, Zee and Victoria with sticks, they line up to wait

for her to come back, and want her to get them into the next enclosure," said David. "It definitely makes our job more challenging. She likes interacting with humans, so maybe she wants to be with humans more or it's her way of saying that the fence won't hold her inside. We've often hidden and waited with a camera, but we've never got a picture of her escaping."

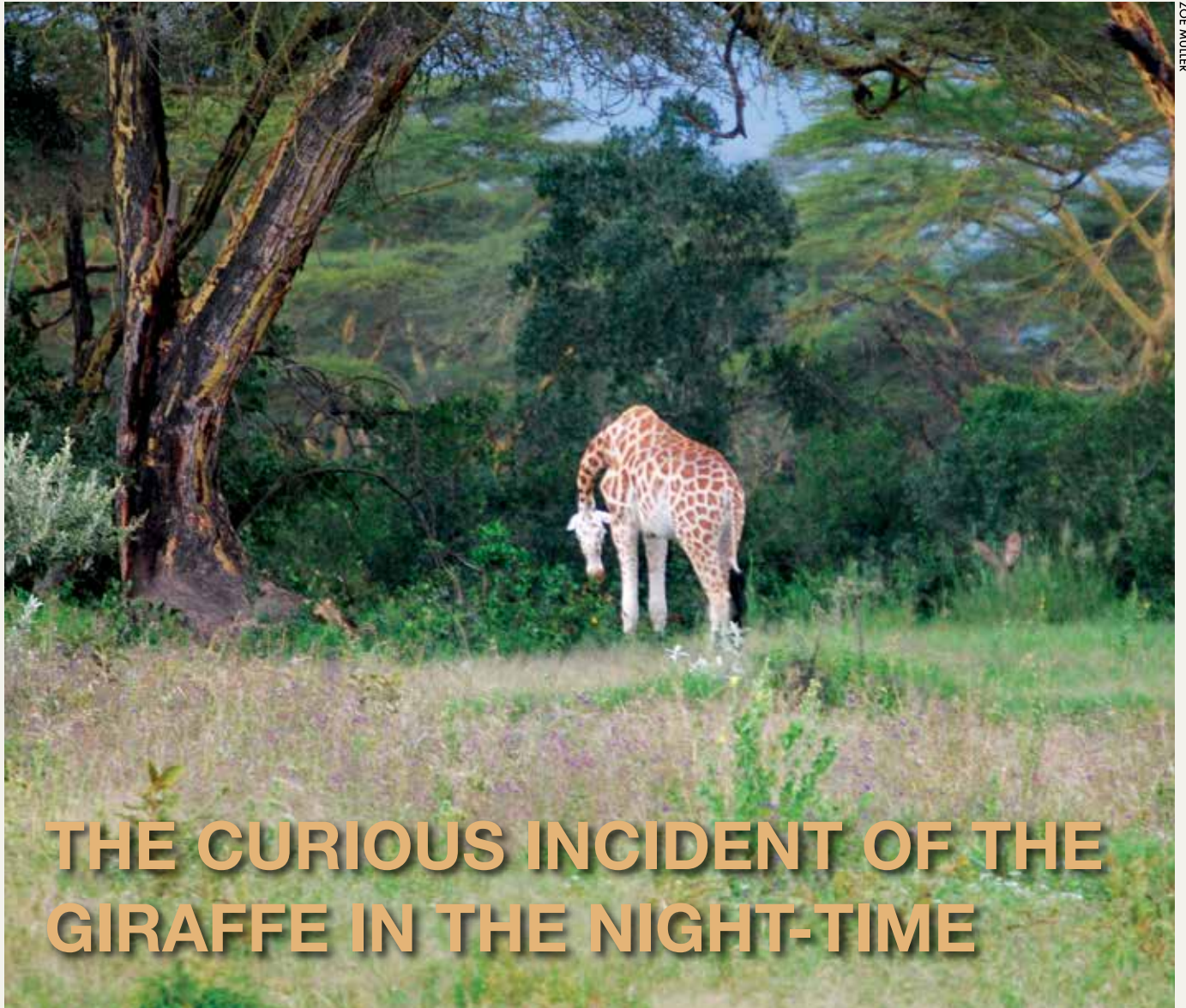
The company that made this fence say it is now the most complex ever made to contain chimps, who are notoriously good at solving problems and can be very adept at using tools. With the unique challenges this fence brings, surely Alley's outstanding 'problem solving' ability makes her one of the world's most intelligent chimps? Does David think she might get past the latest version of the modified fence? He pauses. "She might. I think maybe she wants to be an engineer when she grows up." ●

CREDITS:

With thanks to David Mundia and all at the Sweetwaters Chimpanzee Sanctuary.

