USAID
FROM THE AMERICAN PEOPLE

U.S. GLOBAL DEVELOPMENT LAB

Turning Data *into* Action

Photo by Shutterstock Images

Contents

Turning Data into Action

The U.S. Global Development Lab (the Lab) was launched in 2014 with a dual focus. One objective is to produce breakthrough development innovations by sourcing, testing, and scaling proven solutions. The other is to accelerate the transformation of the development enterprise by harnessing ground-breaking scientific and technological advances. At the heart of both is utilizing data for better decisions. Being data-driven is also one of the nine Principles for Digital Development that USAID and over a dozen other donors have adopted in our commitment to better technology-enabled programming.

Data-driven decision making is not new to USAID. Since 1985, the Famine Early Warning System Network has measured the conditions that can trigger food insecurity and helped decision-makers prepare for and respond to disasters. In Uganda, USAID developed a collaborating, learning, and adapting approach that helps missions around the world do better development through a focus on continuous learning. We have a deep commitment to collecting and using data, but we have traditionally had a limited toolbox. Paper surveys are expensive and slow, which has kept many from being able to act on high-quality information.

Scientists and program officers at USAID today have an incredible array of data collection and processing tools at their disposal. Real-time data systems, which take advantage of cheap mobile devices, plummeting computing costs, and simple open-source tools, enable the development community to capture performance metrics and engage in a dialogue with citizens. These advances are inspiring a new class of USAID innovators who are turning data into action.

In April 2014, driven by a common desire to identify and support these innovators within USAID, the Lab's Center for Global Solutions and Center for Data, Analysis, and Research joined forces to co-create the Turning Data Into Action award. The award has two parts: the Recognition Prize celebrates activities that have incorporated data innovations for increased impact and the Support Award provides funding and technical assistance to implement new, data-focused activities.

The committee received 147 submissions from 45 Missions and Bureaus, proving what we already suspected—that there is incredible enthusiasm within the Agency to use data and technology in our programs. The award helps establish a community of these innovators on the cutting edge of evidence-based development.

I am thrilled to share with you the following publication, which highlights 12 unique ideas selected for the Data To Action Awards. Some have shaped huge initiatives, such as the $230 million dollar investment to modernize Pakistan's electricity sector. Others celebrate the power of simplicity, like USAID's mission in Senegal, which used simple, off-the-shelf technology to increase maize yields by 25% for 25,000 farmers. Our hope is that their stories inspire you to think about new, creative ways to use data in achieving more with less.

Our agency seeks to end extreme poverty by 2030. That's a lofty goal and to reach it we are going to have invest wisely in new innovations. We also have to use new technology to iterate and adapt our programs based on what we learn in the field. Data has to be understood as critical to the success of USAID. I believe this publication helps to demonstrate that we have the tools and ingenuity needed to turn data into action; action that can end extreme poverty.

Ann Mei Chang,
Executive Director, U.S. Global Development Lab

"We have the tools and ingenuity needed to turn data into action; action that can end extreme poverty."

By the Numbers

We solicited ideas from across USAID and received

147 APPLICATIONS

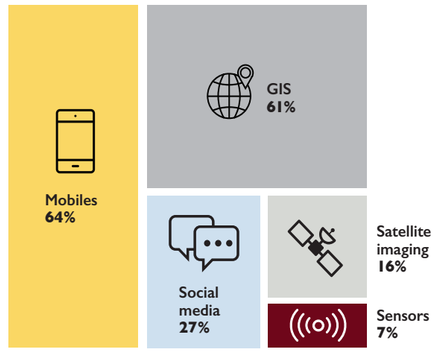
from

FORTY FIVE
missions and bureaus.

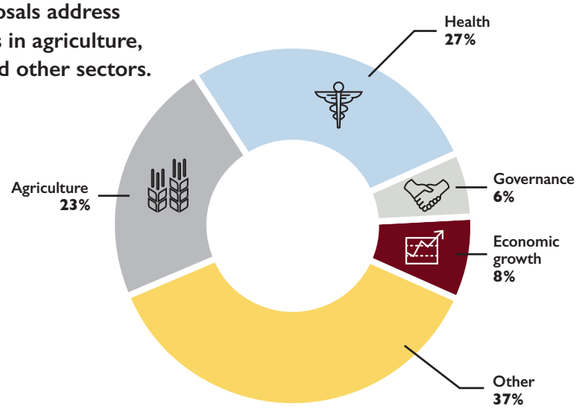
Almost

EIGHTY
countries were represented, with the strongest participation from

Applicants proposed using, or are using, a variety of digital technologies, often in combination.



The proposals address challenges in agriculture, health, and other sectors.



12 PROJECTS
were selected for support or recognition awards

Support Awards

The Data to Action Support Award is funding the development of new initiatives applying technology innovation in data. Read how four USAID missions will be turning data into action with their awards.

