Loss of Fertile Land Fuels ‘Looming Crisis’ Across Africa

Climate change, soil degradation and rising wealth are shrinking the amount of usable land in Africa. But the number of people who need it is rising fast.

By JEFFREY GETTLEMAN

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A man from the Pokot ethnic group illegally grazing cattle on Ol Maisor Ranch in Laikipia, Kenya. Hundreds of Pokot and Samburu people have invaded the ranch, cutting or breaking perimeter fences to graze thousands of cattle, goats and sheep. Credit Tyler Hicks/The New York Times

LAIKIPIA, Kenya — The two elders, wearing weather-beaten cowboy hats with the strings cinched under their chins, stood at the edge of an empty farm, covering their mouths in disbelief.

Their homes — neat wooden cabins — had been smashed open. All their cattle had been stolen. So had their chickens. House after house stood vacant, without another soul around. It was as if some huge force had barreled into the village and swept away all the life.

Sioyia Lesinko Lekisio, one of the elders, had no doubts who did this. Swarms of herders from another county had invaded, attacking any farm or cattle ranch in their path, big or small, stealing livestock, ransacking homes and shooting people with high-powered assault rifles.

“There’s nothing we can do about it,” he said. “They want our land.”

Kenya has a land problem. Africa itself has a land problem. The continent seems so vast and the land so open. The awesome sense of space is an inextricable part of the beauty here — the unadulterated vistas, the endless land. But in a way, that is an illusion.

Population swells, climate change, soil degradation, erosion, poaching, global food prices and even the benefits of affluence are exerting incredible pressure on African land. They are fueling conflicts across the continent, from Nigeria in the west to Kenya in the east — including here in Laikipia, a wildlife haven and one of Kenya’s most beautiful areas.

Armed security guards at Ol Maisor Ranch. Credit Tyler Hicks/The New York Times

Large groups of people are on the move, desperate for usable land. Data from NASA satellites reveals an overwhelming degradation of agricultural land throughout Africa, with one recent study showing that more than 40 million Africans are trying to survive off land whose agricultural potential is declining.

At the same time, high birthrates and lengthening life spans mean that by the end of this century, there could be as many as four billion people on the continent, about 10 times the population 40 years ago.

It is a two-headed problem, scientists and activists say, and it could be one of the gravest challenges Africa faces: The quality of farmland in many areas is getting worse, and the number of people squeezed onto that land is rising fast.

“It’s a looming crisis,” said Odenda Lumumba, head of the Kenya Land Alliance, a group that works on land reform. “We are basically reaching the end of the road.”

More than in any other region of the world, people in Africa live off the land. There are relatively few industrial or service jobs here. Seventy percent of Africa’s population makes a living through agriculture, higher than on any other continent, the World Bank says.

A displaced person with livestock in the early morning. Credit Tyler Hicks/The New York Times

But as the population rises, with more siblings competing for their share of the family farm, the slices are getting thinner. In many parts of Africa, average farm size is just an acre or two, and after repeated divisions of the same property, some people are left trying to subsist on a sliver of a farm that is not much bigger than a tennis court.

A changing climate makes things even harder. Scientists say large stretches of Africa are drying up, and they predict more desertification, more drought and more hunger. In a bad year, maybe one country in Africa will be hit by famine. This year, famine is stalking three, pushing more than 10 million people in Somalia, Nigeria and South Sudan to the brink of starvation.

But much of Africa's farmland is in danger for another, perhaps simpler, reason: overuse. Fast-growing populations mean that many African families can't afford to let land sit fallow and replenish. They have to take every inch of their land and farm or graze it constantly. This steadily lowers the levels of organic matter in the soil, making it difficult to grow crops.

In many areas, the soil is so dried out and exhausted that there is little solace even when the prayed-for rains finally come. The ground is as hard as concrete and the rain just splashes off, like a hose spraying a driveway.

"There are going to be some serious food-security issues," said Zachary Donnenfeld, a researcher at the Institute for Security Studies in South Africa. "More and more countries will be reliant on food imports. You'll increasingly see the international community come into more rescue-type situations."

The fact that several of Africa's biggest economies have grown impressively in the past 10 years may seem like an answer, but analysts say the newfound affluence may actually compound these pressures.

As people gain wealth, they consume more — more energy, more water and usually more meat, all of which intensify the pressures on the environment. In Kenya, a piece of meat is one of the first things people treat themselves to when they get a little extra cash, and as the nation's economy grows, so does the

taste for beef. Cows have always been a traditional form of wealth; now they're big business. In the past 15 years, the number of cows in Kenya has shot up by more than 60 percent to around 20 million, driving a scramble for grazing lands.