DIANA HUNTER

is a writer and photographer and owner-manager with her husband Alex of Ol Pejeta Bush Camp at the Ol Pejeta Conservancy.



THE CURIOUS INCIDENT OF THE GIRAFFE IN THE NIGHT-TIME

BY ZOE MULLER

Giraffe have a bad reputation. Ask any safari guide about their behaviour and they will delight in telling you how giraffe are bad mothers, abandoning their young hours after giving birth and leaving them alone and vulnerable in the bush. Keepers of captive giraffes too will tell of problematic mother-calf relationships – sometimes, the mother refuses to let her newborn calf suckle or come close or, worse, she rejects it completely, forcing the keepers to intervene to save its life.

In the wild, giraffe exhibit an unusual parenting system: they hide their young for the first four weeks of life. This has given rise to the theory that mothers

‘abandon’ their young soon after birth. Rather than being symptomatic of neglect, however, this behaviour protects the calf from the dangers of its new environment. Hiding it in a secure place protects it from agile predators and the hazards of the open savanna and ensures it remains in a shady place to avoid overheating.

The diligent mother usually keeps her calf hidden for the first few weeks of its life but she returns regularly to feed it and check on it. As it gets older and stronger, she will start to take the calf out and herd it with other young calves in a crèche system formed by females of the same group. Typically, the adult females

take it in turn to look after this crèche, allowing the other mothers to leave in search of food and other resources. This system has evolved to ensure maximum calf survival: female giraffe are actually maximising the survival potential of their young, making them rather undeserving of the ‘bad mother’ tag!

I am studying a population of Rothschild’s giraffe within the Soysambu Conservancy in Kenya. Having spent many hours observing giraffe in Kenya and elsewhere in Africa, I was already sceptical of their reputation as bad mothers, but recently I witnessed an incident that really made me question what we know about giraffe parenting



Opposite Page: Adult female intrigued by the carcass of a dead baby giraffe.

Top: Juvenile and adult female inspecting the carcass of a dead baby giraffe.

Below: Adult female inspecting the carcass of dead baby giraffe.

IN THE WILD, GIRAFFE EXHIBIT AN UNUSUAL PARENTING SYSTEM: THEY HIDE THEIR YOUNG FOR THE FIRST FOUR WEEKS OF LIFE. THIS HAS GIVEN RISE TO THE THEORY THAT MOTHERS 'ABANDON' THEIR YOUNG SOON AFTER BIRTH.

behaviour. There are approximately 65 Rothschild's giraffe in Soysambu Conservancy, and they are pretty successful reproducers. There is always an abundance of young giraffe at any one time, and their survival rate is

good because there are no lions on the property. Part of my research involves identifying all giraffe individually, which means I get to know them very well, and one in particular caught my attention. One of the females, (identified as F008),

had a four-week-old calf at foot. This calf had a seriously deformed hind leg, which made it instantly recognisable. It was either born with a deformed leg or it was injured early on, but the calf could always be observed having great trouble walking and it spent most of its time standing still.

Like a doting mum, F008 could always be found keeping vigil right next to her calf. During many field trips, I never saw F008 much more than about 20 metres from her compromised calf, and on each occasion she was standing by it regardless of the rest of the herd's behaviour. Normally all adults in a herd will synchronise behaviour – they will all be foraging or ruminating together - but F008 would not do this. She always stood by her calf. This behaviour is interesting in itself – she was clearly compromising her own health (through decreased foraging and increased stress from extra vigilance) to protect her calf, thwarting this notion of 'bad motherhood' in this individual at least.

On May 3, 2010 I headed out into the field for my usual daily observation and on the transect I found a large group of giraffe in an area where they are not normally found. This was a surprise, but what was even more surprising was their behaviour. The giraffe at Soysambu are well habituated to vehicles and are





ZOE MULLER

Other giraffe highly interested in the carcass of dead baby giraffe.

