





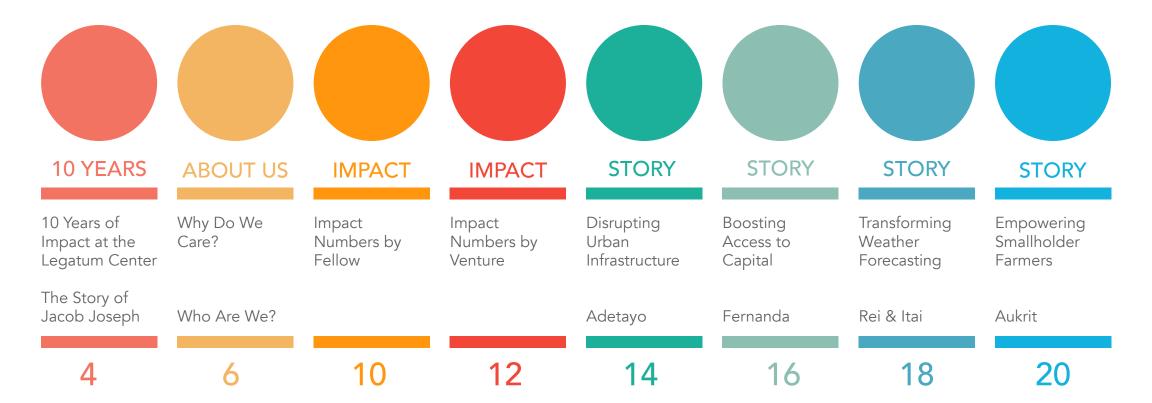


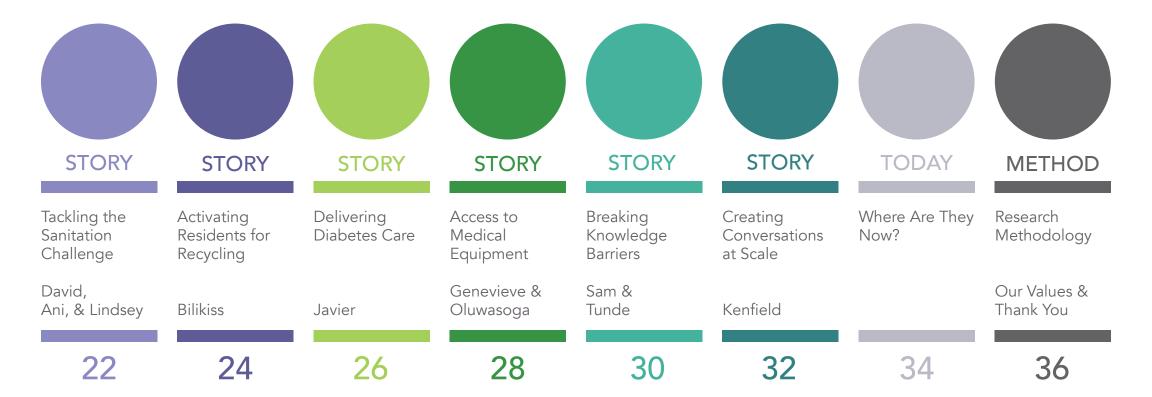
THE LEGATUM FELLOWSHIP 10 YEARS OF IMPACT

2007-2017



CONTENTS





AN INSPIRING 10 YEARS

Like any year at the Legatum Center, 2017 was a rich experience shaped by new programs, new knowledge, and a new cadre of remarkable entrepreneurs. It was also a milestone year—our 10th year—and thus a unique opportunity to take stock and reflect, and that we have.

Our Center was founded on the belief that entrepreneurs are critical to advancing economic and social progress in the developing world. That belief still drives us today. When equipped with a strong sense of purpose, a principled mindset, and the will to innovate, entrepreneurs have the power to create good jobs, improve lives, transform systems, and build a better world.

In short, we believe in the power of entrepreneurs to have a sustainable and scalable impact, and it's in that spirit that we proudly present our 10-Year Impact Report.

Primarily sourced from our 2017 alumni survey and a series of interviews, the material in this report aims to capture and celebrate the impact of our fellows and team. We could not be prouder to have distributed over \$7M in fellowships to 213 fellows since 2007. That investment has essentially seen (at least) an eleven-fold growth, in that we have 58 Legatum entrepreneurs thriving in developing markets who have so far collectively raised \$79 million and created almost 15,000 jobs. Furthermore, they are touching the lives of 600,000 consumers,

230,000 patients, **300,000** farmers, and **37,000** business owners. We also track our Net Promoter Score (NPS) and in 2016, for the first time, we received an **NPS of 100** from our graduating class.

These are numbers worth celebrating, but it's when you glimpse at the faces behind the numbers that the impact is truly felt. In these pages you'll meet entrepreneurs like Javier, who is revolutionizing diabetes care in Mexico through his one-stop-shop franchise model, and Bilikiss, who is transforming the approach to recycling and waste management in Lagos, Nigeria.

Naturally we're excited by the impact and growth evidenced here, and we have every intention of building this success. Over the next 10 years we'll continue inspiring and serving principled entrepreneurial leaders across the developing world. In the process, we'll grow our community, expand our programming, increase our knowledge base, and develop into a global hub centered on entrepreneurs who are tackling our world's greatest challenges and driving global prosperity.

We dedicate this report to all of the extraordinary entrepreneurs we've had the honor of working with. The stories and data contained within are a testament to the legacy they are creating.



Georgina Campbell FlatterExecutive Director, MIT Legatum Center
Senior Lecturer, MIT Sloan



Professor Fiona Murray
Faculty Director, MIT Legatum Center
William Porter Professor of Entrepreneurship, MIT Sloan
Associate Dean for Innovation, MIT

THE STORY OF JACOB JOSEPH

Jacob came to Lagos in search of a better life for his family. He hailed from Chibok in Northern Nigeria—the town where, in 2014, a group of 276 female students were kidnapped by Boko Haram insurgents. Like many of his neighbors, Jacob fled his home in search of safety and economic opportunity.

He eventually found a delivery job in Lagos as a part-time dispatch rider. Around that time, Jacob also met Chinedu who started a motorcycle delivery startup called MAX with his cofounder Tayo. When Jacob's company closed down their delivery services, he reached out to Chinedu about working at MAX. Jacob's application was accepted, and after a week of training he joined a growing fleet of over 60 drivers who together made about 500 deliveries per day. (See page 12 for more about how MAX is creating jobs).

