2021
DIGITAL DOWNLOAD

A Year in Review

USAID Technology Division
Innovation, Technology, and Research Hub
Bureau for Development, Democracy, and Innovation

Photo Credit: Ismail Folaranmi Odetola

TABLE OF CONTENTS

MESSAGE FROM THE CHIEF DIGITAL DEVELOPMENT OFFICER

The Technology Division, housed in USAID's Innovation, Technology, and Research (ITR) Hub, is working toward a future where digital technology promotes inclusive growth, fosters resilient and democratic societies, and empowers all—including the most vulnerable. We envision a future where people and communities around the world feel empowered to use digital technology to access services, engage with others, and pursue economic opportunities. One of the key ways that we are working towards this vision is through geographic analysis and mapping, which helps us to illuminate areas where need is the greatest and, in response, prioritize placement of international development programs.

Ten years ago, USAID established the GeoCenter, a team of geographers and geospatial data analysts who help the Agency apply a geographic approach to development to make data-informed decisions about where to invest resources. In the last decade, the team has influenced hundreds of Agency programs, provided access to satellite imagery for USAID projects in more than 55 countries, and helped equip YouthMappers students from over 300 universities worldwide with digital mapping skills.

In 2021, the global network of YouthMappers grew to more than 60 countries. Collectively, YouthMappers have contributed more than 12 million features to the digital OpenStreetMap platform, such as roads, buildings, hospitals, schools, and businesses—putting many places on the map for the first time.

In Sierra Leone, YouthMappers teamed up with researchers from Arizona State University to map buildings and roads to inform the design of micro-grid power distribution networks, in an effort to provide electricity to rural communities. The program also launched the new YouthMappers Academy, an online course that helps students learn the fundamentals of working with open geospatial data and technology.

In the context of COVID-19, young leaders like these have an especially important role to play. The pandemic has increased the urgency and need for digital infrastructure, tools, and approaches for everything from education to government services to health, and YouthMappers have helped ensure that key data are available to decision-makers around the world as a part of ongoing pandemic response.

To use this data most efficiently, however, we need to ensure that we build our partners' technical capabilities to oversee these systems and responsibly leverage the data they produce to inform their own decisions. For communities to truly thrive in the digital age, open, inclusive, and secure digital ecosystems that preserve and protect the rights and agency of individuals are of critical importance.

The proper use, understanding, and application of technology is a development imperative, which is why when I look back over the past year I am both humbled by the challenge ahead of us and proud of the incredible progress we've made so far.

Photo Credit: USAID

Christopher Burns

Chief Digital Development Officer & Director, USAID Technology Division

As you will see in this report, the Technology Division was incredibly busy in 2021. We have continued our commitment to maximizing the benefits of digital technology while mitigating the risks through a focus on emerging technology, advanced data and geospatial analysis, cybersecurity, and more.

We've made significant strides in the first two years of USAID's Digital Strategy implementation that are foundational to the years ahead, including hiring or appointing seven new Digital Development Advisors to join our growing network of 26 advisors across 19 Missions and Bureaus, and launching the Digital Ecosystem Fund, which equips USAID Missions with catalytic financing to design and implement activities that foster open, inclusive, and secure digital ecosystems.

However, much work remains to be done.

While digital tools hold immense potential to help people live more free and prosperous lives, they also present significant risks to citizen privacy and data, freedom of the press, and individual expression. Authoritarian governments and malign actors may wield digital tools to suppress political dissent and exploit system vulnerabilities or individuals who lack digital literacy. As USAID Administrator Power said at the Summit for Democracy in December 2021, "Of the 3.8 billion people around the world who have access to the Internet, the vast majority—some three quarters—live in countries where governments, last year, arrested and jailed people for expressing non-violent political or social views online."

Furthermore, while much of the world has access to a basic mobile phone, the full potential for digital technology is not yet realized. Approximately four billion people in developing countries do not have access to the internet, including a staggering 82 percent of households in the least developed countries. And women are, on average, 14 percent less likely to own mobile phones than their male counterparts. The COVID-19 pandemic continues to exacerbate this ongoing digital divide as it decreases stability, reduces resiliency, and prohibits countries from achieving their full potential.

Meeting these challenges head-on will require collective effort and the coordination of bilateral donors, development banks, private foundations, and the private sector. But that coordination must begin within USAID and across our programs. That is why the Digital Strategy called for the establishment of a senior-level Digital Development position to coordinate digital program initiatives across the Agency and to ensure collaboration and consistent approaches for these initiatives within the interagency and in engagements with external partners. I am honored to be appointed USAID's first-ever Chief Digital Development Officer (CDDO).