BANGLADESH

Reinventing Disaster Risk Management with Open Data

Bangladesh is located on the largest river delta in the world with hundreds of rivers flowing into the Bay of Bengal. This unique combination of climate and geography make it one of the most vulnerable countries in the world to natural disasters, especially cyclones and floods. After the devastating cyclone in 1970 left up to half a million dead, the government and international donor community have made incredible strides towards protecting the countries' 152 million citizens. In 2007, Oxfam estimates that 100,000 people's lives were saved during Cyclone Sidr, thanks to investments in early warning systems and shelters. While the gains should be applauded, new technologies will enable the government to take the next step into disaster preparedness. The support award will help USAID, the American Red Cross (ARC), the Bangladesh Red Crescent Society (BDRCS) and the Government of Bangladesh to harness an open-source suite of tools, including mobile phone survey software, to better prepare communities and first responders through technical analysis and modeling. With near real-time data, Bangladesh's government and development partners can analyze the needs of disaster-affected communities, access the locations of first responders and search and rescue equipment, and ensure that the response is in alignment with communities' action plans.

BENIN

Data for Decision Making in Malaria

In the West African country of Benin, malaria is endemic nationwide and is the biggest killer of children under five and the leading cause of all medical consultations. In addition, it places an incredible economic strain on the country, hindering development. More than a third of Benin's population lives below the poverty line, and according to the World Bank, families spend a quarter of their income on the treatment and prevention of malaria. The pressure this puts on health systems in Benin and other malaria-endemic countries is sparking new thinking into how information processes coupled with technology can help in the fight against malaria. Building on current USAID investments, funding from the support award will strengthen the Oueme and Plateau Health Department in southeastern Benin by investing in capacity and processes to getting real-time information to local health managers along the decision-making chain. Benin's government already has a wealth of valuable information stored in their routine malaria information system, performance based financing database, and End User Verification Surveys, but it doesn't have the capacity or resources to turn this data into actionable information. USAID and its partners will invest in data synthesis and dissemination tools so that information captured in these routine information systems can be processed in a timely manner, analyzed, and sent back to health workers on the ground. With this tool, the central government will be able to send information and reports to even the most remote health workers in the country. Malaria can kill children within 24 to 48 hours of infection. In this race against time, rapid information is truly a life-saving tool.

DOMINICAN REPUBLIC

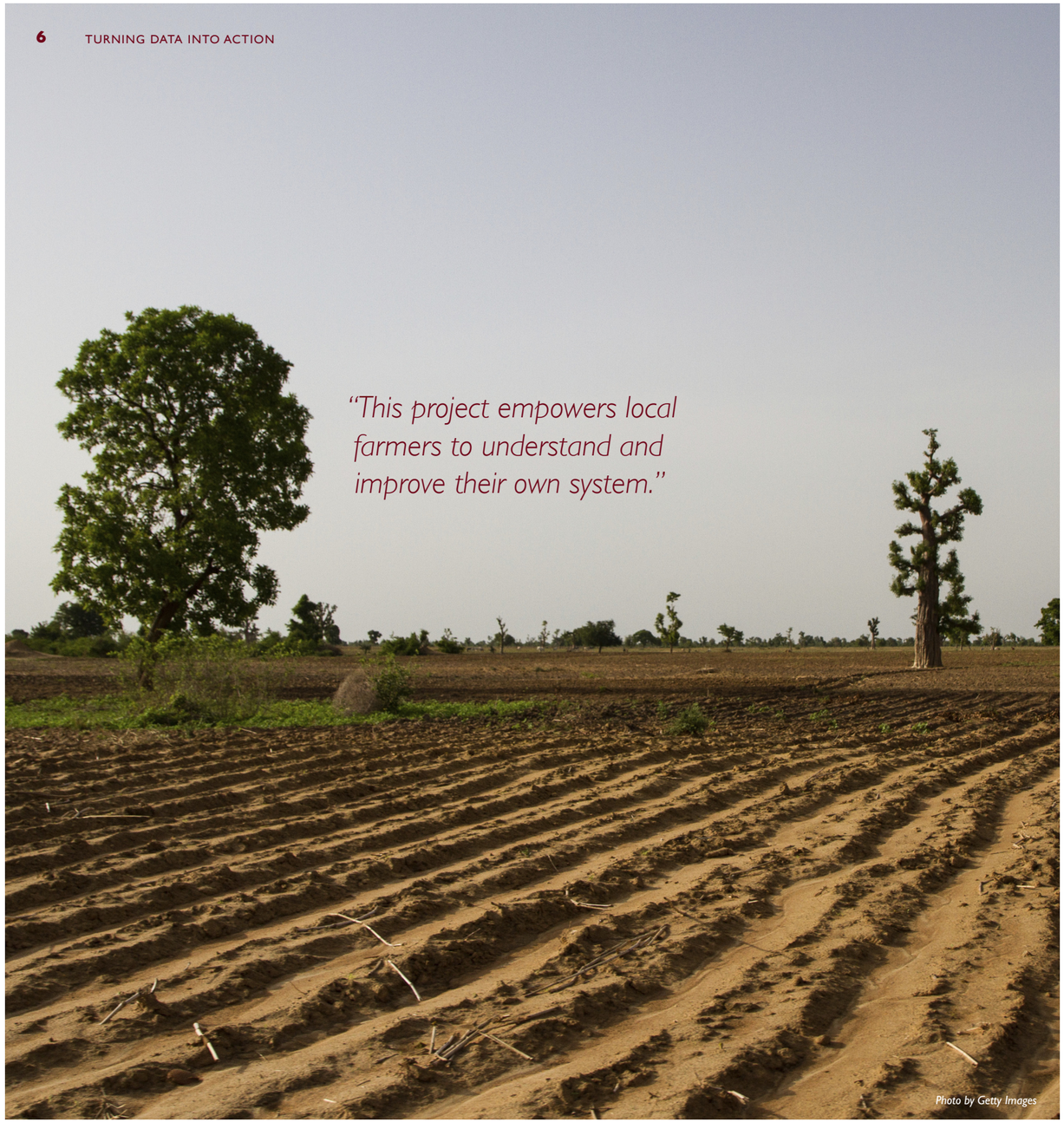
Climate Resiliency and Index Insurance for Small Farmers