MAX drivers are called Champions, and Jacob says it's no small point of honor. "My name is Jacob Joseph. My job title is Champion." He and the other Champions wear elaborate uniforms (inspired by the movie TRON) so eye-catching that pedestrians often stop them on the street to pose for photos. Besides being effective branding for the company, it's a source of deep pride for the drivers.

Health and safety for Champions are also top priorities. Their uniforms include company-issued helmets, and they all receive health insurance. Jacob appreciates the safety and security MAX provides employees. "There was a time my wife fell sick. Chinedu sent some money to me and said I should take care of my family." Another time, when Jacob had an accident, MAX covered the entire medical bill and sent someone to the hospital to check on him. "It made me want to work harder and harder." Indeed, MAX has recognized Jacob's hard work, and since joining he has been awarded Employee of the Month several times.

When Jacob reflects on the 40 percent of Nigerians still struggling to find work (including many of his friends from Chibok), he is particularly grateful for MAX's leadership. "Tayo and Chinedu help to provide jobs for people, and groom you to make the best version of you. I can now afford basic life amenities and take care of myself and my family. This is why I am a MAX champion."

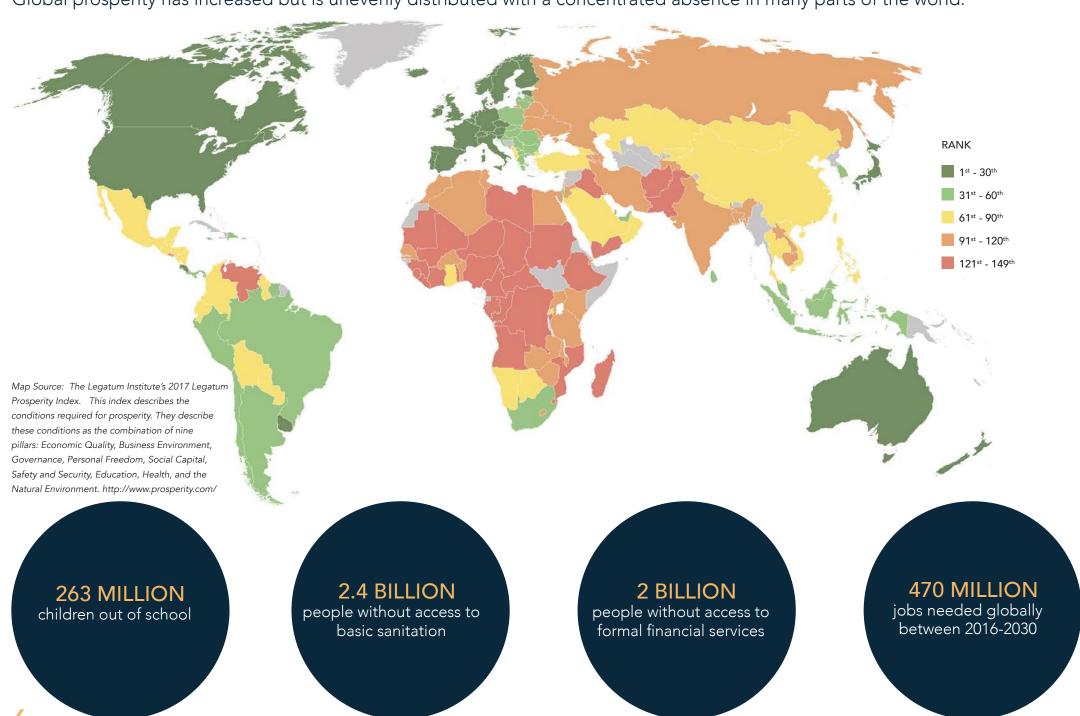


"I DEVELOPED MAX BECAUSE I WANTED TO HELP BUILD A BETTER NIGERIA. FOR EVERY JOB WE CREATE, SEVERAL MORE ARE ENABLED, FAMILIES ARE FED, NIGERIANS ARE EMPOWERED, AND THE UNEMPLOYMENT PERCENTAGE DROPS."

> -Tayo Bamiduro, MAX Cofounder, Legatum Fellow 2014-2015

WHY DO WE CARE?

Global prosperity has increased but is unevenly distributed with a concentrated absence in many parts of the world.



Entrepreneurs (and their market-driven solutions) in the developing world are critical to driving global prosperity. At the Legatum Center we leverage the MIT community to inspire and equip these entrepreneurial leaders with the practical skills, principled mindset and ecosystem conditions they need to thrive.



SOCIAL WELLBEING THROUGH DISRUPTION

Entrepreneurs create vehicles for new and disruptive innovations (technologies and business models) that tackle poverty and drive social wellbeing.



ECONOMIC WELLBEING & PATHWAYS OUT OF POVERTY

Entrepreneurs fuel local economies by creating well-respected local jobs with higher than average salaries and good benefits e.g. retirement plans, healthcare, training programs and asset financing.



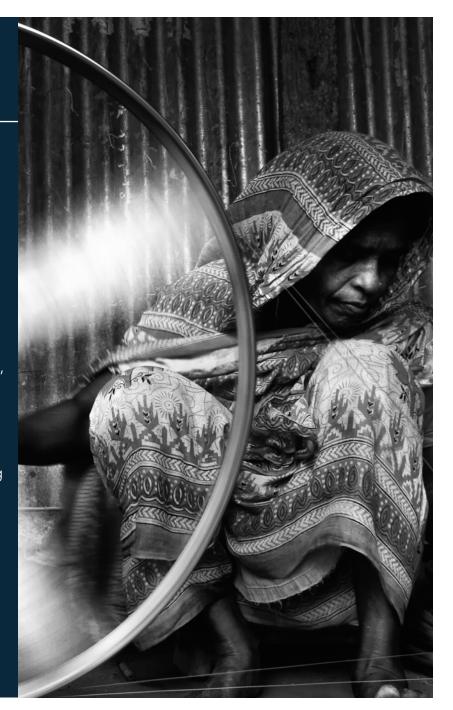
OVERCOMING NOT JUST ALLEVIATING POVERTY

Entrepreneurs provide long-term solutions for tackling poverty by leading the creation and implementation of smart business models that are sustainable and scalable.



SYSTEM-LEVEL CHANGE

Entrepreneurs can develop integrated solutions that address long-standing system-level challenges, providing a powerful compliment to international aid.



