



AFRICA TRANSFORMING

Stories of innovation and inspiration

VOLUME 1



- **On cover:** Robotics teams from middle and high schools and universities across Africa vied for dominance at the 2017 Pan-African Robotics Competition. Over the course of a week, students built robots and devised solutions for increasing Africa's manufacturing and processing capacity of foods and goods using science and technology. An annual event since 2016 with support from the World Bank and other partners, the competition aims to encourage greater investment in science, technology, engineering, and math (STEM) education throughout the continent. *Photo: Vincent Tremeau / World Bank*

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The projects and programs highlighted in this volume are supported by the institutions of the World Bank Group, particularly the International Bank for Reconstruction and Development (IBRD), International Development Association (IDA), and International Finance Corporation (IFC).





Makhtar Diop
Vice President for Africa,
World Bank Group

■ *Opposite Page:* Students are gaining market-relevant, scientific and technical skills thanks to investments in university-based Centers of Excellence, supported by the World Bank.

Photo: Jolyon / World Bank

This is Africa's moment.

Today, more than ever, African countries are seeking out new opportunities for growth to move beyond business as usual. With a young, ambitious population, steadily growing economies, and pro-innovation investments and reforms, Africa has the people, resources, and political will to overcome challenges and drive its own transformation.

Boosting agricultural productivity, bridging the infrastructure gap, investing in human capital, and improving social inclusion are areas where we can help. While overseeing the World Bank's operations in Africa, I have seen firsthand how strategic partnerships and investments can facilitate Africa's own ambitions and solutions for a more prosperous, equitable future. Together, we are changing the narrative on Africa's development.

The stories in this volume demonstrate the energy and innovation that Africans from all walks of life are injecting into their communities to affect change and inspire others—from the young entrepreneurs who are creating whole new lines of business and employment opportunities in Africa's fast-growing digital marketplace to the frontline health care workers who are mobilizing higher quality services and outreach to the most vulnerable populations. Backed by the financial and technical support of the World Bank, they represent the best of Africa's creativity, tenacity, and resilience.

These stories are but a few of the transformations occurring across the continent. I am optimistic about prospects for new models of high and inclusive growth. With the right policies, its ability to leapfrog development hurdles, and the ingenuity of its people, Africa can defy the odds.

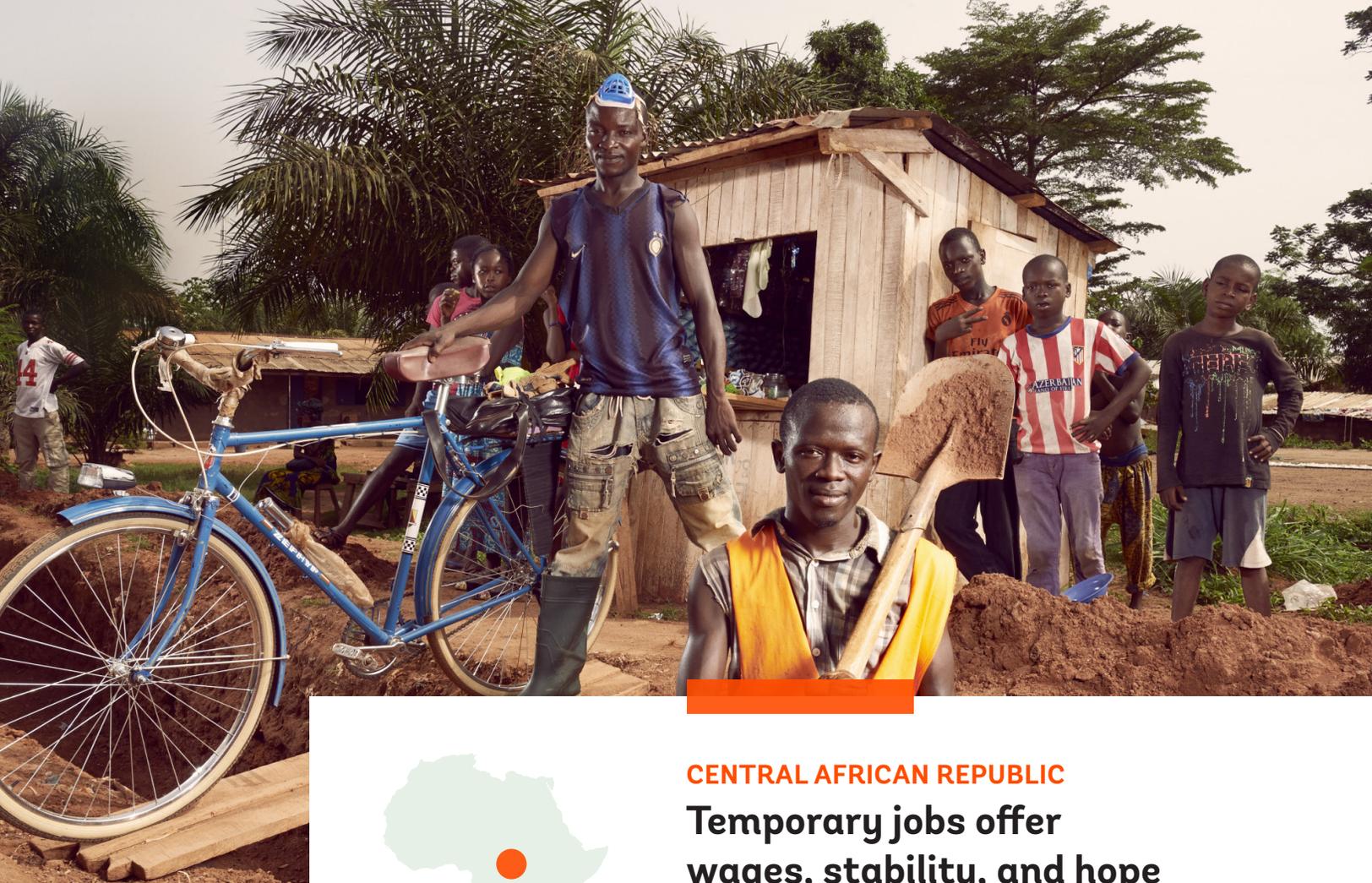




PEOPLE

- With half of Africa's population under 25 years old, 11 million young Africans are expected to join the labor market every year for the next decade. Backed by the World Bank, investments are being made to improve education, employment, and entrepreneurial opportunities across the continent.

Photo: Erick Kaglan/World Bank



CENTRAL AFRICAN REPUBLIC

Temporary jobs offer wages, stability, and hope

The LONDO project in the Central African Republic is having a transformative impact on the country, creating jobs and social cohesion where civil strife has damaged both. Over 24,000 people have been recruited to repair thousands of kilometers of roads across the country.

- LONDO is a cash-for-work program that provides temporary jobs to vulnerable people, including former combatants, across the Central African Republic.

Photo: Stephan Gladieu / World Bank

With pickaxes or shovels in hand, men and women—the young and not so young—wear bright orange construction vests and bustle along main roads and in town neighborhoods. One is filling in potholes, another is pushing a wheelbarrow, while yet another is clearing the way. Easily identifiable by the brand-new bicycles they were provided with when they landed one of these labor-intensive, public works jobs, these workers are now part of the scene in the Central African Republic (CAR).

Carried out under the LONDO project (meaning “stand up” in Sango creole) with \$20 million in IDA financing from the World Bank, these road rehabilitation works provide temporary employment to many vulnerable people, especially youth who may otherwise have been tempted to join armed groups. Spanning the entire country, LONDO is giving new hope to communities ravaged by years of conflict.

Short-term work, long-term benefits

Albert Panga is sub-prefect of Bimbo, the most densely populated suburb of Bangui, CAR’s capital. He says the project has been well received “because it created 500 jobs in my area and has had a major impact on sanitation by clearing clogged streets, cleaning drains, collecting garbage, and cleaning public places and administrative centers.”

Carine Data was hired by the project in the town of Bouar. She earns CFAF 30,000 (\$57) each month, which she uses to make ends meet. “My father is dead, so I depend on myself. I have been able to put a bit of money aside to buy a rickshaw for once my contract expires. I plan to use the remainder to enroll in an evening class to prepare for my future,” she says.

Despite holding a law degree, Bertrand Barafa Wikon was also unemployed until hired as a LONDO team leader in the Begoua neighborhood of Bangui. In addition to earning income to support his family and start his own business, Bertrand remains deeply affected by the lesson he learned while working.



Persons hired to work on the project sites represent all ethnic groups and religions. Being in each other’s company all day long has created a bond among us.

Bertrand Barafa Wikon, LONDO team leader in Begoua

“The project has created social cohesion among us, the youth. In the past we had not been accepting of each other. Persons hired to work on the project sites represent all ethnic groups and religions. Being in each other’s company all day long has created a bond among us,” he explains.

Roads to recovery

The transparency of the public lottery used to pick LONDO beneficiaries reinforces social cohesion. The project’s workers are selected by drawing lots publicly in the presence of fellow villagers.

By January 2018, about 24,500 workers (33 percent of them women) in 52 districts had been hired to maintain over 1,400 kilometers of roads. Nearly CFAF 1.4 billion (\$2.6 million) had been paid in wages. The project aims to double the number of roads it supports and employ another 10,000 people.

Collaboration between the World Bank and MINUSCA, the UN peacekeeping operation providing security in areas under the control of armed groups, has led to the start of public works in Obo in eastern CAR, where Lord’s Resistance Army fighters are still wreaking havoc. No other development project has been carried out there for 20 years.



- With perseverance, hard work, and financing, Zinabua Hailu has built up her business from a one-person food vendor operation to a 10-room hotel and restaurant in Addis Ababa.

Photo: Stephan Gladieu / World Bank



ETHIOPIA

Opening opportunities for women-owned businesses

Investment in women-owned businesses offers the highest returns available in emerging markets—with huge impact on the ground. More than 7,600 women in Ethiopia have benefited from a special line of credit for female entrepreneurs. Offering loans of \$10,000 or more, it is unlocking the capital that women need to grow their businesses.

Zinabua Hailu has a dream. She wants to build a big hotel with “stars”—one that meets international rating standards, the kind of hotel tourists might frequent.

It is not an impossible dream. In eight years, the mother of three has built her business from a one-room, one-person food vendor operation into a 10-room hotel and restaurant with a staff of 18 in the bustling Gofa neighborhood of Addis Ababa, Ethiopia’s capital.

Hailu is among more than 7,600 women in Ethiopia who have been able to tap into a \$50 million line of credit being offered to women-owned micro- and small businesses through the Development Bank of Ethiopia and selected Ethiopian microfinance institutions. It is part of the Women’s Entrepreneurship Development Project backed by the World Bank’s IDA, with additional financing from Canada, Italy, Japan, and the United Kingdom.

Finance focused on women

Hailu borrowed 800,000 birr in 2015, then worth about \$38,000, an amount that would previously have been difficult for a female entrepreneur in Ethiopia to obtain. Normally, women in Ethiopia—and other developing countries—face bigger challenges than men in starting or expanding a business. Women are less likely to own assets, such as land or a house, to be used as collateral for a loan. They often have less education than men or face discriminatory laws or customs.

Indeed, Hailu says it has been difficult to get to where she is today.

She first had to convince her husband, a civil servant, that she needed to work to help pay for their children’s education. After the birth of their third child, Hailu got a loan of about \$100, using their home as collateral. She began cooking and selling food to day laborers. Two years later, she got a bigger loan and opened a restaurant. After five years of faithful loan repayments, she qualified for the larger loan and opened her current business.



Women are becoming very much empowered and involved in business. It is a must to get involved in economic development.

Zinabua Hailu, hotel owner in Addis Ababa

“Women are becoming very much empowered and involved in business,” says Hailu. “It is a must to get involved in economic development.”

Almost 100 percent repayment rate

Between January 2014 and October 2017, the project disbursed 1.8 billion birr (or \$66 million before the 15 percent devaluation of the birr in October 2017) at a rate of about \$2 million per month to 7,640 women entrepreneurs. The average individual loan size was 240,000 birr (then nearly \$11,000). The project also provided entrepreneurship training to over 10,000 women. About 63 percent of borrowers had never had a loan before; however, the repayment rate was nearly 100 percent.

Yet, an estimated 70 percent of small and medium businesses owned by women in developing countries cannot get enough financing to grow. Financing needs are estimated at some \$285 billion.

