

The background of the entire page is a black and white photograph. In the foreground, the head of a rhinoceros is shown in profile, facing left. Its skin is textured and detailed. Behind the rhinoceros head is a large, chaotic pile of various types of firearms, including rifles, handguns, and shotguns, some with their magazines or magazines removed. The lighting is dramatic, highlighting the textures of the rhino's skin and the metallic surfaces of the weapons.

a d f

A F R I C A

D E F E N S E

F O R U M

Looting a Continent's Wealth

Nations Partner to Shut Down Transnational Criminal Networks

PLUS

**A Conversation With Maj. Gen. Molefi Seikano
of Botswana**

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ON THE COVER:

This photo illustration shows the cost of transnational crime depicted by a pile of seized animal parts and weapons. ADF ILLUSTRATION



Africa is more connected to the outside world than ever before. Roads, ports, airports and the internet are making it possible for merchants to sell their goods to buyers across the globe. This globalization has the potential to improve the standard of living for people in small villages and major cities.

But global trade must be safeguarded from criminals seeking to exploit it. Because of Africa's geography and a perceived lack of enforcement capacity, traffickers believe they can loot the continent's wealth.

Action is urgently needed. After years of decline, drug trafficking from South America to West Africa has risen at an alarming rate. In the first three months of 2019, Cabo Verde and Guinea-Bissau seized 10.4 metric tons of cocaine, more than the total seized on the entire continent between 2013 and 2016.

Traffickers also are looting natural resources at a record pace, including timber, wildlife parts and fish. In North Africa, human smugglers are cashing in on the desperation of migrants by sending them on perilous journeys in exchange for money.

But Africa's security forces are responding. Gulf of Guinea nations are implementing the Yaoundé Code of Conduct and setting up a system of information sharing, joint operations and maritime surveillance that is making the region's waters safer.

In Southern Africa, nations are cooperating to protect endangered wildlife, trace illicit cargo and secure their borders. Through the Southern African Development Community, the region's militaries are working on agreements to share technology, conduct joint patrols and set up joint operations centers.

Countries across the continent are partnering with the international policing group Interpol to identify and intercept traffickers. One worldwide sting code-named Operation Thunderball resulted in 1,800 seizures of illicit cargo in less than a month.

Stopping these criminals is vital. Illegal trade not only steals the continent's wealth, it fosters corruption and undermines citizens' faith in the rule of law. When honest business owners see criminals profiting, they are more likely to move their businesses or decide to break the law themselves. Trafficking has a corrosive effect on every institution it touches.

By shutting down illicit trade, Africa's security forces can pave the way to prosperity.

U.S. Africa Command Staff



A Kenya Wildlife Service officer carries a tortoise after a police operation recovers contraband goods.

REUTERS



Transnational Crime
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Strength Through Cooperation

SPC. ANJELICA GARDNER/U.S. ARMY AFRICA



**Shaw Kgathi,
Botswana's
minister of
defence, justice
and security,**

*delivered opening
remarks at the 2019
Africa Land Forces
Summit in Gaborone,
Botswana, on June
24, 2019. His remarks
have been edited to fit
this format.*

This summit is held under the theme “Strengthening Partner Networks” and has brought together about 300 delegates from Africa. This theme resonates well with our conviction as the government of Botswana that partnerships are critical. It also resonates with the Southern African Development Community (SADC) and, indeed, the African Union’s belief that unity is strength.



As a government, we are alive to the reality that today’s security challenges are complex, and their solutions can only come through cooperation and partnerships with others. As such, in SADC, military integration is achieved through regional and bilateral cooperation. For instance, the SADC Standby Brigade has been mobilized and is on rotation for the Africa Standby Force. Botswana has pledged a battalion-level force to the brigade, which was accordingly declared ready during the predeployment verification by SADC. As a country, we have contributed 19 hectares of prime land in the outskirts of Gaborone for the SADC Standby Brigade Logistics Depot, a project which is underway.

We view the African Land Forces Summit as an opportunity that African military leaders should use to develop solutions to problems peculiar to Africa. I therefore call upon you all to use the time you are going to spend here to attend to contemporary and future security challenges and threats facing the continent. Let your focus be balanced between military theories and other issues that affect the plight of the people in our continent.

The summit provides a platform for Africa to critically assess its readiness to move in unison toward building joint forces, both regionally and continentally. In my view, your primary objective as land forces is to be organized into well-trained, well-informed and well-equipped forces, ready to apply land combat power in a prompt and synchronized manner when needed.

You can only achieve high levels of readiness and relevance if you embrace the need to build mutual trust and confidence among yourselves in the continent and, indeed, with other nations of the world. Current issues of national security extend beyond conventional military threats

or challenges to include socio-economic and related matters. These issues may seem peripheral to you now, but you should know that they are often major sources of conflict and instability to many of our countries. However, when engaging on these human security issues, remember that the military is to remain scrupulously apolitical. In your calling to the military, you are to be guided by the ethos of “service before self.”

We should collectively find enduring and common ways of dealing with issues of terrorism, international crime, pandemics and others. This is not to say we should ignore the possibility of conventional state-to-state conflict, but we should also be concerned by the type of warfare that is going to be bred by the afore-stated threats.



Maj. Gen. Roger L. Cloutier, right, commander of U.S. Army Africa, and other Africa Land Forces Summit participants visit the Botswana Defence Force's Defence Command and Staff College in Gaborone on June 25, 2019. SPC. ANJELICA GARDNER/U.S. ARMY AFRICA

War-making is no longer going to be about the sizes of your armories, your weapons, nor the size of armies. It is going to be about your ability as commanders to think strategically and be ready to explore new ways of doing things.

You must therefore engage with the intention to learn from your colleagues. Capacitate yourselves to be able to anticipate, adapt and equip for the complexities of the current and future conflicts. You must ask yourselves if your militaries are relevant to addressing challenges faced by your nations or if they are indeed taking more than they give to the people.



NIGERIA DEPLOYS SATELLITE TECH TO TRACK OIL SMUGGLERS

REUTERS

From algorithms to track “dark” ships smuggling stolen crude oil to an online licensing system to undercut corruption, Nigeria’s Department of Petroleum Resources (DPR) hopes it can use new technology to tackle theft that has cost the country billions.

In the oil-rich Niger Delta region, thieves tap pipelines and siphon crude into barrels aboard small craft. They then sail alongside larger vessels, allowing the contraband to be pumped into oil tankers bound for export, usually to Asia — mixing up to 10% stolen crude with legitimate product.

Africa’s top oil exporter has turned to French data company Kpler to help ferret out smugglers from the thousands of ships plying Nigerian waters. The DPR began working with Kpler in December 2018 and unveiled the collaboration in April 2019. Kpler and the DPR declined to specify the value of their contract.

From Kpler’s shared office space in London, the head of its partnership with Nigeria, Antoine Pillet, zooms in on a lonely vessel deep in the Delta’s river system using satellite data and the company’s own software.

Sitting above the Forcados crude pipeline and away from a main shipping channel, the ship is surrounded by swamps stained black by spills and forests hollowed out by wildcat construction — tell-tale signs of theft and refining.

“In some ways, we’re the [closed-circuit TV] of what’s going on in Nigerian waters,” Pillet said. “We provide the data, but don’t really give opinions on what may be going on.”

Kpler’s platform monitors 24/7 and watches unusual journeys like this and changes to ships’ drafts that indicate on- or off-loading of cargoes. It logs data into an algorithm it is training the DPR to interpret.

The United Nations Security Council estimates that Nigeria lost \$2.8 billion in revenue to oil theft in 2017, although Kpler says the minimum 100,000 barrels per day — \$3 billion to \$8 billion a year — identified in a 2013 Chatham House report better approximates current losses.

The DPR also is rolling out other plans to record oil and gas flows into a real-time central database.

A man pours crude oil into a burner at an illegal oil refinery near the Nun River in Bayelsa, Nigeria. REUTERS

SOLAR POWER TRANSFORMS

REMOTE TOGOLESE VILLAGE

REUTERS

Abla Ogodó used to walk 10 kilometers to fetch water for her family. Now that a new well in her village runs on solar power, she does not have to go anywhere.

The United Kingdom-based power company BBOXX, in partnership with France's EDF Group, has launched a program to power the entire village of Sikpe-Afidegnon with energy from the sun.

It runs streetlights, houses, schools and shops, transforming this remote maze of red dirt streets in southern Togo whose only previous access to electricity was from noisy generators that ran on expensive and polluting fuel oil.

"We would spend the whole day just getting water," Ogodó said, holding a large bucket on top of her head. "Now we have water whenever we want. We are free."

About 1.2 billion people worldwide have no access to electricity, according to the International Energy Agency (IEA). Many governments in the developing world are extending access to national networks, but Africa is lagging, with fewer than 40% of households connected, IEA figures show.



A man works on a solar-powered milling machine in Sikpe-Afidegnon village, Togo. REUTERS

In West Africa, tens of millions of people lack reliable access to electricity. For companies developing off-grid programs, that represents an untapped market worth billions of dollars.

Sikpe-Afidegnon is the first Togolese village to benefit from BBOXX's new off-grid system, which the company hopes to expand across the country. For now the power is free, but residents will have to start paying market rates in a few months.

"Life changed in the village," said tailor Beaugar Mebouto as he sewed a piece of colorful fabric in a small workshop. Productivity and revenues have increased now that he does not have to rely on a generator.

"Now we have electricity at any time of the day," he said.



Sketch Therapy Helps CAR Children Draw Out the Pain

AGENCE FRANCE-PRESSE

Children at Lazare camp in war-ravaged Central African Republic draw scenes from daily life. They draw armed men. Armored vehicles. And they use red. Lots of red.

"Their problem is that they suffer daily exposure to violence," said psychologist Mamie Nouria Meniko.

Nouria Meniko runs a Red Cross program at the displaced people's camp in Kaga Bandoro to identify and help kids suffering from post-traumatic stress disorder (PTSD).

"Drawing helps children to express what they are feeling. It shows what children cannot say out loud," Nouria Meniko said. "Sometimes, some of them start crying as soon as they start drawing."

For five long years, Kaga Bandoro was in the hands of armed groups — militias who control 80% of the troubled country.

Typically claiming to defend specific ethnic groups or religions, the militias fight for resources and carry out extortion and violence.

Many children have seen beatings, rape or murder. Some have seen their homes invaded, their parents humiliated, hurt, abducted or killed.

The Red Cross program has enabled Nouria Meniko to identify 233 children ages 5 to 15 who bear symptoms of PTSD.

To help the children manage their trauma, the psychologist teaches them breathing and relaxation techniques.

Herve, 12, always shows the same things in his drawings: pickup trucks with machine guns mounted on the back. A body in a river. A hand in a well. A house on fire, with his dad inside.

"I have to draw to get the images out of my head and be able to sleep," he said.

Herve's mother, widowed in 2013, says the sessions have helped the boy and her relationship with him. "Before, he used to cry all night. This week, he's only woken up five times."

The therapy also helps parents understand why a child may be craving attention or behaving aggressively.

"Before, when he didn't obey me and did something silly, I used to hit him," Herve's mother admits. "I didn't understand. But now I know why he did that, and we talk to each other."

"We can't wipe out anything out," Nouria Meniko said. "What we try to do is to help them live with the trauma."

Children at the Lazare camp for internally displaced people explain their drawings to a psychologist.

AFF/GETTY IMAGES



CRIME

ON A GLOBAL SCALE

ADF ILLUSTRATION

Africa at the Crossroads of Illicit Trafficking

ADF STAFF
PHOTOS BY REUTERS

Commercial trade has expanded rapidly in Africa in recent years. Many countries boast double-digit gross domestic product growth driven by globalization, new technology and an expanding domestic middle class. Ports, airports and highways are being built at a record pace on much of the continent.

However, this growth has a downside. Criminal syndicates, terrorists and traffickers are taking advantage of legitimate commercial channels. According to the United Nations Office on Drugs and Crime (UNODC), transnational organized crime generates \$1.5 trillion in profits globally each year. Many of the most profitable trafficking routes cross Africa.

Criminal organizations flock to places with weak institutions and exacerbate corruption by bribing officials. At its most dire, a nation can become what is called a “captured state,” meaning traffickers or other private interests hold the power rather than do the elected officials.

Transnational illicit activity on the continent ranges from drug trafficking to human smuggling. Trafficked goods can include stolen vehicles, counterfeit medicine and poached wildlife parts. All play a role in destabilizing the state and siphoning wealth from the continent to



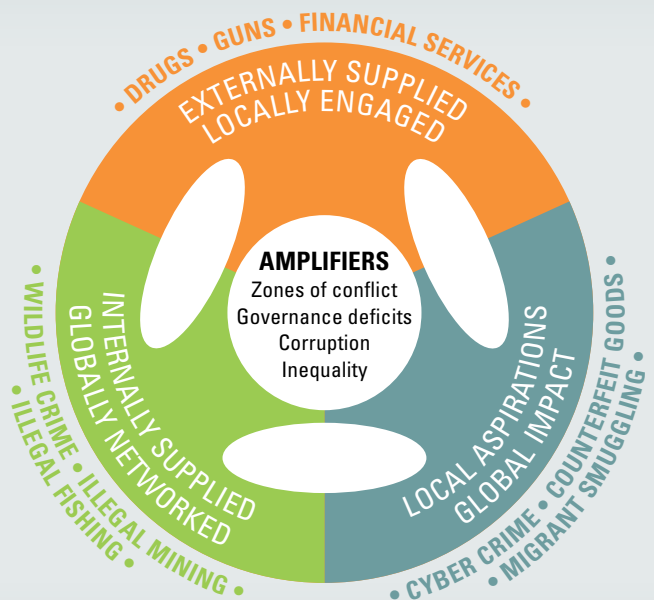
Sudanese Soldiers display gold bars seized from a plane that landed in Khartoum International Airport, part of a suspected smuggling operation.

enrich criminals in other parts of the world.

According to the European Union-funded anti-organized crime group, ENACT, trafficking in Africa takes three main forms. They are distinct but interconnected. All of them are made worse by corruption and lack of enforcement capacity.

- ▶ **1. External Supplies, Local Help:** Trafficked goods come from outside and require transshipment through parts of Africa to move to the consumer. This final consumer could be on the continent or outside. One example is narcotics, which come from outside but require local truck drivers and corrupt officials to move to the final destination.
- ▶ **2. Internal Supplies, Global Network:** Commodities such as timber, minerals or wildlife parts are stolen from Africa and moved onto international markets.
- ▶ **3. Locally Focused, Global Impact:** These crimes are the result of small-scale operations that intersect with the global market in a mostly haphazard or disorganized manner. These criminals typically have limited ambitions of personal enrichment. Examples are small-scale cyber crime, human smuggling and counterfeit goods production.

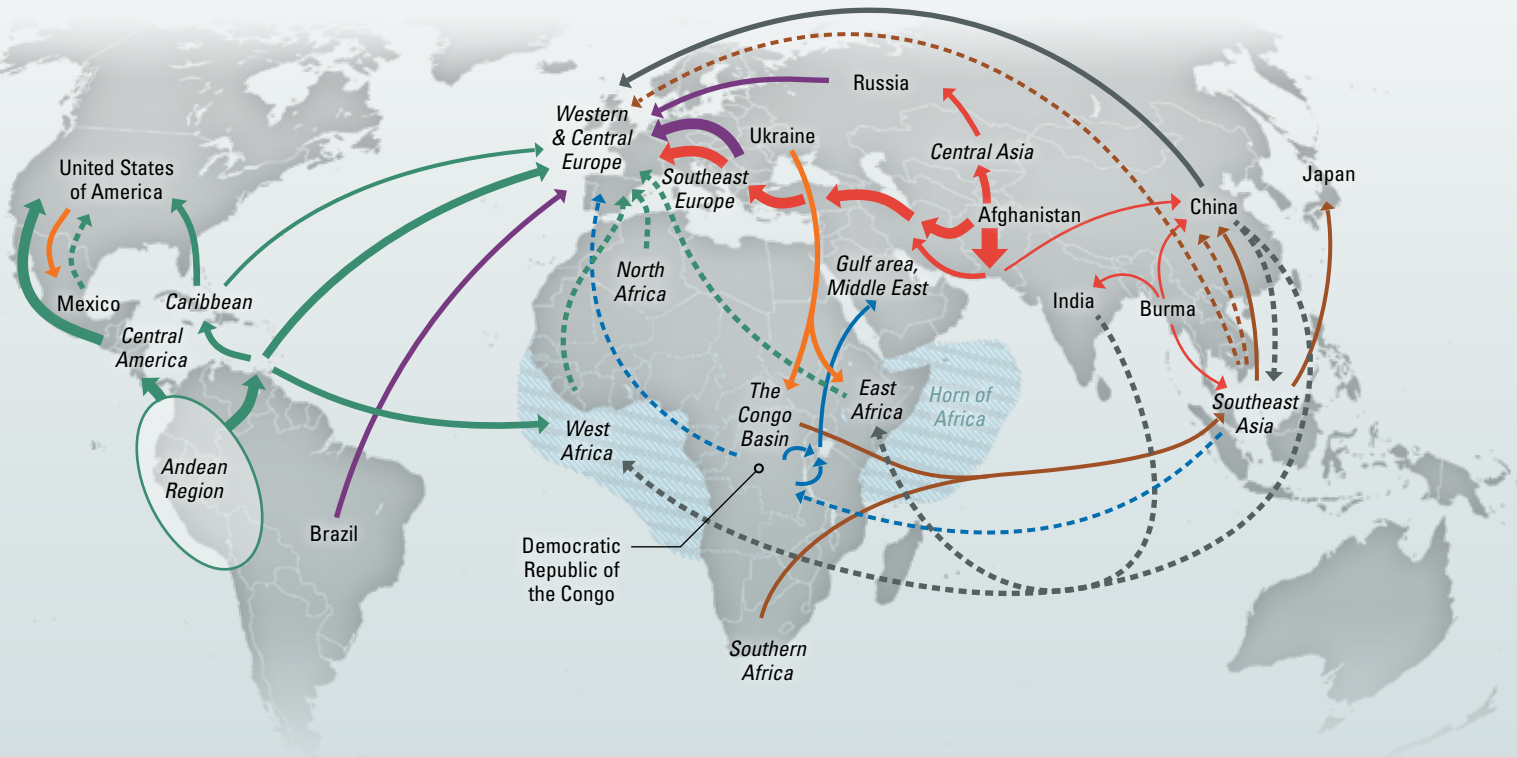
Source: ENACT



A Web of Routes

Africa is crisscrossed by a network of established trafficking routes. Transshipment routes for illicit goods such as narcotics run along the West Coast. Routes for environmental goods such as timber,

minerals and wildlife parts tend to originate in Southern and Central Africa. North Africa also has become the main launching point for illegal migration and human trafficking to Europe.



Sudanese Soldiers guard sacks of cannabis seized from drug traffickers.