WHO ARE WE? / WHAT WE DO

OUR VISION



The Legatum Center team is committed to empowering a generation of change agents in the developing world who, through their principled entrepreneurial leadership, will overcome our world's greatest challenges and drive global prosperity













TRAVEL

SEED

GRANTS



INSPIRE PURPOSE

We help top talent understand the power of entrepreneurship and channel their passion and purpose to tackle our world's greatest challenges.





LEGATUM FELLOWSHIP

EQUIP LEADERS

We provide a learning platform for entrepreneurs to develop the necessary skills and principled mindset to build sustainable ventures, lead successful teams, and create the conditions for prosperity.

TACTICAL CLINICS

YOUTUBE CHANNEL



AMPLIFY IMPACT

We create pathways for channeling insights to (and from) entrepreneurs influencers and global leaders around the world.

ZAMBEZI PRIZE

AFRICA CASE

STUDIES

OPEN MIC



GENERATE KNOWLEDGE

We extract, analyze, and share knowledge and insights from entrepreneurship ecosystem stakeholders to fuel our curriculum and understanding of the underlying conditions necessary for entrepreneurs to thrive.

RESEARCH ASSISTANTSHIPS



CELEBRATE VALUES

We highlight and raise the profile of entrepreneurs who are creating the conditions for prosperity through their principled leadership.

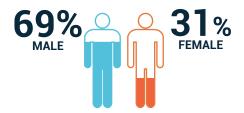
PODCASTS

ANNUAL EVENT

IMPACT HIGHLIGHTS BY LEGATUM FELLOW

213
FELLOWS SUPPORTED





MILLION USD IN FELLOWSHIP FUNDING



50K AVERAGE FUNDING OF FELLOWSHIP



5 UNDERGRADUATE







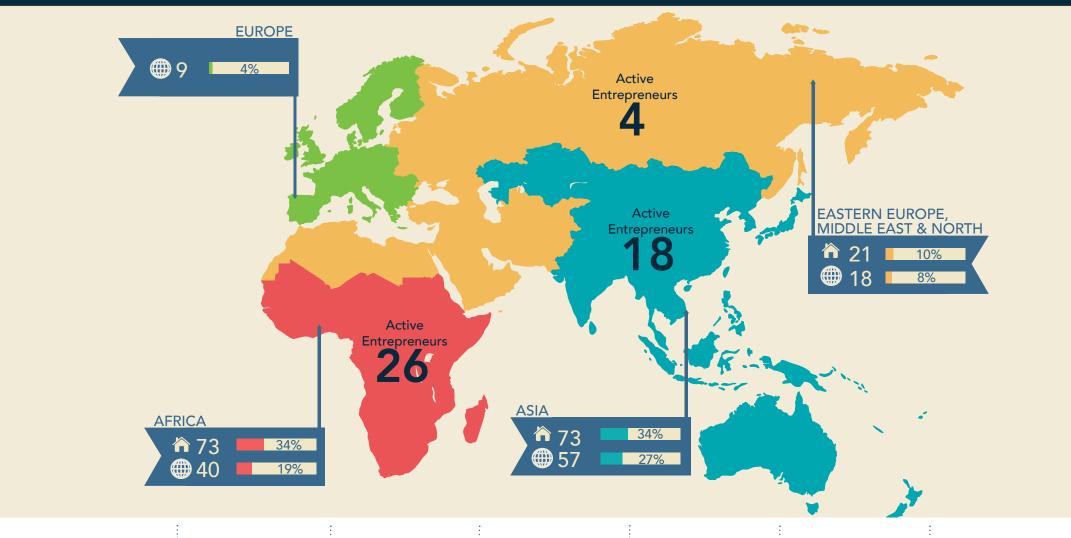














RETAIL & WHOLESALE



EDUCATION



FOOD & BEVERAGE



6% × 1.5% × 11% = 5%

HEALTHCARE



REAL ESTATE



TRANSPORTATION



AGRICULTURE



IT/TELECOM



17%

ENERGY & UTILITIES



9.5% 🤼 11%

FINANCIAL SERVICES



MEDIA



PROFESSIONAL SERVICES



TOURISM & ENTERTAINMENT



IMPACT HIGHLIGHTS BY LEGATUM VENTURE

ABOUT THE MAP

As represented by the data on this page, it is evident that those Legatum Fellows with active ventures are making significant impact in the developing world. The map to the right demonstrates how our alumni have reported their impact—in terms of ventures, funds raised, and jobs created—and how it is distributed across emerging markets.

It is important to note that there are alumni Fellows who are active entrepreneurial leaders in the developed world, as well; those 6 active entrepreneurs have raised a combined \$186.7 million in venture funding to date.