World Bank economists, Francesco Strobbe and Salman Alibhai, say that investments in women-owned businesses offer one of the “highest return opportunities available in emerging markets.” In their paper, “Financing Women Entrepreneurs in Ethiopia” (2015), they say women entrepreneurs also tend to hire fellow women, among whom unemployment is more common, thus reducing unemployment overall.



■ Business concepts accepted to the KBI program span the spectrum, from clothing manufacturers to geo-mapping services, to software and app developers.

Photo: Dasan Bobo / World Bank



GHANA

Incubator nurtures young entrepreneurs

Absorbing university graduates into jobs is a challenge for many African economies. The Kumasi Business Incubator at the Kwame Nkrumah University of Science and Technology is helping would-be entrepreneurs turn innovative ideas into viable businesses. Among the first is a business selling handwoven sashes in signature designs to domestic and U.S. markets.

There was a time when kente was a sacred cloth worn only by Akan royalty in the Ashanti Kingdom of Ghana. Now, almost four centuries since its origin, kente has made its way into mainstream products that anyone can wear and has become an important export for Ghana.

Peter Paul Akanko, founder and CEO of Kente Master, LLC, saw the beauty in the fabric but also a gap in the market. Young people were not buying the kente products available. A business idea was born.

"I make products which the youth of today can identify with," says Akanko. "We make ties, flip flops, shoes, school bags... we also make stoles for graduations." With a web platform, Kente Master has gone global, selling stoles to graduates of the University of Pennsylvania, Dartmouth, and Carnegie Mellon in the U.S., as well as schools and organizations across Ghana.

Launch pad for success

In just a few short years, Akanko has been able to take Kente Master from vision to viability thanks to the Kumasi Business Incubator (KBI), a year-long entrepreneurial support program of the Kwame Nkrumah University of Science and Technology (KNUST).

Open to KNUST students in their final year and to the larger Kumasi community, KBI nurtures innovation in the information and communication technology (ICT) sector through specialized training, tools, and mentorship. Entrepreneurs focus on business planning, market research and strategies, and other capacity building.

The business concepts accepted by the rigorous KBI program for development must demonstrate innovation and the potential for sustainability. They span the spectrum—from kente graduation stoles to geo-mapping services, to software and app developers, to multimedia producers and IT consultants.

"All of these businesses would have been lost if we didn't have something like this," believes Samuel Yaw Akomea, head of the Centre for Business Development at KNUST, which operates the KBI program.



It's like a dream come true for me, to have access to some resources to make me be able to grow my business.

Peter Paul Akanko, founder and CEO of Kente Master

"We saw signs of unemployment in the country and we realized that very soon university students would face unemployment problems," says Akomea. "Students had been asking about any support they could get to start their own business, and we decided it was a good opportunity."

ICT for inclusive growth

With funding from the World Bank's eGhana Project, and technical assistance from the National Board of Small-Scale Investors and other private investors, the university launched the incubator in 2014. It aligns with the Ghanaian government's emphasis on using ICT to promote inclusive growth, develop a skilled and competitive workforce, and create jobs and businesses in new and unconventional ways.

For entrepreneurs like Akanko, the KBI experience has been life-changing.

"It's like a dream come true for me, to have access to some resources to make me be able to grow my business," says Akanko, whose online success has inspired him to open an offline store. "I want to see how far I can go. The market for our products is very huge and Kente Master has the potential of becoming a multi-million-dollar business within the next five to ten years, economically empowering and transforming the weaving villages in Ghana."



MADAGASCAR

Haova, nutrition agent and mother to 619 children

High rates of childhood stunting—low growth caused by malnutrition—have a negative impact on a nation’s social wellbeing and economic future. Community nutrition agents in Madagascar are at the forefront of tackling it.

- Haova Rasoanandriana keeps a close eye on her young patients, checking their weight gain regularly.
Photo: Diana Styvanley / World Bank

Haova Rasoanandriana follows the nutritional health of children in remote zones of Madagascar devastated by drought. She knows all the children and mothers in the rural commune of Behara where she lives. She has taken care of most of them.

Rasoanandriana has been a community nutrition agent for 14 years. These days, she monitors children under the age of five in four villages. She checks their weight gain, accompanies them to the health center, and teaches mothers how to diversify their children's diet to help them grow strong.

"I want to help the mothers in my village take care of their children. They listen to me because I, too, am a mother. For me, being a nutrition agent is an occupation, a vocation, but also a way to take care of the community that welcomed me when I was still a teenager and married to one of their members," says Rasoanandriana.

Drought, poor harvests, food insecurity

The number of children that Rasoanandriana monitors doubled in one year, from 278 children in 2016 to 619 in 2017. Her main center of operation is the Ankiririke nutrition site in Amboasary district, which she mobilized the entire community to build. It is one of 338 sites supported by the Social Safety Nets Project, which is helping communities cope with the impacts of severe drought in the south of Madagascar. It is backed by \$40 million in IDA financing from the World Bank.

Drought conditions, which have persisted since 2013, have led to drastically reduced harvests and left over a million people struggling with food insecurity. Some 35,000 children under the age of five are moderately malnourished, while another 12,000 suffer from severe acute malnutrition.



Each child becomes my own child... My greatest reward is to see a child get well and start to laugh and play again.

Haova Rasoanandriana, community nutrition agent in Behara

Malnutrition is a challenge across Madagascar, which has the fourth highest chronic malnutrition rate in the world. The consequences of early childhood malnutrition persist into adulthood, affecting the future of the entire country. In Madagascar, the estimated annual cost of malnutrition is between 7 and 12 percent of GDP.

Compassion and hope

Every month, Rasoanandriana and her team spot cases of malnourished children at the Ankiririke site and transfer them to the closest basic health center seven kilometers away.

"I accompany the mother and the child, and we go on foot under a blazing sun to the South Amboasary center. We are hungry, but we are mostly scared for the child. It is one of the hardest aspects of my job," Rasoanandriana says.

Suffering from severe acute malnutrition, three-year-old Kasy Sambetoke was transferred to the health center. Today, she is recovering steadily but continues to take a nutritional supplement. Rasoanandriana goes to see her regularly at home to check on her condition.

"I know all 619 children by name. Each child becomes my own child," says Rasoanandriana. "I suffer with them and am very happy to be in a position to at least give a little hope thanks to the existence of this site, to assure them that they are not alone. My greatest reward is to see a child get well and start to laugh and play again."



MALAWI

Modernizing higher education for economic growth

Countries need skilled workforces to transform them. To equip people with the skills needed to expand its economy, Malawi is investing in public universities and making them more accessible.

- Students at Chancellor College in Zomba work in a laboratory equipped by the Skills Development Project.
Photo: ICT Centre, Chancellor College

Malawi has fewer affordable universities than it has students who want to go to them, leaving college out of reach for many. Enrollment in tertiary education is low, but more and more Malawians hunger for it. With IDA financing from the World Bank, Malawian citizens now have more options.

The five-year, \$51 million Skills Development Project is helping public universities to strengthen and increase public access to programs that cater to sectors critical to Malawi's economic growth. These include engineering, natural resources extraction, agriculture, construction, health services, tourism, and hospitality.

Beyond the establishment of the National Council for Higher Education, project funding supports a range of activities at institutions, including improving course offerings and staff skills, renovating infrastructure, and setting up satellite facilities.

Market-relevant course offerings

To expand the range of scientific skills and mid-level technicians needed to fuel Malawi's economy, 39 new programs have been developed by universities, with the participation of the private sector ensuring their relevance to the economy. By 2017, these programs contributed 44 percent of the new student intake to public universities.

Diploma programs at universities have also been bolstered to increase the training of mid-level career personnel needed by various trades. For example, the University of Malawi's Polytechnic now offers 10 technician-level engineering diploma programs in subjects like mining, telecommunications, and health. By 2019, these programs are expected to have enrolled 750 diploma students.

Modernized facilities

One of the major constraints to increasing student enrollment at public universities has been space. At Chancellor College, where most of Malawi's secondary school science teachers are trained, more and better infrastructure is expected to make it possible to boost student intake by 65 percent. This includes modernized laboratories and four new lecture halls seating 350 students each.



I enrolled through ODL because of its flexibility. I continue with my everyday life and yet I am studying at the same time. This is wonderful.

Joe Mwenye, teacher in Ngabu in Chikwawa district and online student

This will go a long way toward meeting an increase in the demand for science teachers, following the introduction of physics and chemistry as separate subjects in the secondary school curriculum.

Mzuzu University is heading to be the country's center of excellence in tourism training. It is constructing a purpose-built tourism and hospitality facility that will produce graduates who are industry-ready.

Online and distance learning

The Lilongwe University of Agriculture and Natural Resources (LUANAR) and Mzuzu have introduced online and distance learning (ODL), resulting in increased enrollment at both. At LUANAR, online students make up 10 percent of the total student population. Between 2014 and 2016, Mzuzu increased its intake of online students tenfold. With more affordable fees and flexible options, the ODL system has helped to open access to higher education for many people nationwide.

"I enrolled through ODL because of its flexibility. I continue with my everyday life and yet I am studying at the same time. This is wonderful," says 45-year-old Joe Mwenye, a father of five and a teacher in Ngabu in Chikwawa district. He is studying at LUANAR for a Bachelor of Science in Agricultural Extension.

LUANAR has three ODL centers: one in the town of Mzuzu, another in Lilongwe, and another in Blantyre. Mzuzu University is opening satellite centers in Balaka, Karonga, Mulanje, and Lilongwe.



MALI

Entrepreneurship competition calls diaspora home

Given the chance, many Africans living in the diaspora want to play some role in investment back home. A reality show producer decided to link Malians abroad with business opportunities in Mali. His televised competition has attracted entrepreneurial ideas that have created jobs and secured loans and advice.

- The International Bank for Mali granted \$800,000 in loans to the winners of the first round of the Diaspora Entrepreneurship reality television competition.

Photo: Diaspora Sud Vision

The Malian diaspora numbers 4 to 6 million people, and many in it have benefited from education and experiences that could be put to good use developing high-potential businesses back home. But starting and running a business in Mali is not easy.

That is why Pape Wane, a Malian reality television producer, decided to partner with local business incubators and launch the Diaspora Entrepreneurship competition. It identifies, promotes, and supports members of the diaspora who could seize business opportunities in Mali, but it also understands the unique challenges of the local business environment.

Aissata Diakit , winner of the first round of the competition in 2016, says it "has been a fantastic opportunity to officially launch my startup in Mali. The diaspora can be a potent force for Africa's development. It should invest more in promising sectors."

Diakit 's company, Zabbaan Holding, produces and sells fruit juices made with traditional Malian recipes, and has already generated hundreds of direct and indirect jobs and created a market for many producers.

Worldwide call for proposals

In 2017, Diaspora Entrepreneurship launched a second call for proposals and brought together a panel of experts to select the best. The World Bank supported the initiative by coaching the jury. "The support the Bank provided was instrumental for maximizing the talent among our pool of finalists, and in lending credibility to our initiative," says Wane.

Out of 153 candidates, 10 were invited to the finals held in the Malian capital of Bamako. Taking its cue from reality television, the competition was televised in a five-part series on Mali's national broadcasting channel, reaching millions of viewers and resonating with Mali's youth.

Samasse Traor , founder and director of B tir Durable, won the top prize. His start-up has the potential to help



The diaspora can be a potent force for Africa's development. It should invest more in promising sectors.

Aissata Diakit , founder of Zabbaan Holding and winner of Diaspora Entrepreneurship 2016

Maliens gain access to property and to improve the Malian government's ability to build new schools, health centers, and other public infrastructure.

"Once our operations start, we could reduce the cost of all kinds of construction in Mali by as much as 20 to 40 percent, using local, sustainable materials that are conveniently sourced and environmentally friendly," says Traor .

Financial support and coaching

Given the potential of these entrepreneurs, Hassan Ouastani, Director of the International Bank for Mali, one of the competition's strategic partners, provided more than \$800,000 in credit to six of the 2016 finalists, and intends to finance the 2017 winners with up to \$1.5 million.

"To generate the kind of sustainable growth these projects need, entrepreneurs must be coached, accompanied, and monitored if they are to avoid the many pitfalls," says Ouastani, who calls himself a "citizen" banker. "It's all the more essential that they adapt to the reality on the ground in Mali."

The World Bank will also finance a nine-month technical support program to be implemented by a consortium of three business incubators based in Bamako—DoniLab, Jokkolabs, and Teteliso. It will support market research, legal arrangements, and other aspects of doing business that need to be taken into consideration.