Key	
	Heroin
	Cocaine
	Firearms
	Smuggling of migrants
	Female trafficking victims (main sources)
	Counterfeit consumer goods
	Counterfeit medicines
	Piracy
	Wildlife
	Timber
	Gold
	Tin ore

Source: UNODC

ADF ILLUSTRATION

Environmental Crime

Much of Africa is rich in natural resources. The destruction of these resources through poaching rare animals and the illegal logging of forests destroys the continent's environment, siphons off tax revenue and harms the tourism industry.

Illegal Logging

The Congo Basin is home to the second-largest tropical rainforest region in the world. When regulated, logging can be a significant and sustainable part of national economies. But illegal logging has proliferated in recent years. Beneficiaries range from multinational companies to militias and even terror groups. A report by the U.N. Security Council found that the extremist group al-Shabaab earned \$10 million annually through the charcoal trade. Two rival militias in the Central African Republic, the Seleka and anti-Balaka, used logging operations to fund their fighting during that country's civil war.



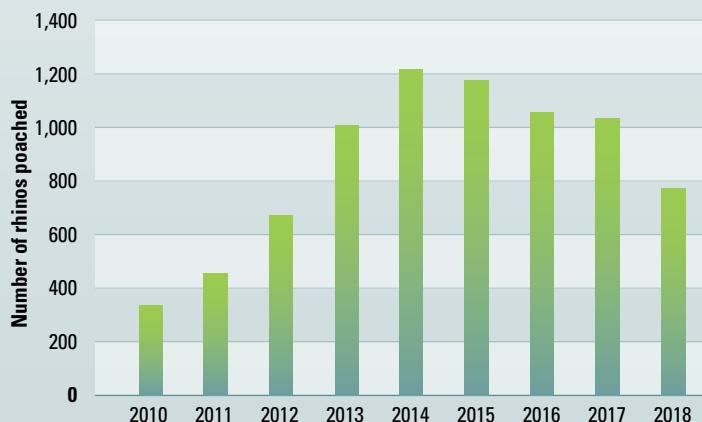
Ivoirian wildlife agents detain men suspected of trafficking pangolin scales in Abidjan.

Poaching

The killing of Africa's large mammals is moving at an unsustainable pace. Between 2013 and 2016, 100,000 elephants were poached for ivory, and rhino poaching grew by 1,000%, according to the Africa Center for Strategic Studies. Poaching is a local, regional and international phenomenon. International criminal syndicates pay local criminals and sometimes give them equipment and even forged documents so they can cross borders. The local criminals deliver the poached goods into an international network of agents who can bring a rhino horn to market in Asia in as little as 48 hours.

Rhino Poaching in South Africa 2010-2018

Source: Savetherhino.org



Consumers of Rhino Horn

SOURCE COUNTRIES

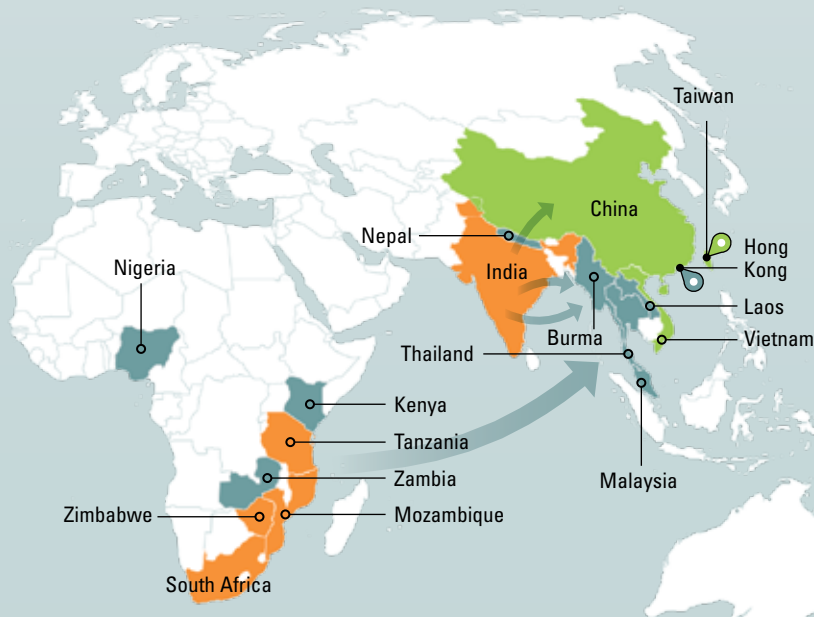
Rhino poaching in Africa and Asia is fueled by the increasing demand for rhino horn, even though international trade has been banned since 1977.

CONSUMER COUNTRIES

The main market is in Southeast Asia where it's wrongly believed that rhino horn cures cancer. Horn is also used in other traditional Asian medicine to treat a variety of ailments.

TRANSIT COUNTRIES

Criminal syndicates transport rhino horn from the killing grounds through a series of transit points and smuggling channels to its final destination in Asia.



Source: rhino.panda.org

Narcotics Trafficking

Africa is a transit point and a destination for illegal drugs. Cocaine, heroin and methamphetamine are smuggled into African ports, generally en route to users in Europe and the Middle East. Increasingly, some of these drugs also are sold to African consumers, resulting in rising levels of addiction.

Kenyan police guard heroin seized from traffickers in the port city of Mombasa.



Cocaine

Cocaine is the most profitable narcotic for traffickers worldwide. The enormous sums of money wielded by traffickers make enforcement difficult. For example, the street value of a ton of cocaine is greater than the military budgets of some small countries. Much of the drug is produced in South America and shipped through Africa. An estimated 18 metric tons of cocaine originating in South America is transferred through West Africa each year. This is significantly lower than the peak of 47 tons in 2007.

Synthetic Drugs

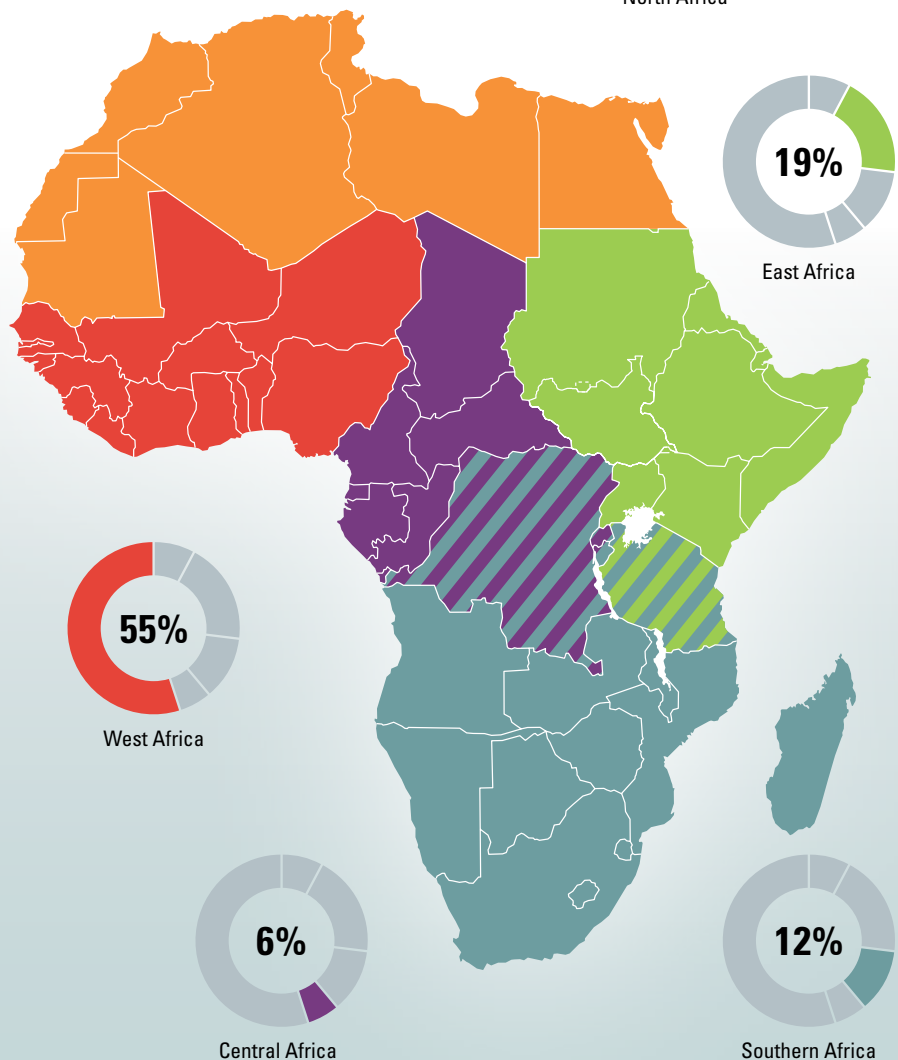
Laboratories in some African countries are now making methamphetamine and shipping it abroad. In 2016 police uncovered a "super lab" operating in Nigeria's Delta region. The lab operated by Mexican and Nigerian manufacturers could produce 8,800 pounds of the drug per week, with each pound valued as high as \$140,000, NBC News reported. There also are increasing numbers of local addicts. According to ENACT, South Africa had the highest rate of use of methamphetamine of any country, with 2% of the adult population using the drug. Other synthetic drugs, such as Tramadol, Rivotril, Valium and Captagon, are used and trafficked through Africa. Seizures of Tramadol, a highly addictive painkiller, increased fourteenfold in Africa between 2013 and 2017, the UNODC reported.

Heroin

East Africa is a transshipment point by sea and air for heroin produced in Afghanistan. It is mainly sold to European consumers. The UNODC reports that 70,000 kilograms of Afghan heroin is trafficked via East Africa to Europe each year. Some of the drug also stays on the continent, leading to addiction. The UNODC estimates there are more than 1 million heroin users in Africa.

Regional Illicit Drug Use in Africa

Although African countries are typically not the final destination for trafficked drugs, drug abuse tends to increase in countries where trafficking occurs. A study by ENACT found that in 2050 there will be 14 million additional drug users in Sub-Saharan Africa if current trends continue. This is an increase of 150%, the highest of any region in the world. The map below shows the percentage of the continental total of drug users found in each region.



Source: ENACT

ADF ILLUSTRATION

Human Smuggling

Masses of people are migrating in search of financial opportunity and fleeing oppressive regimes. Although it is a journey that often ends in tragedy, crime syndicates see a lucrative business opportunity and seek to profit off this desperation. Sometimes traffickers simply charge money for safe passage. In other instances, they trick migrants with promises of employment, only to push them into forced labor or sex slavery.

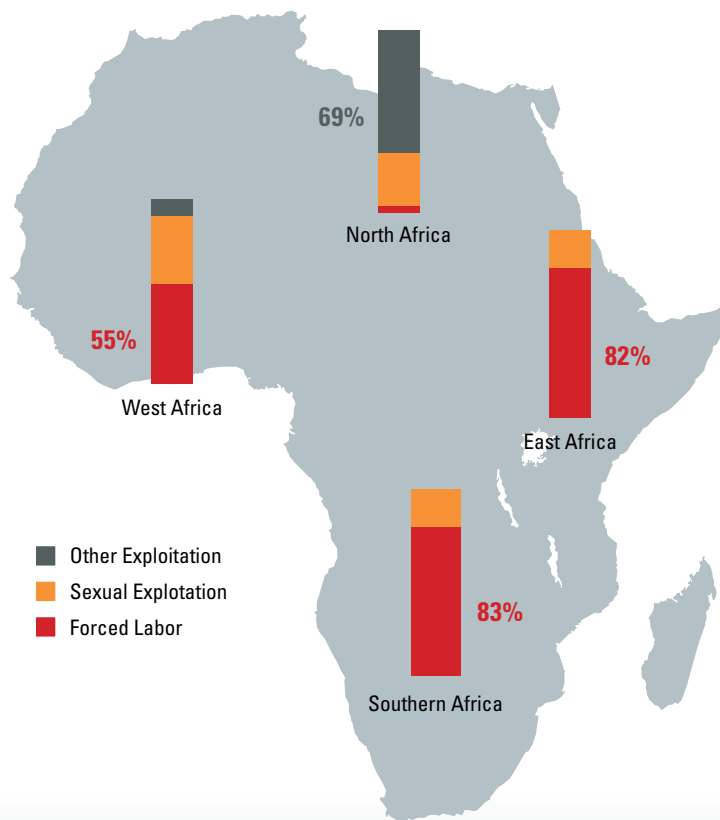
Trafficking routes are ever-changing, but many of the most heavily used are operated by organized criminal syndicates and extremist groups. When these groups don't operate the routes, they still may charge a fee for protection. For instance, thousands of migrants pass through the city of Agadez, Niger, on their way to Libya and then Europe. They pay bribes and fees along the way totaling \$800 to \$1,000 per person. Much of this money ends up fueling extremist groups and international crime. A UNODC study found that 2.5 million migrants were smuggled in 2016, generating an income of \$7 billion for smugglers.

There are three primary routes, according to the UNODC:

- The **Western African** route from Senegal, Mauritania and Morocco to the Spanish Canary Islands.
- The **Western Mediterranean** route from Morocco or Algeria to Spain.
- The **Central Mediterranean** route, principally from Libya to Italy.

Exploitation of Trafficked Persons

Source: UNODC



Migrants sit in the back of a truck in Agadez, Niger. Some of these migrants pay smugglers \$800 to \$1,000 for safe passage to the Mediterranean Sea, where they will pay additional fees to board a vessel for Europe.





LIVING
TREASURES

BOTSWANA TAKES A COMPREHENSIVE
APPROACH TO SAFEGUARD ONE OF ITS MOST
VALUABLE RESOURCES – ITS WILDLIFE



ADF ILLUSTRATION

ADF STAFF

Botswana's commitment to its diverse and majestic wildlife is evident the moment visitors walk into Sir Seretse Khama International Airport in Gaborone.

The centerpiece of the airport's main entrance is a 2.5-ton life-size sculpture of an African elephant made entirely of ivory tusks. The tusks came from animals that died naturally.

During the sculpture's 2015 dedication, then-President Ian Khama said the elephant "will serve as a reminder to all who pass through this building that one live elephant is worth so much more than all the pieces of art made from ivory gathering dust in homes far removed from the African plains," according to *National Geographic*.



This sculpture, made from the tusks of elephants that died naturally, stands in Sir Seretse Khama International Airport in Gaborone, Botswana. Unveiled in 2015, the sculpture is meant to raise awareness of the plight of African elephants. ADF STAFF

The Southern African nation is home to a third of the continent's elephants with about 130,000. In recent years, Botswana has been a continental leader in protecting elephants and other animals from poachers. This commitment and affection is evident everywhere. Prints and paintings of indigenous wildlife — from cheetahs to antelope to elephants — grace hotel walls and the lobby of the Gaborone International Convention Centre. Animals here are not merely a novelty. They are a part of the national identity and a crucial cog in the nation's prospering economy.

Tourism, driven largely by wildlife sightseeing safaris, is second only to Botswana's extensive diamond industry in terms of economic vitality. Botswana took in \$705 million in tourism revenue in 2017, up from \$580 million the year before. The country has taken in half a billion dollars or more from tourism every year from 2004 through 2017, according to CEIC Data.

Through diamonds and tourism, Botswana has transformed itself from one of the world's poorest nations at independence in 1966 to a country that enjoys per capita income of more than \$18,000, the fifth-highest on the continent, according to worldatlas.com.

The vitality of Botswana's lucrative tourism industry underscores the necessity of a robust national anti-poaching response. And the response is one that must keep pace with the ever-evolving tactics of poachers bent on harvesting animal parts that fetch millions of dollars on the global market each year.

Botswana's top anti-poaching official has said the nation sees about 80 elephants poached a year, according to various sources. Any amount is considered excessive by Dr. Unity Dow, Botswana's minister of international affairs and cooperation. "One elephant dead is one elephant too many," she said at a 2018 news conference, according to the Institute for Security Studies.

Poaching produces ever-increasing levels of illicit profit at each stage of the handling and smuggling process. A *National Geographic* report said middlemen on the ground make anywhere from \$66 to \$397 per pound for ivory from elephant tusks. At consolidation hubs, which often are set up along national borders, the value rises to \$220 to \$496. From there, ivory travels to export centers, which tend to be along coastlines or in or near capital cities. At that point, values increase to \$606 to \$882.

As ivory reaches Asian markets — a common destination — the value jumps to \$946 to \$4,630. What were formerly tusks on some of Africa's most majestic animals become jewelry, sculptures and knickknacks.

Similarly extravagant values are given to rhino horns, which are ground to powder and sold as health or medicinal substances, despite their having no such qualities. The same goes for pangolin scales, which are used in the most preposterous of ways. According to the journal *Nature*, dried pangolin scales are "roasted, ashed, cooked in oil, butter, vinegar, boys' urine, or roasted with earth or oyster-shells," in the false hope of curing a variety of ills. "Amongst these are excessive nervousness and hysterical crying in children, women possessed by devils and ogres, malarial fever and deafness."

Poachers also target other animals in Botswana. In addition to elephants, pangolins and the nation's small population of rhinos, these bandits also kill big cats such as lions, cheetahs and leopards.

Botswana fights the ever-present poaching threat using a multidimensional effort that enlists government resources at every level. This approach is necessary to address the increasing sophistication of poachers and the criminal networks that sustain their destructive trade.

POACHERS AND THEIR METHODS

Wildlife poaching involves criminals at local, transnational and global levels. Those on the ground with the guns tend to be locals, including some criminals who sneak in from the bordering countries of Namibia, South Africa and Zimbabwe.

Poachers often work across national borders, and those wanted in Botswana also may be sought by anti-poaching forces elsewhere, said Brig. Simon Motswana Barwabatsile, national anti-poaching coordinator.



Brig. Simon Motswana Barwabatsile, national anti-poaching coordinator ADF STAFF

Management of the poaching networks tends to be the same despite national borders. So, for example, poachers working in Botswana and Zimbabwe would likely be overseen by the same criminal groups. After an animal is poached, contraband often is sent to Asian countries, such as China or perhaps Vietnam, so the networks clearly extend beyond the African continent.

"I think in terms of arrests and contacts, we normally make contacts with the locals and the neighboring countries," Barwabatsile told *ADF*. "Where we have come across those from the Far East is in roadblocks, where they will have concealed the contraband in the form of maybe shaping it into a walking stick or putting it as powder or in some small jewelry, having converted it already."

Poachers also are increasingly using technology to track and kill their prey. Hunters use rifles equipped with high-powered telescopic sights and global positioning systems to make their way through areas where targeted animals roam. They communicate

“ ONE ELEPHANT DEAD
IS ONE ELEPHANT TOO MANY.”

~ *Dr. Unity Dow*

Botswana's minister of international affairs and cooperation





A BDF officer marks a dead elephant believed to have been poached in Chobe. AFP/GETTY IMAGES

using cellphones, and when mobile service is not available, they have been known to use satellite telephones, Barwabatsile said.

“So they have quite a number of things that we can say they are leveraging on technology,” he said. Poachers’ continued ability to adapt and employ technology poses a significant challenge to anti-poaching forces. “I think as technology develops, the poachers are also harnessing it, and we can only be ahead of them if we innovate in this technology and try to be ahead of them.”