As CDDO, I will work to elevate USAID's digital development work by guiding Agency leadership on priorities related to technology and digital development in order to re-envision how we deliver development and humanitarian assistance in the digital age. As part of this effort, I'll continue to build staff and partner capacity to effectively navigate the opportunities and risks that digital technology presents, which is the focus of the Executive Fellowship Program in Digital Development that

USAID created to invest in our future leaders' abilities to guide the Agency through a period of unparalleled digital growth. I'm also doubling down on our commitment to the Principles for Digital Development, working in tandem with governments, civil society, and the private sector, and embracing change to keep abreast of a fast-moving field. For more on digital development at USAID, and my new CDDO role, listen to my interview with Federal News Network's Tom Temin.

My commitment, and the commitment of the Technology Division, to addressing gaps in digital access and adoption and advancing the use of technology and geospatial analysis in development and humanitarian assistance remains as strong as ever. In the year ahead, we will integrate digital development across USAID sectoral and priority areas, such as combating climate change and continuing to address health challenges like COVID-19, advance our work on responsible artificial intelligence (AI) and its applicability to development and humanitarian assistance, empower the next generation of digital development professionals, and much, much more.

Christopher Burns

Chief Digital Development Officer & Director,
USAID Technology Division

USAID DIGITAL STRATEGY

In April 2020, USAID released its first-ever Digital Strategy, charting an Agency-wide vision for development and humanitarian assistance in the world's rapidly evolving digital landscape. The Digital Strategy sets a path to equip staff, empower partners, and shape effective programming that supports the development of open, inclusive, and secure digital ecosystems in our partner countries.

The five-year Digital Strategy (2020-2024) is being implemented in two phases: Foundation (years 1-2) and Scale (years 3-5). During the Foundation phase, we have focused on creating tools and resources to help USAID staff understand and develop programs in key sub-sectors of digital development, establishing Agency-wide coordination, and building interagency, donor, and private sector collaboration. The Scale phase, which will begin in April 2022, will focus on expanding piloted activities, further developing interagency, donor, and private sector partnerships, and increasing staff, training, and funds for programming.
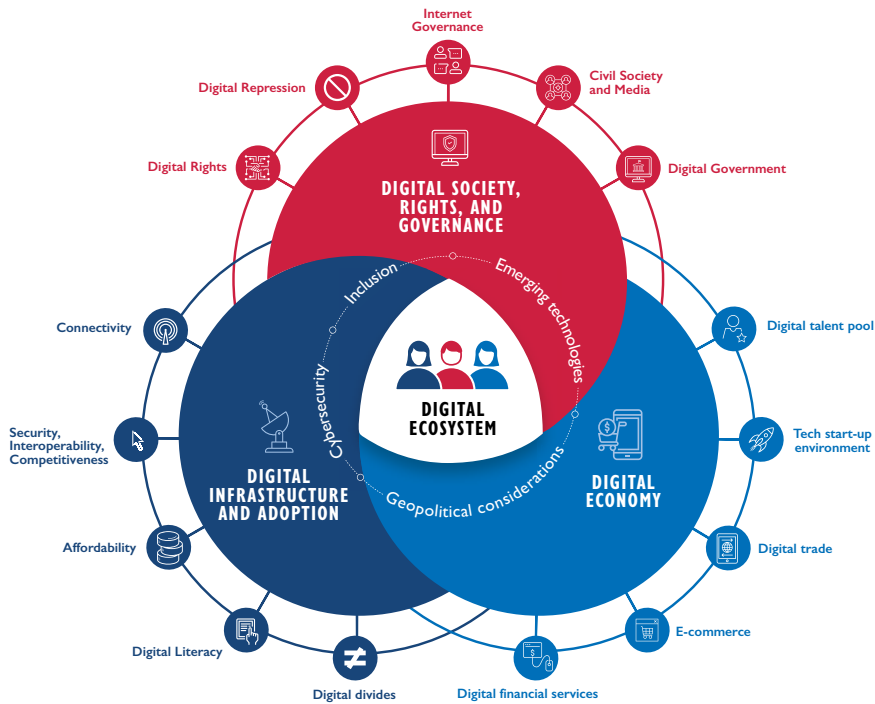

Photo Credit: Riaz Jahanpour for USAID

Strategy Goal

To achieve and sustain open, secure, and inclusive digital ecosystems that contribute to broad-based, measurable development and humanitarian-assistance outcomes.

Digital Ecosystem

Definition: Stakeholders, systems, and enabling environments that together empower people and communities to use digital technology to gain access to services, engage with each other, or pursue economic opportunities.