REPUBLIC OF CONGO

Investing in human capital with skills training

People everywhere need service providers like mechanics, tailors, bakers, and electricians. A project in the Republic of Congo trains young people from disadvantaged backgrounds in vocational skills and business management to help them get work and earn a living.

- In Ouengé, the fifth arrondissement in Brazzaville, young Congolese men and women are apprenticing at an automotive shop to learn the trade.

*Photo: Désiré Loutson/
World Bank*

Calm and focused, with the grinding wheel held tight, Mercia Koubakatikou cuts the piece of metal she is steadying with her left foot, sending sparks flying into the air around her. Not entirely sure why, this young 21-year-old Congolese woman has always wanted to become a welder.

The Skills Development for Employability Project (SDEP), financed jointly by the Republic of Congo (ROC) and the World Bank, gave Koubakatikou and four other young men and women the opportunity for training in a welding shop in Makélékélé, the first arrondissement in the ROC's capital of Brazzaville. After 10 months, she does not regret her choice and encourages other young women her age to join her.

"In life, there are no professions reserved especially for men. Anything a man can do, a woman can do as well," says Koubakatikou.

In Ouengé, the fifth arrondissement in Brazzaville, Jonathan Bouanga and nine other young Congolese are apprenticing at an automotive shop. This 17-year-old is combining his passion for computers, which he previously used for entertainment, with a profession often considered "dirty" and fit only for those who failed in school.

"Automotive services are not what they used to be," Bouanga affirms. "These days, many trades have modernized, and it is up to us to catch up by developing our skills."

Vocational training

These young people, all from disadvantaged backgrounds, are among the nearly 1,500 who have received vocational training under the SDEP. They are heading down different career paths, but they all share the same dream of becoming skilled workers in growth sectors so they can enter the labor market and earn an income for themselves.



These days, many trades have modernized, and it is up to us to catch up by developing our skills.

Jonathan Bouanga, 17-year-old apprentice auto mechanic

Since 2014, the SDEP has worked to help vulnerable youth living in urban environments acquire or strengthen job or entrepreneurial skills. Within five years, it expects to train 15,000 people in Brazzaville and in Pointe-Noire, a port city on the Atlantic coast, in various occupations, such as sewing, baking, tile laying, home help, electrical, and carpentry.

Business management too

The project also aims to build the management capacities of young micro-entrepreneurs aged 18 to 39. Charlyse Mouyabi is one of the 80 people trained so far. Three years ago, in a garage in Ngoyo in Pointe-Noire's sixth arrondissement, 36-year-old Mouyabi started her artisanal soap micro-enterprise. Each week, this small company produces around 200 bars of soap, which Mouyabi personally delivers to her customers.

"My dream is to have a real, international-caliber soap factory. I hope my perseverance will pay off," she says. "What has changed for me since I was trained is that I now do my own accounting. That's something I didn't do before."

With \$10 million in IDA funding from the World Bank, the SDEP offers a second chance to vulnerable young people who left school too early, by giving them the opportunity to acquire marketable skills and be competitive. By investing in human capital, the government aims to empower a workforce capable of contributing to national growth and development.



TOGO

Personal initiative training for new mindset, increased profits

New and effective, psychology-based training has outperformed traditional business training modules. Tried and tested in Togo, a program encouraging people to take more personal initiative led to a greater boost in profits for microentrepreneurs, particularly women, than more established training programs.

- Shopkeeper Akouélé Ekoué Hettah adds her own personal touches to the wedding dresses she buys from suppliers. “We need innovative products, creative ideas. We need extra special items to appeal to our customers,” she says.

Photo: Erick Kaglan / World Bank

Akouélé Ekoué Hettah, who runs a small shop that rents out wedding dresses in Togo, was not happy. She had attended a microfinance organization's traditional business training session and a marketing training session, but still her business was not growing. Then Hettah participated in personal initiative training designed to build self-starting, future-oriented, persistent behavior and develop "an entrepreneurial mindset."

"This enabled me to define a goal and draft a plan to rebuild and broaden my business, so that on top of renting out wedding dresses, I could sell dresses, jackets, shirts, gowns, and evening outfits," she says.

Today, Hettah is the picture of a successful entrepreneur. Her formal wear and accessories company, Ameyayra, has shops in both Togo and Benin, with another planned in Ghana.

A different approach

Studies show that, while traditional business training covers core business practices, it does not often increase the profit of small businesses in developing countries, particularly those owned by women.

The World Bank Group decided to try something different. It teamed up with psychologist Michael Frese to try out personal initiative training in a randomized controlled trial with small businesses in Lomé, Togo. The study compared the impact of psychology-based personal initiative training to Business Edge training run by the World Bank's IFC. A control group received no training.

Personal initiative training teaches a proactive approach to entrepreneurship. Participants learn to look for ways to distinguish their business from others, as well as how to anticipate problems and overcome setbacks, foster better planning skills for opportunities, and do other, long-term preparation.

Habibou Ouro-Djobo, a civil engineer and sub-contractor, also took part in the course. He observes, "Other business training focused merely on the concepts and principles of entrepreneurship. It was more theory

“ Other business training focused merely on the concepts and principles of entrepreneurship... This was a more dynamic course, helping us to become engaged by using personal development techniques.

Habibou Ouro-Djobo, civil engineer and sub-contractor

than practical knowledge. This was a more dynamic course, helping us to become engaged by using personal development techniques.”

More income, more ambition

After carrying out the training, researchers conducted four follow-up surveys over a two-year period. Entrepreneurs who had done personal initiative training saw profits rise by an average of 30 percent relative to the control group. Business Edge participants had an 11 percent average increase against the control group.

Personal initiative training had even more of an impact on female entrepreneurs. They saw their profits increase by 40 percent compared to a 5 percent increase in profits for women who had traditional business training.

Entrepreneurs who did personal initiative training also introduced more innovative products into their line of business than those who took part in the Business Edge training. They borrowed more and employed more workers.

The results of personal initiative training in Togo have encouraged other programs to try it in Mozambique, Mauritania, Ethiopia, Jamaica, and Mexico. The study is making a strong case for the role of psychology in influencing how small business training programs can be better taught.



- A girl is less likely to complete her secondary education in rural Zambia than a boy.

Photo: Jean Madela



ZAMBIA

Unlocking women's learning and earning potential

Investing in the human capital of women is good for society. Educated women are more likely to work in the formal sector, marry later, have fewer children, and look after them well. A project in rural Zambia is supporting girls through secondary school and training working-age women in life skills and business acumen.

Eunice Sichone is among the 600 girls who returned to secondary school in Gwembe district in Zambia's Southern Province in 2017. She is happy to be back in class. Sichone wants to become a nurse and is motivated to work hard to help her family out of poverty.

Sichone and the others are benefiting from the Keeping Girls in School bursary, a key component of the Girls' Education and Women's Empowerment and Livelihoods (GEWEL) project. It aims to help some 14,000 adolescent girls complete their secondary education and another 75,000 women living in rural areas of Zambia take up economically productive activities.

With \$65 million in IDA financing from the World Bank, GEWEL is supporting Zambian government efforts to achieve inclusive growth by addressing the dual challenges of poverty and gender inequality. Compared to males, Zambian females are more likely to leave school during adolescence and are more likely to farm at subsistence levels—both strongly correlated with low earnings.

Changing this reality would have a transformative impact on not only girls and women but also on their families, and on Zambia's efforts to build human capital and boost long-term economic growth.

Encouraging continued education

For Sichone's father, the support is well-timed: he had no means to pay school tuition after losing his business. "The bursary is very helpful for us struggling parents because it helps us pay the school's fees. Without this help my daughter would have not managed to stay in school," he says. His wife recently left him, adding to his sorrows.

The cost of secondary education is prohibitive for Zambia's poorest families, hindering attendance. Primary education is tuition-free, but secondary school requires not only passing a national exam but paying for school as well.

Between 2002 and 2010, most of the girls who dropped out of school said it was for lack of financial support, according to Zambia's Living Condition Monitoring Survey (2010).



The bursary is very helpful for us struggling parents because it helps pay the school's fees. Without this help, my daughter would have not managed to stay in school.

Father of 14-year-old Eunice Sichone, Gwembe District

Minister of Gender, Victoria Kalima, points to compelling evidence on the benefits of staying in school longer. "Research shows that better educated women tend to be healthier, to participate more in the formal labor market, earn more, give birth to fewer children, marry at a later age, and provide better health care and education to their own children," she says.

From subsistence to sustainable livelihoods

GEWEL also empowers women, aged 19 to 64 and mostly mothers, with basic business training and life skills that can help them turn piecemeal work into viable microenterprises and reduce their poverty levels.

The Supporting Women's Livelihoods program combines "life skills and simple business skills training, productivity grants, access to savings, and mentoring and peer support," says Minister of Community Development and Social Services, Emmerine Kabanshi.

In the first year of implementation, GEWEL reached over 21,000 extremely poor girls and women. By 2020, the project aims to scale up to almost 100,000 girls and women in half of the districts nationwide.



AFRICA REGION

Accelerating Africa's digital start-ups

Africa has room for many more digital start-ups. In African countries where they are being developed, they are already delivering services, making money, and providing jobs. XL Africa aims to accelerate their growth. More than 900 businesses applied for the program; only 20 companies from eight countries were chosen.

- XL Africa 2017 culminated in a two-week residency in Cape Town, South Africa, where entrepreneurs pitched their business concepts to investors following mentoring on getting investment-ready.

Photo: Jacque Maritz / World Bank

Chika Uwazie, 29, is the dynamic and successful founder of a company providing payroll solutions to Nigerian businesses. She is one of 20 top African digital start-ups supported by the World Bank Group's InfoDev Program through its XL Africa acceleration program.

A pan-African pilot program, XL Africa was launched in 2017 to scale up high-growth, digital start-ups that are simultaneously providing services, generating revenue, and creating employment. The program aims to help businesses attract capital of between \$250,000 and \$1.5 million.

Access to mentors and investors

XL Africa 2017 culminated in a two-week residency in Cape Town, South Africa, where entrepreneurs pitched their business concepts to investors after receiving intense mentorship and support on getting investment-ready. From eight different countries, XL Africa entrepreneurs provide services, including solar energy, event planning, printing, and agricultural data via drones.

According to Uwazie, "Being here, pitching to investors has been very helpful. I could never have got this exposure. It's hard to be in a room full of investors interested in investing in Africa. But what we need are people who will help us open doors, mentors who understand how Nigeria works."

Uwazie found it helpful to spend time with her peers, Africa's crème de la crème of start-ups. They went through a rigorous selection process from over 900 applicants to be chosen for the XL Africa program.

She created her company, TalentBase, whose motto is "bringing payroll online across Africa," after working in human resources for 10 years, and says providing a software solution in this sector was a natural progression. Next, Uwazie plans to take TalentBase to countries such as Kenya and Ghana.



Being here, pitching to investors has been very helpful. I could never have got this exposure.

Chika Uwazie, Founder of TalentBase

Continuing support for start-ups

Paul Nomba Um, World Bank Country Director for Southern Africa, also attended XL Africa in Cape Town and was excited by what he saw. "These are companies that are already running and solving problems in Africa and helping consumers and businesses to be more efficient. It's great to see the World Bank Group develop a platform such as XL Africa, but we need to continue building national and regional ecosystems to multiply these successes," he says.

Down the hall from the young entrepreneurs' pitch session, policymakers, donors, and investors exchanged ideas on what is needed to scale up high-growth start-ups like the ones in the XL Africa program.

Parminder Vir, the CEO of the Tony Elumelu Foundation, emphasized the important role governments play in creating enabling environments for entrepreneurs. She also highlighted the need for investors to become mentors to start-ups to learn about their day-to-day reality. This would enable investors to empathize with the entrepreneurs, while bringing their business acumen to the creativity on offer. She urged investors to "take a risk and invest in Africa's talent."

Hugues Vincent-Genod of Investisseurs & Partenaires, an investment group with 50 years of experience in West Africa, said its challenge was working with entrepreneurs who were not investment-ready. He stressed the importance of providing seed finance, as well as the critical role donors play in de-risking investment in the early stages of technology start-ups.





RESOURCES

- Africa has the resources to feed its growing population expected to reach 2.8 billion people by 2060. Supported by the World Bank, investments in agriculture are improving productivity, including innovative land use developments like these hillside agricultural terraces in Rwanda.

Photo: Rogers Kayihura/World Bank



■ Farmers in Huambo province show off the fruits (and vegetables) of their labors.