Poachers’ ruthlessness and ingenuity also extends beyond the animals they are poaching, especially if it will help them conceal their identities and avoid arrest. In June 2019, poachers in Botswana poisoned

the carcasses of three elephants they had killed. The poison, in turn, killed 537 vultures — most of which were endangered — and two tawny eagles that had scavenged the elephants’ remains, Agence France-Presse reported. Killing the vultures keeps them from circling in the sky and tipping off rangers to poached animals.

HOW BOTSWANA FIGHTS BACK

Botswana’s commitment to fighting poachers is evident in the existence of Barwabatsile’s position. In addition to being a BDF officer, he serves as chairman of the National Anti-Poaching Coordinating Committee. The committee takes a whole-of-government approach to fighting poaching that enlists personnel from the BDF and civilian agencies to carry out the National Anti-Poaching Strategy.

The strategy stresses the importance of inter-agency cooperation, which the BDF coordinates. The lead agency is the Department of Wildlife; others are the Botswana Police Service’s Narcotic, Fauna and Flora Investigation Unit and the national Directorate of Intelligence and Security Services. “These are the main stakeholders in counterpoaching operations,” Barwabatsile said.

BDF personnel are on the ground throughout the country, and their constitutionally mandated priority is territorial integrity and border security. However, anyone serving in the BDF is authorized to

A young elephant grazes in the Chobe River in Botswana’s Chobe National Park. AFP/GETTY IMAGES



conduct counterpoaching operations in their area of deployment. “They have a countrywide footprint,” Barwabatsile said.

The committee, headquartered in Gaborone, has about 20 people and synchronizes counterpoaching efforts. “We encourage agencies to bring personnel who are dealing with planning for operations and intelligence or investigations,” he said. “So those are the core of the committee.”

At the regional level, BDF commanders meet weekly with police officials, the Directorate of Intelligence and Security Services, and the Department of Wildlife. When there is poaching, police officials handle forensics. Wildlife department doctors are brought in to handle animal pathology, and Soldiers provide security and protection. “So all of this, we take it as complementing each other,” Barwabatsile said.

Current anti-poaching efforts have their roots in traditions that predate Botswana’s independence. Back then, local chiefs would control hunting, such as when and where it was allowed, and the number of animals that could be killed. Penalties awaited scoff-laws. “Subsequently after independence, the government took a deliberate decision in terms of protection, conservation and management,” Barwabatsile said. “Its policies have always been talking to those matters. And this National Anti-Poaching Strategy is just coming to reinforce those policies that were already established.”

Cooperation is the life blood of Botswana’s efforts, and that work does not stop at the national boundary. The nation’s strategy is informed by the Southern African Development Community Law Enforcement and Anti-Poaching Strategy, passed in 2015. Its objectives include:

- Promoting wildlife law enforcement “within, between and among” member states.
- Exchanging information regarding wildlife management.
- Conserving shared wildlife resources through the establishment of transfrontier conservation areas.

Barwabatsile said security chiefs meet regularly to discuss these matters, and information from their exchanges “trickles down” to those at the technical levels. “We cooperate with [neighboring countries]; we meet from time to time. Sometimes we even hold joint patrols, and there are JPCs — joint permanent commissions — between these countries.” The cooperation and regular communication pays dividends in terms of intelligence and operations, especially with Botswana’s closest neighbors: Namibia, South Africa and Zimbabwe. Botswana also interacts to a lesser extent with Angola and Zambia.

The establishment of transfrontier preserves, such as Kgalagadi Transfrontier Park, allows for additional

cooperation. Kgalagadi opened in 2002 through an agreement with Botswana and South Africa, creating the first park of its kind on the continent. Both countries share and jointly manage the park’s 37,000 square kilometers as a protected area. There is no fencing, so animals can move freely along their established migration routes through the desert, according to Botswana Tourism Organisation. Three-quarters of the park is in Botswana. The rest is in South Africa.



A Botswana military helicopter flies over a herd of elephants in the Mababe area. REUTERS

Rangers at the park, and at others like it, can patrol the entire area regardless of national boundaries, something military forces cannot do.

Despite the progress and success, there is room for improvement. Barwabatsile said he would like to see more formal cooperation with agencies such as Botswana Unified Revenue Service, which deals with customs financial issues, and the Financial Intelligence Agency, which can help fight money laundering tied to poaching. Anti-poaching forces also will have to continue innovating with technology to keep up with tech-savvy poachers. Finally, anti-poaching forces must balance the concerns of a diverse array of stakeholders to be successful.

“If you look at the NGOs [nongovernmental organizations], there are those who are focused on tourism, those that are focusing on conservation — all of them have varying interests, and we have to find a common ground when it comes to protecting the wildlife,” Barwabatsile said. □

STRONGER TOGETHER



THE 2019 AFRICA LAND FORCES SUMMIT
STRESSES THE POWER OF PARTNERSHIPS

ADF STAFF

Brig. Gen. Geraldine George of Liberia knows firsthand the value of working together against a common enemy.

In her case, the enemy was the deadly West African Ebola outbreak of 2014-2016 that infected more than 28,600 people and eventually killed 11,325. Liberia was hardest hit in the outbreak, which also ravaged neighboring Guinea and Sierra Leone.

George said that before the outbreak, Liberia had conducted joint operations with other security institutions and the Red Cross in case of emergency. However, Ebola quickly overwhelmed Liberia's medical resources. So she witnessed the international community converge in her country to build Ebola treatment units and provide medical and logistics help.

"We had all of them working for the common good of the country," George told *ADF*. "Today, we're not praying for it, but if anything should happen, we know the steps to take right now."

George, the only female general in the Armed Forces of Liberia, was attending her first Africa Land Forces Summit (ALFS) in Gaborone, Botswana, June 24-27, 2019. Fittingly, the theme of the summit was "Strengthening Partner Networks."

The event was the seventh ALFS since 2010. It included three plenary sessions along with breakout groups in which top land forces commanders from more than 40 African nations could speak frankly and exchange ideas about common challenges. Also present were representatives from the African Union, United Nations and other countries, such as Brazil, France, Portugal, Spain and the United Kingdom.

Maj. Gen. Roger Cloutier, U.S. Army Africa commander, said ALFS offers an opportunity for all participants "to discuss the complex security challenges that we all collectively face here in Africa."

Like George, Lt. Col. Iman Elman, chief cabinet-adjutant general of the Somali National Army, was attending her first ALFS. "Some of the bigger takeaways for me have definitely been realizing that some of the problems that we face in Somalia, it's not just a problem in country, but actually it's affecting a lot of our neighboring countries — it's an African problem.

"It's really great to sit down with some of the other countries in Africa and really get the opportunity to listen and see what worked for them," Elman said.

The types of cooperation and partner networks stressed by the ALFS already are playing out all over the continent. For example, in February 2019, Cabo Verdean authorities seized about 10 tons of cocaine from the Ezer, a Panamanian-flagged vessel that had docked at the small island nation after a crew member's death. It was the biggest drug bust in Cabo Verde's history.

The Maritime Analysis and Operation Centre, which coordinates anti-drug trafficking efforts of seven European Union countries, alerted Cabo Verdean police after suspecting the ship of carrying contraband, Reuters reported. Police arrested 11 Russian nationals.

Col. Armindo Miranda, National Guard commander for Cabo Verde, told *ADF* that since independence from Portugal in 1975, the island nation of more than 500,000 has worked with international partners on and off the continent. Miranda, who was attending his third ALFS, said he tries to learn what his colleagues elsewhere do successfully so that he can bring those best practices home with him.

Ramanand Ramkeelawon, assistant commissioner of police for the island nation of Mauritius, said cooperation is essential for his country, which has no standing military. The nation of fewer than 1.5 million people is having to deal with the arrival of drugs from the sea, such as cocaine, heroin and cannabis.

"We have what we call the Anti-Drug and Smuggling Unit, which deals with this problem specifically, because they don't have any other job in the police than to trace drugs and eliminate all those people who are importing drugs," Ramkeelawon said.

Anti-drug personnel are based in police stations all over the country where they collect and share intelligence so that drug offenders — whether they import or merely consume — can be arrested.

Intelligence sharing forms the backbone of Mauritius' success, and police there cooperate with other nations such as Madagascar, the Seychelles and South Africa, and with Interpol and through the Indian Ocean Commission.

Brig. Gen. Sandile Hlongwa, general officer commanding Air Defence Artillery Formation for South Africa, also attended his first ALFS in Gaborone. He said the South African National Defence Force (SANDF) is active in counterpoaching operations. Like Botswana, South Africa has large game preserves with a variety of protected animal species. He said the SANDF sent about 10 people to Botswana in 2018 for training in counterpoaching operations and to better understand the animals and their behavior.

South Africans already work closely with counterparts in Botswana, Lesotho, Mozambique, Namibia and Eswatini to combat poaching, and the efforts are paying off. "The fact of the matter is poaching is reduced," Hlongwa said.

He said the ALFS theme of building and strengthening partnerships will be valuable for African military forces. "There is nothing wrong with that," he said. "As long as partnerships will be genuine, then I will say yes." □

Row 1: Brig. Gen. Geraldine George, Armed Forces of Liberia ADF STAFF
Col. Armindo Miranda, National Guard commander,
Cabo Verde SGT. MAJ. CHRISTINA BHATTI/U.S. ARMY AFRICA

Row 2: Lt. Col. Iman Elman, chief cabinet-adjutant general,
Somali National Army ADF STAFF
Brig. Gen. Sandile Hlongwa, South Africa ADF STAFF

Row 3: Assistant Commissioner of Police Ramanand
Ramkeelawon, Mauritius ADF STAFF
Maj. Gen. Roger Cloutier, commander, U.S. Army Africa ADF STAFF



‘To Satisfy our CUSTOMERS’

MAJ. GEN. MOLEFI SEIKANO OF BOTSWANA SAYS THE MILITARY’S RELEVANCE IS TIED TO THE SATISFACTION OF THE PEOPLE IT SERVES

ADF STAFF

Maj. Gen. Molefi Seikano is commander of Ground Forces Command for the Botswana Defence Force (BDF). He joined the BDF in 1985 and volunteered for the special forces unit, in which he held numerous positions. In June 2015, he was appointed commander of Ground Forces Command. Seikano spoke to ADF after the close of the Africa Land Forces Summit in Gaborone, Botswana, on June 27, 2019. The interview has been edited to fit this format.

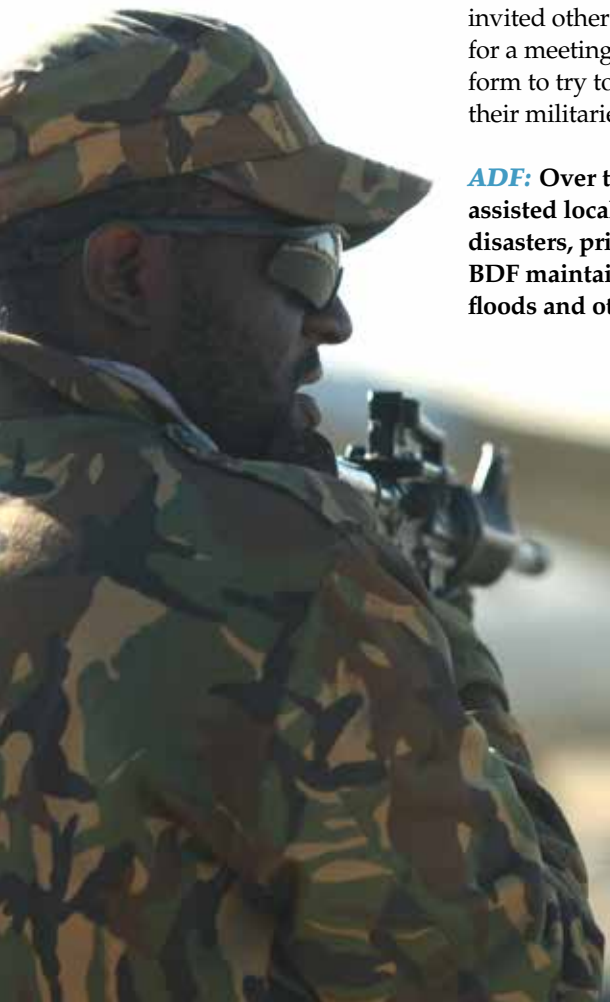
ADF: Please briefly summarize your service in the BDF, highlighting some of your favorite deployments before becoming commander of BDF Ground Forces Command.

SEIKANO: I joined the military on the 22nd of August 1985 as an officer cadet. Then, when we were in the last leg of our cadet training, I volunteered to join the special forces unit. I started in special forces from 1986 until 2007. And I went through almost all the appointments in special forces, such as troop commander, team commander, the commando unit commander, and at one point the special forces group commander. In 2008, I was promoted to the rank of colonel, and then I was appointed the deputy commander of 1 Brigade Group. I accepted the deputy brigade commander, and I was ultimately appointed the brigade commander of the same brigade group. Thereafter, I was transferred to the northern part of Botswana, where 2 Brigade Group is, and I was appointed 2 Brigade Group commander. From there, I served in special operations in the northern part of the country as the 2 Brigade Group commander. And after that I was appointed commander, Ground Forces Command, on the first of June 2015.

ADF: What made you want to make a career out of military service?

SEIKANO: It all started in 1978 or '79. The Botswana Defence Force band came to my village. Word just spread fast like wildfire, and I happened to be one of those who was at that age to hear about it and also to follow them around the village as they were performing and walking about. They ended up at the main *kgotla* [a village center where public meetings are held and the chief addresses his subjects]. From that day on, I knew without any flinching that this is where I am going. I made that determination from that day, even when I was going through my studies in secondary education, I knew that when the time comes for me to decide on my career, I'm going to join the military. I had that feeling to be one of the people who can sacrifice to defend this nation. To me, I wanted to be the best of the best and be prepared to fight for my country, defend my country.

ADF: Botswana has the good fortune to be a nation at peace internally and with its neighbors. Given that, what is the greatest challenge to the BDF right now?



A Botswana Defence Force Soldier helps secure the area around an airplane during a simulated hijacking in July 2019.

STAFF SGT. MARY JUNELL/U.S. ARMY

SEIKANO: The greatest challenge right now is to satisfy our customers in the operations they task us to do. Because the military can only remain relevant if the customers, the people who created it, are happy with its delivery in operations or an assignment that it is tasked to do. So right now we are mainly engaged in border operations and anti-poaching operations. We are doing that, but there is a challenge because we have foreign nationals who cross into Botswana as poachers, and those who cross as undocumented immigrants because of the weak capacity of some of our neighboring states. Some of their members cross into Botswana because they look at Botswana as the promised land where they can live below the radar so that they can get some jobs or do something for a living. But the challenge is most of the neighboring states are still struggling or lacking in capacity to really effectively police their side of the borders. And where the countries really cannot police their side of the borders, then it means the poachers themselves will come in, because Botswana holds one-third of the African elephant population and big cats and other species. In our neighboring states, one of our former commanders once invited other armed forces commanders for a meeting so that he could have a platform to try to convince them to involve their militaries in anti-poaching.

ADF: Over the past 25 years, the BDF has assisted local authorities during natural disasters, primarily floods. How does the BDF maintain readiness to respond to floods and other natural disasters?

SEIKANO: The BDF is part of the national disaster management. We have our deputy commander who sits in the national disaster management committee. When he sits there, it helps us to know how the nation wants to address issues of disaster. But as you go down that structure, we have the district offices chaired by the district commissioner. The district commissioners work with the brigade group commanders. And it is there that they plan how to deal with the disasters that are likely to happen or that are prevalent at certain times of the year. Because some disasters are seasonal. Like floods will come after heavy rains. Wildfires will occur when the terrain gets dry in the summer season. In addition to that, when it comes to the issue of training last year [2018] we conducted a national disaster management course at our peace training center. In our peace training center, some modules were developed that can bring all the stakeholders together who are usually involved when the disaster strikes. So they went to the CAX exercises — computer-assisted exercise — in that peace training center. It is our intention to keep on influencing that such exercises are done. We can then take that plan and try it out in a field exercise, a simulation exercise.

ADF: The BDF also assists the Department of Wildlife and National Parks to combat poaching. In what ways does the BDF assist with or perform anti-poaching efforts? And how successful have those efforts been to date?

SEIKANO: The management of wildlife in national parks is the responsibility of the Ministry of Environment, Wildlife and Tourism. But the BDF has been given the primary role of anti-poaching. We deploy joint task forces as the BDF in three of the BDF operational areas for border and anti-poaching operations. Because, first and foremost, our mandate is to defend our territorial integrity. We specifically have two brigadiers today who have served as national anti-poaching coordinators. In the past we've also had some officers assigned as BDF anti-poaching coordinators, and the current director of wildlife is one officer. I also served as a BDF anti-poaching coordinator. Now we have anti-poaching coordinators at the national level. So what efforts did this bring? The national coordinators, even the BDF coordinators at the time, they were coordinating anti-poaching activities and ensuring that they promoted information sharing between the communities on matters of poaching. Right now at this level where we have the brigadiers as anti-poaching coordinators, they coordinate a broader interagency spectrum. They are responsible for interagency coordination to fight poaching. And this is in line with our SADC LEAP [Southern African Development Community Law Enforcement and Anti-Poaching] Strategy, and the draft national anti-poaching strategy that poaching needs a whole-of-government approach.

ADF: Earlier in 2019, the BDF successfully passed an inspection by the SADC specialist team to confirm that capabilities pledged by the BDF were available and ready to participate in peace support efforts. Talk a little about how the BDF achieved this readiness for Standby Force duties.

SEIKANO: We first participated in an exercise in Malawi. The brigade commander and his staff went for that exercise; it was a command post exercise. Over and above that, we managed to refurbish some of our equipment, including the ACMAT [tactical military] vehicles in our local vehicle service providers. Similarly, we ensured that we have the necessary Soldier protection material for the troops. We issued it to all the Soldiers who have been assigned for the task. And by, of course — an important point — conducting regular inspections prior to the main inspection to see that those inspections are to my satisfaction. So inspections, inspections, inspections, inspections until people know what is really expected, and it becomes part of them.

ADF: What would be your advice to other SADC countries seeking to prepare for and pass that Standby Force inspection?

SEIKANO: As the defense chiefs embraced the fact

that SADC had reached the full operational capability after the report of Exercise Amani Africa II, what it meant is that the right thing to do was that all the defense chiefs should have started or should start preparing to meet the requirement of their forces so that they can contribute the required capabilities toward the SADC Standby Force. So what I can say here is that since we have declared the SADC at full operational capability, then they must make sure that they prepared their forces and try to acquire the necessary Soldier protection material and equipment and other needed equipment that may be required, given Scenario 6, which talks to rapid deployment capability of the Standby Force. That's what we should be doing, and that's what all SADC members should be doing.

“When we are connected, and trust each other, we can better address issues of our subregional challenges.”

ADF: How important are events such as the Africa Land Forces Summit in adequately preparing Botswana and its regional neighbors for the range of transnational criminal and security challenges it is likely to face?