In the Dominican Republic, the livelihoods of small dairy farmers are at the mercy of the weather, and climate change researchers are warning farmers to brace for a difficult future. Germanwatch's 2014 Climate Risk Index lists the Dominican Republic as one of the top ten most vulnerable countries in the world. To protect farmers from future weather-related income shocks, USAID and a consortium of partners have been experimenting with an innovative, affordable index insurance, which uses satellites to detect drought. While traditional insurance relies on costly, subjective farm visits to assess damage, this insurance uses a satellite measure of the "greenness" of a pasture to trigger payouts if the pasture is below the designated threshold. This objective, data-driven measurement tool significantly decreases the cost of delivering insurance and offers small farmers coverage they can actually afford. In addition to index insurance, USAID and partners are developing a platform to disseminate weather and climate-related data to farmers to improve planning and resiliency. The support award will help fund this new platform, expand the insurance program to farmers throughout the Dominican Republic, and refine the insurance's satellite algorithm to ensure accuracy. If successful, the index insurance can be a global model for how we cope with the risks of climate change.

SENEGAL

Mobile Maintenance and Monitoring of Water Systems

In Senegal's major cities, residents can be proud of their government's achievements to bring them safe drinking water. Unfortunately, only 60 percent of its rural citizens enjoy the same privileges. The government's efforts to provide clean water to its rural residents are crippled by a lack of comprehensive information on water infrastructure. With technical support from the Lab, USAID/Senegal will experiment with an SMS and cloud-based data management system that will allow the government to track its inventory of boreholes and water systems. This real-time information will help government officials both plan routine maintenance and be prepared for urgent repairs. In addition, it will give citizens of Senegal a voice by allowing them to report problems in their communities. Finally, USAID and its partners will use smart phones and open data software to collect water quality data from households. This household-level data will enable USAID to target communities most in need of behavior change communications, and make sure water stays clean from collection to consumption. With improved data, access to clean water can prevent diseases and improve the health of thousands of people.



A Bottom-Up Approach to Farm Data

Most of our award recipients demonstrate how data is helping USAID run better programs. This is incredibly important but is only one side of the data equation. In Senegal, USAID is using cloud-based systems to help smallholder farmers and local farmer associations get data they can turn into action.

Farmers in Senegal face a number of challenges that result from a simple lack of information and coordination. How do you know how much seed to buy? How can you make sure fertilizer is delivered on time? How can you be sure new farming techniques will work locally? These questions can all be addressed by collecting, aggregating, and most importantly, sharing and coordinating farm data.

USAID's enabling role in this work is not flashy. The program has set up basic internet connections, and accessible databases using off-the-shelf software. At the local level, the system is managed by members of farmer groups with basic IT skills. It is no more complicated than Excel spreadsheets and basic GIS software.

And yet, the impact is dramatic. The project has reached more than 25,000 small farmers. By coordinating bulk purchases of fertilizer, farmers negotiated prices that were 10-20% lower, and were able to get higher-quality fertilizer by purchasing directly a from large, reputable vendor. Data sharing and open discussion allows farmers to compare notes on their farming techniques and propose best practices. For example, farmers recently decided to start measuring the spacing of plants in their fields—this was not one of the indicators proposed by USAID's implementing partner. They quickly identified the density that produced the highest yield and adjusted sowing practices accordingly.

This year, the summer rainy season in the Sahel got its latest start since 1966. Late rains created a dilemma: should farmers sow while the ground was still dry and risk the seeds failing to germinate, or wait for the rains and risk insufficient growing time before harvest? To collect timely information, farmers were given simple manual rain gauges and those in charge of checking the rain gauges got $5 worth of SMS credit per month to report their results. The result was a daily rainfall map with 150 measurement points over 30,000 sq. km. The Ministry of Agriculture's Regional Office started borrowing the farmers' data because it was better than what they had. The farmer network's last annual meeting featured a heated discussion of the precise amount of accumulated rainfall before sowing is safe—10mm seems to be the emerging consensus based on the yield statistics provided by the databases.

As Jean-Michel Voisard from USAID's *Projet Croissance Economique* (PCE) puts it, "What I like about this approach is that it's really bottom up… it develops capacity for the farmers." Instead of sending in "experts with per diems and motorcycles," this project empowers local farmers to understand and improve their own system. At the farmer network's annual meetings, scientists and technical experts are sometimes invited as resources, but never as speakers—the farmers present results, raise questions, and debate recommendations from their peers. Resisting the "techie" urge to make things more complicated, PCE will only add new features if the farmers ask for it—and they do. After all, it's their system.