DESPITE THE LARGE AMOUNT OF EVIDENCE FOR SUCH BEHAVIOUR IN ELEPHANTS, THIS EXPLORATORY OR INVESTIGATORY BEHAVIOUR OF DEAD CONSPECIFICS AND APPARENT 'PROTECTIVE' BEHAVIOUR OF THE CARCASS HAS SELDOM BEEN RECORDED IN OTHER MAMMAL SPECIES AND CERTAINLY NOT IN GIRAFFE.

normally very relaxed and calm. On this morning however, I found a large herd of 17 females all highly vigilant and running around in apparently bizarre patterns. They were also scared by my vehicle – something that never normally bothers them.

I stopped the vehicle and expected them to settle but they carried on running around and when they did stop, they would stare intently at one particular area of bush where they seemed to be congregating. I needed to find out what they were so excited about and so I drove over to that area of bush. F008's injured calf had died and its body was lying in an open area of grass.

It looked like it had died maybe an hour previously, apparently from natural causes. It was a sad moment and I felt for F008, who was one of the females running around, but I was fascinated

by what was happening and decided to retreat, sit quietly and watch. This is what I saw over four days:

3RD MAY (DAY 1)

08:00: When I found the carcass, there were 17 female giraffe in the area, all running around in distress. Their movements were haphazard, they were highly vigilant and very unsettled. I positioned the vehicle away from the carcass and observed the herd for the next three hours. All 17 ran around the area being vigilant, continually approached or retreated from the carcass and showed extreme interest in it. F008 was in the group.

16:45: I returned to find 23 female giraffe and four juveniles in the area, again all quite restless, walking around and being vigilant. This time I observed

the adult females approaching the carcass and nudging it with their muzzles, then lifting their heads to look around before bending down to nudge it again. F008 was present and involved in this behaviour with the other adult females. The juveniles were tentatively approaching the carcass, would bend down to it, apparently sniff it and then jump up suddenly and run away before returning to repeat this behaviour.

21:30: I returned that evening as I expected to find some predators in the area. Instead I was surprised to find 15 adult females all clustered around the carcass, closer than they had been during the day. They were highly vigilant and did not move off as I approached. F008 was present and close to the carcass.

4TH MAY (DAY 2)

09:50: I expected the carcass might have been taken by predators during the night, but found it to be intact, in the same position and surrounded by seven adult females, including F008. All were walking around the carcass and being vigilant.

15:35: There were 15 adult giraffe in the area, this time 11 females had been joined by four males. The females, including F008, were still circling the carcass, approaching or retreating and inspecting



it by bending down and sniffing or nudging with their muzzles. I noticed that while the females showed great interest in the carcass, the males showed none – they were either foraging or inspecting the females for mating opportunities. At no point did any male go closer than 100 metres to the carcass.

20:45: I returned again at night to try and observe predator activity only to find the carcass still untouched and surrounded by three adult females, including F008.

5TH MAY (DAY 3)

07:45: On first inspection, no giraffe could be observed. However, after stopping the vehicle and scanning with binoculars, I noticed that there was one adult female present - F008. I noted that she seemed to have left the carcass for the first time since it had died and that she had moved to stand under a large tree approximately 50 metres away from it. She was not foraging or ruminating, just standing still in one spot.

I sat in the vehicle and observed her for about 10 minutes until I drove slowly over and she moved away. I went to inspect the carcass - it was gone! After a lot of searching, I finally located its remains and found that it had been half-devoured by predators (probably hyena) during the night.

It was at this point that I realised it had been dragged approximately 50 metres to the left of its original location and was now resting by the big tree, exactly where I had seen the mother standing when I arrived. So my initial recording that she was 50 metres from the carcass was incorrect – in fact, when I had arrived and first observed her, she had been standing over the half-eaten remains of her calf.

14:00: Later that day, F008 was back in the same spot – standing over the carcass in its new position by the large tree. No other giraffe were around.

17:45: F008 was still there, still standing by the tree and remains, being vigilant. Still no other giraffe in the area.

6TH MAY (DAY 4)

08:45: F008 was still in the area, but was now approximately 200 metres away from the tree where the carcass was yesterday. She was standing in an



Adult female nudging carcass of dead baby giraffe with her muzzle.

open area. The carcass had been taken by predators.

14:00: No giraffe sighted in area.

7TH MAY TO 12TH MAY (DAYS 5 TO 10)

The site has been visited several times each day to see if giraffe have returned to utilise the area. No giraffe have been seen there since F008 was there alone on the morning of May 6. I have never seen anything like this behaviour in wild giraffe.