SEIKANO: It helps Botswana to enhance cooperation with its neighbors, develop new areas of cooperation with its neighbors, and promote trust among ourselves as neighbors. When we are connected, and trust each other, we can better address issues of our subregional challenges. We can better address the issues of interoperability. We can better engage and through that enduring engagement as neighbors, address issues of doctrine, talk to the issue of training and materiel for our training operations, and even realize how we can share some of the facilities that some of these countries offer, and even our training areas. You'll find that we have the desert here. And you may find that in Zambia they have a different terrain, which you don't have here. In South Africa they have the sea. So we can even consider maybe training our forces in some of these terrains. These can be some of the innovations that come out of these partnerships. Above all, the summit enables Botswana to really have an in-depth understanding of the core issues of some of our neighbors and how they are addressing those. □



AFRICAN
HEARTBEAT

NILE *Helps Khartoum* BEAT THE HEAT





ADF STAFF

The Nile River, the world's longest, meanders northward through the eastern half of Africa, bringing power, agriculture and, at times, recreation to the millions of people who live at or near its banks.

A little recreation and relief was just what was on the minds of people in Khartoum, Sudan, on a hot day in April 2019. Residents waded out into the river's expanse, rolling up pant legs and doffing shoes to bathe their feet. Others lugged lawn chairs and a few wooden tables into the river to relax amid its gentle flow. After a while, some arranged colorful plastic chairs in bunches across the shallow water so friends could congregate and chat as they cooled off.

The outing even offered an opportunity for commerce. A tea vendor traipsed through the ankle-deep water carrying a tray with a teapot and teacups to give the gathering the flavor of a makeshift café.

It's no surprise that people would be drawn to the Nile. As the river makes its 6,600-kilometer journey to the Mediterranean Sea, its sojourn through Khartoum offers relief to sweltering conditions. Afternoon temperatures in the capital during April can exceed 40 degrees Celsius.

The mighty river has been coaxing people to its shores for thousands of years. In Khartoum, they still are flocking to its cool embrace.

AN ARCHITECTURE OF TRUST



Nigerian Navy commandos conduct a visit, board, search and seizure drill during Exercise Obangame Express 2019 off the coast of Nigeria near Lagos. ADF STAFF

THE SECURITY STRUCTURE IN THE YAOUNDÉ CODE OF CONDUCT IS TAKING SHAPE IN THE GULF OF GUINEA

ADF STAFF

Security professionals in the Gulf of Guinea know that if they want to spot criminals in the open water, the best place to look is along a maritime border.

Historically, this has been the space where pirates, illegal fishermen and traffickers felt safest knowing that, if confronted, they could flee into another country's waters.

"That is the whole business of the bad guys," said Senior Capt. Boniface Konan of the Côte d'Ivoire Navy. "Even if you look on [the automatic identification system], you will see these groupings right there on the borderline of each country."

Thanks to a regional maritime security architecture, these safe havens are being shut down. The Yaoundé Code of Conduct was signed in 2013 by 25 countries in West and Central Africa. It provides the structure for joint operations, intelligence sharing and harmonized legal frameworks. The code includes five zones, two regional centers and one Interregional Coordination Centre (ICC) that watch over 6,000 kilometers of coastline and 12 major ports.

Konan, acting director of the Maritime Security Regional Coordination Centre for Western Africa (CRESMAO), headquartered in Abidjan, said no country can handle maritime security alone.

"We are now sharing the load of the job," he told *ADF*. "Facing the threats in the Gulf of Guinea, the heads of states understood that not one country can do it by itself. The EEZ (exclusive economic zone) might be 200 nautical miles out to sea, but you still have very tiny coastline. So you cannot do an operation just by staying within your own coastline."

Konan said this cooperation was on display in December 2018 when the Ghana Navy spotted suspicious vessels it believed were bunkering oil in its waters near the border with Côte d'Ivoire. Ghana posted the information to the zonal center, Multinational Maritime Coordination Centre Zone F in Accra, which relayed the information to CRESMAO in Abidjan. CRESMAO alerted the Côte d'Ivoire Navy, which intercepted the vessels.

"You had Ghana and Côte d'Ivoire working the case together, and it went all the way to a debriefing in Abidjan



Crew members of the Nigerian Navy ship Ose participate in Obangame Express 2019, an annual naval exercise. *ADF STAFF*

at the CRESMAO center," Konan said. "The ships were detained and then processed through each of the countries' own legal system."

YAMSS Takes Shape

The idea behind the Yaoundé Architecture for Maritime Safety and Security (YAMSS) is simple. Share information, coordinate action, strengthen laws and close down areas of vulnerability.

Konan said years ago the region's navies were afflicted by the metaphorical disease of "sea blindness." They didn't know what their neighbors' navies were doing, and they didn't know what threats lurked beyond their borders.

In the YAMSS system, information is designed to cascade up from national navies, fisheries and ports. Information also is meant to cascade all the way down from the ICC and regional level to the ships on the water.

YAMSS “is not merely a nice idea on paper; it is increasingly producing real results on the water,” wrote Dr. Ian Ralby, Dr. David Soud and Rohini Ralby in a paper for the Center for International Maritime Security. “Furthermore, the community of maritime professionals involved in implementing this architectural design are increasingly connected with each other and working collectively to make maritime safety and security a reality in the Gulf of Guinea.”

Improvement is urgent. In 2018, there were 72 attacks on vessels in the waters between Côte d’Ivoire and Cameroon. That is more than double the total in 2014, when 28 vessels were attacked. Through the first six months of 2019, 30 attacks were recorded, making the region the world’s worst piracy hot spot, the International Maritime Bureau (IMB) reported.

The IMB said that 130 of the 141 hostages taken globally in 2018 were captured in the Gulf of Guinea.

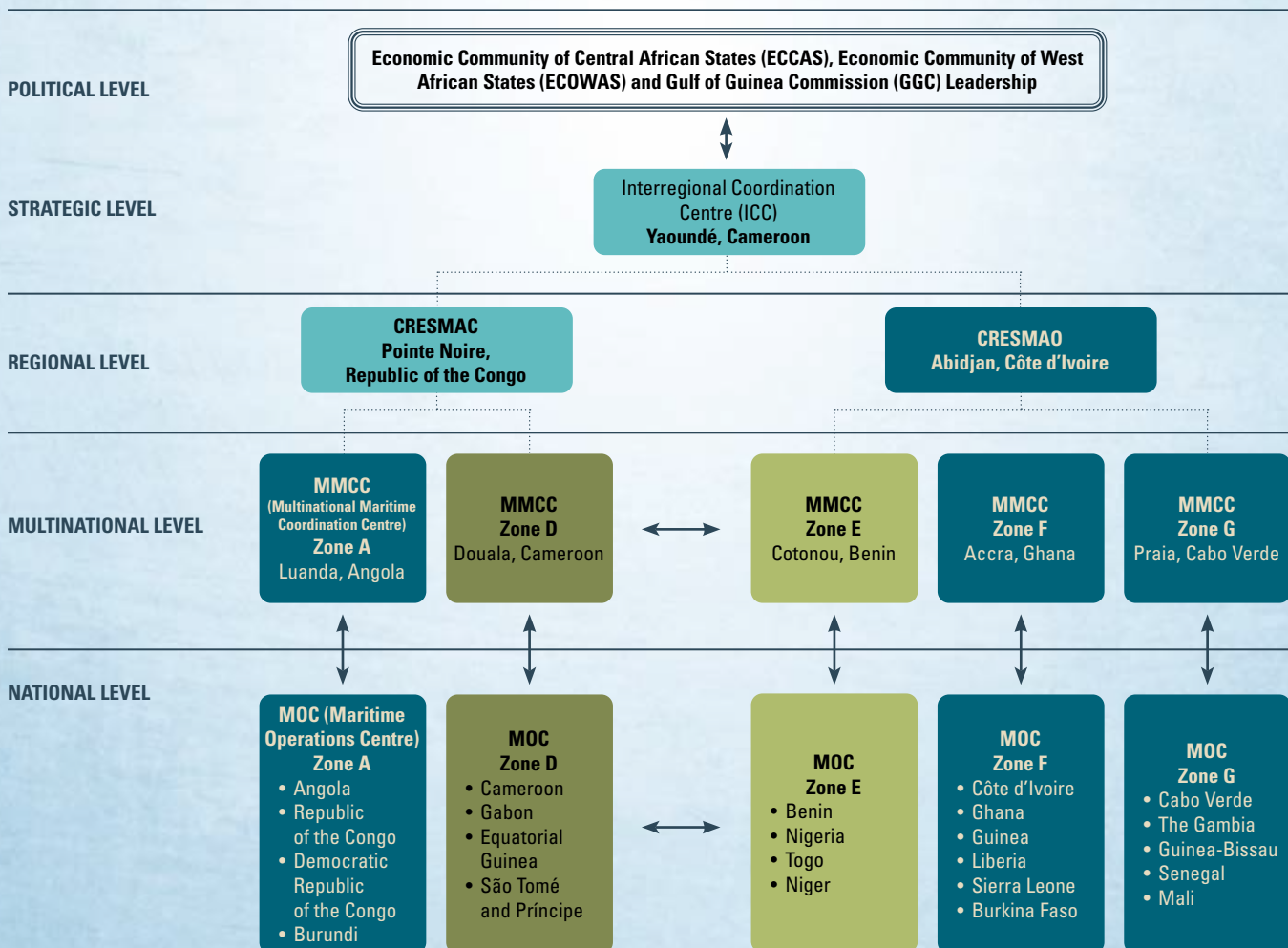
Cameroonian Navy Capt. Emmanuel Isaac Bell of the ICC based in Yaoundé said the attacks are real, but so is the progress. In May 2019, for instance, the Togo Navy rescued seafarers and arrested eight pirates after an attack near Lomé. That same month, authorities foiled a similar attack in Equatorial Guinean waters and arrested 10 pirates.

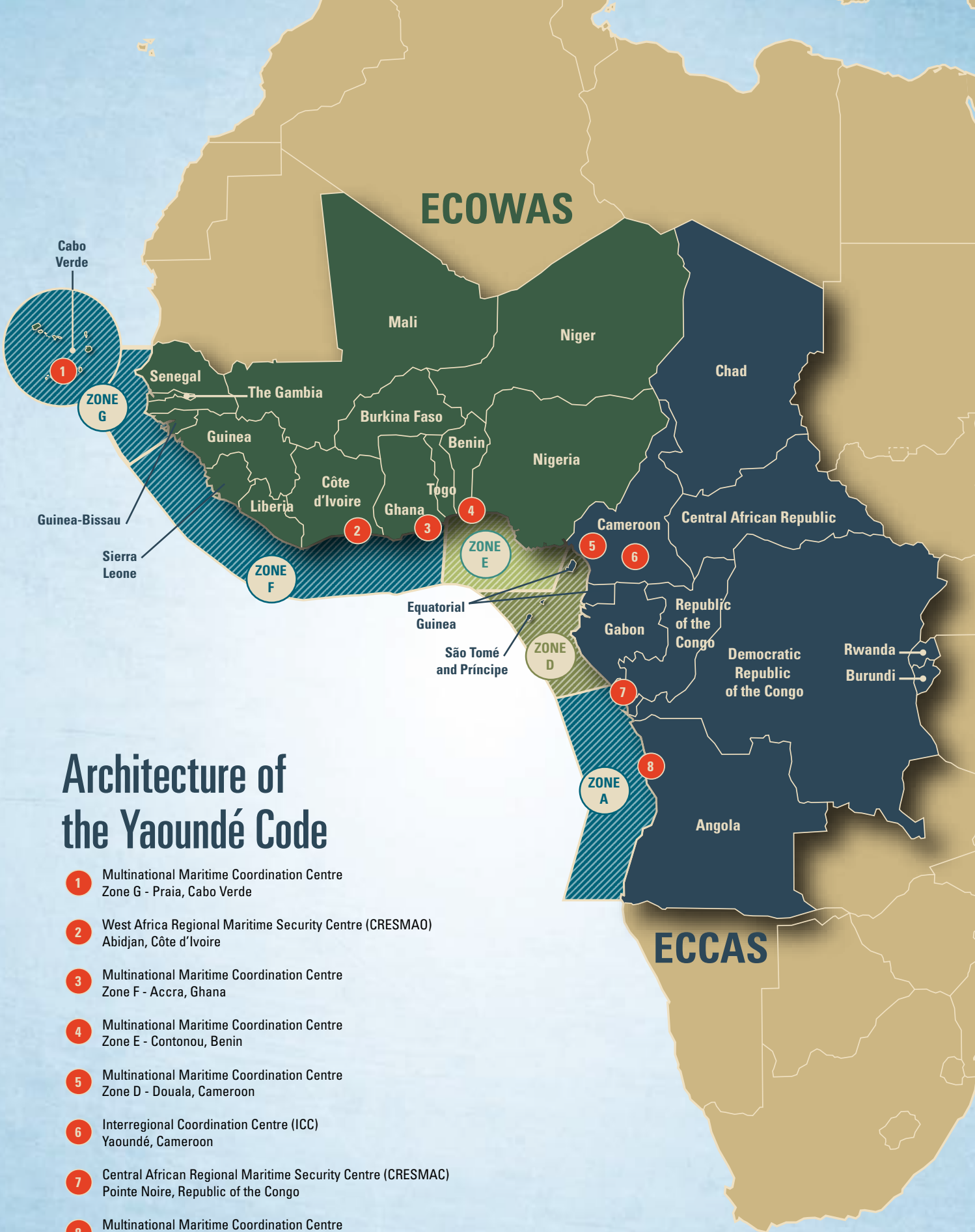
“I think day to day we speak a lot about the incidents that happen,” Bell told *ADF*. “We don’t talk enough about the incidents that were avoided, thanks to the measures that the states have taken individually and collectively.”

In its role at the strategic level, the ICC is driven by four main pillars:

- 1. Promote the Exchange of Information:** Maritime operations centers on a national, zonal and regional level must know what one another are doing. Bell said the ICC communicates with stakeholders via email, phone and online chat and compiles a weekly report.

Architecture’s Operational Flowchart





Architecture of the Yaoundé Code

- 1 Multinational Maritime Coordination Centre
Zone G - Praia, Cabo Verde
- 2 West Africa Regional Maritime Security Centre (CRESMAO)
Abidjan, Côte d'Ivoire
- 3 Multinational Maritime Coordination Centre
Zone F - Accra, Ghana
- 4 Multinational Maritime Coordination Centre
Zone E - Cotonou, Benin
- 5 Multinational Maritime Coordination Centre
Zone D - Douala, Cameroon
- 6 Interregional Coordination Centre (ICC)
Yaoundé, Cameroon
- 7 Central African Regional Maritime Security Centre (CRESMAC)
Pointe Noire, Republic of the Congo
- 8 Multinational Maritime Coordination Centre
Zone A - Luanda, Angola

ADF ILLUSTRATION

THE IDEA BEHIND THE YAOUNDÉ
ARCHITECTURE FOR MARITIME SAFETY
AND SECURITY IS SIMPLE. SHARE
INFORMATION, COORDINATE ACTION,
STRENGTHEN LAWS AND CLOSE DOWN
AREAS OF VULNERABILITY.



Members of the Senegalese Navy approach the Gambian Navy's patrol vessel, Kuntah Kinteh, to conduct a simulated drug smuggling and human trafficking scenario during Exercise Obangame Express 2019 in Banjul, The Gambia. PETTY OFFICER 2ND CLASS TAMARA VAUGHN/U.S. NAVY



Members of the Cameroonian Armed Forces drill aboard a Nigerian training vessel during Obangame Express in Lagos, Nigeria. PETTY OFFICER 1ST CLASS KYLE STECKLER/U.S. NAVY



A Senegalese Sailor participates in a visit, board, search and seizure training scenario aboard the Gambian Navy ship Kuntah Kinteh during Obangame Express in the Gulf of Guinea. PETTY OFFICER 1ST CLASS RYAN KLEDZIK/U.S. NAVY

2. **Harmonize Legislation:** Many countries have outdated and inadequate maritime laws. For example, a number of West African countries do not have statutes in place to prosecute pirates. Some only allow prosecution of their own nationals. The United Nations Office on Drugs and Crime is working with nations to modernize their laws.
3. **Conduct Regional Training and Exercises:** There are now a number of annual exercises around the region that promote cooperation and information sharing. The U.S. sponsors the annual Obangame Express exercise, and France hosts the Navy's Exercise for Maritime Operations. The ICC also is partnering with universities to offer educational opportunities to maritime security professionals.
4. **Promote Joint Law Enforcement Operations:** In order for the navies of multiple nations to collaborate, there must be memoranda of understanding outlining what is and is not permitted. It is also helpful to have harmonized standard operating procedures so all navies, police, coast guards and other security forces follow the same rules to arrest, detain and prosecute criminals caught at sea.

The Way Forward

Leaders of the YAMSS say the system is functioning but still is a work in progress. The two regional centers are operating but are still awaiting international staff from some member countries. CRESMAO has not moved into its permanent headquarters.

In the coming years, a number of issues will need to be sorted out to improve performance. One of them is delineating maritime borders. Several Gulf of Guinea countries have disputed or unmarked maritime borders. Another issue involves interagency cooperation. For the system to be effective, YAMSS must develop memoranda of understanding from national agencies including fisheries and transportation departments in individual countries.

Finally, there needs to be agreement on the command and control structure when a vessel passes from one nation's waters to the next and from one zone to the next. Issues include standard operating procedures of when to stop, board and search a vessel, and who has the right to do so.

Konan stressed that these issues are being worked out, but the navies of the region are not going to wait for perfection. They're already collaborating.

"The navies and the actors at sea are not waiting for CRESMAO to be fully staffed. The culture of working together, since the Yaoundé Code of Conduct, it's already functioning," he said.

Another step urged by Ralby and his co-authors is the acquisition of affordable maritime domain awareness (MDA) and surveillance technology at the regional and ICC level. Although the ICC and regional centers have MDA capabilities, Ralby said additional tools to track illegal fishing, transshipment of cargo and bunkering can pay for themselves.

"If law enforcement agencies can show that their efficiency is such that they have successful interdictions nearly every time they deploy assets, that success can become contagious," Ralby and co-authors wrote. "It can help energize the maritime agencies, deter criminal actors, and at the same time build the political will to ensure the longer-term safety and security of the maritime domain."

The end goal will be to integrate YAMSS into a continentwide system as envisioned by the African Union. This 2050 Africa Integrated Maritime Strategy would have regional coordination centers encircling the continent and, eventually, a combined exclusive maritime zone that erases barriers and promotes trade.

When this happens, Konan said, there will be no border that inhibits security operations. Cooperation will be the norm rather than the exception.

"We know that we must not kill the borders. They are economic borders, and we should keep them as economic borders," Konan said. "But in terms of security, we are going to break all of these borders." □



A driver waits amid cut rosewood in Guinea-Bissau.

REUTERS



STRIPPING AFRICA'S FORESTS

Through bribery and lax enforcement, Chinese businesses are taking billions of dollars' worth of rosewood ADF STAFF

China's growing middle and upper classes have developed an inexhaustible demand for expensive, handmade rosewood furniture — and Africa is paying the price.