Photo: Maria Mboono Nghidinwa / World Bank



ANGOLA

Field schools teach farmers their true value

In oil-rich African countries like Angola, a high percentage of the workforce still depends on agriculture for their livelihoods. Smallholder agriculture is also key to food security. Training is helping smallholder farmers expand crop yields and price them correctly for profit.

Barnabe Chico Saguale is the president of a farmers' field school in Bie, a province that lies at the very center of Angola. He says he has learned a great deal from his field school, which was sponsored by the Market Oriented Smallholder Agriculture Development Project (MOSAP).

Saguale says farmers like him have learned to put a value to the time and effort spent on growing their crops even before taking their produce to market. Prior to the field school, they had not factored in the time they spent working on their fields, preparing their land, planting seeds, harvesting, weeding, and maintaining their crops with fertilizer.

Being able to calculate the cost of the entire crop production process has helped farmers to sell their produce at a profit and sustain their production cycle. They can confidently stick to their pricing when clients try to beat them down.

Over half of participants are women

Although men have dominated leadership positions in Angola's farmers' field schools, 56 percent of the school participants have been women. On an individual level, their lives have improved dramatically.

"I am a single mother, but I now have my own house that I built with my own money that I earned from my produce," says Lina Balanda, a member of a field school in Huambo province.

A dynamic and energetic woman, she would like to be the first woman from the project to buy a motorbike and drive it herself. Motorbikes are common in Angola, but rarely driven by women. Balanda is eager to show the world that women in rural Angola are also working their way out of poverty.



I am a single mother, but I now have my own house that I built with my own money that I earned from my produce.

Lina Balanda, member of a field school in Huambo province

50,000 smallholder farmers trained

Angola is a resource-rich country, its economic growth affected only by the legacy of civil war and the unequal exploitation of its natural mineral wealth. Agriculture contributes, on average, only 5.5 percent to its GDP, but almost half (44 percent) of Angola's employed work in the sector. About 80 percent of the country's farmers are smallholders.

Backed by \$30 million from the World Bank's IDA, MOSAP gave farmers in the provinces of Bie, Huambo, and Malanje training and new technologies for their organizational and marketing skills, and access to extension services and agricultural inputs. It also helped to strengthen the farmers' organizations.

The project aligned with Angola's Poverty Reduction Strategy on food security and the revitalization of the rural economy. By the time it closed in March 2016, some 725 farmers' field schools had been created and over 50,000 smallholder farmers trained to boost their production and sales of crops like potatoes, maize, and beans.

In 2017, the Smallholder Agriculture Development and Commercialization Project was launched in Bie Province to expand support to farmers with \$70 million in World Bank financing. This project also aims to strengthen the Ministry of Agriculture's capacity for statistics, policy analysis, market information, irrigation development, and agricultural extension.



■ For Antoine Loana, rearing sheep is a source of income and pride.

*Photo: Kochikpa Abdou
Raman Olodo / World Bank*



BENIN

Diversifying incomes to decrease wildlife poaching

Population pressure—and the growing demand for food—threaten the survival of Africa’s unique wildlife. Conservationists in Benin have found ways of helping communities living close to nature reserves leave poaching behind to earn money from raising livestock.

In Batia, the last village before the entrance to the Pendjari National Park in northern Benin, shepherd Antoine Loana proudly shows off his flock of sheep. Two years ago, a CFAF 1.2 million (\$2,250) grant from the Support to Protected Areas Management Project (PAGAP) allowed Loana to develop and expand his livestock activities.

He was able to build a sheep pen, adopt new grazing techniques, and receive training in raising and caring for the animals. In two years, his flock increased from 17 to 80 sheep, boosting his sales and income.

“In 2016, I earned CFAF 249,500 (roughly \$470) from the sale of 13 sheep. The following year I sold 17 sheep for CFAF 310,000, and I still have 56 in my pen. Today, sheep rearing has become my main activity and I spend all day with my animals in the pasture,” he says.

Loana is no longer tempted to poach in the Pendjari National Park, as he did before, to supplement his monthly income. Thanks to the stability of his income from sheep, he can take better care of his children, who are pursuing their secondary education.

“My success encourages many people to get involved in this activity. I now take care of my own sheep and those of other farmers in the village. I train them, and I have become a kind of veterinarian,” he explains.

New income-generating activities

The funding Loana received is part of the income-generating initiative introduced by the PAGAP in 2011 to benefit communities living near national parks. The project seeks to combat poaching and reduce the pressure exerted by human activity on the biosphere by promoting alternative sources of income for adjacent communities.

From an overall amount of CFAF 4.8 billion (\$8.9 million), the project has already disbursed more than CFAF 247 million to finance 66 community-driven micro-projects near the Pendjari and W Parks. More than 1,000 micro-project proposals were received from community groups



Income-generating activities have undoubtedly reduced pressures on the park. Today, whenever you are in contact with our wildlife, you get the sense that a certain serenity has returned.

Boukari Warakpe, General Director of the National Center for Wildlife Management

for the second round of funding. The project team examined the feasibility of 510 proposals selected for the Pendjari Park and 659 others for the W Park, ultimately approving 39 and 49 micro-projects, respectively.

Peace in the park

Experiences like Loana's are now being replicated elsewhere. Villagers in Chafarga have created the Tibassiti Yain group of honey producers, and the village of Tchanwassaga has started the Tossoma cooperative of market gardeners.

Pendjari's park authorities have also seen a marked decline in poaching and other environmental degradation. On many trails in the reserve, warthogs, elephants, sable antelopes, and Buffon's kobs observe visitors unperturbed. It would have been impossible to see the animals so close to the park roads five years ago.

According to Boukari Warakpe, General Director of Benin's National Center for Wildlife Management, “Income-generating activities have undoubtedly reduced pressures on the park. Today, whenever you are in contact with our wildlife, you get the sense that a certain serenity has returned. Trust has been restored between wildlife and humans.”



CHAD

Refugees regain self-reliance through agricultural activities

For as long as there are borders, there will be refugees, and countries accommodating them. In Chad, refugees, returnees, and hosts alike are building better lives through agricultural markets. Farmers benefit from seed distributions, and livestock keepers receive much-needed cattle feed.

■ Daniel Debah, President of Seed Producers, an association certified by Chad's National Office for Rural Development, maintains his peanut crop with his wife.

Photo: Edmond Dingamhoudou / World Bank

In Gondjé, a large refugee camp in the forest not far from Goré in Chad, Daniel Debah has made a name for himself as the president of Seed Producers, an association certified by the National Office for Rural Development.

"I produced all these crops using the seeds that the project distributed to us. I started out with only a few plots of land and, now, look at all this land!" he gushes with pride. "I can now sell my seeds and feed my family, all thanks to my crops."

Crisis support to rebuild lives

In 2013, some 600 kilometers south of Chad's capital, N'Djamena, Goré experienced a major influx of both refugees and returnees (originally from Chad) fleeing the violence that rocked the neighboring Central African Republic (CAR).

Several years after being settled here, the Emergency Food and Livestock Crisis Response Project is helping nearly 70,000 people in the process of rebuilding their lives. Financed by the World Bank with \$18 million in IDA funds and implemented by the World Food Program and the Food and Agriculture Organization (FAO), the project is giving refugees the means to resume their livelihoods in agriculture and livestock.

Debah is one of countless refugees who sell their crop at the large market outside the Amboko refugee camp. Others, like Maxime Nodjindo, are investing in cassava. He supplies cassava cuttings to the demonstration plot in Gondjé refugee camp, which is funded by the project to teach farming techniques. This activity guarantees "a steady income," he says.

Both refugees and hosts benefit

Both refugees and their host populations are benefiting from the project. In 12 villages, two sites for returnees, and three refugee camps, upwards of 1,500 households have received groundnut seeds, while another 750 were provided with sorghum and millet seeds, according to a project appraisal.



I produced all these crops using the seeds that the project distributed to us. I started out with only a few plots of land, and now, look at all this land! I can now sell my seeds and feed my family, all thanks to my crops.

Daniel Debah, President of Seed Producers of the Gondjé refugee camp

Over 173,600 head of cattle, owned by some 2,500 livestock producers, have received vaccinations, care, and anti-parasitic treatment from Goré's livestock sector. Approximately 500 metric tons of cattle cake and bran were distributed to help refugees meet the emergency needs of their herds.

Nowhere is the success of the effort to get refugees involved in local agriculture more apparent than in the opening of an agricultural inputs store in the heart of the Amboko market, where all the locally-grown seed varieties are sold. Chad's National Bureau of Seeds and National Agricultural Research Institute for Development provide technical support to the store. It has been so successful that, when the need arises, the FAO purchases seeds there for redistribution to various communities.

Adama Coulibaly, World Bank Resident Representative for Chad, applauds "the hospitality of the host populations who facilitated the successful execution of the project." This emergency operation is an appropriate tool for the local humanitarian crisis, he says, bringing speedy assistance to the most vulnerable and hardest hit, while helping Chad embrace the plight of CAR's refugees.



CÔTE D'IVOIRE

Reviving key agricultural sectors

Agriculture is critical to the future of most African economies. In Côte d'Ivoire, key commercial crops, such as cocoa and palm oil, are being revived with better seeds and technical training. Repairs to feeder roads are making it easier for transporters to move produce to markets.

- With PSAC support, André Yapi Api plans to expand her palm plantation.

Photo: World Bank

Côte d'Ivoire's long civil war (2002–2011) hindered growth in all its economic sectors and drove up poverty rates. The country's government is now reviving those agricultural sectors that have good commercial potential on both domestic and international markets, including cocoa, palm oil, rubber, cotton, and cashew nuts.

With \$50 million in IDA financing from the World Bank, the Agriculture Sector Support Project (PSAC) is providing better seeds and fertilizers, production equipment, training, and improving access to markets through the rehabilitation of nearly 3,700 kilometers of rural roads. Some 157,000 smallholder farmers in the most productive regions of the country have benefited.

Here are some of their stories.

Vincent Kouakou Koffi

After failing to obtain his baccalaureate, Vincent Kouakou Koffi returned to his village of Pascalkro in southwest Côte d'Ivoire to establish a cocoa plantation, an initiative his father supported by giving him a plot of land. He has participated in several training sessions co-financed by the PSAC and the Coffee-Cocoa Board to learn new technologies for improving cocoa productivity.

This practical training, in combination with discipline and determination, has allowed Koffi to make significant strides. "Once I applied all of the new agricultural practices from my training, my output increased from 500 kilograms of cocoa per year to over 1.8 metric tons from just of two hectares," he says.

Andé Yapi Api

Andé Yapi Api, a 55-year-old farmer and mother of four from Grand-Alépé, does not conceal her pride when showing off her fields. "I started this palm plantation to prepare for my retirement and earn enough to take care of myself and support my children and grandchildren," she explains.

“**Once I applied all of the new agricultural practices from my training, my output increased from 500 kilograms of cocoa per year to over 1.8 metric tons from just of two hectares.**”

Vincent Kouakou Koffi, cocoa farmer

Her one-hectare field was given to her by her elder brother, which is rare in a country where women often do not have access to land. Enterprising by nature, Api was able to pay for her share of improved palm seedlings from the PSAC by producing and selling cassava semolina. She now plans to expand her plantation to two hectares with support from the PSAC.

Zakaria and Sawadogo

Just as crucial as increasing agricultural productivity is delivering the products to processing and marketing zones. Over the years, the degradation of many roads, some of which were completely impassable, complicated the lives of local small producers and transporters. To address this, the PSAC is supporting the rehabilitation of a number of agricultural feeder roads.

For Zakaria, a transporter of palm seeds along the Wohou-Bénakré-Aboisso corridor, and his colleague, Sawadogo, these road works have changed their business. "This road was in such poor condition that my truck often broke down. You could barely manage one trip per day. It was impossible for me to transport two metric tons of seeds on this road," Zakaria explains.

Today, the same trip takes half the time. "Since the road was rehabilitated, we have been making more round trips. I make at least three trips per day with four to five metric tons of cargo," says Sawadogo.



DEMOCRATIC REPUBLIC OF CONGO

Female farmers find strength in unity

Giving women the recognition they deserve for the role they play in agriculture can go a long way to stimulating economies. In the Democratic Republic of Congo, organized collectives of women farmers are coordinating activities, producing more, and banking their increased earnings.

- Increasing agricultural productivity enhances household income, food security, and school enrollment.