FUNDING

Amount raised by Fellows in frontier markets

\$79

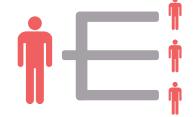




JOBS

Number of jobs created in frontier markets

14,700



LATIN & SOUTH AMERICA

Funds Raised in USD Millions

Jobs Created

33

2800



% of Jobs Created

41%

% of Funds Raised

Active Ventures

10

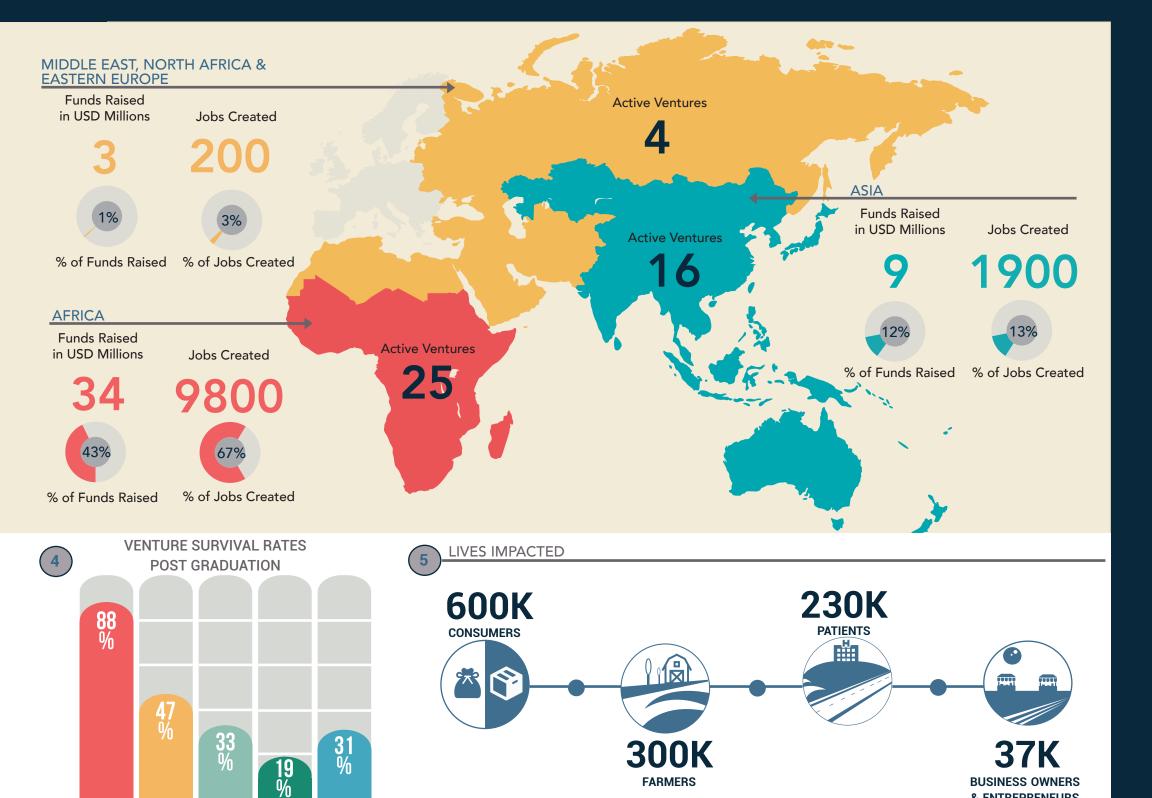


VENTURES

Number of Fellows actively pursuing a venture in the developing world

55





YR1

YR2

YR4

YR3

OVERALL

FARMERS

BUSINESS OWNERS & ENTREPRENEURS

DISRUPTING URBAN INFRASTRUCTURE

ADETAYO BAMIDURO

LEGATUM FELLOW 2014 - 2015

Before Adetayo ("Tayo") began revolutionizing last-mile delivery in Lagos, Nigeria, he was working as a production manager in the country's oil and gas industry and was growing increasingly frustrated. The mission of the company he worked for was to "build a better Nigeria", yet very little of the revenue they generated went towards sorely-needed infrastructure. Tayo realized that if he truly wanted to help build a better Nigeria, then he would have to build his own company. He came to MIT Sloan in 2013 to acquire better business skills and explore startup ideas. Eventually he became an MIT Legatum Fellow, and also met fellow student Chinedu Azodoh. Together they created the motorcycle delivery startup MAX.

MAX (Metro Africa eXpress) is paving the way for an e-commerce boom in Lagos by disrupting the city's decades-old postal system and creating the first reliable, timely way for customers to request same-day motorcycle delivery.







25 EMPLOYEES
66 DRIVERS
500 DELIVERIES PER DAY
230 DIRECT JOBS
6K INDIRECT JOBS



By providing end-to-end pickup and drop-off, and using an on-demand mobile platform to match motorcyclists with packages for delivery, MAX solves the most difficult last-mile fulfillment challenges in Lagos while simultaneously opening new markets.

Today, MAX has **25** full-time employees and **66** drivers. With over **\$1 million** in deliveries in 2016, and more than **500** deliveries per day throughout Lagos, the company is growing at over 20% month-to-month. MAX's drivers have flexible working hours and a reliable income of around **\$300** per month, or 3-4 times the average earnings of independent motorcyclists.

Most importantly, MAX has created an additional **230** direct and over **6000** indirect jobs overall. These opportunities come from the fledgling ecommerce firms, cottage food industries, and retail stores that could never have started up without MAX. By introducing new opportunities for these entrepreneurs (many of whom are women), Tayo is truly building high-tech infrastructure for Nigeria and is making plans to expand across Africa.



470M

470 million jobs are needed globally for new entrants to the labor market between 2016 and 2030.

Source: UN Sustainable Development Goals, accessed Sept 9, 2017, http://www.un.org/sustainabledevelopment/economic-growth

BOOSTING ACCESS TO CAPITAL

FERNANDA DE VELASCO

LEGATUM FELLOW 2015 - 2017





Whenever Fernanda told people she wanted to build Mexico's first equity-based crowdfunding site, they usually tried talking her out of it. But Fernanda was passionate about innovation, about financial modeling, and about building bridges between Mexico and the global financial sector.

Mexico's 4 million small businesses constitute 97% of all its companies and 75% of its job creation. The country is also emerging as an innovation hub for Latin America, with 120,000 new engineers graduating from university every year. However, approximately 88% of entrepreneurs do not have access to capital. "You can call me an idealist," Fernanda says, "but I believe that access to capital should be universal and that money should be flowing to good ideas."

Unlocking this capital required the development of laws not previously on the books. Despite naysayers warning her that working with the Mexican



1K+ STARTUPS
10K INVESTORS
\$4M IN INVESTMENT
115 VENTURES FUNDED
500 JOBS



government to establish new regulations would result in the shuttering of Play Business or requests for bribes, Fernanda and her team insisted on building the business transparently and honestly. That determination paid off—the team was able to work closely with the government to establish new fintech laws and standards that allow Play Business to operate legally.

By the time Fernanda was awarded a Legatum Fellowship, she had launched a beta version of Play Business. She spent her two years at MIT Sloan building and growing the platform into a site where entrepreneurs and investors can not only meet, but also access and finalize agreements, providing all parties with greater confidence and security.

To date, there are **10,000** active investors and over **1,500** startups on the Play Business platform. **115** ventures have raised capital and **75** have been successfully funded. All told, **\$4 million** in venture investment has been delivered to startups resulting in the creation of **500** new jobs.



65M

Small and medium enterprises drive economic development and job growth — yet 65 million of them struggle to access financing.

TRANSFORMING WEATHER FORECASTING

REI GOFFER ITAI ZLOTNIK

LEGATUM FELLOWS 2016 - 2017

Weather forecasting is leaping forward thanks to Rei and Itai, who have begun extracting data from a trove of untapped weather sensors—namely, wireless communication networks. As veterans of the Israeli military they developed an appreciation for the value of good weather data (and the dangers of poor weather data). "We didn't have a background in meteorology," Rei said, "but we had a strong 'consumer perspective' on weather data." Along with fellow veteran and cofounder Shimon Elkabetz, they began to develop their ClimaCell technology and business model. Rei and Itai eventually came to MIT Sloan, and they received a Legatum Fellowship to pursue developing world applications.