Some parts of Kenya are now so overgrazed by cows and goats that all the grass roots have been eaten, leaving large stretches of bare earth, as measured by NASA satellite imagery that tracks net levels of carbon dioxide absorption. Herders from bare-earth zones in Kenya are often the ones invading ranches.

Private investors are tramping in as well. Since the 1990-2005 period, global food prices have increased by 50 to 75 percent. Many foreign companies and local businesspeople have speculated that despite soil degradation, African farmland is destined to become more valuable. Small landholders across the continent are increasingly getting priced out or even evicted to make way for big commercial farms. This has led to conflict even in usually peaceful places, like Malawi, where a land-defense movement recently started to fight back against foreign-owned tea plantations.

Displaced children in a makeshift tent. Credit Tyler Hicks/The New York Times

Farmland is also rapidly vanishing into housing tracts and shopping centers to serve Africa's growing and more affluent population. This is happening everywhere: quiet fields' suddenly being transformed by an army of tractors into a set of neat houses or a colossal mall.

And then there's the battle to protect Africa's wildlife. In the past decade, ivory poachers have slaughtered more than 100,000 elephants and rhinos. Cheetah and lion populations are also falling. Wildlife habitats are being threatened across the continent, in great part because of new farms and new fences, and activists say something drastic needs to be done to protect endangered species.

But just about every acre set aside for a wildlife reserve takes an acre of potential farmland or grazing land off the table (some wildlife refuges tolerate grazing, but it often gets quickly out of

control). Scientists say that there still is fertile unspoken-for land available in Africa, but that it tends to be deep in rain forests, like in Gabon and the Democratic Republic of Congo. And that raises another problem. Cutting down all those trees to make way for farms could have serious consequences for the climate of the entire earth, since rain forests soak up carbon dioxide produced by burning fossil fuels.

Laikipia County, a few hours' drive north of Nairobi, Kenya's capital, is a microcosm of many of these complicated issues. On this one rugged plateau, poor herders, rich landowners, large- and small-scale farmers, commercial cattle ranchers, tour operators, passionate wildlife activists, elephants, lions, hyenas, cows, goats and zebras are all competing for the same space.

People have always fought over territory, and Laikipia is no exception, with cattle-rustling and battles over pastureland part of its history. But many residents say this past year has been the bloodiest ever. At least 80 people have been killed, and the violence has not stopped. In mid-July, a large group of herders killed a half-dozen police officers and stole their weapons.

One reason is political meddling connected to Kenya's national and local elections, scheduled for August. But the continentwide land issues seem to be emerging from the background into the foreground, which may explain why Laikipia is becoming more violent.

"These ideas of land-abundant Africa are increasingly outdated," said Thomas Jayne, a leading agricultural economist based at Michigan State University. "Land disputes are going to become more and more common, and more and more severe."

"Laikipia," said Dr. Jayne, who conducts research across the continent, "is just the tip of the iceberg."

A bare room in a looted home. The village of Nadungoru became a ghost town after residents fled invading herdsmen. Credit Tyler Hicks/The New York Times

‘Dangerous and Disturbed’

Kenya is one of Africa’s most developed nations, with some of the best infrastructure and a fast-growing middle class. But as long as anyone can remember, Laikipia has been a bit lawless. Many farmers live on isolated properties and have been shot at by armed herdsmen. They’ve had their livestock stolen. They’ve ducked rocks and spears.

One farmer said such attacks used to happen from time to time, especially to newcomers, and he called it Laikipia hazing. But this past year has been different. Waves of young pastoralists from neighboring counties, moving in groups armed with AK-47 assault rifles, have invaded dozens of farms and ranches, bringing tens of thousands of skinny, ragged cows from drought-stricken areas.

Maria Dodds described an all-out assault on her family's cattle ranch in January and February. She said gunmen were so close to her house that she could see them raising their weapons and shooting at her. They shot to death one of her employees, Kariwo Lotome, an old cattleman who had been working for her for years.

Nancy Nakalee, his widow, now penniless, stared at her feet as she spoke of her dead husband.

"I can still see his face," she whispered.

As the ranch fell under siege, dozens of police officers arrived. When some began firing military-grade mortar rounds at the invaders from her garden, Ms. Dodds said, she found herself cheering them on.

"I was yelling, 'Shoot another, shoot another!"' she said.

She shook her head, laughing but also disgusted with herself. "It makes you rabid."