I am not going to speculate on the motivations or possible 'emotions' driving this behaviour – I will let you draw your own conclusions. I simply wish to report on the interesting chain of events that I observed.

It is well documented that elephants show great interest in the carcasses of dead elephants and herd members, and this is often viewed as evidence of their empathic nature and ability to 'mourn' their dead. Regardless of such anthropomorphic labels or attribution of human emotions, what is clear is that elephants do exhibit unusual and uncharacteristic behaviour around the carcass of a dead elephant (Douglas-Hamilton *et al.*, 2006; McComb *et al.*, 2006).

Despite the large amount of evidence for such behaviour in elephants, this exploratory or investigatory behaviour of dead conspecifics and apparent

'protective' behaviour of the carcass has seldom been recorded in other mammal species and certainly not in giraffe.

Giraffe are highly social but we are only just beginning to understand the complexities of their social systems and family networks. This incident provides unique insight into one aspect of giraffe behaviour that we rarely see – that of family ties and the effects of the loss of a herd member. I hope that by reporting these observations, people who have had similar experiences or observed such behaviour might report them so that we can build a clearer picture of this aspect of giraffe behaviour and ascertain whether this is an isolated incident, or if it is much more prevalent in mammals than we have initially allowed ourselves to believe. ●

ZOE MULLER

Has spent the last 10 years working in wildlife conservation and research across Africa and has had a life-long interest in giraffe. She is now based full-time at Soysambu Conservancy in Kenya, having set up the Rothschild's Giraffe Project which is the first ever research programme dedicated to studying the endangered Rothschild's giraffe.

More information about Zoe and her research can be found at:
www.giraffereseearch.com



CLIMATE CHANGE AFFECTS TANZANIA BIRD DISTRIBUTION

BY COLIN BEALE

Hardly a week goes by without climate change being in the news, and anyone who has watched the changes in weather patterns in their home areas over recent decades knows that something is changing. But what does all this mean for wildlife? Globally, we hear of extreme examples such as the threats to polar bears and indications that migrant birds arrive on their breeding grounds in the north earlier and earlier. But what about here in East Africa? The data shows that the climate is certainly changing, but what impact will these changes have on

the region's avifauna and can we really mitigate them?

Tanzania has seen a rise in mean temperatures of nearly one degree Celsius since 1990, and (perhaps more importantly for wildlife) changes in both the timing and amount of rainfall are also widespread. Predictions indicate that much of East Africa will actually get 7% wetter. However, it can be difficult to see what effect this will have on wildlife – we might see starving animals in prolonged droughts, but this has always been the case because of the variability in East African climate. The more gradual effects of prolonged climate change are much