The country's fondness for rosewood furniture is nothing new. China has banned logging in its own natural forests and has been getting its rosewood from Malaysia and other countries in Southeast Asia. But China depleted the available resources in Asia and began logging in Africa about 2010, according to the U.S.-based charity Forest Trends. Now, a rosewood species native to West Africa is listed as endangered due to a fifteenfold increase in trade between 2009 and 2014, according to the International Union for Conservation of Nature.

The extent of China's logging — most of which is illegal — is astonishing. From the island nation of Madagascar in the Indian Ocean to Guinea-Bissau and The Gambia on the western edge of the continent, Chinese merchants are bribing officials to look the other way while loggers remove trees from forests that have never been touched by man.

“Smart Chinese businessmen are exploiting a lax regulatory and enforcement environment, loopholes in existing laws, lack of government policy and direction as well as official corruption by government officials to drive an illegal trade in and export of the country's forestry resources,” reported the International Centre for Investigative Reporting, after research on illegal logging in Nigeria.

Environmentalists say replacing the rosewood is difficult, if not impossible, because it takes decades for rosewood trees to grow to a commercially useful size, and centuries for the trees to fully mature.

The Environmental Investigation Agency, a nongovernmental organization, examined the undercover logging sales in Nigeria and reported in late 2017 that over the course of four years, illegally harvested Nigerian logs valued at \$1 billion had been secretly shipped to China. The agency reported that loggers paid Nigerian officials more than \$1 million in bribes and concluded that the rosewood trade may have benefited the terrorist group Boko Haram. The report also said that the Chinese consulate may have been involved in the illegal shipments of wood.

Nigeria has been described as the most excessively deforested country in Africa. Less than 10% of the country is wooded, and only 20,000 hectares of the country is primary forest, which refers to untouched, pristine forest.

Across the continent, African nations lose \$17 billion each year to illegal loggers, with most of the smuggled wood going to China. The International Institute for Environment and Development says that Africa exports up to 75% of its timber to China each year, where 40% of the world's furniture is made.

As China strips Africa of its hardwoods, it is protecting its own woodlands. In 1998, China's communist government began restricting logging in the nation's forests. The logging stripped mountains, polluted rivers and caused floods. The total value of China's timber imports — rough logs, timber or wood pulp — has increased more than 10 times since China began restricting logging at home, reaching \$23 billion in 2017, the highest ever, according to the IHS Markit's Global Trade Atlas.

"One of the reasons this trade has flourished for so long is because Chinese businessmen have identified legal gaps in protection of forests and timber trade in many African countries and capitalized on that lacuna," said Dr. Mohammed Faizan, an environmental lawyer based in Kenya. "This has also been aided by corrupt government officials, some of them in very senior positions that authorize wanton destruction of African forests," he said, as reported by the journalism platform FairPlanet.

PILLAGING MADAGASCAR

In Madagascar, the fourth-largest island in the world, illegal loggers hide their harvested rosewood in the sand while waiting for ships to come collect it. Reporters Sandy Ong and Edward Carver, writing for the online magazine Yale Environment 360, said the loggers also store logs underwater, which prevents rot. The water around the submerged logs turns a telltale blood red.

In addition to protecting the soil and other plants, rosewood trees serve as nesting areas for many of Madagascar's animals, including its crested lemurs. As the trees are wiped out, so are the lemurs — the loggers sometimes kill and eat them.

Madagascar banned rosewood logging decades ago, and yet the logging continues. As in most countries, the best and most valuable logs are long gone. An American timber dealer inspected some of Madagascar's stockpiled wood in 2018 and told Ong and Carver that some of the logs were only "four to five inches in diameter."

The loggers put the logs on boats, which in turn take them to a container ship anchored offshore. From there, the ships will often use complex routes



Engineers with the Cameroonian Ministry of Forestry and Wildlife inspect a logging operation near the border with Gabon. AFP/GETTY IMAGES



A worker walks through a storage area at a logging operation in Mozambique.
AFP/GETTY IMAGES

WHAT IS ROSEWOOD?

ADF STAFF

Rosewood lumber comes from a group of trees in the *Dalbergia* family. These small to medium trees get their name from the sweet roselike scent they give off when cut or sanded.

Rosewood is prized for furniture and musical instruments because of its density and deep colors. Some species of rosewood are in such demand that they are on the verge of extinction.

The industrial design magazine *Core77* said trade regulations restrict two types, the Brazilian rosewood and the Madagascan bois de rose, from crossing international borders in any form. Despite the trade restrictions, loggers continue to illegally harvest both woods.

Because of its density, rosewood is resistant to rot, water damage and insects. Since the trees are small and grow slowly, they produce relatively modest amounts of lumber. Products made from it are expensive.

In Africa, one type of *Dalbergia* is called Kosso, or African rosewood. Kosso logs shipped to China have eclipsed all other rosewood species, according to the international Environmental Investigation Agency.



Workers load furniture made from African rosewood outside a shop in Beijing, China. THE ASSOCIATED PRESS



A Mozambican forestry ranger stands on top of a logging truck found to have illegal wood.

Logging trucks leave a harvesting management site in Gabon.

AFP/GETTY IMAGES

to disguise their cargo's point of origin. Their tactics include forging country-of-origin permits, labeling containers of rosewood as some other product and bribing inspectors.

"We know that most of the logs are illegally felled, but when they enter China with the 'right' documents, they become legal," timber researcher Xiao Di told the two reporters.

LOSING FORESTS

Not only Nigeria and Madagascar are suffering at the hands of corrupt loggers; other countries are affected as well:

CAMEROON: According to Global Forest Watch, Cameroon lost 657,000 hectares of forest to illegal logging between 2001 and 2014, with the annual rate of loss rising to 141,000 hectares in 2014.

CÔTE D'IVOIRE: During the 1960s and 1970s, the forest sector was of major economic importance to the country. However, heavy logging over the past 50 years has taken its toll, with only 2% of the country now covered by primary forest.

DEMOCRATIC REPUBLIC OF THE CONGO:

Trade documents analyzed by the group Global Witness show that timber exports from the Democratic Republic of the

Congo to Vietnam more than doubled from 2017 to 2018, to nearly 90,000 metric tons.

GABON: In April 2019, the BBC reported that more than 350 containers of kevazingo timber were discovered in the Gabonese port of Owendo. The valuable wood, which is similar to rosewood, was ready for export. Reuters said the wood was worth hundreds of millions of dollars and was found in depots belonging to Chinese companies. News reports said the wood was falsely labeled, supposedly bearing official Gabonese documentation. The containers later disappeared, but about 200 were eventually recovered.

THE GAMBIA: After Nigeria, The Gambia is West Africa's second-largest exporter of timber to China, according to the crime research group ENACT. Between 2010 and 2015, the country's export of rosewood to China was worth an estimated \$238.5 million. Considering that The Gambia has few remaining forests, this is a huge amount, suggesting that the country may also be a shipping point for illegally harvested logs from Senegal.

GUINEA-BISSAU: In 2012, a coup pushed Guinea-Bissau into chaos. Without an effective government there, Chinese



loggers stripped the country's rosewood forests.

The Environmental Investigation Agency reported that at the peak in 2014, timber exports from Guinea-Bissau to China reached 98,000 metric tons — about 255,000 trees in one year.

Despite calls for the shipments to China to stop, customs data showed that more than 7,000 metric tons of rosewood — about 300 shipping containers full of logs — were imported from Guinea-Bissau to China for the first three months of 2019, Reuters reported.

MOZAMBIQUE: Between 2001 and 2017, Mozambique lost 2.88 million hectares of tree cover amid the growing demand in China for valuable hardwoods, Global Forest Watch reported.

The Mozambican Parliament passed a law in November 2016 banning the export of unprocessed timber. The law went into effect in 2017, but an investigation by the environmental group Oxpickers showed that there were still many cases of “timber looting” for export from Mozambique, most of which was destined for China.

NAMIBIA: Despite the government's efforts to ban logging and lumber sales to China, a report in May 2019 shows that 10,000 blocks of rosewood

— enough to fill 65 logging trucks — from northern Namibia had been shipped to China and Vietnam in less than seven months.

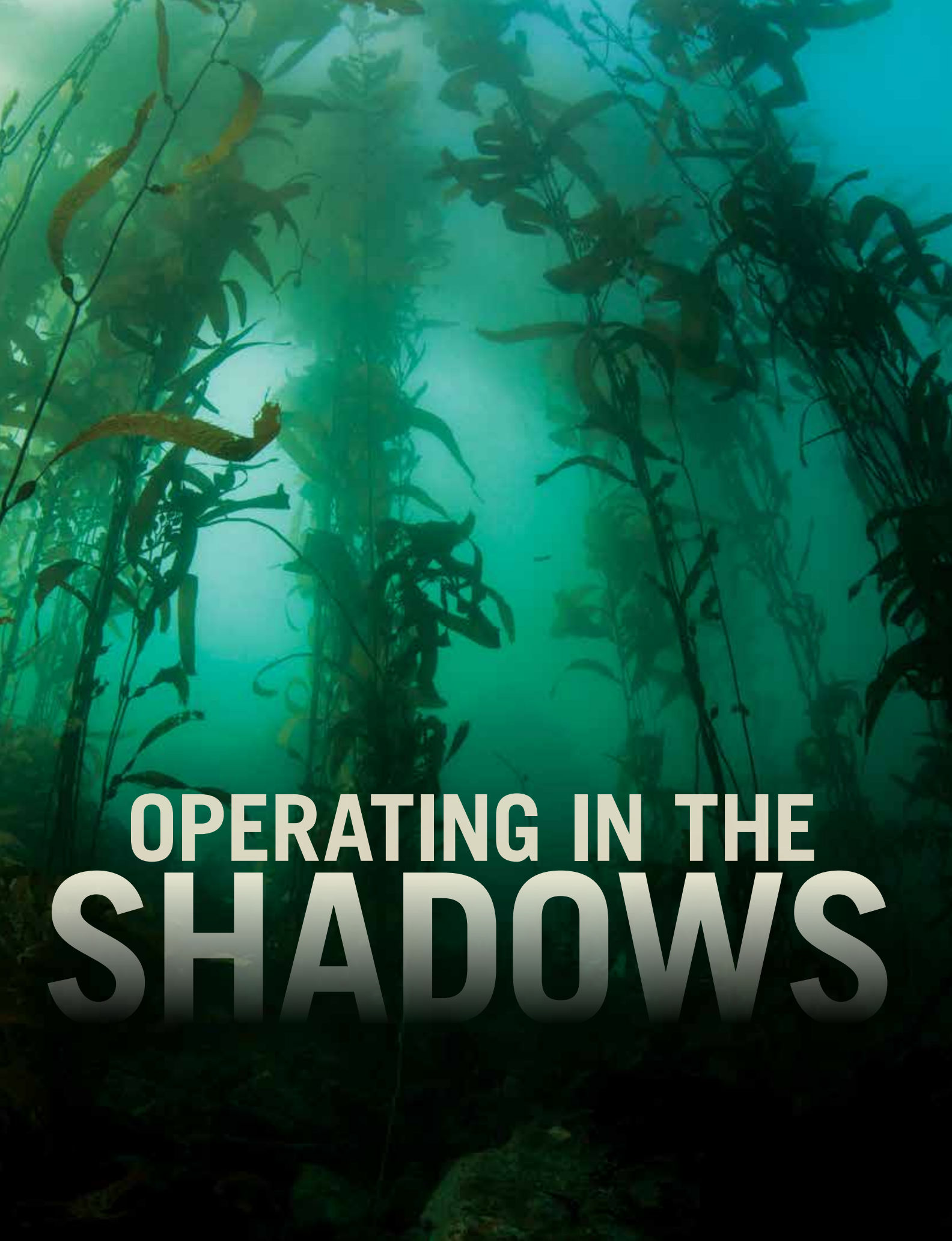
The Namibian reported that the export of Namibian timber to China increased nearly tenfold from 2015 to 2019. Officials believe that timber cargos have also been used to conceal illegal wildlife products, including rhino horns and elephant tusks.

SENEGAL: Senegal's Casamance region has lost more than 10,000 hectares of its forests to illegal logging, representing an estimated 1 million trees, the Institute for Security Studies reported in early 2019. The Casamance forest area covers 30,000 hectares and is known for its rare tree species, including rosewood.

SIERRA LEONE: After years of widespread logging, only 5% of the country's original forest cover remained in 2018. In particular, illegal loggers targeted African Rosewood. A grassroots movement to “bring back the nation's forests” led to a decision by the Sierra Leonean government to temporarily suspend logging concessions in 2018. The government has pledged that future logging will be done “in a responsible way,” Minister of Agriculture and Forestry Joseph Ndanema told the BBC. □

A Madagascan forest ranger patrols an area in the fight against illegal logging.

AFP/GETTY IMAGES



OPERATING IN THE SHADOWS



A

net full of abalone isn't much to behold. Their gray shells are covered with algae, and when cracked open they reveal a sea snail and an iridescent interior. But to those who traffic in it, abalone is worth its weight in gold. Between 2006 and 2016, 96 million of the mollusks were stolen from South African waters. This bounty is worth nearly \$900 million, the conservation group TRAFFIC reported.

**Secret
Chinese
Criminal
Societies
Make
Millions
Poaching
Abalone**

ADF STAFF

In Hong Kong, the primary destination, abalone is a delicacy, prized for its buttery flavor. The kingpins who run the operation are part of a shadowy, ancient criminal organization known as the triads.

These groups work with local street gangs. In exchange for abalone, they often give gang members the ingredients to make methamphetamine, known on the streets as "tik." The result is a decimated abalone population and widespread addiction and violence on city streets.

"Right now, organized crime is winning the war. Abalone poaching has risen to its highest level in 20 years," reported CBS News correspondent Debora Patta in 2018. "It has become so dangerous in South Africa that you've seen armed gangs actually try and attack vans that are carrying legal quantities of abalone."

As Chinese triads make inroads across Africa, abalone isn't the only commodity they're targeting. They have a hand in illegal logging, counterfeit goods, drug trafficking, prostitution, gambling and other rackets.



This dried abalone was confiscated from poachers. REUTERS



A conservation official holds abalone confiscated from poachers in Cape Town, South Africa.

REUTERS

“These Chinese criminals aren’t private sector entrepreneurs seeking to earn a quick, if dishonest, buck,” wrote Gary Busch in an article about the Chinese mafia. “They are part of ancient and well-organized criminal groups with a fierce internal discipline.”

LONG HISTORY

Triads date back to 17th century China when underground political organizations formed to topple the Ching Dynasty. British colonial officials gave them the name “triad” because of the triangle symbol stitched onto flags and banners. The symbol represents the three elements of the universe: heaven, earth and man.

Due to their origins as a covert political group, the triads developed secret ways to identify members, cryptic forms of communication and elaborate initiation ceremonies. They flourished in Hong Kong but did not have a strict hierarchical structure like other mafia groups. Although run by a leader known as the “dragon head,” foot soldiers were given a numerical rank and allowed to branch off to form their own mini-criminal operations. Profits from the work didn’t flow in an orderly fashion

and were shared as needed and sometimes given as gifts, Peter Gastrow wrote for the Institute for Security Studies.

By the 20th century, the triads’ political ambitions were long gone. In recent decades, the groups have been principally involved in drug and commodities trafficking. By the time Hong Kong was reincorporated as a part of China, officials estimated there were about 50 active triad organizations with about 80,000 members.

Modern triads are slightly more organized than their ancient predecessors. They are led by a “chairman” or “dragon head” who controls lieutenants with responsibilities such as bookkeeping, initiation of members or coordinating with other groups. Foot soldiers are known as “49-ers” and may be asked to transport or store illicit goods. The lowest rung is made up of “blue lanterns” who are typically young men aspiring to join a triad. They are asked to perform the most dangerous criminal activities.

“A strict code of conduct, based on a detailed oath of loyalty, provides the necessary cohesion and discipline within a group, irrespective of where members might find themselves,” Gastrow wrote.

THE IMPACT OF ORGANIZED CRIME

Organized Crime Corrodes Society in Multiple Ways

SIPHONS AWAY TAX REVENUE:

When resources are illegally trafficked, the state and, by extension, the people, are robbed of benefiting from the sale of the product.

CORRUPTS THE STATE:

Organized criminals pay bribes to avoid detection and enforcement. These illegal payments make law enforcement less effective and encourage officials to ask for bribes from legitimate businesses.

UNDERMINES FAITH IN THE STATE:

When traffickers operate with impunity, citizens lose faith in law enforcement and become more inclined to participate in the illegal economy.

PRODUCES ADDITIONAL VIOLENCE:

Trafficking of natural resources leads to turf battles and killings and is typically linked to the drug trade. In the case of abalone trafficking, poachers often are paid in drugs, leading to increased addiction levels.

96 MILLION

abalone mollusks poached
between 2000 and 2016

43%

of illegal harvest exported through
Sub-Saharan African nations

90%

of exports are destined
for Hong Kong

Source: TRAFFIC





South African fishermen prepare their boats and fishing nets. Poaching has decimated certain fish and mollusk species.

AFP/GETTY IMAGES

CRIME ACROSS THE CONTINENT

Chinese criminal groups became active in South Africa in the 1970s when they were involved in the illegal shark fin trade. By the 1980s the groups had begun to model themselves after triads and branched out into other illicit activity such as gambling, human smuggling, selling firearms and drug trafficking.

By the early 2000s there were four main triad societies in South Africa. They operated independently of one another and of Hong Kong leaders but had strong connections to the broader hierarchy. Triad members typically visited South Africa, scouted locations and returned to China to get money. Once they returned to South Africa, they would set up a legitimate front business such as a textile factory or nightclub and begin operations.

Gastrow said intergroup violence is rare, but triad members are ruthless toward competitors and order contract killings. Triad members spend freely to try to corrupt police and low-level state officials and to protect their operations.

It is not only South Africa where Chinese mobs are establishing themselves. There have been reports of triad-related

criminals operating in Kenya, Tanzania, Zambia and Zimbabwe.

In Namibia, a Chinese kingpin with reported links to the triads oversees an illegal logging empire that harvests wood from forests in Angola, the Democratic Republic of the Congo and Zambia. He has been arrested eight times on wildlife charges but has never been prosecuted.

In other parts of the continent, Chinese triads have begun illegally exporting donkey hides to feed a growing demand in Asia where the hides are used in traditional medicine. “From Nigeria to South Africa, syndicates have taken to raiding farms and smuggling donkey skins to Chinese middlemen,” *Foreign Policy* reported.

CORROSIVE IMPACT

In parts of South Africa the impact of organized crime is visible. In early mornings, poachers can be seen flocking to the beaches of Western Cape. From Cape Agulhas to Cape Columbine, the turf is divided up and controlled by a prison-based gang known as the Numbers.

“On certain days, whatever comes out of the sea — abalone, lobster, periwinkle — belongs to them,” wrote South African



journalist John Grobler in *Vrye Weekblad*, an online newspaper. They “descend in broad daylight and in large numbers on the craggy beaches to strip out whatever abalone they can find without the police lifting as much as a finger.”