It is not clear how many herders were killed in the firefights. Ms. Dodds said the police were trying to "wing them," and not actually hit them, because that would only exacerbate the situation.

Watering livestock in an area where herdsmen have set up temporary shelter. Credit Tyler Hicks/The New York Times

Her son now patrols the family ranch in a flak jacket and operates a new drone they bought for surveillance. The herders throw rocks at it.

About an hour away from that ranch lies the small village of Nadungoru, the one where Mr. Lekisio stood on an empty farm in disbelief. It is a stunningly beautiful place of thick green grass, wide-open skies and little wooden cabins, which, on a recent day, stood empty. The invading herders had stolen all of Mr. Lekisio's cows and ransacked his house.

"We feel bad, bad, bad, bad," he said.

The Kenyan government has deployed hundreds of police officers and soldiers, some in bulletproof cars and Humvees, declaring parts of Laikipia "dangerous and disturbed," which is

like a local state of emergency that gives officers more power to crack down on invaders.

But Laikipia's farmers say they've never seen such timid men in uniform. So they sometimes confront the herders themselves.

Tristan Voorspuy, a former British military officer, lived on a ranch that was invaded in March. The security forces were doing little to help him, so he rode on horseback to the young trespassers in hopes of asking them to leave.

The men shot him in the face. They killed his horse, too.

The next month, Kuki Gallmann, the Italian-born author of the best-selling book "I Dreamed of Africa" and one of Kenya's celebrities, was rumbling across her property, the Laikipia Nature Conservancy. At 88,000 acres, it is one of Kenya's biggest pieces of privately owned land. Ms. Gallmann, 74, has set aside the expanse for protecting wildlife like elephants, leopards, lions and buffaloes, as well as the rare species of trees and plants that thrive in the gorges and hillsides of her sculpted property.

As she drove, with a contingent of armed wildlife rangers behind her, shots rang out. Several bullets flew threw Ms. Gallmann's car door and tore into her stomach. She remains at her Nairobi home, convalescing, with severe internal damage. She said many of the recent invaders came with no livestock, and she called them a militia.

On another Laikipia ranch, Anne Powys, whose hands shook as she sat by a window, surrounded by old pictures and dusty books, said she could not count on anyone protecting her. So she has made a choice: She is trying to make peace with her attackers.

She paid the same young men who had burned down her eco-lodge, which she said was part of her soul, to help clean it up.

“Isn’t that insane?” she said.

Matt Evans, center, whose family owns Ol Maisor Ranch. Credit Tyler Hicks/The New York Times

Whites in a Black Country

A few months ago, a group of tourists staying at a fancy Laikipia lodge had to be airlifted to safety because heavy gunfights between the police and armed herders were coming closer and closer. On social media and in popular gathering spots, when some Kenyans talk about the crisis, one word keeps coming up: “mzungu,” which means “foreigner” or, more commonly, “white man.”

Some Kenyans see Laikipia’s land problems as a black-white issue because most of the biggest ranches and wildlife conservancies are owned by a handful of families of European

descent. Kenyans have complained about the size of the white-owned farms, saying many were stolen or unfairly acquired from Africans during colonial times. Some people in Kenya, black and white, are now making comparisons to Zimbabwe, where the government seized land from wealthy whites and redistributed it, often to well-connected elites. In many cases, the farms were run into the ground.

Trespassing pastoralists in Laikipia, who were brazenly grazing their herds on others' land, said they weren't necessarily targeting whites. Instead, they said they simply needed grass to keep their herds alive, because their own areas had already dried up.

"We know taking another man's land is like taking his wife," said Parashuno Lekadero, a herder who stood on a farm in Laikipia that he had recently invaded. There were no police officers for miles, and he spoke confidently and openly, knowing he had little chance of getting in trouble.

A Samburu boy illegally climbing a tree to remove leaves for his goats. This practice kills the few mature trees in the harsh terrain. Credit Tyler Hicks/The New York Times

“There’s a drought,” he said. “We have many animals. We need the land.”

Much of eastern Africa is in the grip of an intense drought, with pasturelands drying up, and the white-owned properties in Laikipia tend to have the best grass. This is because the white farmers are relatively wealthy and have invested in their properties, building dams, creating watering holes, pumping from springs and caring for their paddocks. All that keeps the pastures healthy, attracting the invaders.

But it’s not like all of the 30 or so white-owned properties are luxurious. Warren Evans, a cattle rancher, lives in a low-slung house with farm machinery rusting on his lawn. The other day, as he sat down for a lunch of hot-dog stew, a muddy wart hog blasted through his living-room door and he jumped up to shoo it out.