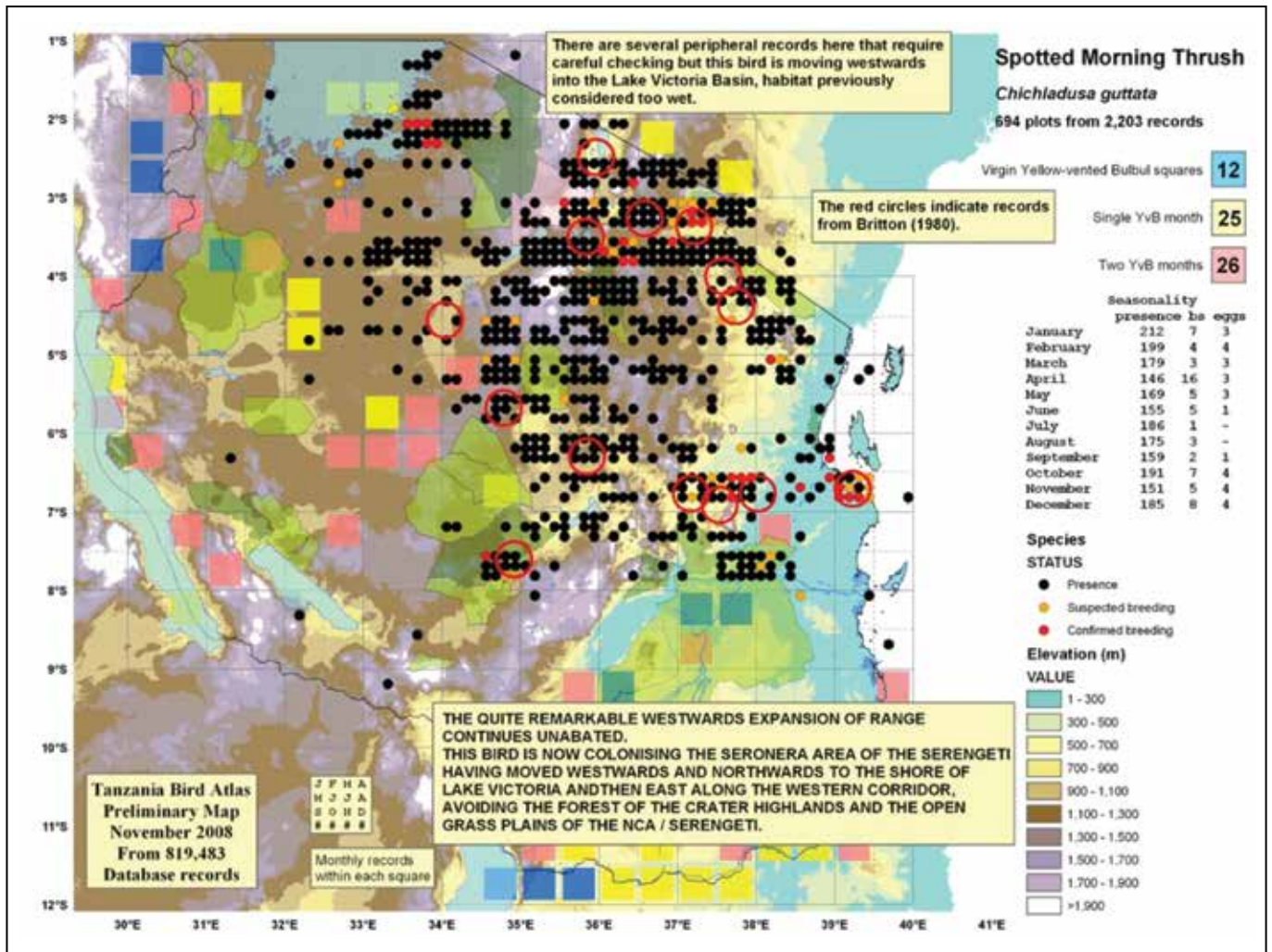
harder to identify, not least because detailed information on the long-term patterns of change is rarely available. Yet such information is critically important for conservation at this time: without knowing what species are already responding, and in what ways, it is hard to develop sensible long-term conservation strategies. Indeed, some scientists are already suggesting that climate change will force animals out of existing protected areas, creating a need to protect new regions currently devoid of animals.

The Tanzanian Bird Atlas (TBA) project has been gathering data on

PHOTO BY COLIN BEALE



Spotted Morning Thrush



Map indicating how climate change is affecting Spotted Morning Thrush species.

the distribution and seasonality of birds since 1983, whilst also incorporating records from the existing studies. Most importantly, this project has also maintained a detailed record of when and where visits have been made to different regions of the country, so real changes in distribution can be identified and differentiated from those that are caused by changing observer effort alone.

One striking example is the Spotted Morning Thrush, a visible and highly vocal species unlikely to be affected by observer bias. Previous records starting with Britton, 1980 (shown on the map above in red circles), show the limits of this dry country species. Of particular interest is the westward expansion across the Rift Valley and into the Lake Victoria drainage basin. Why do these changes happen? Certainly climate plays a part, but probably not directly, only through subtle (or not so subtle) changes in habitat and food availability. It's

particularly interesting that many of the range expansions have brought species into extremely well studied areas like the Serengeti – climate change must be causing some underlying change in the Serengeti environment that we have yet to observe directly, but the birds notice or, should we say, react to it.

Atlas data and this sort of analysis can therefore be used to identify priority species (perhaps those showing greatest change, or those that are simply good indicators of more subtle changes) and priority locations (where change is happening fastest, and where ongoing changes may create newly valuable sites).

These studies can also help us develop management strategies. Further changes in our climate are already inevitable, and we can do nothing to stop them. But we can plan for it, making sure that suitable habitats are maintained in the areas where species are currently moving, and we can make sure we do our

bit to reduce the impact of further change through mitigation. Better yet, we can use these results to ensure that we develop win-win-win management for adaptation (new habitats in new places) and mitigation (reducing CO₂ and minimising the degree of change) and conservation (making sure the habitats are valuable whatever happens). ●

COLIN BEALE

A Research Fellow and lecturer in Ecology at the University of York, UK, currently based in Arusha, Tanzania. His research interests focus on understanding the ecology of species distributions and investigating the impacts of climate change on ecological systems.