Wireless communication signals are affected by weather, and those effects can be detected and interpreted as data. By integrating their proprietary data with traditional data, ClimaCell has drastically improved forecasting even in areas with dedicated radar and satellite coverage. But ClimaCell







90% ACCURACY \$15M IN FUNDING



technology may make its biggest impact in the developing world, where weather infrastructure is minimal and expensive to implement, yet wireless communication is widespread. In areas that once had access to no weather data at all, farmers will be able to predict and monitor rainfall, and local governments can issue timely alerts to citizens about flooding and other hazards.

ClimaCell data is far more granular than traditional weather data, providing up to **90%** correlation to "truth on the ground" compared to 50% when using radar. Their clients already include airlines, sports leagues, and various on-demand companies that depend heavily on accurate, minute-to-minute forecasting. Rei says the company is in the midst of a sensitive integration phase and so cannot share many client details, but when asked where ClimaCell will be in 5 years Rei said, "We believe ClimaCell will be providing outstanding weather data everywhere in the world."

44

500,000+

Over 524,000 people have died in the past 20 years due to extreme weather events. Of the 10 countries hit hardest, 9 were in the developing world.

Source: Eckstein D, Künzel V, Schäfer L. (2017). Global Climate Risk Index 2018: Who Suffers Most From Extreme Weather Events? Weather-related Loss Events in 2016 and 1997 to 2016. Germanwatch. https://germanwatch.org/en/download/20432.pdf

EMPOWERING SMALLHOLDER FARMERS

AUKRIT UNAHALEKHAKA

LEGATUM FELLOW 2015 - 2016

RICULT



Having grown up in a family of farmers in Thailand, Aukrit had direct knowledge of the challenges that smallholder producers faced. The farmers in Thailand who survive on under less than 2 dollars per day number about 20 million (500 million worldwide). They struggle to afford basic necessities and farming supplies and are vulnerable to exploitation by middlemen who extend high interest rate loans while purchasing crops at far below market value.

After working several years as both a consultant and a software engineer, Aukrit came to MIT to begin developing a platform to empower smallholder farmers. There he met Usman Javaid, who similarly wanted to leverage the widespread use of mobile phones to help this population. Together they founded Ricult. Initially, their platform provided a suite of potentially valuable services that farmers largely ignored. While a Legatum Fellow, Aukrit did market research and discovered that access to good financial services was what farmers needed most.



1K FARMERS REGISTERED 50% INCOME INCREASES 60 EMPLOYEES



Now Ricult improves the livelihoods of farmers not only by teaching organic growing techniques but also connecting farmers with credit markets and giving them direct access to produce buyers. A business education component teaches farmers how to think like entrepreneurs, and mobile apps empower them with information (e.g., daily SMS alerts on current market prices).

Today, Ricult has over **1,000** farmers registered who can order supplies and request a referral to a credit partner by phone. Financing is available at an average interest rate of 22%, compared to the 60-150% rates charged by middlemen. More than **150** Ricult farmers have increased their incomes (some by up to 50%) by selling directly to buyers. In 2016 Ricult won funding from the Gates Foundation, and they are on track to reach **1,000** farmers in 2018 and expand to **60** employees in Pakistan, Thailand, and China.



40%

Agriculture is the single largest employer in the world, providing livelihoods for 40% of today's global population. It is the largest source of income and jobs for poor rural households.

Source: UN Sustainable Development Goals, accessed Sept 9, 2017, http://www.un.org/sustainabledevelopment/hunger

TACKLING THE SANITATION CHALLENGE

DAVID AUERBACH

LEGATUM FELLOW 2011 - 2012

ANI VALLABHANENI

LEGATUM FELLOW 2010 - 2011

LINDSAY STRADLEY





In 2009, the founding trio of Sanergy committed to solving a crucial sanitation challenge: How do we create a system that adds value to human waste and makes sanitation profitable? Having met on a hiking trip during MIT Sloan orientation, Legatum Fellows David and Ani, along with their cofounder Lindsay Stradley, decided they were "kindred spirits" and agreed to create a viable startup together that would help the planet. David convinced the team to tackle the global sanitation crisis, which he had witnessed first-hand while teaching in rural China. They learned that, globally, poor sanitation was responsible for a loss of \$260 billion, and one million lives, each year.

The team decided to launch in Nairobi, Kenya, viewing it as an entrepreneurial hub of major donors, impact investors, and social businesses. There, Sanergy began to manufacture low-cost, high-quality sanitation facilities, franchise those toilets in urban informal settlements, and collect the sewage for conversion into fertilizer and animal feed.

Stradley.



53K CUSTOMERS PER DAY 1K+ ACTIVE TOILETS 9 TONS WASTE COLLECTED 60 NEW TOILETS PER MONTH



Today, Sanergy serves **53,000** people per day through **1,200** active toilets. Sanergy's toilets provide an income of **\$1,000** per unit per year to its franchised operators, who are all residents of informal settlements. The company collected over **9** metric tons of waste and has been growing by **50-60** toilets per month.

David, Ani, and Lindsay intend to saturate the entire market in all of Nairobi's informal settlements, at which point they can leverage economies of scale both in collecting waste and in culturing fertilizer. When Sanergy achieves its anticipated scale, its sanitation services will cost the government only **\$4** per person per year–compared to \$55 to install and maintain a running-water sewer.



4.1B people lack access

4.1 billion people lack access to adequate sanitation services, such as toilets or latrines.

Source: Baum R, Luh J, Bartram J. (2013). "Sanitation: A Global Estimate of Sewerage Connections without Treatment and the Resulting Impact on MDG Progress." Environmental Science Technology, 47, 1994–2000. http://dx.doi.org/10.1021/es304284f

ACTIVATING RESIDENTS FOR RECYCLING

BILIKISS ADEBIYI-ABIOLA

LEGATUM FELLOW 2010 - 2011



NIGERIA

Bilikiss is changing the way her home city approaches waste. In Lagos, Nigeria, millions of citizens live in informal housing, which means only 40% of the city's waste gets collected, 13% gets recycled, and recycling firms operate at 50-60% below capacity. Bilikiss observed that few people in Lagos viewed waste management as a system. As a result, potentially valuable resources were left piling up in the streets, attracting pests, and clogging drainpipes.

Bilikiss came to MIT and received a Legatum Fellowship to develop Wecyclers, which employs a low-cost fleet of cargo bikes and their purple-shirted drivers to collect waste material and deliver it to various sorting and processing hubs. Waste that would otherwise be littering the streets is converted into items like nylon bags, bedding materials, and plastic furniture. Households are encouraged to aid in this process by saving and trading their recyclable materials for points which can be exchanged for goods like food and household items.