Photo: Vincent Tremeau / World Bank

Kabibi Saolona is thrilled. An enterprising farmer from Gemena in the Democratic Republic of Congo (DRC), she says she has increased the income from her work in the fields. “I live comfortably and can now provide for my family. I was also able to buy a motorcycle, which allows me to move about and maintain contact with other members of the association,” she exclaims.

Saolona belongs to TOSUNGAN, an organization of mainly women that has received support and guidance from the Agricultural Rehabilitation and Recovery Support Project (ARRSP), financed by \$120 million from the World Bank’s IDA. These women are among the many small farmers and livestock producers in the Sud-Ubangi, Nord-Ubangi, and Mongala Provinces (former Equateur Province) to see their productivity and revenues rise thanks to project support.

Connecting producers to markets

In addition to receiving good quality agricultural inputs, beneficiaries are taking advantage of training on new production technologies and methods for conserving, marketing, and selling their produce after harvesting. This includes product bundling and formalizing cooperation between producers and transporters. The project is helping to build the infrastructure—rural roads, warehouses, and markets—key to revitalizing agriculture.

By 2016, nearly 107,000 households, 40 percent of them headed by women, had benefited from the project, which had also rehabilitated over 2,250 kilometers of rural roads and built four markets and 16 warehouses.

According to Alfred Kibangula Asoyo, the national project coordinator, “These various works now connect production basins to major consumer markets, facilitating the delivery of agricultural products. Today, we can observe a steady increase in the revenue of small producers, who are usually grouped into associations with self-managed village banks.”



We now grow crops together, harvest together, store products in a common warehouse, and sell them together. The revenue is placed in a self-managed village bank.

Sarah Fatuma, President of the TOSUNGAN Association

The proliferation of these savings banks reflects the rapid growth of local economic activity and the resumption of monetary exchange in the region. This has, by extension, improved food security, children’s education, and the well-being of households across the project zone.

Working together to achieve goals

For Sarah Fatuma, President of TOSUNGAN, the project’s most powerful impact has been uniting and empowering women in her province.

“Prior to its implementation, each of us worked independently. However, since the ARRSP taught us how to collaborate, we work together to achieve our goals. We now grow crops together, harvest together, store products in a common warehouse, and sell them together,” she explains.

Structured and organized, the women of TOSUNGAN can hire labor from among other female members of the organization and distribute duties. Some work in the fields, while others handle bundling and the promotion of agricultural products. Still others are assigned to managing and maintaining the village warehouse or are involved in cassava processing using the training and equipment that they have received.



GUINEA-BISSAU

Conservation is key to green growth

Much of a continent's wealth lies in its natural resources. Some in Guinea-Bissau see its rich biodiversity as the foundation of its future. By creating nature reserves and emphasizing conservation, they are promoting sustainable development and preserving ecosystems.



- With its stunning beaches and thriving biodiversity, Guinea-Bissau's Bijagós Archipelago has significant potential for tourism.

Photo: Daniella van Leggelo / World Bank

Ribbons of clear blue water sparkle against a backdrop of lush palm trees, vines, baobabs, and mangroves. White herons dot the horizon, diving beak first into the water with a tiny splash. There is no shortage of fish in these waters, and herons and fishermen alike rarely come up empty handed. After all, Guinea-Bissau possesses one of the richest fishery resources in West Africa.

With diverse ecosystems—ranging from dense tropical forests to mangrove swamps—Guinea-Bissau has become increasingly conscious of the value of its natural wealth. As it works to rebuild itself after years of political turmoil and violence, Guinea-Bissau is relying on its natural resources to overcome its challenges. Striking the right balance between exploitation and conservation is critical, particularly in the areas of agriculture, mining, fisheries, and tourism.

Conservation for economic growth

Conserving Guinea-Bissau's natural havens is the life's work of Alfredo Simão da Silva, Director of the Institute for Biodiversity and Protected Areas (IBAP). Established in 2005 with funding from the World Bank, the Global Environmental Facility (GEF), and the European Commission, IBAP coordinates the management of protected areas, maps out species and ecosystems for monitoring, develops action plans for endangered species, and establishes new protected areas.

Simão da Silva's fierce dedication to IBAP's cause has led to the creation of five national parks and one community reserve. Today, approximately 26 percent of Guinea-Bissau's territory is protected, with two more national parks and three environmental corridors in the works.

"In Guinea-Bissau, we believe in managing biodiversity to ensure greater development," says Simão da Silva. "We are working to ensure the conservation of plant and animal species that can then increase fish stocks and tourism and provide food security for local populations."



In Guinea-Bissau, we believe in managing biodiversity to ensure greater development.

Alfredo Simão da Silva, Director of the Institute for Biodiversity and Protected Areas (IBAP)

Participative management of the protected areas with local inhabitants has played an important role in these conservation efforts. Protected areas are zoned in such a way to allow some human activity in certain places, as long as it is sustainable and compatible with conservation interests.

"By allowing the protected zones to be inhabited, we give value to them, which encourages local populations to also work towards protecting them," emphasizes Simão da Silva.

IBAP focuses on raising awareness about natural resources and how to use them in an eco-friendly way. It also performs routine surveillance to make sure zoning rules are respected and there is no encroachment.

Financing for the future

While the protected area system holds tremendous economic and social promise, it faces financing challenges long-term. Conservation, which can be costly and from which income is generated indirectly, can get swept under the rug when the pressure to develop increases.

Current conservation efforts depend entirely on funding from external donors, so the government of Guinea-Bissau and its partners have established the BioGuinea Foundation, a sustainable financing mechanism to fund surveillance and conservation efforts. It is working to secure seed capital, with its initial goal of \$10 million.



NIGERIA

**“Poverty has run away,
there is no more poverty.”**

Increasing agricultural production is key to feeding Africa’s growing population and improving rural economies. By organizing into groups, smallholder farmers throughout Nigeria are gaining better tools, knowledge, and market connections to increase their productivity and income.



■ Members of a Fadama production group sing a praise song in Inyi village, Oduma, Enugu State, Nigeria.

*Photo: Olufunke Modupe
Olufon / World Bank*

In many parts of Africa, a series of laudatory appellations—called praise songs—are used to capture the essence of the person or the object being praised. In Inyi, a village community in Oduma in Nigeria’s Enugu State, the Fadama project has earned its own praise song.

Inyi women gather in the village hall, dancing and chanting in unison: “*Fadama! Ubiam eri mbombo ozo,*” or in English, “Fadama! Poverty has run away, there is no more poverty.”

Third phase of project

Since 1993, the World Bank-funded National Fadama Development Project has been supporting Nigeria’s farmers by helping to empower communities and strengthen agriculture development throughout the country. Now in its third phase with an additional \$200 million in IDA funding, the project is working to transform the value chains of cassava, rice, sorghum, and horticultural crops in six states: Kogi, Niger, Kano, Lagos, Anambra, and Enugu. The focus is on improving agricultural productivity, but also on aggregating produce and processing it for marketing. This is raising the bar from subsistence agriculture to making agriculture a business.

Key to the endeavor is creating strength in numbers. Individual smallholder farmers are encouraged to organize into Fadama community associations and user groups to collectively design and implement community-driven projects. They receive tools and technologies, such as rice mills, packing machines, wheelbarrows, threshers, and pumps, to support their group efforts to grow and sell produce.

State-level project facilitators provide advisory services and the critical inputs needed to ramp up production, such as seeds and fertilizer. They support increased access to markets and introduce farmers to practices



Thanks to the Fadama project, we are able to pay school fees and our children are able to go to school.

Regina Osundu, rice farmer and member of all-female Fadama production group

that can mitigate the impact of potential shocks, such as insuring crops for fire and disease. According to the International Food Policy Research Institute, Fadama III has reached 4.9 million households directly and indirectly.

Production groups empower

In Inyi, where mainly rice is grown, villagers have formed six production groups of 10 members each. Two groups consist entirely of women. According to community leader Ignatius Onyeabor, there was no organized support for rice production before Fadama.

“The project has been helpful to the community because when a group of 10 farmers prepares their business plan, their input is half and the government covers the other half. Many of our women did not want to commit their money until the first production group subscribed and realized that it was real. Now all the women have wheelbarrows,” says Onyeabor.

According to Regina Osundu, a member of one of the all-female Fadama production groups, “I cannot put into words all the benefits of Fadama. It has transformed our lives. Thanks to the Fadama project, we are able to pay school fees and our children are able to go to school.”



RWANDA

Farmers reap benefits of land redevelopment

As pressure on land increases in small countries with rapidly growing populations, Africa's most fertile agricultural land must be put to more use. In rural Rwanda, 7,400 hectares of marshland have been rehabilitated for rice farming, benefiting some 360,000 people.

- With increased financial stability gained through rice farming, John Muyango has been able to acquire and keep milking cows.

Photo: Frank Kanye

Standing proudly in front of his new, four-bedroom house in Kayigiro village of Nyagatare District, 45-year-old John Muyango is content. Five years ago, he made the difficult decision to convert from a cattle keeper to a rice farmer. His success was almost instant.

“At first, I was reluctant to venture into rice farming, which I considered more demanding and requiring heavier investments than cattle keeping,” Muyango says. “I soon realized I was wrong.”

Nyagatare, a town in northeast Rwanda, is the country’s livestock base. The traditional practice of keeping cattle requires big pastures. Along with the demands of agriculture, land is limited.

Muyango knew that he would be unable to continue to rely on livestock to sustain his family of 10. So, when the nearby Muvumba marshland was developed through the Rural Sector Support Project (RSSP), bringing rice farming to the village, he embraced change. By converting his two hectares of pasture into a rice farm, he is now harvesting close to 11 tons of rice and has been able to build his new house and pay school fees for his children with ease.

“This is almost unbelievable,” he says, beaming. “I had never imagined I would achieve this much so fast, let alone through rice farming.”

Better yields, greater income

Muvumba marshland is one of several areas developed under the project, which is supported by \$80 million in IDA funding from the World Bank. It aims to increase the productivity of farmers in targeted marshlands and on the hillsides of sub-watersheds, and to strengthen market-based value chains. More than 7,400 hectares of marshland have been rehabilitated or developed, benefiting more than 360,000 people, nearly half of them women. Rural infrastructure has also been improved to link these areas to markets, increasing trade and farmer’s incomes.

“ **This is almost unbelievable. I had never imagined I would achieve this much so fast, let alone through rice farming.**

John Muyango, rice farmer in Kayigiro village of Nyagatare District

In Muvumba area, a dam has been built and farmers can take advantage of training in improved rice farming techniques, as well as in business management, marketing, and entrepreneurship. The project has supported farmers in forming a 586-member Rice Farmers’ Cooperative and in establishing post-harvest infrastructure, including five drying grounds and a 1,500 tons capacity storage facility.

More financial stability

Nearly 100 percent of the farmers supported have adopted improved farming methods, and 86 percent of the marshland uses fertilizers, compared to 30 percent of farmers nationally. Since the project was launched, rice yields in developed or rehabilitated marshland have doubled from 3 to 6 tons per hectare.

With better financial stability, Muyango has been able to go back to his first love: cattle keeping. He was able to purchase three Friesian cows, which he feeds at home. They produce more milk than the long-horned local breed he used to own, and they give him manure for his rice farm, which he plans to expand.

“I am currently investing in buying more paddies in the marshland,” he says. “Five years from today, I see myself among the most successful rice farmers in Rwanda.”



SOUTH AFRICA

Africa's first smart transport marketplace

The age of digital disruption has helped to increase coordination and reduce inefficiencies in many industries. EmptyTrips is a start-up on a mission to improve the transport industry by reducing carbon emissions and shipping costs for small and medium-sized enterprises.



- Truckers unload sacks of onions at a farmers' market in Bamako, Mali.

Photo: Dominic Chavez / World Bank

In South Africa, as in many other countries, between 30 and 40 percent of all trucks and rail freight cars travel empty, either on the initial run or on the “backhaul.” The inefficiency of this drives up transportation costs and reduces competitiveness. Worse, these empty trucks increase traffic congestion and carbon emissions unnecessarily, while transporters miss out on potential income.

After working at top-tier management consulting firms and hearing clients complain about transport costs, Benji Coetzee began prototyping a smart, connected platform to lower transport costs, improve transparency, and increase use.

“I had noticed empty trucks and rail wagons running between Johannesburg and Durban. The oversupply and high costs simply didn’t make sense. Excess supply should lead to lower prices, not higher,” Coetzee explains. “This anomaly is what led me to start EmptyTrips.”