Mr. Evans said that his family was hardly at the top of Kenya’s socioeconomic pyramid and that “you can’t pin the burden of history on 30 farmers.”

Some white families now have second thoughts about staying.

“For the first time ever, you get that vibe that you’re a mzungu — what are you doing here?” Ms. Powys said. “It’s a bit grandiose to think we can continue to live like this when thousands of people out there don’t have any land.”

“It is Zimbabwe-esque,” she said. “We’re white people in a black country. If we’re not welcome, what’s the point?”

Some parts of Kenya are now so overgrazed by cows and goats that all the grass roots have been eaten, leaving large stretches of bare earth. Credit Tyler Hicks/The New York Times

The Election

As a leading newspaper in Kenya recently said, “elections have the tendency to bring out the worst in Kenyans,” and in August, they are happening nationwide.

Kenya is a democracy, but many describe it as more of an ethnocracy. Kenyans vote overwhelmingly along ethnic lines, and elections stir up ethnic tensions. Several elections have erupted in bloodshed, the worst in 2007 and early 2008, when more than 1,000 people were killed after government agents appeared to have rigged the votes and outrage exploded.

Political violence here is fueled by a cocktail of factors, including ethnic grievances, tensions over land ownership, friction between the classes and the quest for power. Firearms

in rural areas, especially in northern Kenya, not too far from the Somali border, make matters even worse.

The Kenyan authorities say this dangerous mix is brewing in Laikipia. Several politicians have been arrested and questioned over inciting violence against landowners. Mathew Lempurkel, a member of Parliament representing a district here and a midtier figure in the country's leading opposition party, has been widely portrayed as the chief villain. Regarded as a brilliant mobilizer by even his detractors, he was arrested in March and again in July, accused of instigating herders to storm ranches. Several farmers said he provided the herders with cash, Red Bull and a cheap liquor called Trigger to rile them up.

Some contend that Mr. Lempurkel is trying to displace people in Laikipia who are not members of his ethnic group, the Samburu, so that he can bring Samburu into his district and get more votes. Many of the invading herdsmen are young Samburu, and ecologists say that in recent decades, the group's land has been thoroughly overgrazed, driving the herders to new areas, whether others are already living there or not.

Mr. Lempurkel, who declined to comment for this article, has publicly denied any role in the invasions, saying this was a problem of drought and climate change.

But it seems there is some larger hand. Many fences have been dismantled with bolt cutters, not equipment the average herdsmen carries. And Ms. Dodds said that during the fighting on her ranch, a mysterious truck brought the herders tea, sugar and other supplies so they could extend their siege. The truck, she said, was later traced to a paramilitary police officer.

The sight of dead cattle is common at Ol Maisor Ranch. Credit Tyler Hicks/The New York Times

In Search of Safety

Africa's land pressures may seem overwhelming, maybe even unstoppable. But scientists say there are solutions within reach. For example, the continent has the highest fertility rates in the world, but more African governments are pushing contraceptives, saying the best answer for densely populated countries is smaller families.

For arid regions, there are proven ways to replenish dry or overgrazed land, including spreading new types of grass seeds by airplane. Another approach would be a national plan letting herders graze certain areas at certain times but forbidding them from others, which would allow ruined pastureland to regrow.

But the issue, ecologists say, is that little of this is being done.

“The problem is too many people, too many cattle and too little planning,” said Iain Douglas-Hamilton, a wildlife activist in northern Kenya.

In the Nadungoru village, just about everybody has given up on the Kenyan government, even government employees.

At a new school, two teachers from another part of the country said they had been begging their bosses to transfer them to a safer area.

David Mbatia, one of the teachers, said he was afraid that the herdsmen who had invaded farms might kill him. The nearest police station was five miles away.

“At night, what if they knock at your door and you scream?” he asked. “Who will come?”

He said a big part of the problem was that the government was not enforcing a law requiring parents to send their children to school.

“I saw a 12-year-old herding cows, and he had been turned into a slave,” said the other teacher, Charles Mwangi. “He has been denied the right to go to school, to see the light, and so he is uneducated, manipulated and brainwashed.”

Outside the school, Mr. Lekisio and his comrade were waiting. They slowly led me around the village one last time, pointing out each smashed padlock, each knocked-down fence. The village was eerily quiet; we were the only ones there.

As we were finishing, Mr. Lekisio tilted his head.

“We should go,” he said.

There was a pause in the wind, and in it, we could hear the faint tinkling of cowbells.

“That’s the Samburu,” Mr. Lekisio said.

The invaders weren’t far away.