MOBILE TECHNOLOGY

LOCATION

Senegal

BUREAU

Africa

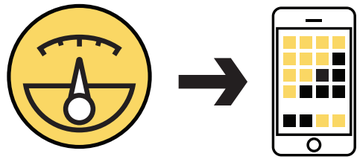
SUMMARY

- Coordinating data with 25,000 farmers
- Led to 25% increases in maize yields
- Off the shelf software enables simple use and maintenance

USAID installed more than

9,000

smart meters at almost every grid station.



Photos by Power Distribution Program/Nadeem Habib

Smartening the Grid

Imagine what would happen if the electricity were to shut off right now. Lights turn off in classrooms, assembly lines stop in factories, and your ironing or cooking gets put on hold. Water-bottling companies discard their half-processed bottles and steelmakers send half-made product to the scrap heap. Now imagine the frustration if this were to happen nearly every day, sometimes without warning. Eventually, kids stop coming to school, factories and offices stop working. You definitely wouldn't feel like paying your electric bill.

For 130 million electric customers in Pakistan, this isn't hard to imagine at all. Pakistan doesn't have enough electricity to go around. This country of 183 million people currently runs on 10,000-12,000 MW, about one-third the power consumption of California (which has only 38 million people). Pakistan's electricity supply meets only 55-70% of demand, creating a chronic power shortage that is managed by rolling blackouts. For most customers, the lights are off for 10-16 hours a day.

In September 2010, USAID-Pakistan launched the Power Distribution Program (PDP), a 5-year, $230 million effort to modernize Pakistan's power sector. When the project began, USAID energy experts quickly discovered that there was no mechanism for determining power requirements at any given time, manual systems to monitor power flow, and no warnings when the system was overloaded and headed for a blackout. Each distribution company (or DISCO), which serves a population 4-5 times the size of New York City, had a group of about 8 people with about 4 phone lines collecting information in paper ledgers. Each DISCO had a few areas from which they rarely received data at all.

The system was plagued by mis-communication, non-communication, and miscalculation of consumption levels. The National Power Construction Corporation (NPCC), the government authority that manages Pakistan's nationwide power grid, is responsible for distributing power between DISCOs. If one DISCO was taking more than its share, NPCC had no way of finding out where the excess load was coming from and often made arbitrary decisions about where to impose blackouts. In the absence of accurate data, decisions about load shedding were sometimes based on bribery and political influence.

In response, USAID installed more than 9,000 smart meters at almost every grid station. These meters contain SIM cards and use the cell phone network to relay information about electricity usage back to the DISCO headquarters every 15 seconds. This digital usage information is then relayed to the National Power Control Center and other Pakistani government agencies.

Pakistan has the highest mobile penetration rate in South Asia, and roughly 90% of Pakistanis live in an area with cell coverage. Taking advantage of this existing system enables management of all Pakistan's power distribution, creating an annual $180M of economic growth from an initial $6M investment by USAID.

Billions of dollars in investments will be required before Pakistan's energy demand can be met throughout the country. In the meantime, however, we have to use whatever we have smartly. Intelligent scheduling of blackouts means that industrial users can get uninterrupted service during working hours (avoiding costly shutdowns), while residential users get more electricity in the early mornings and evenings. DISCOs can now categorize customers in a way that was previously impossible; neighborhoods where people pay their entire bill and pay it on time receive more consistent service. Many challenges remain for Pakistan's power sector, but they are quite literally not in the dark anymore.

SENSORS

LOCATION

Pakistan

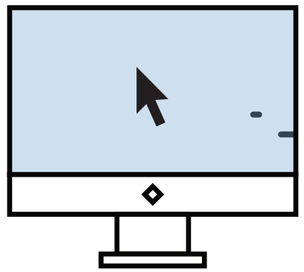
BUREAU

Office of Afghanistan and Pakistan Affairs

SUMMARY

- Better service delivery to over 120 million people
- $62M increase in revenues for distribution companies
- Total benefit to the economy of over $180M.

USAID developed a system for distributing lab results via text message with a local IT company.



2,035 small scale Kosovo dairy farmers now receive milk test results on their phones twice a month.

Milk processors also have access to local farmers' test results, so they can set transparent base prices and offer premiums based on measurable quality grade increases.

BASE PRICE

QUALITY GRADE

OUTCOMES

Dukagjin knew his cows produced excellent milk, but now he has proof on his phone that it's "extra class", a distinction that **allows him to command significantly higher prices.**

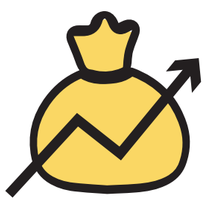
He has invested in increased production, growing his dairy herd from

To date, more than

70% of farmers

HAVE IMPROVED THEIR MILK

by one or more quality grades.



This is increasing revenues by 17%, in aggregate a

€2.2 MILLION

increase to farmers each year.