Filling spaces to places

After six months of development and bootstrapping with her own savings, Coetzee launched EmptyTrips in 2017. It matches and connects users to spare capacity by using algorithms and competitive bidding in the digital marketplace.

EmptyTrips’ business model is similar to Airbnb, eBay, and other platforms that remain asset-less, lean, and scalable, while offering add-on services, such as cargo insurance. EmptyTrips is Africa’s first smart transport marketplace to offer access to vetted transporters and carriers by road and rail. However, being first also has its challenges.

“Creating a digital market where none existed before means that we are building two businesses at once: a database of vetted transporters and operators, and a database of cargo owners and brokers. The marketplace does not function without both. But we have to build capacity first, before we can offer competitive rates to attract more brokers and make more matches,” Coetzee says.

“**Transport costs can be a significant hindrance to our growth and our ability to prosper. They are either the backbone or the bottleneck of economies.**

Benji Coetzee, founder and CEO of EmptyTrips

Leveraging data to reduce costs

EmptyTrips provides users with an easy and flexible process. Transporters can list their excess capacity online or wait for a listing of cargo to bid on. When shippers list their cargo, the algorithm will search for a possible match and prompt the transporter to offer a competitive price (empty rate). Alternatively, if no empty spaces are available, carriers can bid on the cargo. EmptyTrips earns a service fee on each transaction, charged equally to both parties.

EmptyTrips has registered nearly 300 companies, over 100 transporters have been approved, and shippers have listed over 1,700 trips. EmptyTrips has also won a pitch competition at mLab Southern Africa, an incubator supported by the World Bank’s infoDev, and participated in the Slush Global Impact Accelerator program in Finland, which infoDev also supports.

Currently operating in South Africa, the start-up has ambitious plans to expand further and hopes to become the leading logistics platform on the African continent.

“Our platform has the potential to open borders and enable trade for the continent by leveraging data. Transport costs can be a significant hindrance to our growth and our ability to prosper. They are either the backbone or the bottleneck of economies. We help governments connect stakeholders, reducing inefficiencies that increase costs,” explains Coetzee.



AFRICA REGION

Putting data to work for development

In 2018, the World Bank and Global Partnership for Sustainable Development Data announced support for 12 projects—eight in Africa—that advance how development data is produced, managed, and used. Backed by a \$2.5 million data innovation fund, these projects show how new partnerships, methods, and sources of data can be integrated.

- Answering a call for proposals to “Leave No One Behind” or support the environment, the selected data innovation projects will benefit many vulnerable communities, including refugees and other displaced people.

Photo: Dorte Verner / World Bank

This initiative for collaborative data innovations for sustainable development is supported by the World Bank's Trust Fund for Statistical Capacity Building, with financing from the United Kingdom's Department for International Development, the Government of Korea, and the Department of Foreign Affairs and Trade of Ireland.

1 Children on the Move: Using Satellite Data Analysis in Conflict/Famine-Affected Areas (Somalia, Kenya) aims to develop a scientifically tested method, based on the use of high resolution satellite data, to monitor and predict the movements of internally displaced people. It will create standardized best practices for improving the identification, tracking, and assessment of these groups, with a focus on vulnerable women and children in famine and conflict-affected contexts.

2 Scale up of the Pastoral Early Warning System in the Sahel (Niger, Mali, Burkina Faso) will integrate satellite and weekly community survey data to track the impacts of climate change on pastoral conditions in the Sahel. Early warnings can help mitigate drought and inform decisions, such as when herders should move livestock during a long dry season.

3 Targeting Water Subsidies Based on New Data Generation Technologies (Angola) will develop a tool that maps poverty by combining high resolution satellite data and surveys in cost-effective and time-saving ways to improve the targeting of water subsidies for those who need them most. This will be calibrated using existing data. Poverty mapping like this could have other applications.

4 Armyworm Research Using Remote-Sensing Methods (Malawi) will contribute to efforts to eliminate the aggressive fall armyworm that threatens crops. It will develop a tool that uses

satellite imagery to detect hotspots, and software to help public institutions, NGOs, and commercial farmers maximize the benefits of insecticide, manage yield losses, and adapt to climate change.

5 Bridging Development and Emergency Data Gaps for the Refugee Crisis (Uganda, Tanzania) will involve refugees in the mapping of refugee camps and non-camp communities to capture data on population, the built environment, and services, allowing governments to improve service delivery and support to refugee communities. It will scale up a proven pilot and combine citizen-generated data with surveys and satellite imagery for new sectors and locations.

6 Geomapping Barriers to Urban Service Access in Older Age (Kenya, as well as India) aims to build a community data collection effort among older people in urban areas to understand the spatial and social barriers that exist to older residents gaining access to services, particularly the homeless and those living in informal settlements. Geotagged primary data will be collected on a range of older age-related barriers.

7 Digital Farm (Kenya, Tanzania, Uganda) aims to help smallholder farmers respond to climate risks by integrating multiple sources of data and presenting them with a personalized, accessible perspective on how to adapt and respond to specific challenges. The project intends to enable smallholders to engage with data in meaningful ways and transition from being passive recipients of data to active designers.

8 Estimating and Mapping Off-Grid Populations (Sierra Leone, Liberia) seeks to increase the visibility of off-grid, hard-to-reach populations by providing information about the location and size of small settlements within mangrove areas prone to sea-level rise. It will use an online interface, taking advantage of high resolution satellite images, volunteered geographic information, and modeling.





POLITICAL WILL

- From the highest seats of government to community groups on the ground—such as this one in South Sudan—the shared desire for peace, prosperity, and security is driving transformations. African countries are working to achieve lasting change in complex issues through investments in governance, infrastructure, public services, and regional cooperation supported by the World Bank.

Photo: LGSDP Implementation Unit



CAMEROON

Improving health care for the most vulnerable

Providing people living in remote, rural areas of Africa with access to good health care is a challenge. Community engagement and performance-based financing in Cameroon are improving medical services and raising the level of trust in public health care among target communities.

- Léonie Ndo Mvondo bought hospital beds, restocked the pharmacy, and upgraded laboratory equipment with project financing.

*Photo: Odilia Hebga /
World Bank*

Cameroon has made significant progress combating malnutrition and maternal and infant mortality, but sharp disparities persist between lower rates of both in the south, and higher rates in the north of the country, where close to 20 percent of children die before their fifth birthday.

Northern Cameroon is home to people fleeing conflict in areas near the country's borders. Eastern Cameroon, home to the Baka community, is another region with high maternal and infant mortality rates. The social and health indicators among these two vulnerable populations of refugees and indigenous peoples are alarming.

In the eastern town of Petit Kagnol, Papa Simon, chief of the Baka camp, lost his daughter and grandchild in childbirth. "My daughter started to have complications during delivery and was in severe pain, but she did not want to be hospitalized... We tried treating her with traditional medicines, but in vain," he says. He and his family rushed her to the hospital a few dozen kilometers away, but it was too late.

His story resembles that of many others—particularly stories of women, children, and the elderly who succumb to complications that went untreated either because of a lack of health care or a mistrust of it.

To address these challenges, the World Bank's Health Sector Support Investment Project has been funding a \$25 million pilot in 26 districts in four regions of Cameroon since 2011. It has reached some 3 million people. In 2016, an additional project worth a total of \$127 million was approved to scale up activities nationwide by 2019.

Community outreach

Community engagement and performance-based financing are what make the program work. An example: Health care agents visit households twice a month to monitor health conditions, encourage preventative care,



The funds provided by this pilot program allowed us to implement a tailored health care policy for members of the Baka community living in our district.

Léonie Ndo Mvondo, head of the Kagnol health care center

and identify vulnerable members of the community. They accompany the sick and ailing to health facilities nearby to receive the care they need.

In Kagnol, Léonie Ndo Mvondo, the head of the health center, says raising awareness among the Baka about the importance of follow-up visits is one of her main concerns.

"The funds provided by this pilot program have allowed us to carry out a tailored health care policy for members of the Baka community living in our district. They do not pay for medication or hospitalization, and all medical procedures are provided free of charge," she says.

Performance-based financing

The financing of such health centers is conditional based upon results achieved to date. The incentive is designed to reward workers in hospitals and health centers for improving their levels of care. It also encourages a sense of accountability to the public and gives frontline health facilities the autonomy to take initiative.

Mvondo is pleased: "With the financing we received, we were able to build living quarters for the head of the center, buy hospital beds, restock the pharmacy, and upgrade the laboratory equipment. We also installed solar panels, so we can have electricity at all hours of the day."



GUINEA

Rooting out fraud empowers efficiencies in civil service

Ghost workers are the scourge of civil service payrolls wherever records have been allowed to lapse. Biometric identification and a full census of its civil service helped Guinea shed over 9,500 fraudulent positions and fictitious employees, leading to substantial savings for the government.

- Guinea's civil servants are now all enrolled in an official register, giving the government reliable data on its personnel and more control of the monthly payroll.

Photo: World Bank

Kadiatou Simankan has worked as a secretary at Guinea's Ministry of Energy and Water Resources for several years. When civil service reform began in January 2014, she feared the worst. Initially worried that it might ensnare innocent workers like her, she now feels a sense of relief. "Each of us has finally been acknowledged and recorded in the system," Simankan says.

For the first time since the late 1980s, Guinea has in place a functioning administrative system for its civil service. All civil servants are accounted for and enrolled in an official register that provides the government with reliable data on its personnel and greater control of the monthly payroll.

Supported by \$10 million in IDA funding from the World Bank, the Economic Governance Technical Assistance and Capacity Building Project facilitated the process by equipping the government with the tools it needed to identify bona fide personnel and modernize its databases to manage its human resources, budget for its payroll, and record administrative decisions.

Counting fingerprints and faces

Prior to the reforms, the payroll division of the government ministry responsible for civil servants' salaries transferred enough money to pay 101,689 salaries a month. Using the latest, automated fingerprint identification system and facial comparison software, biometric identification flagged the existence of 7,173 fictitious employees among them. Cutting the salaries of these ghost workers from the payroll has generated savings for the Treasury of nearly 30 billion Guinean Francs per month (over \$3 million).

An employee headcount cleared another 2,392 civil servants off the books. Removing the deceased and those no longer actually working (because of absenteeism and other offenses) saved another 43 billion Guinean Francs (over \$4.3 million). Other savings were made by cross-checking data with the National Social Security Fund to identify civil servants earning salaries in both the public and private sectors.



By publicly condemning cases of fraud and naming names, we are creating a powerful deterrent.

Andre Loua, former Secretary General in charge of budget affairs

The personnel files of the remaining civil servants have now been digitized and classified in a modern, easy-access archive, replacing an unwieldy paper-based system from which it used to take days to retrieve a single file.

"Now, whenever we call on our human resources department, we can obtain a civil servant's file. In the past that wasn't possible," says Eugene Falikou Yomalo, Inspector General of Public Administration.

Zero tolerance for ghost workers

To further the fight against fraud, Guinea's government has launched a communication campaign. Andre Loua, formerly Secretary-General in charge of budget affairs, is adamant that the public must be made aware of the value of transparency in the use of public resources. "By publicly condemning cases of fraud and naming names, we are creating a powerful deterrent," he says.

Through its public service reforms, Guinea has shown zero tolerance for ghost workers. It has been able to draw lessons from censuses conducted in countries such as Côte d'Ivoire, Burkina Faso, and Senegal and take advantage of the latest biometric technological advances to improve efficiency and rate of success.



KENYA

Connecting low-income communities and the grid

Electricity powers development, yet Africa's per capita electrification rates are generally low. Kenya has found a way to step up the pace of electrification by making legal connections to the grid more appealing and affordable for the millions of people who live in informal urban settlements.



■ Kenya Power's new lines, meters, and breaker boxes are everywhere in poor urban communities in and around Nairobi.

Photo: Kenya Power

Despite connecting more than 1.2 million people a year to electrical power from 2014 to 2017—raising the electrification rate from 36 to 70 percent of the population—Kenya’s main power utility company has found it difficult to bring electricity to people in populous city slums. In the capital Nairobi, a city of 3.4 million people, some 2 million live in informal settlements plagued by unsafe, illegal connections to the grid.

That is changing. Supported by a multi-faceted partnership with the World Bank, the Kenya Power and Lighting Corporation, also known as Kenya Power, has managed to connect a million informal households in urban poor settlements. Some 5 million people are benefiting.