But the true beneficiaries are the Chinese exporters who control the trade. Ninety percent of abalone exports are destined for Hong Kong. Since Chinese exporters often pay in drugs, addiction rates have skyrocketed. South Africa now has the highest rate of methamphetamine use of any country in the world. Chinese criminal groups also have corrupted some local enforcement officials through bribery, Grobler reported.

“This culture of fear has integrated organized crime into the very fabric of the local community, with everyone dependent on the trade in one way or another: from the lookouts and the garage owner selling them fuel to the granny storing a night’s catch in a back-room freezer,” Grobler wrote.

The losers in this operation are numerous. In Western Cape, artisanal fishermen have found it impossible to



keep up with poachers. By some estimates, the illegal trade is 10 times larger than the legal trade. Fishermen have seen the stock of sea life dwindle and their livelihoods imperiled. The loss of the abalone also upsets the ecological balance in coastal waters since the mollusk eats seaweed and cleans the water.

On land, once-quiet fishing communities have become the sites of gang turf wars.

“The only real winners have been the shadowy Chinese gangs known to have been at the heart of the drugs-for-abalone interface since the early 1990s,” Grobler wrote. □

Residents display banners protesting gang violence in Manenberg township, Cape Town, South Africa. REUTERS

A man smokes methamphetamine known locally as “tik” in Hanover Park, a suburb of Cape Town.

AFF/GETTY IMAGES

A glass pill bottle is lying on its side on the left side of the image, with several white, oval-shaped pills spilling out onto the surface. The background is white, and there is a vertical red bar on the far left edge.

A PRESCRIPTION FOR

CAUTION

PHARMACEUTICALS ARE NOT ALWAYS WHAT THEY SEEM

ADF STAFF

Dolphin Anyango of Kenya woke up to find that an infection around her left eye had begun to swell. She knew she needed medicine to treat it, but she did not have time to go to a hospital. So she went to a local pharmacist instead in Nairobi's Kibera neighborhood and got some medicine.

Within days, he was hospitalized after the drugs he bought made him sick, Reuters reported. One night in the hospital cost Dieng twice what he would have paid for the legitimate drug that his doctor prescribed.

FAKE, TAINTED, EXPIRED, SPOILED AND POORLY PACKAGED MEDICINES ARE SICKENING — AND EVEN KILLING — PEOPLE EACH YEAR.

ON

"After taking the medicine for two days, I thought it was going to stop the swelling," she told a BBC reporter in 2018. "But unfortunately, it swelled more than the way it was before. The wound here in my face was very horrible," she said as she rubbed her left cheekbone. "After two days I took my medicine to the doctor. The doctor told me that I was given the wrong medicine. After the doctor gave me his medicine, now, in hospital, that is when I started seeing the improvements in my eye."

In Ouagadougou, Burkina Faso, Moustapha Dieng began to have stomach pains, so he went to a doctor. The doctor prescribed a malaria treatment, but it cost too much for the 30-year-old tailor, so he went to an unlicensed street vendor to find cheaper pills.



In Nigeria in 2009, more than 80 children were killed by a teething syrup that had been tainted with a chemical used in automobile engine coolant, according to Reuters.

All of these stories point to a larger problem on the continent: Fake, tainted, expired, spoiled and poorly packaged medicines are sickening — and even killing — people each year.

Illegal and false drugs are for sale in Abidjan, Côte d'Ivoire.

REUTERS

Counterfeit pharmaceuticals alone are a \$30 billion industry, according to a November 2018 BBC report. That figure nearly tripled in five years' time. At least one estimate says fake drugs are a \$200 billion industry.

A 2017 World Health Organization (WHO) study estimated that one out of every 10 medical products in low- and middle-income nations is fake or substandard, according to ENACT, a European Union-funded crime research group.

COUNTERFEIT PHARMACEUTICALS ALONE ARE A \$30 BILLION INDUSTRY. THAT FIGURE NEARLY TRIPLED IN FIVE YEARS' TIME.

according to a November 2018 BBC report



Counterfeit medicines can be expired, mislabeled, packaged improperly, have the wrong ingredients or insufficient amounts of the proper active ingredients.

AFP/GETTY IMAGES

The problem presents an intractable challenge for African authorities, despite ongoing efforts to stanch the flow of these pharmaceuticals to the continent.

THE SIZE OF THE PROBLEM

Fake pharmaceuticals are a huge problem for many nations in Africa, and not only when measured in dollars lost from the sale of legitimate medicines. The problem has a significant impact on public health. A November 2018 report from ENACT indicated that counterfeit medicines may lead to as many as 158,000 avoidable deaths a year, just from malaria.

Multiple operations aimed at getting fake medicines off the streets have taken place in recent years, and each one seems to find an abundance of contraband flowing into the continent.

From August 31 to September 14, 2016, officials from the World Customs Organization (WCO) and the International Institute of Research Against Counterfeit Medicines (IRACM) launched Operation ACIM (Action Against Counterfeit and Illicit Medicines). The effort began with three days of training in Mombasa, Kenya, and then 10 days of customs interceptions in 16 seaports in 16 Sub-Saharan nations.

ACIM intercepted 129 million units of all kinds. Of those, 113 million were illicit or counterfeit medicines, including nearly 250,000 veterinary products, 13 million health supplements and 5,000 medical devices.

The biggest interceptions were made in Benin, Kenya, Namibia, Nigeria and Togo. Seized medicines included antimalarials, antibiotics, anti-inflammatories, analgesics, as well as about 2 million doses of anti-cancer drugs. Three-quarters of the medicines came from India. The rest originated in China.

The 2016 operation was the latest of four by WCO and IRACM. Together with the similar busts in 2014, 2013 and 2012, authorities seized nearly 900 million counterfeit or illicit medical products valued at about \$444 million.

Perhaps the most striking statistic to come out of those four operations is that they together represent only 37 days of enforcement out of four years' time, and each dealt with only 15 to 23 seaports.

WHO differentiates between substandard medical products and false ones. Substandard products are those that are out of specification and deemed "as ostensibly authorized medical products that fail to meet manufacturing, supply or distribution quality standards," according to ENACT. "Unregistered or unlicensed medical products are those which have not undergone evaluation or approval by the relevant regulatory bodies."

Falsified products "purposefully conceal or lie about their identity, composition or source," ENACT says. This can mean that they are contaminated, falsely claim to have an active ingredient or have that ingredient in the improper amount.

HOW TO FIGHT FAKES

As thousands of people die and billions of dollars are wasted in Africa due to fake and

OPERATION ACIM

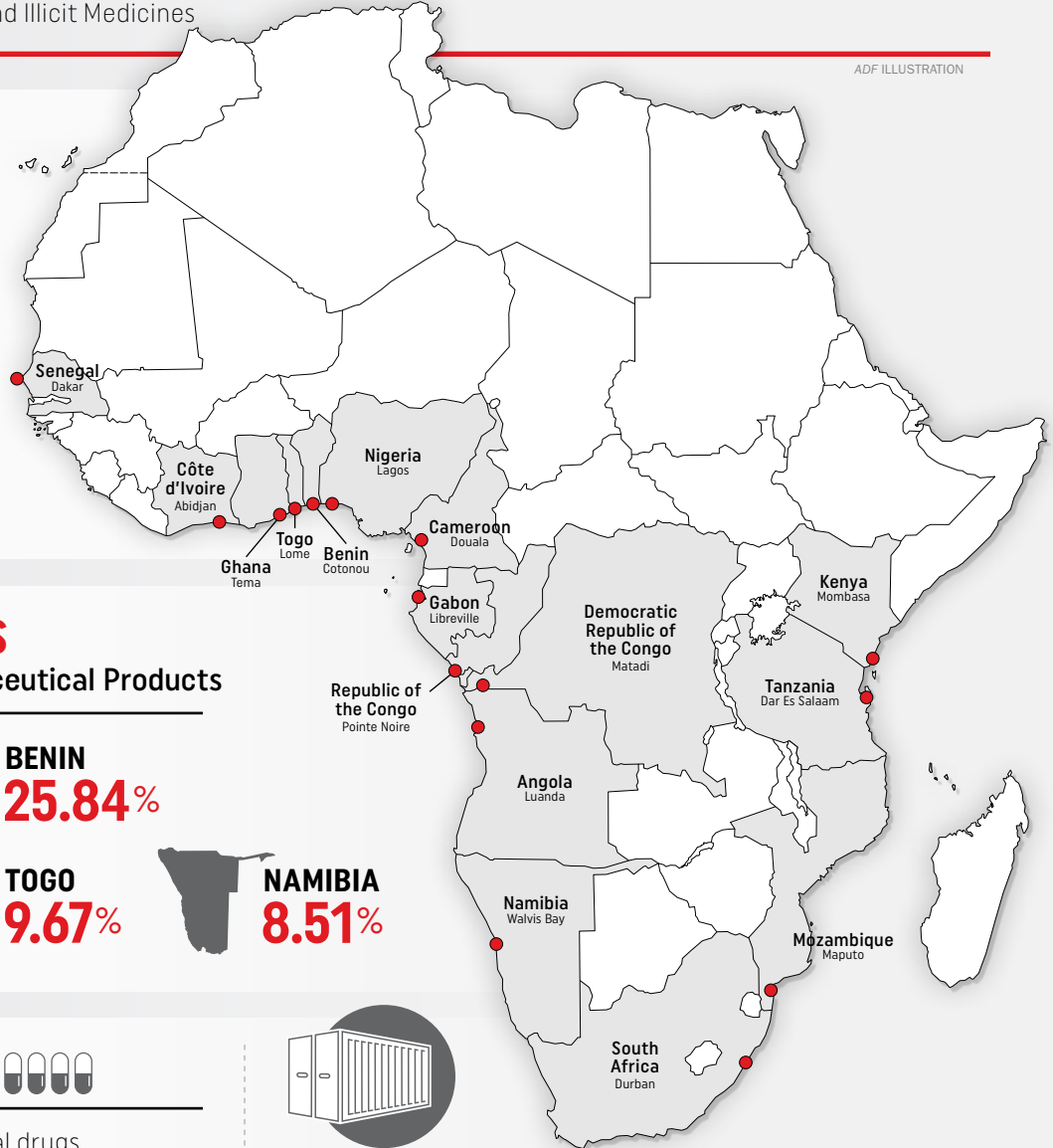
September 5-14, 2016

Action Against Counterfeit and Illicit Medicines

ADF ILLUSTRATION

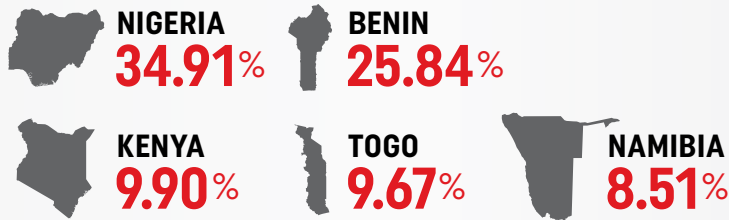
More than **113 million** illicit and potentially dangerous pharmaceutical products were intercepted during **Operation ACIM**, which was conducted at **16 African seaports**.

Also seized:
13 million health supplements and **5,000** medical devices



TOP 5 COUNTRIES

For Intercepted Pharmaceutical Products



26.63%

30,112,011 Antimalarial drugs

25.50%

28,832,170 Anti-inflammatory drugs

13.05%

14,745,000 Analgesics

15.07%

17,044,512 Antibiotics

7.09%

8,025,100 Gastrointestinal medicines



243 containers inspected **150** contained illicit products



PREVIOUS OPERATIONS:

OPERATION BIYELA 2 (2014)

113 million pharmaceutical products out of **118 million** seized in **10 days**, in **15 seaports**. (95% of interceptions)

OPERATION BIYELA 1 (2013)

559 million pharmaceutical products out of **1.14 billion** seized in **10 days**, in **23 seaports**. (49% of interceptions)

VICE GRIPS 2 (2012)

83 million pharmaceutical products out of **104 million** seized in **7 days**, in **16 seaports**. (79% of interceptions)

Source: International Institute of Research Against Counterfeit Medicines



A vendor works in a pharmacy in Abidjan, Côte d'Ivoire. REUTERS

substandard medicines, corporations and national governments are looking at a range of technological solutions to combat the problem.

In one approach, global tech giant IBM is working with blockchain technology to keep fake drugs out of the legitimate supply chain. The technology would allow medicines to be tracked step by step from the source to the end user so that consumers can be assured that they have legitimate drugs.

Blockchain technology is relatively new and holds promise for a number of sectors, chiefly the financial and health industries. The trade of cryptocurrency bitcoin already depends on blockchain technology, for instance.

Generally speaking, blockchain is “an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value,” according to Don and Alex Tapscott, authors of *Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies Is Changing the World*.

IBM Research in Haifa, Israel, has developed a way to use blockchain to track, trace and authenticate drugs from the drug

company to the patient, and every stop in between. According to a video produced by IBM, the process can verify what is delivered, by whom, to whom, when, and where for African doctors, pharmacists and consumers.

The process involves a trusted network that lets different parties store information that only authorized members can see and that can't be altered once entered. In pharmaceutical orders, the process can:

- Verify that authentic medicines are handed to authorized persons at every transfer point.
- Guarantee compliance with proper transportation and asset transfer conditions.
- Ensure that a joint verified transactions ledger is always available.

The IBM process can be operated through mobile phones and gives each authorized party in the network a way to initiate, finish, track and verify transactions. Here is an example of how the process would work:

- A doctor, needing a particular drug,

checks prices at local pharmacies and orders from one. She sets up the order and delivery using blockchain.

- The pharmacist receives the order and registers it in the blockchain. He then prepares the delivery and scans drug QR codes and serial numbers for the blockchain.
- The pharmacist selects a delivery carrier from those available on the blockchain system. The carrier, motivated to perform well because his reputation is based on customer ratings, heads to the pharmacist and authenticates to the blockchain. The pharmacist initializes the delivery; the carrier checks serial numbers and QR codes and accepts delivery.
- The process is electronically appended to the blockchain ledger after the provider and carrier verify that they are physically present at the pharmacy.
- The carrier leaves with the drug. If a refrigerated container is necessary, that container will send out periodic signals with any alarms saved in the blockchain for review later.
- The carrier arrives at the doctor's clinic. He and the doctor authenticate using the blockchain. The doctor verifies the tracking code number of the delivery and scans and verifies the drug QR code.
- The doctor accepts the delivery, and the carrier accepts the delivery transfer, which is appended to the blockchain. The drug now is shown at its final destination. The pharmacist is able to electronically verify that the transaction was completed successfully.

IBM is not the only company looking to work with African countries on blockchain solutions. A company called MediConnect met with Ugandan President Yoweri Museveni and Minister of Health Dr. Jane Ruth Aceng in July 2019 to discuss the blockchain solution it is developing to identify and remove counterfeit medicines from the supply chain.

In Ghana, entrepreneur Bright Simons developed the phone-based mPedigree system. It works with drug companies to put a unique code on medicine packages. Consumers can text the code from the packaging to a predetermined phone number.

That code is checked against authentic codes stored in the cloud. The consumer then receives a text message indicating whether the drug is genuine. The system has since expanded elsewhere in Africa and Asia, according to mHealth Knowledge.

“DEPLOYMENT OF NEW TECHNOLOGY TO HELP TRACK THE DRUGS IS THE ONLY SOLUTION, SEEING THAT THE CRIMINALS ARE ALWAYS A STEP AHEAD OF US. SO WE HAVE TO RELY ON TECHNOLOGY TO NAB THEM.”

Fred Siyoi, registrar and chief executive of Kenya's Pharmacy and Poisons Board



Kenya also is moving forward with a process that will let customers use their mobile phones to determine whether medicines are genuine, according to the *Daily Nation*. The process will use codes sent by text message to identify quality and track medicines across the supply chain. Consumers in Kenya also can use SMS codes to identify legitimate pharmacies and pharmacists.

“Deployment of new technology to help track the drugs is the only solution, seeing that the criminals are always a step ahead of us,” said Fred Siyoi, registrar and chief executive of Kenya’s Pharmacy and Poisons Board. “So we have to rely on technology to nab them.” □

An agent examines a container filled with illegal and false drugs seized by Ivorian authorities in Abidjan. REUTERS



A pangolin looks for food on private property in Johannesburg, South Africa.

THE ASSOCIATED PRESS

False Cures

As China's influence expands, so does its traditional medicine. That's bad news for endangered animals in Africa.

ADF STAFF

China's extensive "One Belt, One Road" policy is intended to spread the country's influence from East Asia to Europe and beyond. The project, conceived by Chinese President Xi Jinping in 2013, envisions a vast network of railways, highways and energy pipelines.

The project isn't just about infrastructure. China also intends to spread its culture, which includes traditional Chinese medicine (TCM), throughout the world. And that will be a problem for the nations of Africa.

China's State Council plans to promote its traditional medicine in Africa by setting up hospitals, museums, medicinal schools and botanical gardens as a means of legitimizing the treatments. Some aspects of TCM, including acupuncture and tai chi, have been found to be useful relaxation techniques and an alternative to aspirin in relieving low-level pain. But the vast majority of TCM is focused on unproven herbal products, treatments, and potions that are offered in place of

modern-day clinically effective, doctor-prescribed medicine. In addition to the disappointment and frustration that inevitably comes from alternative TCM failure, patients also may develop other side effects that will make their conditions worse.

Research has shown that some TCMs make people sick rather than healing them. A common ingredient, aristolochic acid, can harm kidney function and cause urinary tract cancer.

Additionally, TCM often promises cures based on the use of animal products, including pangolin scales, rhino horns, shark fins and tiger parts. Such products invariably are useless, but as TCM spreads, so does the demand for the endangered animals.

"Studies have found that ingredients in herbal remedies are sometimes mislabeled and can contain extracts from endangered animals or toxic plants in place of the advertised ingredients," News-Medical.net reported. "Given the extent of use of TCM and the reach of such trade, these undesirable ingredients can reach a wide number of patients and could have profound effects on the ecosystems from which they are taken."

In the first three months of 2019, authorities in the Chinese territory of Hong Kong seized record volumes of threatened species, including 8.3 metric tons of pangolin scales from nearly 14,000 pangolins, and the territory's largest-ever confiscation of rhino horns, worth more than \$1 million. Reuters has reported that Hong Kong is one

of the world's primary wildlife trafficking transit points, supplying animal parts to mainland China and other parts of Asia.

The conservation group ADM Capital Foundation says TCM is responsible for more than 75% of the trade in endangered wildlife products in Hong Kong over the past five years.

"A lot of species that are most threatened on Earth right now are threatened because of demand in China," said Chris Shepherd of Monitor, a group that works to reduce the illegal wildlife trade. He told *The New York Times*, "China has to become a leader in fighting illegal wildlife trade, or else it's not going to be a pretty future."

A GROWING BUSINESS

The World Health Organization says the TCM industry is worth \$60 billion a year and is projected to expand by about 11% each year. That is good business for China, which seeks to promote this new industry and use the infrastructure built under the Belt and Road plan to supply its TCM products.