3 TONS COLLECTED 60K CITIZENS BENEFIT 109 EMPLOYEES



Wecyclers employs **109** sorters and collectors and has processed more than **3,000** tons of recycling to the benefit of over **60,000** citizens who live in affected neighborhoods. They are now expanding the bicycle fleet to include motorized tricycles, vans, and trucks.

In late 2017, Bilikiss handed leadership of Wecyclers over to her COO (also her brother) in order to accept a government appointment to General Manager for the Parks and Gardens Agency for Lagos State. "As a manager, I've learned that the best trait you can have is to build an organization that can run even when you're not there." In her new role, Bilikiss continues her mission to clean up her city and "propagate a healthy state of mind for every Lagosian" by shaping policy for the Cleaner Lagos Initiative and restructuring the Agency to provide more parks and beautified open spaces.



1.3B

The amount of solid waste produced by cities will increase from 1.3 billion tons per year in 2012 to 2.2 billion per year by 2025.

Source: Hoornweg D, Bhada-Tata P. (2012). What a Waste: A Global Review of Solid Waste Management. World Bank, Washington, DC.

https://openknowledge.worldbank.org/handle/10986/17388

DELIVERING DIABETES CARE

JAVIER LOZANO

LEGATUM FELLOW 2009 - 2010





"Diabetes is a catastrophe in Mexico," said Javier. The country has over 14 million patients suffering from the disease and is on track to reach 30 million by year 2030. It's the leading cause of blindness, amputations, and death, and although quality specialized care can often prevent such complications, only about 10% of the population can afford such care (about \$1,000 per year).

Javier, whose mother is diabetic, understood these challenges well and was determined to explore how technology could help him lower costs and develop a "one-stop shop" for specialized care. As an MIT graduate student and Legatum Fellow, Javier began developing the model and technology for his company Clínicas del Azúcar, which now has 11 clinics in the Northeast of Mexico and is expanding rapidly. Clínics offer medical, nutritional, and psychological consultations, as well as eye, foot, and kidney exams, lab tests, and a pharmacy. Patients pay an annual fixed fee, either up front or in installments. The clinics use technology and data-capture to





automate and optimize resources, and they are monitored remotely by a centralized office in order to assure quality and facilitate replication.

11 CLINICS

The metrics so far are impressive. Clínicas del Azúcar has reduced the average annual cost of specialized care by 80%, and since their founding in 2012 they have treated **55,000** patients, 73% of whom (low- and middle-income) are accessing specialized care for the first time. Clinicas del Azúcar estimates that in 2017 they will have prevented 14,000+ diabetes complications. Javier has plans to expand to over 200 clinics within the next four years, as well as to replicate the model with other diseases.



422M

Source: WHO, accessed Sept 10, 2017, http://www.who.int/features/ factfiles/diabetes/en/

ACCESS TO MEDICAL EQUIPMENT

GENEVIEVE BARNARD

LEGATUM FELLOW 2016 - 2017

OLUWASOGA ONI

LEGATUM FELLOW 2015 - 2016

MDAAS

NIGERIA

Oluwasoga ("Soga") who had been working in the U.S. as a software engineer, knew he wanted to do something different. During a visit to his home in Nigeria, Soga's father, a medical doctor, showed him a room at the small hospital he owned where he kept his broken down medical equipment. This is a common problem in Africa—medical equipment is not only difficult to access financially, it also never comes with the support required for installation, maintenance, and repairs. Soga wondered if there was a market-based solution to this problem.

As a Legatum Fellow at MIT, Soga began planning an equipment services venture. There he met cofounder Genevieve, who had also observed the medical equipment challenge while working in Uganda. "At first Gen was just helping me out with some stuff," Soga said, "but soon she became invaluable because she did literally everything." Genevieve eventually became a Legatum Fellow herself.



20K PATIENTS 400 PATIENTS PER DAY



Soga and Genevieve's company, MDaaS, consults with customers about needs and conditions (e.g., climate, electric power quality, etc.) before procuring affordable refurbished equipment which can be rented, leased, or purchased. All equipment comes with free installation, staff training, and one year of service support with renewal options for subsequent years.

MDaaS currently employs three biomedical engineers and has twenty devices in the field, resulting in over **20,000** patients being served. Soga and Genevieve (who married this year) are now scaling their venture by introducing a profit-sharing model for high-volume hospitals with limited diagnostic capabilities, wherein MDaaS will implement and operate a diagnostic center, at no charge to the hospital, and share the profits. They recently launched their first two diagnostic center partnerships, and expect to have ten centers running by the end of 2018, allowing them to see an estimated **350-400** patients daily.



40%

Nearly 40 percent of medical equipment in developing countries is out of service.

Source: Perry L, Malkin R. (2011). "Effectiveness of medical equipment donations to improve health systems: how much medical equipment is broken in the developing world?" Medical & Biological Engineering & Computing, 49, 719-722. https://doi.org/10.1007/s11517-011-0786-3

BREAKING KNOWLEDGE BARRIERS

SAM BHATTACHARYYA

LEGATUM FELLOW 2014 - 2015

TUNDE ALAWODE



NIGERIA

While volunteering as a teacher in rural Mexico, Sam observed the largely untapped potential for technology to deliver valuable educational content to the developing world. Unfortunately, even though many students did have access to the internet, including from their phones, the lack of telecommunications infrastructure meant that data was both slow and costly, often limiting them to text-based apps. Even as online education initiatives like Khan Academy and Udacity flooded the internet with free educational video content, Sam wondered, "How will this content transform the lives of students if they don't even have the connectivity to access it?"

Sam came to MIT where he met his cofounder Tunde Alawode, who had witnessed the same problems Sam had but in Nigeria while he was a university student. Tunde shared Sam's desire to explore online education in emerging markets.



Legatum Fellow Sam Bhattacharyya (right) with dot Learn cofounder Tunde Alawode (left).

12 TEACHERS HIRED 15K STUDENTS



Together they developed a technology called Video Vectorization which packages chalkboard-style video lessons using a text-based vector format—rather than pixels—resulting in very small file sizes that will load more quickly, and cheaply, even on slow connections. In fact, according to dot Learn their compression technology "makes video learning as data light as Whatsapp and as affordable as SMS."

With their new company dot Learn, Sam and Tunde piloted their new compression technology in Ghana targeting the secondary school system and students who were preparing to take the national exam necessary for entrance into college. They've hired 12 teachers to build the math course, with other courses under development, and after a year of operation in Ghana they have 15,000 students, with expansion to Nigeria underway.



103M

103 million youth worldwide lack basic literacy skills, and more than 60 percent of them are women.