Community-centric approach

This is a far cry from the 5,000 households Kenya Power first struggled to connect to the grid from 2011 to 2013. Then, it focused its energies on removing illegal connections to the grid, only to find them back up again a few days later. Many of its legal customers were selling power to others.

The turning point came in 2014 when Kenya Power shifted its focus and adopted a community-centric approach. It began listening to members of the community and marketing the benefits of legal connections to them, such as safety, reliability, and affordability.

It also increased its collaboration with the Kenya Informal Settlements Improvement Project, a \$100 million, World Bank-supported government program that has a widespread network in Nairobi’s many slums. This partnership has helped Kenya Power break the slums down into manageable segments and target particular areas.

“ People now come to us asking us to light their communities. This is no longer a Kenya Power project. It’s their project.

Ben Chumo, former Managing Director and CEO, Kenya Power

Safe, reliable, affordable power

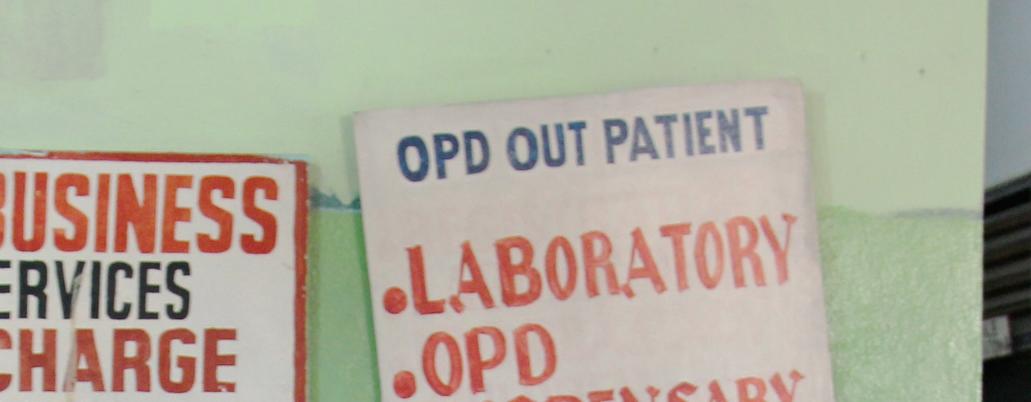
The World Bank and Global Partnership on Output-Based Aid (GPOBA) provide funding for each new, legal connection. Kenya Power supplements them with its own resources. New connections are offered to residents of informal settlements at a much lower rate than to regular customers: \$12 compared to \$150.

Additional input has come from a south-south knowledge exchange, organized by the Energy Sector Management Assistance Program (ESMAP), which brought together experts from utilities in Kenya, Brazil, Colombia, and South Africa. GPOBA and ESMAP support was coordinated as part of a larger \$330 million World Bank project to help Kenya expand and modernize its electricity sector.

Today Kenya Power’s new lines, meters, and breaker boxes are everywhere in poor urban communities. Pre-paid meters have been installed on top of power lines to prevent theft. Consumers can track their electricity consumption on digital keypads inside their homes and pay via mobile money platforms.

“Compared to the illegal power, it has better and brighter light,” says Benthany Anyango, a resident in Mathare. “It’s just as cheap as the illegal power, but it’s safe, so we embrace it.”

Demand has spread for legal connections to the grid. “People now come to us asking us to light their communities,” says Ben Chumo, former Managing Director and CEO of Kenya Power. “This is no longer a Kenya Power project. It’s their project.”



LIBERIA

After Ebola, health system on path to recovery

A challenge for rich and poor nations alike, public health care reflects political will. The overhaul of Liberia's health system is designed to provide better care and prevent a repeat of the high rates of infection and mortality seen in the Ebola outbreak in Liberia, Guinea, and Sierra Leone in 2014.



■ Liberia is refurbishing rural clinics and upgrading equipment as part of efforts to modernize health care services.

Photo: Michael Nyumah Sahr / World Bank

Expectant mother Shirley Kamara smiles as she receives medical care at the C.H. Rennie Hospital in Kakata, just over 68 kilometers north of the Liberian capital of Monrovia. “Our hospital is far better now since the Ebola outbreak,” she says. “We are encouraging our people to come here because everything is getting better.”

C.H. Rennie Hospital in Margibi County was one of the facilities hardest-hit in 2014 during a major, regional outbreak of the Ebola Virus Disease. Fourteen of its health workers died, and the virus killed at least 4,800 people throughout Liberia.

The outbreak attracted international attention that has led to improvements in Liberia’s health care services. Asinya Magnus, a doctor in Kakata, says “Ebola revolutionized health services in Margibi, with a transition from a closed to an open health care system.”

The country’s new health infrastructure is more decentralized, and its workers receive more medical supplies and more training in preventing and controlling infections.

Building a resilient health system

The Ebola outbreak exposed the weaknesses in Liberia’s health care delivery services, evident when development partners intervened in September 2014. That emergency response—led by Liberia’s Ministry of Health with support from the World Bank, U.S. government, World Health Organization, and other UN agencies—resulted in bringing the number of Ebola cases down to zero.

The many interventions included social mobilization, community-driven activities, the provision of drugs and medical supplies, hazard pay for 20,000 health workers, and death benefits for the 154 families of health workers who succumbed to Ebola while combatting the outbreak.

Liberia shares a busy border region with two of its neighbors, and the disease killed another 6,500 people in Guinea and Sierra Leone.

“ Ebola revolutionized health services in Margibi, with a transition from a closed to an open health care system.

Asinya Magnus, a doctor in C.H. Rennie Hospital

The Liberian government has since developed a “Building a Resilient Health System” investment plan. The World Bank is its largest financier, with over \$220 million for a wide range of health-related activities.

More infrastructure, training, equipment

These include the construction of 82 housing duplexes to improve living conditions for health workers and to attract personnel to hard-to-reach rural areas. There are plans for a new Teaching Hospital in Monrovia and new dormitories and classrooms at the College of Medicine at the University of Liberia.

The World Bank is supporting medical education programs, including a Graduate Medical Residency Program for practitioners of Internal Medicine, Pediatrics, Obstetrics and Gynecology, Surgery, and Family Medicine. The first 13 specialists in these areas graduated in September 2017.

Over 520 pieces of equipment, including X-ray units, infant incubators, electrosurgical units, and vaccine refrigerators, and over 120 pieces of laboratory equipment have also been supplied. For infection control, 24 triage and isolation facilities in rural hospitals and health centers in five counties have been created, and existing isolation facilities have been renovated in three major hospitals.

The National Public Health Institute of Liberia is also being supported to implement the World Bank-backed Regional Diseases Surveillance Enhancement Project to strengthen collaboration across West Africa.



■ Small teams of workers use trolleys to collect garbage from the narrow streets of Maputo's informal settlements.
Photo: Gustavo Mahoque / World Bank

MOZAMBIQUE

Trash collection in Maputo? There's an app for that

New technology is playing a larger role in helping Africa's fast-growing cities run. The city of Maputo is using a locally devised mobile app that allows citizens to let it know when garbage is piling up for collection. The digital platform is fostering transparency, accountability, and better coordinated services.

Mozambique's cities are expanding, turning the collection of solid waste into a major issue, particularly in informal settlements or slums. In the capital city of Maputo, home to about 1.8 million people, the municipality's reliance on 45 different sub-contractors has made garbage collection even more complex. But no longer!

With support from the World Bank, Maputo has worked with a Mozambican digital start-up to develop the Participatory Monitoring platform, known as MOPA for short. By using the free MOPA app or website, or simply by dialing *311# on any mobile phone, Maputo's citizens can report waste issues at any time of day, anywhere. The city's municipal services then use the MOPA platform to target and track a rapid response. For the sake of transparency, all MOPA's information is accessible to everyone.

"It's possible to identify spots of uncollected waste in our neighborhood and act on them immediately," says Sebastião João, a MOPA user and resident of the populous Chamanculo neighborhood on the city outskirts. "People can now notify the municipality in real time."

Citizens part of the solution

Since it was launched in 2016, the digital platform has helped the municipality identify and eliminate over 180 informal garbage dumps across the city. About 20 reports come in every day, bringing the total number of reports made by late 2017 to over 6,800 from 3,500 different citizens and locations. Over 88 percent of these issues have been resolved, with an average response time of 2.7 days.

Today, over a million kilograms of solid waste are collected every day in Maputo's informal settlements.

"These results represent an enormous increase in efficiency and civic participation," says councilor Florentino Ferreira, who oversees waste management in the city. "Before this, it was difficult to know what was going on in the narrow streets of most of our informal settlements."



Citizens are an integral part of the MOPA system. They notify us and help us monitor the services. This is changing the mentality and the sense of citizenry in Maputo.

Florentino Ferreira, municipal councilor for waste management in Maputo

With MOPA, the citizens have become a part of the solution. According to Ferreira, "Citizens are an integral part of the system. They notify us and help us monitor the services. This is changing the mentality and the sense of citizenry in Maputo."

Open data for improved services

The platform is garnering international recognition. The UN's 2016 e-Government Survey improved Mozambique's rank in its citizens' Participation Index after MOPA was implemented. UNESCO has selected MOPA as a case study for its series, "Improved Livelihoods in a Digital World," and the Making All Voices Count initiative presented MOPA its Global Award.

The city of Maputo can see for itself that MOPA is working, and it is exploring ways to expand the platform to sanitation and traffic. This is part of a push to use technologies to create greater transparency and accountability in city government. In 2017, Maputo became the second Sub-Saharan city with an open data portal. It is now asking local entrepreneurs, students, and developers to come up with other digital tools using city data to serve its citizens.



SENEGAL

Road leads to economic opportunity

As Africa's cities grow, so do the benefits and challenges of urbanization. In Dakar—a sprawling city of 2.5 million—traffic has long been a roadblock to progress. The city's new 41-kilometer toll road is reducing commuting times, curbing pollution, and boosting business.

- The Dakar Toll Road connects the city center to suburbs and the new international airport.
Photo: Dominic Chavez / IFC

Commuters battling bumper-to-bumper traffic to get to their jobs in Dakar used to pay a heavy price for the chronic road congestion: their time was wasted, their cars often broke down, and they arrived at work exhausted by the long, hot commute.

For Ruf Universel Service, a transport company based near Dakar in Rufisque, trips that took longer than expected led to higher fuel costs and truckers' wages. The company found itself fined by clients whose cargo missed their arrival times. "When you have a 40-ton truck, delays can mean thousands of dollars in penalties a day," says the firm's manager, El Hadji Djibril Mbengue.

But the 41-kilometer toll road that now connects Dakar to its suburbs has sped things up, smoothing the way for more business and creating opportunities for companies like Ruf Universel to expand.

Cutting commuting time

Completed in two phases, the highway is the first public-private partnership for a greenfield toll road in West Africa. The World Bank's IFC coordinated the partnership and mobilized €26 million (\$32 million) of its own resources, as well as €50 million (\$61.5 million) from other sources.

The first section, a 24-kilometer stretch from Dakar to Diamniadio was inaugurated in 2013 and has slashed commuting time between the two places from over two hours to about 30 minutes. The second stretch, commissioned in 2016, links Dakar to Senegal's new international airport in Thiès, and creates a faster route to seaside resorts south of Dakar that are a source of employment and income.

In Greater Dakar, traffic problems have long been a roadblock to progress. The region's economic performance revolves around Senegal, so better urban mobility is crucial to its prosperity. Projections suggest Dakar's population may double to five million by 2030,



As soon as you improve urban mobility, the entire economy benefits.

Dominique Ndong, Deputy Director of APIX, the Senegal government's investment promotion agency

with most of the expansion expected to take place in the outer suburbs. The area is already home to more than a quarter of the country's population and contributes to about 60 percent of its GDP.

Increasing competitiveness

"As soon as you improve urban mobility, the entire economy benefits," says Dominique Ndong, Deputy Director of APIX, the Senegal government's investment promotion agency.

Studies on the new toll road bear this out. A recent report by APIX indicates that nearly 60 percent of the companies based in the area have profited from having access to a wider area for distributing their goods, increasing their competitiveness.

The impact is visible. According to Didier Payerne, Director of Development for Africa at Eiffage, the French group that won the 30-year concession to build and maintain the road, "The bottleneck has disappeared and allowed the area to be developed. Now we see houses, new cities, industries sprouting up along the highway."

For Ruf Universel Services, the toll road is saving the company time and money. Quicker trips have resulted in fuel savings averaging 20 percent, better trucker conditions, and rewards from clients for deliveries made ahead of schedule. The company is now considering expanding its fleet. "More trucks mean more business," says Mbengue.