Productivity through Transparency

Like many Kosovar farmers, Dukagjin Dedaj often felt like he got a bad deal for his cows' milk. The local processor would dispute its quality in an attempt to pay as little as possible. Many of Dukagjin's peers were so frustrated that they sold their milk, unpasteurized and poorly packaged, by the side of the road. The low quality of domestic dairy products encouraged consumers to look elsewhere. This, in turn, depressed market prices, disincentivizing farmers like Dukagjin from expanding dairy herds or improving production.

So in the mid-2000s, USAID helped establish Kosovo's national raw milk-sampling laboratory. The results of the laboratory's quality tests were initially shared by field officers and then through a password protected website. But with limited internet access and infrequent field officer visits, farmers did not get results in time to make use of them.

In order to get farmers actionable information, USAID partnered with a local IT company to develop a system for distributing lab results via text message. 2,035 small scale Kosovo dairy farmers now receive milk test results on their phones twice per month. Processors have access to the same information, so they now set a transparent base price and then offer premiums based on measurable quality grade increases.

Dukagjin knew his cows produced excellent milk, but now he has proof on his phone that it's "extra class", a distinction that allows him to command significantly higher prices. He has invested in increased production, growing his dairy herd from 15 to 52 cows.

The test results also act as an early warning for cattle problems. Dukagjin recently received a text message that his milk had slipped a grade. This prompted him to discover that one of his cows had an infection and treat it right away. "It's a miracle," he said. "I am sitting at home and a message shows up and tells me about the health of my cows."

The impact of SMS quality results, not just for Dukagjin but for thousands of farmers, is adding up to a sustainable system. 3 years ago, just 650 farmers participated in Kosovo's dairy association. Today more than 3,000 do. They are all due-paying and current, and they have agreed to support the milk testing system with a per liter tax on milk deliveries. This generates enough revenue to support the system, making the dairy association the first agricultural association in Kosovo to become financially sustainable.

To date, more than 70% of the farmers have improved their milk by one or more quality grades. This is increasing revenues by 17%, in aggregate a €2.2 million increase to farmers each year. Government subsidies are now based on quality improvement and used to further incentivize investment in dairy quality and production. Based on the system's success, the agriculture sector is exploring additional ways text messaging can improve farmer practices. Ultimately, the result of this timely and transparent quality information is a more competitive dairy sector that benefits farmers, processors, and consumers.

MOBILE TECHNOLOGY

LOCATION

Kosovo

BUREAU

Europe & Eurasia

SUMMARY

- Transparent data increases trust
- Farmers use test results to improve production and quality
- Contributed to three-fold increase in milk sales

Photo by Ulet Ifansasti/Getty Images

The Race Against Malaria

Malaria is one of the deadliest diseases on Earth, killing more than 600,000 people every year—mostly children under five years of age. Fortunately, we have a number of tools that we know save lives in the fight against malaria. Insecticide-treated nets, rapid diagnostic tests, and effective antimalarial drugs are all proven interventions that can dramatically reduce sickness and death. Consequently, the international community invests billions in these commodities. However, managing their worldwide distribution and ensuring they get to the intended beneficiaries is not easy. Too many people still fail to get malaria prevention and treatment because of problems with procurements, stocks being held up in central warehouses, or late distribution of commodities.

USAID is committed to making sure these commodities reach the health facilities and the communities that need them. As Jennifer Wray, a Senior Malaria Advisor with the President's Malaria Initiative says "We are good stewards of these drugs. Our responsibility doesn't end when they get to port."

The President's Malaria Initiative is using something called the End-Use Verification Tool (EUV) to improve malaria supply chains and get the right commodities, in the right quantities, and at the right time, to the health facilities and service outlets where they are needed. EUV teams travel to up to 35 health facilities each quarter to conduct a quick survey on the availability of malaria supplies and check how malaria is being diagnosed and treated. The entire process from data collection to distribution of concise, actionable reports takes just 8 weeks. Importantly, the EUV checks for all commodities, not just those purchased by USAID.

The EUV is also designed with an understanding that when it comes to malaria sometimes you can't wait 8 weeks. A child that does not receive treatment for malaria is likely to die within 24 hours. Two examples, from Liberia and Zimbabwe, show how effective the EUV is in quickly addressing stock problems and changing practices.

In Liberia, where government is working hard to improve the well-being of its citizens, civil war weakened what was already poor infrastructure. Hundreds of thousands of people are cut off by a lack of roads during the rainy season every year. During a 2010 EUV, surveyors found that an entire district in the catchment area was completely stocked out of antimalarials. The team was able to immediately report this stock-out, identify that a nearby district had supplies to spare, and move drugs between districts to avert a crisis. This quick response likely saved many lives.

Over time, the impact of EUV data can empower health programs and strengthen health systems. In Zimbabwe, EUV assessments found that a district was using antiquated guidelines and prescribing two ineffective drugs. Not only would these drugs fail to help people get better, their use could contribute to more dangerous and drug-resistant strains of malaria. The team immediately brought in updated guidelines that improved the way that malaria is treated.

In every country, EUV teams are staffed by national authorities, with support from USAID. This high level of government ownership means that feedback from the EUV assessments is incorporated directly into supervisory activities and national health strategies. Donors appreciate that PMI is ensuring that commodities are where they ought to be. By acting on real-time data, USAID, our partners, and national health programs can get essential malaria supplies to those who need them most.