CAPITAL CLICKS

PAOLO TORCHIO FEASTS ON THE
RICHES OF NAIROBI NATIONAL PARK





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Below Left: Black rhino

This page

Top: Lions

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ELINOR OSTROM

A NOBEL PRIZE FOR LOCAL COMMUNITIES

BY ESTHER MWANGI

Elinor Ostrom won the 2009 Nobel Prize in Economic Sciences, the first woman to win the award in this category. She and Oliver E. Williamson shared the USD 1.5 million prize for work on economic governance.

As a post-doctoral fellow, one of my most treasured moments with Ostrom was sitting on the back porch of her house enjoying the sight and sounds of an adjacent forest and working through the notion of poverty. Ostrom drew upon the example of her childhood to make a point on conceptualising poverty. Raised by a single mother, she mostly shopped in thrift stores that sold second-hand goods. Similarly, Vincent Ostrom (her husband), was raised on a farm without running water. Neither of them thought they were poor, even though they might have had much less ready cash than many of their peers.

On another occasion, during a lunch with guests just after I had successfully defended my PhD dissertation, in response to a question on best practice methods for establishing the effects of governance reforms, Elinor Ostrom said: "Ask them!" i.e. ask the people who live and are directly impacted by reforms.

These are just a few of my many Aha! moments I had while working with Ostrom, and they nicely bring together the person and the scholar. She demonstrates that people themselves (not necessarily governments or donors) are the best identifiers of their own problems and the most appropriate crafters of solutions to their problems; they have done this over many years of action, failures, successes, learning, and experimentation.

Over the past three decades her work on natural resource management has relentlessly challenged some of the most dominant models of human behaviour, including the logic of collective action, which is based on the

free-rider problem. This suggests that individuals are less likely to contribute to collective endeavours unless there is material reward or coercion. In natural resource management these models have consequently led to policy solutions that nationalise resources under government ownership and/or management, or to resource privatisation and individualisation.

Ostrom explores a third alternative to the state and to the market, which is how resource users faced with an interdependent situation can organise and govern themselves to obtain joint benefits over time (including sustainable use) despite the temptations to free-ride, shirk, or act opportunistically. She finds that though interdependent resource users might individually face temptations to free-ride or to act opportunistically, they often are able to develop a shared perspective of the resource system and organise themselves to obtain mutually-beneficial outcomes, including sustainable resource use. They repeatedly communicate and interact with one another and thus learn whom to trust, what effects their actions will have on each other and how to organise themselves to gain benefits and avoid harm. They possess social capital with which they can build institutional arrangements for resolving natural resource management problems.

Without an adequate knowledge and understanding of the circumstances under which people self-

organise successfully or not, it is difficult to structure policies and practices aimed at improving resource sustainability and benefits capture.

The global community is now faced with "new" problems: climate change, food insecurity, energy insecurity and so on. While current solutions, such as REDD (Reducing Emissions from Deforestation and Forest Degradation) and biofuels, show great promise, they also pose substantial risks, the largest of which is rolling back the gains of governance reforms enacted in prior decades. For instance, decentralised forest management now appears to be in direct confrontation with recentralisation as is evident in the implementation of REDD, or with large scale land acquisitions for biofuels and food security of richer nations in Kenya, Uganda and Tanzania. Ostrom's work warns of the futility of top-down solutions and further argues a case for institutional diversity.

This Nobel Prize comes at a most apt moment indeed.

Importantly, and for the first time, resource dependent communities can justifiably claim a Nobel of their own. Their stewardship is quite directly recognised by this Nobel Prize, just as hope is renewed in their capabilities regardless of governance threats presented by current global challenges. ●