Source: UN Sustainable Development Goals, accessed Sept 9, 2017, http://www.un.org/sustainabledevelopment/education/

CREATING CONVERSATIONS AT SCALE

KENFIELD GRIFFITH

LEGATUM FELLOW 2010 - 2011





"I think innovation really starts with empathy." When Kenfield first won a Legatum Seed Grant to travel to Kenya, his intention was to collect data that would inform his computer-aided design solutions for remote-area buildings. Once he got there, however, he realized that data collection was itself a far more compelling opportunity. "Access to data is a significant pain point for emerging markets," Kenfield said, "whether you're a business making decisions or an entrepreneur wanting to do a startup. I empathize with that."

That 66% of Africa's economy is informal (i.e., neither taxed nor monitored by government) made collecting reliable consumer data especially challenging. So upon returning to MIT, Kenfield pivoted his PhD toward the development of a mobile-based survey platform that used SMS to make on-demand data from emerging markets as accessible as possible. Just hours after turning in his dissertation, he successfully pitched his first investor in New York City, then returned to Kenya to develop his venture.





12M CUSTOMERS ACCESSED 1,750 CLIENTS

Kenfield's company, mSurvey, now delivers surveys as real-time, structured conversations with consumers, and integrates the data with mobile money transactions. mSurvey offers two products: Voice of the Customer, which enables clients to gather live insights from their customers at mobile money touch points; and Audience on Demand, which allows the client to tap into mSurvey's entire consumer audience—12 million and growing—and define a specific group they'd like to engage for insight (consumers who respond to Audience on Demand surveys receive a mobile reward).

The mSurvey partnership with M-Pesa, a mobile money transfer service, has facilitated rapid onboarding of new clients, resulting in a leap from 79 to a projected **1,750** clients in 2017. mSurvey is helping many of these client-businesses not just succeed, but grow. Kenfield points out this is by design. "We embed ourselves in the operational growth of businesses."



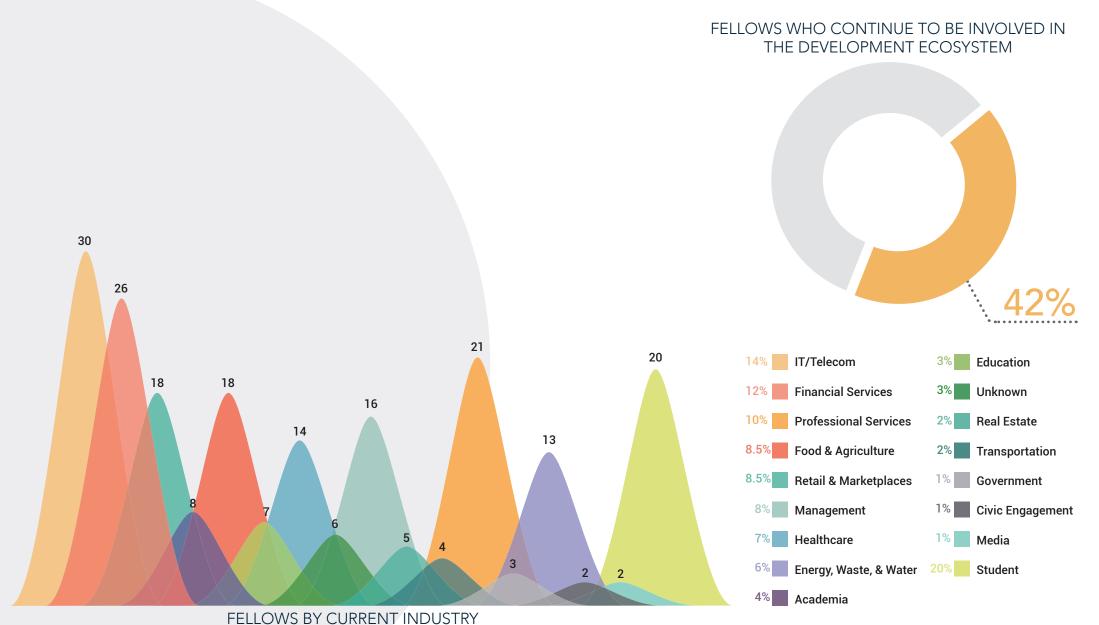
25 -65%

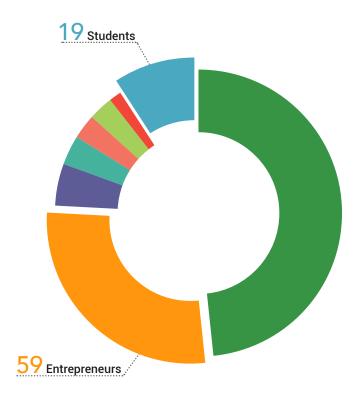
The informal economy contributes between 25 and 65 percent of Africa's GDP and accounts for between 30 and 90 percent of total nonagricultural employment.

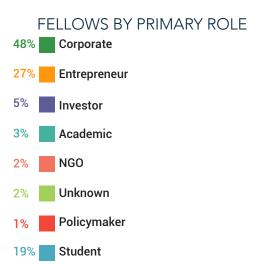
Source: CNBC Africa, https://www.cnbcafrica.com/news/special report/2017/05/25/informal-sector/

WHERE ARE THEY NOW?

The Legatum Center is empowering entrepreneurial leaders who are becoming change agents across a range of sectors and influential stakeholder groups – from entrepreneurs to investors and policy makers to academics and beyond.







Please note that the data represented here is based on responses from a self reported survey question and online research. Fellows who completed our survey were only able to select one stakeholder category. In some instances they considered themselves active in two categories (e.g., entrepreneur and investor or entrepreneur and student) but this could not be represented here. Further analysis is required.

RESEARCH METHODOLOGY

In June 2017, the Legatum Center sent email invitations, with an Excel format survey attached, to all 213 alumni Fellows. It was estimated that the survey would take approximately 30 minutes to complete. Over the following two months, 69 surveys were completed, a 32% response rate. Some of surveys were finalized through in-person or phone interviews. The results from this survey data are presented in this report to show the impact our fellows and their ventures are having in the developing world.

In addition to the survey responses, the Legatum Center has access to two additional data sets which contributed to this report: 1) incoming Fellow data (e.g., country of citizenship, venture industry and location as a Fellow, Fellowship funding, etc.); and 2) publically available online information (primarily LinkedIn profiles) about the Fellows as of summer 2017. The online information was used to augment our understanding of Fellows' present positions and the roles they play, if any, in the larger developing world, entrepreneurial ecosystem.