END-USE VERIFICATION

LOCATION

PMI countries

BUREAU

Global Health

SUMMARY

- Teams travel to up to 35 health facilities each quarter
- Data collection to report distribution takes just 8 weeks
- Real-time reporting addresses urgent issues immediately

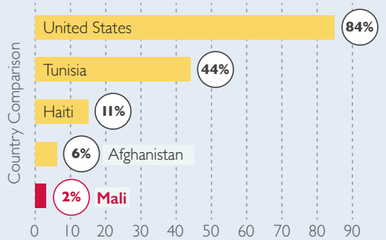
"Thank you for asking us what we think about things. Very few people do that, and it feels good to express myself on these issues."

Photo by Yaya Bouare

Why a Hotline? Right technology for a low-text country

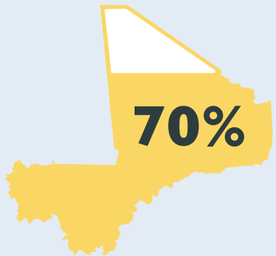
LOW INTERNET ACCESS

Mali falls in bottom 12 countries for lowest % of people (per 100) with internet access.



HIGH PHONE PENETRATION

Cell phone penetration rates are over 70%



World Bank 2013

Reconciliation Through Connected Communities

In January 2012, armed separatists began a rebellion in northern Mali. A military coup in March led to chaos, further violence, and eventually international military intervention. While civilian rule has been re-established and Mali has held democratic elections, peace remains fragile. People were deeply traumatized by the occupation; paranoia, fear, and mistrust of fellow community members remain very high.

USAID is working with communities to restore a sense of normalcy and heal divisions created by Mali's conflict. In such a tense environment, community feedback is especially critical. If not implemented with extreme care, stabilization activities like cash for work can exacerbate conflict in such a tense environment. In order to constantly take the pulse of communities to prevent such an outcome, USAID is using mobile phone hotlines as a source of citizen input on its programming.

Mali ranks in the bottom 10 countries in the world for internet connectivity, but cell-phone penetration is over 70%. In collaboration with Yeleman, a local IT firm, USAID created a hotline users can "flash" by calling and hanging up. They then receive a free call back from an operator that speaks their local language. Data from the calls is fed into an electronic database that compiles quantitative data, geolocates callers, and produces both qualitative and quantitative reporting.

The hotline has provided valuable insight into project activities. In Timbuktu, callers cited songs and dance as an incredibly important part of a return to normalcy. As one caller put it "The thing I liked most was the traditional dance. This is always done during times of peace, and now we can be sure that peace has returned." As a result, the project is further integrating cultural activities which include song and dance into its transition work. Questions about cash for work initiatives found that 96% of respondents understood how beneficiaries were selected. This feedback is important, because avoiding conflict over selection depends on people feeling the process is transparent.

The hotline has also been helpful in informing how the program frames and articulates problems as it develops strategy. In the region of Gao, 88% of respondents reported there is no "ethnic tension". But this does not mean that everyone is getting along. Indeed, the program learned that addressing "ethnic" issues as such was unproductive because respondents simply did not see conflict through that lens. On another activity, feedback from in Timbuktu revealed a perception that the grantee was a political actor and the activity was not inclusive. Based on that reaction, the project adjusted its approach to grantee selection to prevent similar issues in the future.

Perhaps most importantly, the hotline empowers Malians who have been marginalized by years of conflict. In response to the hotline, one caller said "Thank you for asking us what we think about things. Very few people do that, and it feels good to express myself on these issues." Beyond its use as a tool for the program, a real-time connection is finally bringing citizens into the development conversation.

MOBILE TECHNOLOGY

LOCATION

Mali

BUREAU

Democracy, Conflict and Humanitarian Assistance

SUMMARY

- Phone-based surveys measure community sentiment
- Feedback incorporated into reconciliation activities
- Project clients empowered to share their thoughts and feelings

Photo by Spencer Platt/Getty Images

Food Security on Demand

Rural poverty and food insecurity are closely linked in Bangladesh. Despite the country's incredible economic growth, rural areas are still lagging behind. Extreme poverty rates in rural areas are triple urban rates, and half of rural children are chronically malnourished. Frequent natural disasters and the growing threat of climate change have exacerbated food security challenges in the country's South. In response, the Nobo Jibon program (meaning "New Life" in English), funded by USAID's Food for Peace, is working to improve nutrition, increase food production and incomes, and make communities less vulnerable to natural disasters.

Nobo Jibon is a large and complex program. Coordinating activities across 11 districts and 225,000 households is not a simple task. To track the project's work and progress, Nobo Jibon uses a combination of mobile data collection and web-based analysis. Using smartphones which can also tag GPS coordinates, frontline staff track data points on everything from where village savings and loan associations have been established to how many kilometers of road are under construction. This information feeds into a website where staff can monitor progress towards the project's objectives throughout all 11 districts.

To prevent malnutrition among the most vulnerable children, those under the age of two, Nobo Jibon distributes food rations to pregnant women and children. However, shortly after the program started distributing food Nobo Jibon staff realized that the secondary data used to design the project did not accurately describe the actual program participants or their food demand. Using real-time data, the project was able to accurately revise procurements for the amount of food needed each month. This data system helped ensure the right amounts of food were available in the right place, and tracked and incorporated expiration dates to ensure no food spoiled before being distributed. By developing a robust supply chain management system for nutrition assistance, Nobo Jibon averted millions of dollars in losses from unused or expired food.