Although many practitioners of TCM have condemned the use of endangered wildlife products, such products are still popular in China and the rest of Southeast Asia, where they are sold to patients with false claims of being able to treat everything from epilepsy to impotence and cancer. Additional TCM false claims include:

- **Tiger bones**, used to treat arthritis and joint problems.
- **Rhino horn** to treat fever, convulsions and delirium.
- **Bear bile** to treat liver ailments and headaches. Donor bears often are kept in cages, under intolerable living conditions. Some have permanent catheters to extract the bile.
- **Pangolin scales** and other parts of the animal used to treat "excessive nervousness and hysterical crying in children, women possessed by devils and ogres, malarial fever and deafness," the *International Journal of Science* said.
- **Dried seahorse** as a treatment for kidney ailments, circulatory problems and impotence. The group Advocacy for Animals says that 32 countries and regions are involved in harvesting 20 million seahorses each year, yet production is failing to meet the worldwide demand. In recent years, China's demand alone has been 200 to 250 tons of the tiny creatures annually.

Although China has banned rhino horn, the nation has failed to prevent the use of other animal products in medicines. Products made from pangolin scales and antelope horns are legally used in Chinese medicine. Reuters reported that two Chinese companies, Kangmei Pharmaceutical and Tong Ren Tang, have been given government permits to produce medicines made from such scales and horns.

Gui Zhen Tang, which owns a bear-breeding center in southern China, dropped plans in 2013 to expand its bear bile production after protests by animal rights activists



A History of Traditional Chinese Medicine

ADF STAFF

Traditional Chinese medicine, also known as TCM, is a system of health care dating to the third century B.C.

It was developed from the writings of ancient healers, who had begun making notes on their observations of the body, its functions, and its reactions to various treatments and therapies, including herbal remedies, exercise, massage and acupuncture.

"For more than 2,000 years, generations of healers and scholars added to and refined this knowledge," reported *National Geographic* magazine. "The result is a canon of literature dealing with practically every sort of health issue, from the common cold to cancer, pregnancy to old age."

China's interest in using parts from what are now endangered species dates to the beginnings of TCM. The rarity of such animals, including rhinos and tigers, in ancient times meant that only the wealthiest of Chinese people, including royalty, could afford them. That only served to raise the perceived value of the medicines to the masses who could not afford them — a perception that persists today.

TCM has spread to an estimated 180 countries. However, Western practitioners of TCM regard the use of endangered animals as pure quackery.

China has made some attempts to reduce the demand for rare animals. China signed the Convention on International Trade in Endangered Species of Wild Fauna and Flora in 1981, but as Adam Minter of Bloomberg News reported, the country still had 116 factories making wine from tiger parts in 1986.

China imposed a 1993 ban on the sale, purchase, import and export of tiger bones and rhino horns, but the ban only drove the trade in such endangered species underground.

Today, China can be described as a "two medicines" nation because it has endorsed purely science-based medical treatments and TCM.

A woman mixes medicines in the pharmacy of Shanghai University of Traditional Chinese Medicine.

AFP/GETTY IMAGES

Interpol Stages Operation Thunderball 2019

ADF STAFF

Two of the world's largest law-enforcement agencies teamed up to seize more than 10,000 wild animals and their parts in Operation Thunderball.

Interpol and the World Customs Organization (WCO) staged what *National Geographic* magazine called "the most widespread wildlife crime raid" ever organized. The raid spanned 109 countries over the course of 26 days in June 2019.

Interpol said the operation resulted in more than 1,800 seizures and two dozen arrests. Officers identified more than 600 suspects with "further arrests and prosecutions" anticipated.

Interpol and the WCO teamed with local police and customs and environmental officers in the raids. Among the animals recovered were 23 live primates and 30 big cats, including a white tiger cub recovered in Mexico. Authorities also recovered about 10,000 turtles and tortoises, 4,304 birds, and thousands of wildlife parts, including elephant tusks, rhino horns and pangolin scales.

Interpol said Nigerian officials intercepted about a half metric ton of pangolin scales that were destined for Asia. Canadian officials reported finding two dead pangolins smuggled from Cameroon, the first time Canada has reported such a seizure.

The Wildlife Conservation Society said in a statement that "this massive disruption of criminal networks is key to saving endangered wildlife across the globe."



109 countries



582 suspects arrested

1,828 seizures including:



545 kilograms ivory



1.7 metric tons plants



1.3 metric tons pangolin scales



4,304 live birds



9,777 live tortoises and turtles



9,820 marine species



604 metric tons and 2,551 cubic meters timber



1,422 live reptiles

and nongovernmental organizations (NGOs). But it still has government permits for extracting bear bile.

MOST-POACHED ANIMAL

There is no scientific basis for pangolin scales to have any medicinal value, and yet the small, harmless creature is now the world's most-poached animal. There are eight species of pangolins. Four are found in Asia and are listed by the International Union for Conservation of Nature as critically endangered. The union says the four African species — Temminck's pangolin, giant pangolin, white-bellied, and black-bellied — are listed as vulnerable. In 2016, the 186 countries involved with the Convention on International Trade in Endangered Species voted to ban the commercial trade in pangolins.

That has not stopped the trafficking of the animals. The demand in China and Southeast Asia for the scales and meat of the pangolin has only increased its value.

In April 2019, customs officers in Singapore inspected a shipping container supposedly full of frozen beef from Nigeria. Instead, reported New Economy Forum, they found almost 13 tons of pangolin scales, valued at \$39 million. Less than a week later, they found a similar stash in a container that was labeled as containing cassia plant seeds. In all, poachers slaughtered 72,000 pangolins to produce the two stashes.

Consuming pangolin scale products is as effective a medicine as chewing on one's own fingernails.



Pangolins have something in common with rhinos. Pangolin scales are made of keratin, the same material that makes up rhino horn, and human fingernails and hair. Consuming pangolin scale products is as effective a medicine as chewing on one's own fingernails. *National Geographic* said the scales are typically dried and ground into powder, which may be turned into a pill.

Bloomberg news service reported that the pangolin network stretches from poachers in Central Africa to smugglers in Nigeria to middlemen across Asia, to consumers in China and Vietnam. The major African source countries are thought to include Cameroon, the Central African Republic and the Democratic Republic of the Congo.

Pangolins are not an easily replenishable species. Females of the African species typically give birth to a single offspring — the Asian pangolins can have one to three — and the offspring take two years to mature before they leave their mother.



Buyers examine a medicinal fungus at an outdoor market in western China. Traditional Chinese medicine relies heavily on rare plants and animal parts.

REUTERS

There is a surprising amount of trade in live pangolins, mostly to Southeast Asia, where they are eaten. People who eat pangolin prefer that the meat be freshly killed, requiring that live animals be shipped. The animals are easy to load into boxes and bags, because when caught, they roll into a compact ball as a means of defense. The live pangolins arrive at their destinations in horrible conditions — confined to small spaces, covered in their own waste. On the occasions when authorities recover the poached animals, they are often in wretched shape, needing serious medical care.

In South Africa, Dr. Karin Lourens, a veterinarian, is known as Africa’s “pangolin doctor” for her work in caring for Temminck’s pangolins rescued from traffickers. It seems that caring for the African animals is more difficult than treating their Asian cousins.

“Very little is known about the Temminck’s ground pangolin,” Lourens told Voice of America. “They have already had this poaching epidemic in Asia for quite a long time. So, they have had lots of time to do research on theirs. Whereas we get one at a time. Asian pangolins in captivity will eat out of a bowl. Ours do not. They have to be taken out into their natural environment and followed almost while they feed.”

CONFLICTED POLICY

In some ways, China appears to be cooperating in world efforts to stop the poaching of pangolins. In 2017, Chinese customs officials seized 13 tons of illegally imported

pangolin scales. But the Chinese government has not banned the use of the scales.

The China Biodiversity Conservation and Green Development Foundation, an NGO, noted that more than 200 pharmaceutical companies in China produce about 60 brands of traditional medicines that include pangolin scales. The foundation said that China lets the companies use 29 tons of the scales each year, as long as they are obtained legally. It takes 73,000 slaughtered pangolins to produce that many scales.

The foundation also noted that when it sent teams to southern China’s provinces to investigate the black market trade in pangolin scales, it found restaurants that were serving pangolin meat.

The Chinese market for pangolin is pushing the Indian breeds to the point of extinction. The World Wildlife Fund (WWF) said the population of Indian pangolins decreased by 80% between 2013 and 2018.

To protect pangolins and other species being funneled into Asia’s black markets, the WWF is working on campaigns to reduce demand for illegal wildlife products in China and other countries in Southeast Asia. The group also is lobbying “for more effective national laws and antipoaching programs — measures needed to keep these animals out of markets and in the wild where they belong.”

If nothing is done, the Indian pangolins will become extinct — and poachers will undoubtedly focus on the pangolins in Africa. □



AFP/GETTY IMAGES

NBA STARTING 12-TEAM LEAGUE IN AFRICA

REUTERS

The NBA will invest millions of dollars in Basketball Africa League, its first professional league outside North America, and will be active in its operation.

Amadou Gallo Fall, the NBA's vice president for Africa

The NBA, in partnership with the International Basketball Federation, is launching the league in January 2020 with 12 teams from across the continent.

"This league will be fully operated by the NBA," Amadou Gallo Fall, the NBA's vice president for Africa, said. "Our expertise and best practices will be on display."

The NBA generated \$8 billion in revenue in 2018, according to *Forbes* magazine, and interest in Africa has grown alongside the profile of Africans playing in the world's top basketball league.

Cameroon's Joel Embiid, a 25-year-old center for the Philadelphia 76ers, has emerged as a top player in the NBA, signing a five-year contract with the team worth nearly \$150 million in 2017.

The NBA established an Africa office in 2010. It held its first NBA Africa game in 2015. Games in 2017 and 2018 were played in front of sold-out crowds in South Africa.

Basketball Africa League will involve six national champions from Angola, Egypt, Morocco, Nigeria, Senegal and Tunisia. The remaining six teams will be selected through international qualifiers in 2019.

As the NBA courts African audiences, African players have been conquering the NBA. There were 13 African-born players on the rosters of NBA teams at the opening of the 2018/19 season, out of the 108 international players. That rises to about 40 if players with African parents are included, Fall said.

"It tremendously impacts the growth in popularity of the NBA," he said.

The NBA has livestreamed two free games a week on YouTube since March 2019 to build a larger fan base among viewers in Sub-Saharan Africa.

The league opened an elite basketball academy in Senegal in 2017 that, along with its Basketball Without Borders Africa program, has showcased African talent hoping to play for NBA teams or U.S. colleges.

NETFLIX Animated Series Breaks Barriers

ADF STAFF



Malenga Mulendema NETFLIX

Netflix has commissioned its first African animated series from South Africa's Triggerfish Animation Studio. Zambian writer Malenga Mulendema created the series after winning a competition to find talent from across the continent, Hollywood publication *Variety* reported.

The series, *Mama K's Team 4*, revolves around four teenage girls who are recruited by a retired secret agent to save the world. The series is set in a futuristic version of the Zambian capital of Lusaka.

Mulendema grew up watching cartoons and found herself asking why no heroes looked like her and why they didn't live in a world that felt like her own.

"In creating a superhero show set in Lusaka, I hope to introduce the world to four strong African girls who save the day in their own fun and crazy way," she said. "Most importantly, I want to illustrate that anyone from anywhere can be a superhero."

Cameroonian artist Malcolm Woepa designed the characters.

Triggerfish is the largest and most-awarded animation production company in Africa. Its first two animated features, *Adventures in Zambezia* (2012) and *Khumba* (2013), are two of the five top-grossing South African movies of all time and have been translated into 25 languages. Triggerfish also animated four award-winning BBC Christmas specials set in England, including the Oscar-nominated *Revolting Rhymes*.



NETFLIX



CÔTE D'IVOIRE TO HOST 2023 AFRICA CUP

BBC NEWS AT BBC.CO.UK/NEWS

The Confederation of African Football says Côte d'Ivoire has agreed to host the 2023 Africa Cup of Nations, instead of the 2021 event. The move allows Cameroon, which was stripped of the right to stage the 2019 event, to take on 2021 instead.

Côte d'Ivoire had resisted the two-year delay, going as far as filing a case to the Court of Arbitration for Sport.

The confederation took the 2019

edition away from Cameroon because of security concerns and severe delays in building stadiums.

The 2023 deal was reached after Ivoirian President Alassane Ouattara met with confederation President Ahmad Ahmad. Guinea, which had been slated for 2023, will put on the 2025 tournament. Cameroon and Guinea already had agreed to the changes, so the deal with Côte d'Ivoire was the final part of the confederation's reorganization of

Kenya and Ethiopia, above left, and Senegal and Madagascar, above right, compete in qualifier matches in the 2019 Africa Cup of Nations. AFP/GETTY IMAGES

long-standing plans.

The original schedule had been announced in 2014. Egypt hosted the 2019 tournament.

The Africa Cup of Nations is the main international football competition in Africa. The first event was in 1957. Since 1968, it has been held every two years. In 2017, the Africa Cup of Nations moved from January to June and expanded from 16 to 24 teams. The 2019 cup was the first with the 24-team format.

APP PROMOTES ETHIOPIAN MUSIC

BBC NEWS AT BBC.UK/NEWS

A mobile phone app that lets users access an archive of Ethiopian music is being launched in the capital, Addis Ababa.

The app, known by the Amharic word Awtar, or strings, took five years to develop by a team that included well-known composer Elias Melka. The developers say that a huge range of Ethiopian music will be available covering all genres and languages.

Users will pay 4.50 birr (16 cents) to download a single song and 15 birr (52 cents) to download an album.

The people behind Awtar say the main idea is to raise revenue for all those involved in creating the music. Piracy has meant that the artists and producers get less money for their work.

Tracks downloaded on Awtar, which will be available to Android phone users, will not be shareable, in order to maximize revenue. State-run Ethio-Telecom backed the project and also will take a share of the profits.





Tunisia Races to PROTECT CULTURAL SITES

THOMSON REUTERS FOUNDATION

Tunisia is making a push to protect its endangered archaeological sites and rich cultural heritage.

These sites often are looted or damaged during illegal nighttime excavations by people looking for goods to sell on the black market. The issue was brought to the forefront in 2011, when Tunisia's ousted dictator Zine El Abidine Ben Ali was found to have been hoarding a range of archaeological artifacts.

Today, Tunisia's National Heritage Institute (INP) is increasing its efforts to protect the country's history. The organization has recovered more than 25,000 archaeological items since the 2011 revolution.

Objects of significant historical and cultural value often end up on the European market and in the homes of Tunisia's rich and

powerful. In 2017, Tunisian authorities seized a rare 15th-century Torah scroll that they believed was being smuggled to Europe. In March 2019, customs agents seized 600 antique coins dating from the 2nd century from a car in the coastal town of Sfax.

Today, the INP gets more than double the number of reports for theft in the historically important region of Kasserine than it did before the revolution, said Mohamed Ben Nejma, head of the region for the institute. He added that the instability and chaos of conflict often provide a window for archaeological looting.

But he also attributed the increase in recovered objects to the fact that authorities are getting more serious about tackling the illicit antiquities trade.

"It might have been partly to do with state interests," said Yasser Jrad, head of the seized objects department at the INP. "Especially, since we discovered pieces stolen from our [national] sites in the houses of Ben Ali and his family."

Matthew Hobson of the United Kingdom-based Endangered Archaeology in the Middle East and North Africa project, said multiple factors need to be taken into account when it comes to protecting heritage sites from theft, which often is driven by poverty and political instability.

"There are economic reasons" for looting, he said. "The blame should not be put on the people who are trying to get by day to day, but the persons who are furnishing these collections."

REUTERS



ETHIOPIA SETS WORLD RECORD BY

Planting 353M Trees in a Day

ADF STAFF

In a 12-hour stretch, Ethiopians fanned out across the country and planted 353 million trees. The reforestation campaign known as “Green Legacy” is an initiative led by Prime Minister Abiy Ahmed.

The country believes it set a world record with the plantings on July 29, 2019. In 2017, India established the record by planting 66 million trees in 12 hours, CNN reported. And though Ethiopians believe they surpassed that record, they say they aren’t done yet. During the country’s rainy season, which lasts from May to October, volunteers hoped to plant a total of 4 billion trees.

Many schools and government offices were closed for the day, and Abiy urged Ethiopians to “go out and make your mark.” Abiy participated in the event by planting a tree in the southern city of Arba Minch.

Less than 4% of Ethiopian land is forested, according to Farm Africa. Forests were much more prevalent at the turn of the 20th century when about 30% of the country was covered by trees.

Ethiopia is one of more than 20 African countries that signed a pledge in 2017 to restore more than 100 million hectares of forest as part of the African Forest Landscape Restoration Initiative.

Ethiopian Prime Minister Abiy Ahmed plants a tree as part of the country’s “Green Legacy” initiative. OFFICE OF THE PRIME MINISTER — ETHIOPIA



Kenyan Science Teacher Wins Global Prize

THE ASSOCIATED PRESS

A Kenyan science teacher from a remote village has been named the world’s most outstanding educator and has received a \$1 million prize.

Peter Tabichi beat 10,000 applicants to win the 2019 Global Teacher Prize and was given the award in Dubai, United Arab Emirates, at a ceremony attended by the country’s crown prince. To pay for school supplies and help his students, Tabichi had been donating 80% of his salary.

Tabichi teaches science to high-schoolers in the semi-arid village of Pwani, where almost a third of children are orphans or have only one parent. Drought and famine are common.

He said the school has no library and no laboratory. He plans to use the \$1 million to improve the school and feed the poor. Despite the obstacles Tabichi’s students face, he’s credited with helping many stay in school, qualify for international

Kenyan teacher Peter Tabichi, center; actor Hugh Jackman, left; and Dubai Crown Prince Sheikh Hamdan bin Mohammed Al Maktoum, right; react after Tabichi won the \$1 million Global Teacher Prize.

competitions in science and engineering, and go on to college.

Kenyan President Uhuru Kenyatta said that Tabichi’s story “is the story of Africa” and of hope for future generations.

As a Roman Catholic monk, Tabichi wore a plain floor-length brown robe to receive the award.

In his acceptance speech, Tabichi said his mother died when he was just 11 years old, leaving his father, a primary school teacher, with the job of raising him and his siblings alone.

Now in its fifth year, the prize is the largest of its kind. It has quickly become one of the most coveted and prestigious for teachers.

AMISOM PRAISES PROGRESS

*by Somali
Security Forces*

ADF STAFF

After a three-day meeting between African Union Mission in Somalia (AMISOM) commanders and Somali National Army leaders, the two sides believe they are on track to transfer security responsibilities to local control.

Under the transition plan, the AU mission will transfer security duties to Somali security forces ahead of AMISOM's anticipated exit in 2021, the Somali news site Goobjoog News reported.

Francisco Madeira, the civilian head of AMISOM, said local security forces had shown their ability while carrying out offensive operations to liberate areas in the Lower Shabelle region.

"This commitment shows that Somalia wants to move forward despite existing challenges," Madeira said in a statement. "The work of their national forces deserves increased support."

The commanders, along with their Somali counterparts, met in Mogadishu to evaluate the progress made in implementing the mission's concept of operations.