It is important to note that no scaling factors were utilized to account for non-respondents in the impact highlights related to active entrepreneurs and ventures. All of that data is based exclusively on the numbers reported by the 69 survey respondents.

Please also note that the impact data presented in this report is related to the fellowship program only. Impact related to other MIT Legatum activities, such as our seed grant program, and global programs, such as the Zambezi Prize, will be captured in future impact studies.

STAKEHOLDER PERSONAS

Sarah Dimson 2013-2014 Legatum Fellow Deputy Director, Partnerships Office, Power Africa, USAID

Sarah joined the School of Architecture with the goal of providing infrastructure to increase access and the supply of grid- and microgrid-scale renewable energy; and Sarah parlayed her knowledge and experience into leadership roles at first, the World Bank and now with Power Africa, a USAID initiative launched under the Obama Administration with the goal of increasing electrical access for 60 million households and businesses.

Daniel Obaseki 2012-2014 Legatum Fellow Founder, Elevation Food Partners

While pursuing his MBA at Sloan, Daniel was focused on tackling piracy and distribution issues in the Nollywood film industry; post-graduation he turned his focus to investing in natural resources in SubSaharan Africa first through private equity and now through a venture fund he is building focused on food and agribusiness.

Jorge Guzman 2010-2011 Legatum Fellow Postdoc, National Bureau of Economic Research

Jorge came to MIT in 2009 to pursue an MBA and build a technology firm to improve efficiencies for small to medium size businesses in Mexico; he remained at Sloan to pursue a PhD, became an MIT Sloan lecturer post-graduation and is now a postdoc and thought leader at the National Bureau of Economic Research where his research on entrepreneurial strategy in emerging markets has been published in some of the industry's most prominent journals.







INVESTOR



ACADEMIC

Kevin Kung 2013-2015 Legatum Fellow PhD Candidate, Department of Bio Engineering

Since his tenure as a Legatum Fellow, Kevin has continued his work on Takachar, which converts agricultural residues to charcoal, a low-cost, non-toxic, and eco-friendly cooking fuel for low-income households in Kenya; while finishing his PhD and now as a post doctoral fellow, Kevin frequently speaks to groups and classes on campus about his venture and leverages the ecosystem for the growth of his company.

Abdallah Khamis 2011-2012 Legatum Fellow Chief Commercial Officer, Airtel Kenya

Aballah, a Sloan Fellow, was passionate about establishing financing and educational systems to empower local entrepreneurs to serve their communities' needs; today, as Airtel Kenya's Chief Commercial Officer, and Chairman of the Money Mobile Association of Kenya, Aballah continues to lead the proliferation of products that enable and increase commerce for entrepreneurs on the continent.

Bilikiss Adebiyi-Abiola 2010-2011 Legatum Fellow General Manager, Lagos State Garden & Parks Agency

As an MBA candidate, Bilikiss launched WeCyclers, an on-demand method for households in Lagos to capture value from everyday waste; with WeCyclers continuing to scale, Bilikiss has doubled down on her commitment to creating a cleaner more sustainable Nigeria, this time from within government through her leadership role with the Lagos State Government.



STUDENT



EXECUTIVE



POLICYMAKER

OUR VALUES

The Legatum Center Values build on the principles of the broader MIT entrepreneurship community, as embodied through our students and alumni community and described in the MIT Sloan mission statement and the Martin Trust Center for MIT Entrepreneurship Principles of Operation. These values guide everything that we do.

IMPROVING LIVES: We empower our entrepreneurs to build and scale sustainable businesses that will create good jobs and have significant social impact. Whether they are increasing life expectancy, providing better education, or increasing access to financial tools—all while creating great jobs within the community—we aim for our students' ventures to give people a greater capacity to enjoy their everyday lives and to build even better ones for themselves and their families.

EXCELLENCE AND RIGOR: We work with faculty and partners to incorporate MIT's standard of excellence and rigor into everything we do.

COLLABORATION AND LEVERAGE: We leverage the unparalleled resources at MIT by working closely with other departments, labs, centers, groups, alumni, and partners in order to connect students with the best possible "entrepreneurship for development" curriculum, programming, and expertise across the university and the world.

INNOVATION DEMANDS DIVERSITY: "Entrepreneurship for development" requires diversity of opinion, ideas, and people. As such, our team, Fellowship cohort, and program offerings combine a range of critical perspectives, including from entrepreneurs on the ground in locations across the developing world.

EXPERIMENTATION AND EVALUATION: We foster an adventurous learning community by trying new activities and partnerships each year. To ensure we're meeting the needs of our students, we rigorously evaluate our programs, iterating, and refining our approach as needed.

CONTINUOUS LEARNING: We learn as much from our entrepreneurs as they do from us, so we continuously engage our growing community of students, alumni, and other experts to learn from them and feed the knowledge back into our programming, research, and strategy.

HONEST BROKER: Our only goal is the student's long-term success. No one in an advising, educational, or support role at the Center will take a part of a student company or look for a place on their board.

MENS ET MANUS: True to the MIT motto ("mind and hand") we operate on a hybrid model that fuses academic and practitioner perspectives.





A special thank you! Our world is a better place because of you.

Thank you to all those who, past and present, have made the impact captured in this report possible, especially the Center's Founding Director Iqbal Quadir, current Faculty Director Fiona Murray, and the Center's core team: Megan Mitchell, Ali Diallo, Reinaldo Normand, James Cooney, Julie Park, Kavan O'Connor, Julia Turnbull, Artafern Afsar. A special thanks also to Bill Aulet and Anjali Sastry for their ongoing ideas and strategic influence as well as to Anna Omura and Sorin Grama for their support over the years and for their help with this report. We also appreciate the collaboration of many departments and friends across campus including the Trust Center for MIT Entrepreneurship, MIT Innovation Initiative, MIT REAP, MIT Africa, DLab, MISTI, The MIT TATA Center, MIT Media Lab, PKG Center, Inclusive Innovation Challenge, and the MIT IDEAS Global Challenge.

A warm and sincere thank you also to our supporters—particularly the Legatum Group, the Mastercard Foundation, and HRH Princess Moudi Bint Khalid—for enabling the Center to exist and grow through their financial backing as well as their enduring faith in us and in our mission.

Finally, we thank our broader Legatum Center community, including our network of brilliant mentors, experts, and faculty, the MIT Sloan team, and of course our entrepreneurs. The stories and data in this report are a testament to the legacy they are creating.













MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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