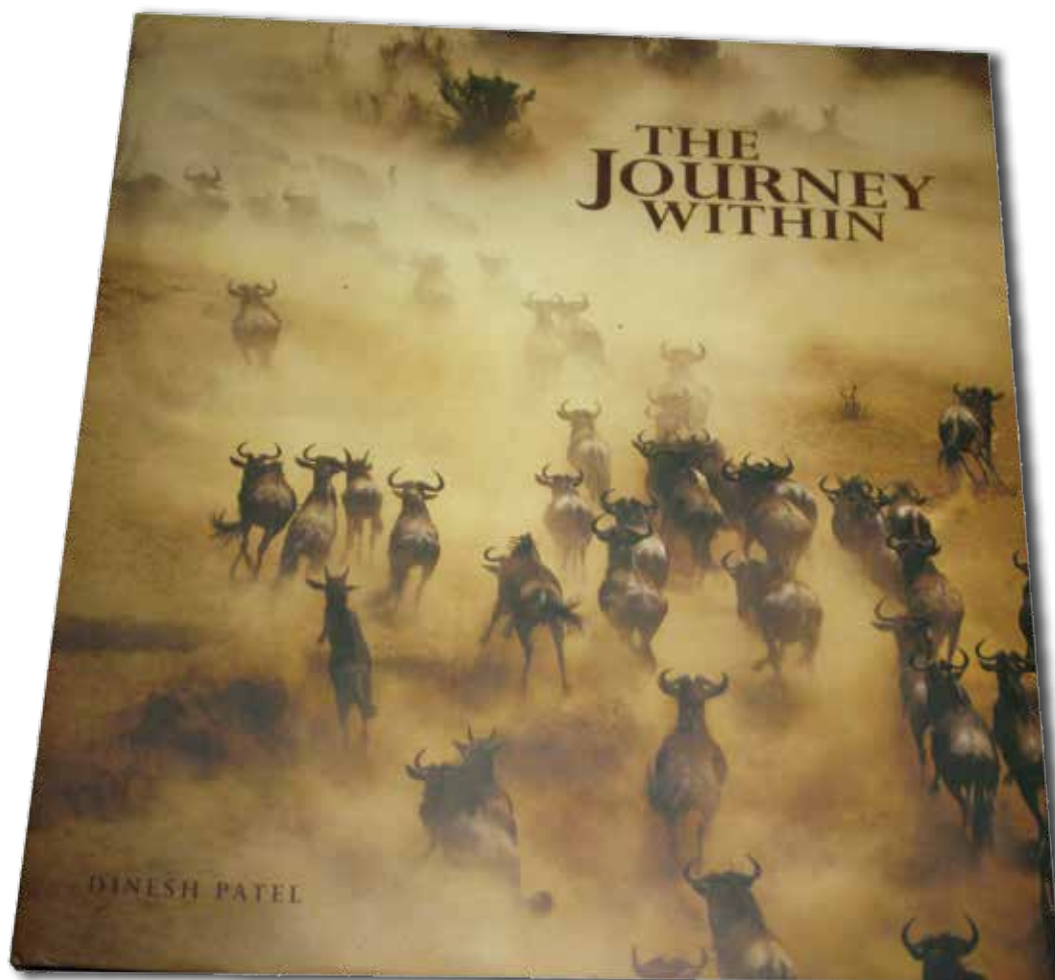
ESTHER MWANGI

A scientist working in the forests and governance programme of the Center for International Forestry Research (CIFOR), in Bogor, Indonesia.





THE JOURNEY WITHIN



Looking up from my desk, I can see a tide of swaying stalks rolling beneath the sapphire oblivion that is the African sky. Clouds drift gently by, sending tattoos of shadow across the savanna. A lone lion, bathed in the glorious sun, omnipotent in its natural majesty, stands on a small, dark mound, looking out upon the wilderness.

Unfortunately for me, my desk does not overlook one of East Africa's many national parks, but it feels like it. I'm looking at a book, Dinesh Patel's *The Journey Within*, and the glories of Africa's untamed nature are alive at my desk. I am instantly consumed by the beauty. Through nearly 45 years of photography, the author has compiled a striking testimony to the plants and animals of the savanna. Just looking at them, you feel you are there.

Not only does he portray some of the greatest sights nature has to offer, but he also provides an insight into nature that is untainted by humans. By presenting the photographs without captions or text, he preserves the wild beauty of the scenes he has not so much captured as borrowed from nature. The reader is able to "sit back, relax and enjoy the journey".

Although very simple, the book acts as a reminder of the importance of conserving nature by showing us its true beauty. However, by leaving out the human aspect, the author does little to expose the true state of some of Africa's most beautiful sights. To those involved in the world of conservation, Patel's camera lens may even seem slightly rose-tinted.