SOUTH SUDAN

Linking peace with development

Development tends to wait on peace, but it is not always necessary to do so. With guidance, members of some rival communities in South Sudan are coming together to choose local development projects, showing that communal progress can be possible even amid conflict.

■ More community involvement in local government planning is helping to foster peace.
Photo: LGSDP Implementation Unit

Stephen Makoi's reaction to his brother's murder in 2016 surprised many. He went to the house of the man responsible and chatted to him, something he repeated over a period of several days. His approach confused and frustrated his grieving family, who sought revenge, as well as members of the killer's clan.

Makoi hails from Amongpiny *payam* (community), one of the areas of South Sudan where inter-communal conflict has resulted in thousands of deaths. His response to his brother's murder was his way of restraining his own clan from retaliating, preventing further bloodshed. It also paved the way to the suspect's detention by law enforcement officers, allowing a judicial process to take place.

"I did this because I wanted to teach my people we can handle such things differently," Makoi explains.

Shifting dynamics

Makoi credits the nature of his intervention to his involvement with the Local Governance and Service Delivery Project (LGSDP), which is supported with \$50 million in IDA funding from the World Bank. By using a community-driven development approach, the project integrates governance, service delivery, peacebuilding, and community participation.

Makoi admits that, at first, his decision not to seek revenge made it hard for him to be taken seriously in his capacity as elected chair of his *payam's* local development committee.

However, Jonas Njelango, the Project Manager with ACROSS, the World Bank's implementation partner, has observed the project's transforming effect on the dynamics of conflict. He sees perceptions and behaviors gradually shifting away from conflict as local participation in development grows. "The fact that this issue did not escalate into conflict is, in itself, a big deal," he says.

“ People must debate and vote for what they want. This formula has helped our communities deal with many issues in a peaceful and constructive way.

Stephen Makoi, local development committee chairperson in Amongpiny payam

Conflict resolution, communication

Launched in 2013, the project has been carried out in seven of the ten original states of South Sudan. Communities take part in planning at *payam* and *boma* (county) levels, with committees identifying the development projects they want. These are often small infrastructure projects funded through grants and subsequently integrated into county development plans and budgets.

The process also serves to support conflict resolution. "What we have learned is that the way people prioritize their needs cannot just be done at random," says Makoi. "People must debate and vote for what they want. This formula has helped our communities deal with many issues in a peaceful and constructive way."

The LGSDP program typically kicks off with events at which communities analyze the roots of conflicts and identify their local resources before talking about development priorities. The recurrence of communal conflict in South Sudan makes conflict mapping essential to local government planning. This guided process is promoting peaceful interactions and gaining respect.

James Biith, a local development committee chairperson in Jiir *payam*, says that before, the Amongpiny, Jiir, and Matangai *payams* were constantly fighting each other. "For a long time, we could not come together and sit next to each other like this," he explains. "You could not even sit for 15 minutes without hearing gunshots. The project talked to all of us equally and eventually brought us together."



TANZANIA

New bus system saves riders time and money

Mass transit is vital in Africa's megacities. In Dar es Salaam, a new bus rapid transit system is easing traffic. Its passengers have reclaimed 16 working days spent each year in traffic jams. Once the full fleet is running, ridership is expected to leap from 190,000 to 400,000 passengers a day.

- Clean and efficient, Dar es Salaam new BRT is cutting commuting costs and time, reducing traffic, and providing better working conditions for bus drivers.

Photo: TrueVision / World Bank

With an urban population that ballooned from 2.5 million in 2002 to as many as 5 million today, fast-growing Dar es Salaam may well achieve “mega city” status by 2027, when its number of inhabitants is expected to hit 10 million. Accompanying this growth in people is their traffic, and a lot of it!

The World Bank estimates that the residents of Dar es Salaam spend about 34 percent of their monthly income on transport, limiting the resources left to them, including time, for productive work. About 60 percent of commuter trips are made in minibuses (known as *daladalas*), 15 percent in private cars, and the rest by other means, including walking.

To ease the traffic, Dar es Salaam has invested in a new Bus Rapid Transit (BRT) system, financed in part with a \$290 million credit from the World Bank’s IDA provided under the Second Central Transport Corridor Project. BRT’s ridership has risen from 70,000 passengers a day when it was launched in May 2016, to 190,000 in December 2017.

Less traffic, more opportunity

“My transport budget has been reduced by more than 70 percent,” says Ibrahim Mwalafyale, who used to spend 25,000 Tanzanian shillings (about \$11) a day driving into the city. He now parks his car nearer home and takes the bus.

As well as reducing costs for commuters, travel time from the outskirts of the city to the center has dropped from 1.5 to 2.5 hours a day to 40 to 50 minutes. BRT users have reclaimed approximately 16 working days that were being spent in traffic jams annually.

“The buses are faster,” says Ronald Lwakatare, chief executive of the DART Agency in the Tanzanian Prime Minister’s Office that oversees BRT’s private operator. “The system is also having an impact on overall congestion because as more people drop their cars, the mixed lanes are visibly less congested even at peak hour.”



My transport budget has been reduced by more than 70 percent.

Ibrahim Mwalafyale, who now takes the bus rather than driving into the city

The new system has created new opportunities for business in real estate and services along the route. Near the Kimara bus terminal, brothers Juma and Kasim Kassim have turned an empty plot of land into a paid parking lot, and a thriving car wash and auto repair business.

“We charge Sh2,000 to wash a car,” says Kassim. “Since we are skilled mechanics, we also fix cars on request if they are having problems or service them. We are very busy.”

Growing ridership

The first phase of Dar es Salaam’s BRT system comprises 21 kilometers of trunk road with exclusive BRT lanes, five terminals, 27 stations, and a bus depot. Procurement of operators for more buses, fare collection, and fund management is ongoing. By June 2018, the complete fleet of 305 buses is due to be operational, and ridership is expected to reach about 400,000 passengers per day.

With a tentative fleet of 140 buses, BRT’s operator has employed 400 bus drivers who work in shifts. “I am happy to drive BRT buses because it’s a much better working environment than I had before, and a much better income,” says Catherine Mpanda, 32, a mother and one of three women drivers.



UGANDA

Land administration reforms cut the red tape

Increasing security of land tenure by digitizing ownership records, such as title deeds and leases, goes a long way toward boosting local and foreign investor confidence. Uganda has digitized its land registry—a manual system since 1908—reducing the time to access records from 435 days to mere moments.



■ Land administration reforms aim to increase land titling and surveying and to ensure records are secure, verifiable, and accessible.

Photo: Dasan Bobo / World Bank

When Justine Namayanja first heard a radio announcement for the trial run of a new system for tracking land titles, she dismissed it. Ever since her husband's death five years earlier, she had been trying to verify her land titles to avoid becoming a victim of the land-grabbing incidents occurring in her village. When she heard the announcement again—calling people to try the new system out at a World Bank Open Day Bazaar in her home district of Masaka, south of Kampala, she decided to go.

The process was easy and instantaneous. "Now I am at peace because I know that our land titles exist in the system and my land is safe," she says.

Namayanja thought it would be expensive to check on her land titles, involving a journey to the Ugandan capital, Kampala, and a hunt for the right officials once there. That may have been the case in 2006, when it took an average of 435 days to access land records, but not anymore.

Digitizing records

Officials at the Open Day Bazaar helped her find her titles using the new Land Information System, a mapping software designed for the registration and administration of land. "The system they brought here was very efficient," Namayanja says.

The Land Information System is the cornerstone of Uganda's land administration reform. It has digitized a registry that had been manual since its inception in 1908. Just 18 percent of Uganda's land mass had been registered by the time the digitization process began in 2013.

The push to modernize the complex systems and procedures that govern land ownership in Uganda is part of the World Bank's Competitiveness and Enterprise Development Project. It is being financed with \$100 million from IDA, and implemented by Uganda's Ministry of Lands, Housing, and Urban Development.



Now I am at peace because I know that our land titles exist in the system and my land is safe.

Justine Namayanja, landowner in Masaka district

Streamlining procedures

Studies show that good land governance can eradicate land grabbing, encourage agriculture, and increase food security—transforming development prospects.

Uganda ranked 120 out of 185 economies in the World Bank's "Doing Business" report (2013), in large part due to poor land governance. Since then, the Ministry of Lands has built 10 offices outside Kampala and digitized some 600,000 land titles.

"All land that is titled and surveyed is online," says Moses Kibirige, who works with the World Bank's Trade and Competitiveness sector in Uganda. "We've still got 80 percent to go, which we're working on now."

Kibirige emphasizes the long-term nature of land reform, with having to incorporate the different land tenure systems laid out in Uganda's Land Act (1998): customary tenure, freehold, *mailo*, and leasehold. In northern and eastern Uganda, land is often held communally. The project encourages communal land associations to form. So far, 200 have formed, with a target of 600 for 2018.

Registering the sale or purchase of a property now takes 30 days, down from 52 in 2013. Easier public access to verifiable data is helping to provide banks and courts of law with credible information that can help solve land ownership disputes.



EAST AFRICA REGION

Networking labs to save lives

Countries are working together—sharing resources and know-how—to find regional solutions to regional problems. To curb the spread of communicable diseases in cross border areas, public health officials have mounted joint efforts to reach 6 million people through a network of 41 upgraded laboratories in Burundi, Kenya, Rwanda, Tanzania, and Uganda.

■ Trained lab technicians in Rwanda wear protective gear to conduct clinical work and research on communicable diseases like TB.

Photo: Miriam Schneidman / World Bank

Barely a decade ago, public health officials in East Africa recognized their health systems were ill prepared to deal with the emergence of multidrug-resistant tuberculous (TB) and an elevated threat of disease outbreaks, such as Ebola, Marburg, or yellow fever. Historical underinvestment in laboratories contributed to misdiagnosis, compromised patient care, and an inability to detect public health threats quickly, resulting in disease transmission and higher health care costs.

Achieving more together

Policymakers in East Africa came together to establish a network of public health laboratories to improve clinical care and speed disease outbreak responses. With roughly \$128 million in IDA financing spanning five countries—Burundi, Kenya, Rwanda, Tanzania, and Uganda—the 41-laboratory network promotes quality standards and serves as a platform for learning, training, and research. Each country serves as a center of excellence in a specialized area, piloting innovations, sharing good practices, and fostering efficiencies in disease outbreak preparedness and response.

Results on many fronts

Specialization: In 2013, the Uganda TB Reference Laboratory achieved international accreditation and qualified as a Supranational Reference Laboratory of the World Health Organization (WHO), the second of its kind in Africa. It is now supporting over 20 countries on the continent.

Accreditation: By 2017, 96 percent of facilities attained at least a two-star rating in a regionally recognized WHO-endorsed quality improvement scheme toward accreditation, and four laboratories achieved the gold standard ISO 15189 accreditation.

New technologies: Installation of state-of-the-art GeneXpert machines in remote, cross border locations, like Uganda's Mbale Regional Referral Hospital some 200 kilometers from the capital Kampala, has facilitated

“ I thought it was HIV With the aid of the GeneXpert machine, my illness was correctly diagnosed and I was placed on the proper treatment.

Aliyi Mwanika, recovering patient at Mbale Regional Referral Hospital in Uganda

faster, more accurate diagnosis of multidrug-resistant TB. Since inception, over 157,000 GeneXpert tests have been conducted network-wide, providing results within several hours, rather than waiting months for culture results.

“Before I visited the Mbale Hospital I had been receiving treatment for fever and flu at a clinic near my home without any sign of recovery. I thought it was HIV,” shares Aliyi Mwanika, a 30-year-old motorcyclist. The GeneXpert machine correctly diagnosed his illness as multidrug-resistant TB, and he was immediately placed on the proper treatment. “After six months I was able to go back to work,” he says.

Enhanced disease control: Capacity to detect outbreaks and respond rapidly is stronger thanks to an 80 percent rise in laboratory confirmation of pathogens and better regional collaboration, including eight new cross border committees across the five countries, 10 joint investigations and tabletop simulations for diseases like Ebola, and a mobile phone disease outbreak reporting system for timely sharing of information.

Training and research: An expanded pool of qualified assessors, lab managers, and disease surveillance officers—over 13,000 trained—and operational research have generated new evidence and knowledge to inform public policy. For example, Rwanda's experience with performance-based financing for laboratories has served as a model for other countries.

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