In addition to managing physical commodities, Nobo Jibon delivers and measures the quality of a number of social services. By combining real-time data with spatial analysis, Nobo Jibon identified that beneficiaries were less engaged in more remote areas. These hard to reach areas were receiving less monitoring, and as a result participants were attending project activities less frequently, and even dropping out. In response, the team dedicated extra attention to these households in their field visits. The project also increased monitoring, and provided additional training for underperforming staff.

With the right technology in place, Nobo Jibon staff have real-time data they can use for decision making, and it takes less time than the traditional paper forms. It's not just for project controllers; the data on their platform is accessible to anyone. Go to www.mcaid.info and use the username "guest" and password "123" to check it out.

MOBILE DATA & WEB-BASED ANALYSIS

LOCATION

Bangladesh

BUREAU

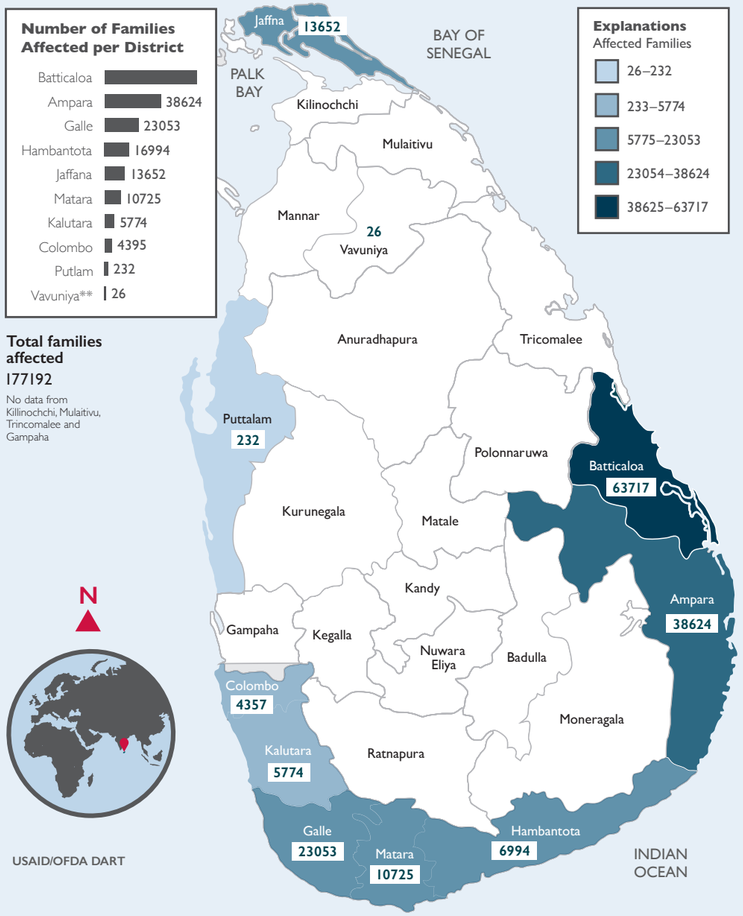
Asia

SUMMARY

- Data automatically connects to centralized web-based dashboard
- Real-time feedback improves service coverage
- Preventing food waste saves millions of dollars

Sri Lanka NUMBER OF AFFECTED FAMILIES
as of January 8, 2005

9.0 EARTHQUAKE TSUNAMI, 12/26/04



Data Sources:
Feature data: US-Asia Environmental Partnership Program (US-AEP)
Tsunami impact data: Collected by district Secretaries, posted on 8th Jan, 05 at UNDP site www.lk.undp.org/ndmc.

Note:
The number shown in each affected district are for the number of families affected. The dark colors indicate districts with maximum number of affected families and the light colors indicate less number. The graph provides comparative figures for the districts

Notes:
This map shows number of families affected in the districts as of 6th January 2005. The actual numbers are changing by the day. Spatial Referencing is based on Sri Lanka National Grid. Map crated on January 10, 2005 by USAID/OFDA

The Power of Mapping

Insufficient coordination is a frustrating reality for many complex development environments. Nowhere is this more true than in Nepal, with its difficult mountainous terrain and complex political history. To combat this challenge, USAID is harnessing the power of geographic information systems (GIS) by investing in a dedicated GIS Lab in Nepal. "GIS is more than a map-making technology," said Indra Sharan, the Nepal mission's GIS specialist. "It is a powerful set of tools that support in USAID's program design, monitoring, communication and strategic planning by collecting, storing, and analyzing spatial data."

With Nepal's GIS Lab, USAID is using GIS tools to coordinate for better, faster, and more efficient programming. Recently, Nepal's Democracy and Governance Office collected location data on all of their conflict management and mitigation work. They found that two projects had overlapping activities in seven villages. Addressing this overlap saved more than half a million dollars and focused each project on its comparative strengths for more effective development.