Either as a coffee table centrepiece or as the keystone to a wildlife book collection, this work is perfect for safari

veterans and enthusiasts alike. With over 200 pages of photographs from parks all over East Africa, it contains visual masterpieces from the world-renowned wildebeest migration to adrenaline-filled lion chases. With a foreword from the paleontologist and conservationist Dr. Richard Leaky and an introduction by Patel, this book offers a personal account of nature through the lens of a masterfully wielded camera.

Patel's passion and self-proclaimed duty is to create awareness for conservation through his work.

"Through the photographer's lens, I feel I have looked in on the dynamics of life itself," he writes in his introduction. With this book, he can help us do the same.

BY: DINESH PATEL

Published in 2009

Published by: Dinesh Patel

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Reviewed by Atticus English
Student at Hilcrest High School



THE MIGRATION AND MORE
Photosafari by Paolo Torchio

Contact Paolo on maga@wananchi.com and visit the web www.paolotorchio.net for more details, in the Photosafari Page.

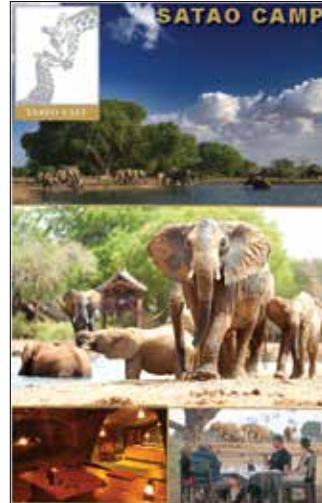
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KENYA'S INTERNATIONAL CONFERENCE ON BIODIVERSITY, LAND USE AND CLIMATE CHANGE TOWARDS A NATIONAL CONSERVATION FRAMEWORK

NAIROBI, KENYA, 15-17 SEPTEMBER 2010

Kenya's wealth of biodiversity so vital to human wellbeing and planetary health has yet to be fully inventoried. The conservation of Kenya's biodiversity calls for a full inventory of species and a national plan that takes into account likely changes in land use and climate. The International Year for Biodiversity is an opportune time to take stock of Kenya's biodiversity and the conservation challenges ahead.

We are pleased to announce that the Ministry of Environment and Mineral Resources, Kenya, Kenya Wildlife Service, African Conservation Centre, National Museums of Kenya, Department of Remote Sensing and Resource Surveys, Regional Centre for Mapping of Resources for Development and Kenya Forest Service among other agencies will host a conference titled Kenya's International Conference on Biodiversity, Land use and Climate Change.

The conference will bring together conservation scientists, planners, graduate students, managers and policy makers to coordinate species inventories and map Kenya's biodiversity. Participants will consider how to collate, integrate, analyze and share information using the best available mapping, data storage and analytical tools. The concluding session will discuss a national framework for conserving Kenya's biodiversity, taking into account land use, livelihoods and climate change, drawing on international and regional experience from neighboring East African states.

The conference will include the following sessions:

- Biodiversity assessment
- Biodiversity informatics
- Land-use and livelihoods
- Land-use and Climate change
- Ecosystem services
- Policy implications
- Poster sessions

Participants wishing to present poster sessions should contact us on; biodiversityconf@kws.go.ke by August 15th 2010.

The conference will be held at **Intercontinental Hotel, Nairobi from the 15 to 17 September 2010**. We invite broad public participation. Registration forms and payment details are available at www.kenyabiodiversityandclimatechange.org. The registration fee is Ksh 4,000/- for individuals and Ksh 10,000 for Corporations. Confirmation will be issued on receipt of payment.





SUNDOWN WITH SPARROWHAWK

BY PAOLO TORCHIO

The Great Sparrowhawk is a beautiful and uncommon bird of prey. It is a resident of wooded areas - in this specific case the trees just in front of my Nairobi house.

It has nested in one of the eucalyptus there for years. The remaining chick from the last brood of two has just left the nest, making its first attempt to fly from

branch to branch. The sparrowhawk is normally very elusive but one evening I was lucky enough to receive an unexpected visit from the female right in front of the balcony of my house. She was not scared at all and stayed on the branch for a while, enjoying the last ray of sun with me. A rare opportunity for some intimate photos of this fine creature. ●

PAOLO TORCHIO

An Italian - born wildlife enthusiast who lives in Kenya. All the pictures of the Great Sparrowhawk's nest on www.paolotorchio.net