This provides a framework for AMISOM's gradual transfer of security responsibilities to the Somali security forces and its exit from Somalia.

During the meeting, the commanders also discussed the operational readiness of the Somali security forces. Madeira said the Somali government and international partners are helping AMISOM fulfill its mandate, Goobjoog News reported.

In an opinion piece published in Kenya's *Daily Nation*, Madeira said the Army is stepping up to the challenge. "We have seen the forces attack, win and hold ground," he wrote. "This is a strong signal to the terrorist groups that their days of terror are numbered. A professionally trained and well-equipped Somali security force is indeed a game-changer in the fight against terrorism in Somalia."

A Somali Soldier mans a machine gun at Sanguuni military base about 450 kilometers south of Mogadishu.

AFP/GETTY IMAGES





REUTERS

EARLY WARNING TOOL PREDICTS WATER WARS

THOMSON REUTERS FOUNDATION

Researchers are using a monitoring tool that tracks water supplies worldwide and factors in social, economic and demographic data to forecast water-related conflict.

The tool being developed by the Netherlands-based Water, Peace and Security partnership (WPS) was tested in Mali's Inner Niger Delta and successfully predicted more than three-quarters of conflicts. Many deadly conflicts begin as disputes over scarce natural resources, and the group hopes the tool will allow for early intervention and mediation.

Artificial intelligence can predict where conflicts will break out up to a year in advance and allow action to prevent them, researchers say.

"We want to detect conflict early enough ... to then engage in a dialogue process that helps to address these conflicts — ideally mitigate them early on or resolve them," said Susanne Schmeier from the IHE Delft Institute for Water Education, which leads the WPS.

The WPS said its tool is a step forward and draws on advances in remote sensing, machine learning and big data processing to provide alerts that can be acted upon. The system uses data from NASA and European Space Agency satellites that monitor water resources around the world. It then analyzes the information with data from governments, international bodies and research organizations to identify hot spots of potential conflict.

"The machine learning is able to detect patterns in the data where humans can't," said Charles Iceland of the World Resources Institute, which also is working on the system.

In tests using 2016 data from the Inner Niger Delta, the tool correctly predicted water conflicts would break out farther south in 2017 as the population grew while resources were diminished by the diversion of water to cash crops.

"The early warning system serves as a prioritization tool," Iceland said. "We can determine the hotspots — the places you have to really tackle immediately."

KENYA NAVY DELIVERS MEDICAL AID TO MOZAMBIQUE

KENYA MINISTRY OF DEFENCE

The Kenya Navy ship *Jasiri* delivered nearly 6 tons of medical supplies to Mozambique, a country that still is recovering after being hit by cyclones *Idai* and *Kenneth*.

Speaking during an event in May 2019, Kenyan Defence Cabinet Secretary Ambassador Raychelle Omamo said the two countries need to deepen their cooperation to defend against natural disasters.

"We need to improve cooperation between African countries to mitigate challenges that our respective countries may face from time to time," Omamo said. "We need strong working relations between our defense forces."

In March 2019, Kenya responded to the disaster in Mozambique by sending a team of doctors, a military disaster response unit and air support from the Kenya Air Force.

Cyclone *Idai* made landfall in Mozambique on March 14 and 15 and was the strongest cyclone recorded in the Southern Hemisphere. Cyclone *Kenneth* hit roughly the same area six weeks later. Flooding after the cyclones affected nearly 3 million people in Mozambique, Malawi and Zimbabwe. The storms knocked down homes, displaced people and destroyed crops.

Kenyan Sailors participate in an anti-piracy exercise off Manda Island.

EUROPEAN UNION NAVAL FORCE





BURKINABE INVENTOR

TURNS HARMFUL PLANTS INTO CLEAN ENERGY

UNITED NATIONS ENVIRONMENT PROGRAM

On the outskirts of Ouagadougou, Burkina Faso, Mariama Mamane sat in the dust tinkering with a blue generator. The 29-year-old environmental engineer attached a large blue square bag containing biogas to a generator with a long tube.

She was trying to kick-start the machine branded “Jacigreen” — the name of her company founded in 2016. “It will work!” she urged.

Jacigreen tackles the problem of invasive water hyacinth plants that choke the city’s water supply. Her invention cuts up water hyacinth, fermenting it into a fertilizer and compost for farmers called Jacigrow.

The byproduct of the fertilizer is a gas, which Mamane’s machine captures in blue plastic square bags and converts into electricity for families who don’t have a regular power supply.

Mamane’s fertilizer and biogas prototype is now complete. She is working with families and farmers surrounding the International Institute for Water and Environmental Engineering, where her biogas prototype is located, to test the fertilizer and biogas.

Mariama Mamane, an engineer, has developed a machine to capture gas emitted by water hyacinth and use it as a power source. UNITED NATIONS ENVIRONMENT PROGRAM

“Our aim is to provide solutions for families who do not have access to electricity and are using wood,” she said. “Biogas can reduce deforestation and the encroachment of the desert into communities.

“We also aim to reach the maximum number of farmers to reduce chemical fertilizer use, building a resilient ecosystem and healthier products for consumers,” she said.

By 2021, her vision is to reach 500 households with biogas and more than a thousand farmers with fertilizer.

“It is important to persevere when something seems impossible,” she said. “Pushing through these times helps you grow and gives you energy in your professional life. I encourage other girls and young women to push beyond their dreams, and they will achieve.”

SUDAN, ETHIOPIA DEPLOY JOINT FORCES

AGENCE FRANCE-PRESSE

Sudan and Ethiopia have signed an agreement to deploy joint forces along their border to prevent weapons smuggling and sporadic skirmishes between armed groups. The setting up of the force comes after a series of high-level talks.

Security officers from both countries regularly complain about weapons smuggling and cross-border crimes in the region. Khartoum and Addis Ababa share close diplomatic ties, but issues regarding some border areas have been a source of tension.

Sudanese farmers often accuse their Ethiopian counterparts of occupying vast agricultural lands in some areas along the Sudanese border state of Gadaref. The Sudanese farmers also allege that Ethiopian rebels are involved in cross-border crimes inside Sudan.



People walk past a checkpoint in Ethiopia next to the border with Sudan. THE ASSOCIATED PRESS

Ethiopian media, meanwhile, claim that on several occasions weapons smuggled from Sudan into Ethiopia have been caught by security forces.

NONPROFIT HELPS BLIND SOUTH SUDANESE SEE AGAIN

VOICE OF AMERICA



A U.S.-based nonprofit is helping hundreds of blind South Sudanese see again by hiring a local doctor to perform surgeries on patients in the Jonglei State capital, Bor.

Sixty-year-old Mary Ayak Thie lost her vision about three years ago. Ayak said it returned after the doctor removed cataracts from her eyes.

“Before the operation, everything was dark and I could not see, but now it is better,” she said. “I can see my food; I can go to the bathroom by myself. So I thank the doctor who has helped me see again.”

Dr. Santino Malang was hired by Partners in Compassionate Care to perform the operations in Bor.

“We have screened over 6,000 patients,” Malang said, “and we have done over 172 cataracts as we speak.

I feel good because somebody was blind and can see after the operation and is able to walk again alone by themselves.”

Unfortunately, Malang said, not all patients can have their sight restored.

“People with glaucoma, people with corneal scarring, we are not able to restore their sight,” he said. “So what happens? We just tell them we can’t do it, and we counsel them. So it is hard for them and we feel bad, but there is nothing more we can do.”

Each surgery costs about \$100, far cheaper than just about anywhere else in the world for the same operation. Partners will spend about \$50,000 to perform operations in Bor but will extend the surgeries to other areas of Jonglei if the nonprofit receives more donations, said Deng Ajak Jongkuch, executive director of the organization.

“The need for cataract surgeries is huge,” Jongkuch said, adding that a local surgeon could perform the surgery if given proper support.

A blind student reads a Braille version of the Bible in Juba, South Sudan. AFP/GETTY IMAGES

Can Nigeria's Yams Power a Nation?

BBC NEWS AT BBC.CO.UK/NEWS

Yam production in Nigeria is thriving, and the United Nations says that Nigeria produces more than 60% of the world's crop.

Despite this, Nigeria is not one of the world's top exporters. Its neighbor, Ghana, produces far less but exports more yams to European countries, including the United Kingdom, than Nigeria does.

Spotting this discrepancy, Nigeria has launched an ambitious yam export plan. It is hoped that exporting more yams will diversify Nigeria's oil-dependent economy, which has plunged into its worst recession in 25 years because of falling global oil prices over the past couple of years. The government also wants to provide

young people with jobs in agriculture.

Europe and the U.S. are the main focus of the program. The large Nigerian diaspora around the world also is a potentially big market.

Despite being a government program, the yam export initiative is driven by the private sector. The state is only responsible for striking intergovernmental agreements with importing countries, giving the green light for the trade.

So far, the high cost of preserving and transporting yams has been a problem. About 200 metric tons of yams have been exported to Europe and America since the plan was launched in mid-2018 — a fraction of the 60 million metric tons produced every year.

Botswana Mine Yields Another Giant Diamond

ADF STAFF

The second-biggest uncut diamond in history has been unearthed from a mine in Botswana. The 1,758-carat diamond is about the size of a tennis ball.

The biggest diamond ever discovered is the 3,106-carat Cullinan, found in South Africa in 1905. It was found before industrial mining began.

The Botswana diamond was discovered in the Karowe mine by workers for the Lucara Diamond Corp. Reports of the diamond raised the company's stock 11%.

The diamond, which weighs close to 352 grams, will have a limited value despite its size. It has been characterized as "near gem of variable quality, including domains of high-quality white gem."

There has been a spate of large diamond finds in the past few years, which has been attributed to new sorting machines that can process diamonds without breaking them.

Before the current process, it had been standard practice to break down any ore to 30 millimeters before putting it through the sorting machine, where its density was tested for the presence of diamonds.



LUCARA DIAMOND CORP.

Under the old process, it was possible that large diamonds were being crushed in the sorting machinery. As one mining official said, "Diamonds are incredibly hard and also very strong, but they do break."

Mining Weekly reports that since starting the new sorting process in 2015, 12 diamonds of more than 300 carats have been recovered at Karowe, including two 1,000-carat stones, from a total production of 1.4 million carats. Of the 12 diamonds that were larger than 300 carats, half were categorized as gem quality; 11 have sold to date, generating revenue of \$158 million.

Kenyan Woman Invents Farming App

VOICE OF AMERICA

Kenyan innovators are betting on digital technologies to attract young people to an agriculture industry that is dominated by an aging population.

As a young girl in central Kenya, Peninah Wanja witnessed firsthand the challenge of raising cattle without professional help. Her mother's cows produced only 2 cups of milk per day. Today, Wanja is an agricultural extension officer and has seen how gaps in information have made farmers continue to rely on trial and error in growing crops and raising livestock.

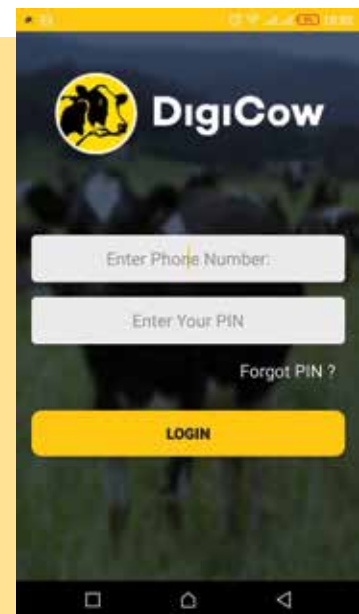
"It's a gap that I saw, because when you look at the statistics and the nature that is on the ground, our government has provided one extension officer for close to 4,000 farmers," she said. "So there is actually a need for these critical services."

Wanja came up with DigiCow, a mobile phone application that offers expert advice to farmers and lets them keep up-to-date records on their cows.

Stanley Kamau was among the early users of the app. Now, after about a year of using it, he talks of increased milk yields, healthier herds and a well-organized farm.

"They got a platform on the app, where for example, during the time for mating, you keep your records," he said. "Then you get to know when your cow will calf down."

Eighty percent of Kenya's working-age population works in agriculture, and most are small-scale farmers, according to the World Bank. DigiCow is an example of how technology can bridge the knowledge gaps in the farming sector, while at the



same time ensuring food security. It is also a way of encouraging Kenya's unemployed youth to take up farming.

To deal with issues of illiteracy, DigiCow has a voice-based service, which Wanja says has helped older farmers.



APY/GETTY IMAGES

Tanzanian Development Project Helps Commuters

WORLD BANK

Six million people call the Tanzanian city of Dar es Salaam home, making it one of the largest cities in Africa. Its growth rate of 6.5% will see the number of residents rise to more than 10 million by 2030.

Due to this rapid growth, along with an underdeveloped road network, an increase in cars and trucks, and a historic lack of efficient public transport systems, city residents must contend with serious congestion and mobility challenges.

Some residents have complained of having two-hour

commutes each day. But with the progress made under the \$300 million Dar es Salaam Metropolitan Development Project, newly paved roads have eased traffic and improved commuting times. Through collaboration with local councils, the project has improved local and feeder road networks throughout the city.

The project is funded by the Nordic Development Fund and the International Development Association, the World Bank Group's fund for the world's poorest countries. Interventions include feeder-road construction, which have reduced traffic congestion in areas that used to be directed by traffic police during peak travel hours.

"The driving principle in the road network improvement was to facilitate direct connection to all six corridors of the bus rapid transit when they are completed," said Eric Dickson of the World Bank.

Officials say that more than 70% of Dar es Salaam is not planned, which has been hindering government efforts to provide essential services such as water, electricity and roads, and the city's capacity to deal with fires and floods.

Through the project, the new roads also have been equipped with high-quality drainage systems, sidewalks and street lighting, which has improved safety and quality of life in neighborhoods.

"Making these strategic investments allows people, vehicles and goods to move through the city more efficiently and comfortably, and these improvements have a real impact on the day-to-day lives of residents and businesses," Dickson said.

Tanzania's 'Black Mamba'

ADF STAFF

In 1978 during the war between Tanzania and Uganda, Tanzanian Brig. Gen. John Walden got on his army's radio system to discuss the capabilities of the Cuban, Israeli, American and Mozambican Soldiers serving alongside his troops.

Ugandan President Idi Amin and his officers heard the broadcast and panicked. Amin contacted the United Nations and the Organisation of African Unity to complain about foreign interference in the war. And that is when Amin learned that there were no other countries working with the Tanzanians — Walden had made it all up, just to get under Amin's skin.

The simple ploy worked, and Amin had suffered a defeat on the world stage. He had fallen victim to the man now known as "Black Mamba."

Walden was born in 1939 to a white father and a black mother. After graduating from school, he joined the King's African Rifles, a British colonial regiment in East Africa. His superiors initially distrusted him, because his father was an administrator in the British government. Early in his military career, his loyalty was questioned.

When Tanzania gained independence, Walden continued his military career in the new government. He was regarded as one of the country's best marksmen but still had to deal with questions about his race. Tanzania's first president, Julius Nyerere, spoke to Walden and told the young Soldier that he would have to work harder than his peers to advance and overcome their distrust. Walden toughed it out, and in 1963 he was promoted from sergeant to second lieutenant.

He overcame any false notions about his allegiance. By the time of the Uganda-Tanzania War in 1978,



his superiors had promoted him to brigadier general. He commanded the 207th Brigade of the Tanzania People's Defence Force.

In early 1979, he was assigned to take out a garrison in the Ugandan towns of Katera and Masaka. Instead of moving his troops on established paths, he took them through a swamp, marching them single file through deep water infested with snakes and crocodiles. He lost contact with headquarters for a time because the radios wouldn't work.

The troops spent three nights in the swamp, and he was with them for the entire journey. The Soldiers painted their faces black as camouflage, and in the process Walden was named "Black Mamba" — an affectionate nickname that stuck with him the rest of his career. Walden's peers thereafter called the 207th "the Amphibious Brigade."

The swamp trek worked. Despite 1,000 heavily armed Libyan Soldiers joining the Ugandans in the fight, Walden and his troops prevailed. Lt. Col. Abdu Kisule, who led the Ugandan troops, later said that the defeat at Masaka was the true tipping point in the war.

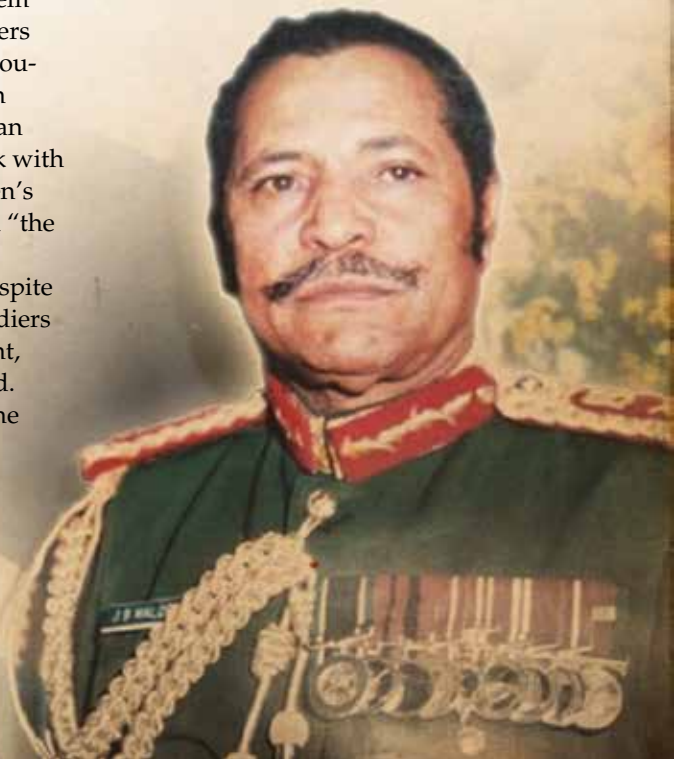
Weeks later, Tanzanian Soldiers attacked the Ugandan capital of Kampala, and Walden and

his troops captured Amin's residence. Amin fled the country, and Walden's brigade was assigned to occupy Kampala. The war was effectively over. Two years later, Walden organized the withdrawal of all Tanzanian forces from Uganda.

Walden finished his military career as a major general. One of his last assignments was in 1989 when poachers were decimating the country's elephant population. He led the large-scale Operesheni Uhai (Operation Life), targeting poachers and organized crime syndicates trafficking in ivory. He liked being with his Soldiers, and it was not unusual to see him walking in the bush, armed with his Colt .45-caliber pistol.

The operation led to the arrest of more than 2,000 people and the confiscation of 10,000 firearms. By that time, the country's elephant population had dropped by 300,000, to 55,000.

The Black Mamba retired soon after the completion of the operation. He died in 2002.



CLUES

- 1 This area covers more than 3 million hectares.
- 2 Wind, along with river and ocean currents, carried materials thousands of kilometers to form these desert dunes.
- 3 The area includes gravel plains, coastal flats, rocky hills, a coastal lagoon and ephemeral rivers.
- 4 Fog is the primary source of water here and provides an environment for insects, reptiles and mammals.



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