The importance of this kind of coordination is magnified in emergency situations. In 2004 an earthquake of 9.2 magnitude hit Indonesia, and the subsequent tsunami devastated the coastlines of several countries. USAID Nepal deployed its GIS specialist, hardware, and software to Sri Lanka, and immediately set up a GIS facility. By the second day, USAID had standardized the format for the data that was coming in every hour from the government and response teams. By the third day, USAID was creating maps of the tsunami's impact on people, property, and infrastructure. Transforming unstructured data into visual products that could be updated daily, GIS maps and charts illustrated the severity of the emergency situations by district. The maps served as effective communication tools among the DART, Mission staff, U.S. Government, and Congressional delegations. And most importantly, they allowed the response team to quickly determine where resources were needed most. After the emergency response, Sri Lanka became the second USAID mission to set up a GIS unit.

Complex challenges like food security also benefit from GIS analysis. USAID's Food for Peace and Feed the Future programs look at agricultural production, gender, nutrition, poverty, and where other donors are working. These data points are not easy to understand from a series of spreadsheets. But by mapping indicators that were relevant to Feed the Future and Food for Peace program design, the Nepal mission was able to quickly target districts with the most vulnerable populations. Without GIS analysis, the mission estimates the process could have taken a year, and would have lacked the strong evidence base that mapping was able to easily incorporate.

Sheila Lutjens, USAID Nepal's former Deputy Mission Director remarked, "I am always amazed at the information that we can glean from looking at a well-designed map." The GIS Lab's work in USAID Nepal has helped her and many other decision-makers apply data to their work. Based on Nepal's example and experience, the Sri Lanka and Bangladesh Missions have established their own GIS Units. The Nepal Mission has also supported USAID's missions in India, Pakistan, Indonesia, East Timor, and the Philippines in increasing their use of GIS. In Nepal and beyond, the mission's GIS Lab is truly turning data into action.

GEOGRAPHIC INFORMATION SYSTEMS

LOCATION
Nepal

BUREAU
Asia

SUMMARY

- Development data facilitates coordinated programming
- Emergency deployment allowed rapid visualization of disaster area
- With Nepal's example, USAID Missions are increasingly incorporating GIS into their work

Photos by Catalpa International

"I am happy because I have encouragement. Sometimes I feel too lazy to go to the clinic, but I read the message that comes to my phone, and think, today, I must make myself go to the clinic."

Caring for Mom and Baby

The Mobile Moms project demonstrates the power of USAID's partnership with NGOs in developing innovative solutions that strengthen links between communities and the health system to help achieve the goal of ending preventable child and maternal death.

In many developing countries, giving birth is one of the riskiest things a woman does. Timor-Leste is no exception. With mountainous terrain and a widely dispersed rural population, most women give birth at home and receive little medical support during or after their pregnancies. As a result, maternal mortality rates are more than 15 times higher than those in the U.S. and far too many babies die in the first few hours and days after birth.

Individuals and their communities play a fundamental role in preventing pregnancy complications and saving lives. Susan Thompson is Director of Programs for Health Alliance International (HAI) whose mHealth initiative, Mobile Moms, is working to improve maternal and child survival. As Susan says, "There was a lot that women could do to have a healthy pregnancy that they didn't know about, and it couldn't be conveyed in the usual two or three short prenatal care visits." So with support from USAID, Mobile Moms is connecting midwives and mothers via their mobile phones.

A project survey showed that almost 70% of mothers had a cell phone or access to one. Using these basic phones, the project sends messages to expecting women and new mothers twice per week. The vast majority of women do make a visit to a midwife early on in their pregnancy. At this visit they register for Mobile Moms and begin receiving messages timed to the stage of their pregnancy and for six weeks after they give birth.

The automated Mobile Moms service was developed by Catalpa International in partnership with HAI. The service does not just push out information, it also creates a channel for mothers to communicate with midwives and serves as a behavioral nudge. As one Mobile Moms mother says, "I am happy because I have encouragement. Sometimes I feel too lazy to go to the clinic, but I read the message that comes to my phone, and think, today, I must make myself go to the clinic."

Finally, Mobile Moms provides real-time data for project management. Health staff can track number of enrolled women in their communities, number of babies delivered, deliveries anticipated in the current week, and women who have requested assistance through the system. Managers can track villages where enrollment is low to improve outreach. The project can combine this information to see where Mobile Moms messages are translating to more visits to midwives and deliveries at health facilities.

The early results are impressive. The number of facility births in the pilot district has risen by 70% since the launch of the project, and total births assisted by a skilled attendant has increased by 32%.

The program is now working with the Australian government to expand Mobile Moms. It has also developed a partnership with one of Timor-Leste's three mobile network operators, which now offers free Mobile Mom text messages to their customers. Even the Ministry of Health has gotten excited, and is working to more fully integrate Mobile Moms into its health system. The future of Mobile Moms is bright, and as it scales nationwide it will provide a critical network to support healthy moms and babies.

MOBILE TECHNOLOGY

LOCATION

Timor-Leste

BUREAU

Global Health

SUMMARY

- Two-way texting supports communication between midwives and expectant mothers
- Performance data and dashboard allow practitioners to focus on underperforming areas
- Facility births have increased 70% and births assisted by a skilled attendant increased 32%

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