2021 Digital Strategy Implementation Highlights:

Launched the Digital Ecosystem Framework to help achieve the Digital Strategy's goal to strengthen open, inclusive, and secure digital ecosystems

Compled two Digital Ecosystem Country Assessments (DECAs) in Serbia and Nepal to help inform country-level strategic planning while initiating nine more in various stages of development

Awarded Digital Ecosystem Funds to nine USAID Missions around the world to support emerging opportunities and strategic initiatives in a digital ecosystem

Worked with the Bureau for Resilience and Food Security to create the Agency's first Digital Strategy Action Plan for this sector

Created a new Cybersecurity team within the Technology Division to help the Agency address the growing challenge of cyber vulnerabilities that come with increased digitization in our programming

OUR WORK
WHO WE ARE

The ITR Hub's Technology Division, within the USAID Bureau for Development, Democracy, and Innovation, is home to 62 staff members across eight teams. As the Agency's experts in digital development, the Technology Division works to address gaps in digital access and adoption and advance the use of technology and geospatial analysis in development and humanitarian assistance, while also managing the risks that digital technology introduces into the lives of the communities we serve.

Countries around the world are in the midst of an historic digital transition. While much of the world has access to a basic mobile phone and Internet speeds continue to increase, the full potential for digital technologies has not yet been realized. The reality in many communities does not yet reflect the potential of a digital ecosystem that drives sustainable and equitable growth. Vulnerable or marginalized groups often find themselves excluded from, or ill-equipped to safely navigate, the digital ecosystem—a situation made worse by the COVID-19 pandemic.

Through the USAID Digital Strategy, we promote the responsible use of technology in everything we do. Guided by the **Principles for Digital Development**, we deliver technical expertise and provide practical tools to USAID staff and our partners to help maximize the benefits of technology while mitigating its risks. We work with governments, the private sector, and civil society to eliminate barriers to digital inclusion, to use data for decision-making, to deliver financial services, to analyze issues with geographic data, and to responsibly leverage emerging technologies such as artificial intelligence (AI) and digital identity.

Taking a multi-pronged approach, the Technology Division leverages resources across the Agency through its implementing partners and other actors in four main ways:

1. Catalyzing open, secure, and inclusive digital ecosystems
2. Building USAID capacity
3. Accelerating USAID programming
4. Engaging with the private sector

Photo Credit: Usman Ghani for USAID

Photo Credit: USAID

OUR FOCUS

Cybersecurity - The new Cybersecurity team advances USAID's programmatic understanding of cyber as an emerging development area. The team provides insight, analysis, and resources—including technical assistance, primers, toolkits, and training—to help Missions, Sectors, and Bureaus better understand how cyber issues affect development priorities and incorporate cyber capacity-building into their programmatic portfolios. The team also liaises with the National Security Council (NSC), State Department, implementing partners, and intra- and inter-governmental partners to promote cyber awareness, capacity, and coordination between USAID and other development stakeholders.

Development Informatics - The Development Informatics team advances the ethical and responsible use of data and digital technologies for better decision-making. Effective and responsible development programs require timely and relevant data, approaches for strategic data use, and staff with the capacity to leverage both. The Informatics team therefore focuses on 1) advancing the data-driven design of USAID programs, and 2) enabling robust, inclusive digital societies and governments.
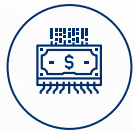
Digital Finance - The Digital Finance team works to overcome barriers preventing access to digital financial services, like mobile money and agent banking, by partnering with governments, donors, the private sector, and underserved communities around the world to support financial systems and policies that increase transparency, open new and inclusive markets, and address our most pressing humanitarian and development challenges.

Digital Inclusion - The Digital Inclusion team works to expand connectivity and close digital divides by providing technical assistance to Missions and partner country governments, promoting inclusive policy and infrastructure development, and helping the private sector and civil society invest in new connectivity business models and initiatives that advance an open, inclusive, and secure internet worldwide.

Knowledge and Insights - The Knowledge and Insights (K&I) team works to implement comprehensive communications and engagement strategies to strengthen internal and external awareness of Digital Development programs and build the capacity of USAID staff. Through coordinated efforts, K&I galvanizes support for the Technology Division's work through a number of targeted activities, including trainings and workshops, communications toolkits and resources, communities of practice, the annual Digital Development Awards program, and in-person and web-based events.

Strategy and Research - The Strategy and Research team serves as a thought leader in understanding the implications of increasing use of emerging digital technologies in developing country contexts. Strategy and Research explores and offers guidance on how emerging technologies can be thoughtfully and responsibly leveraged to address development and humanitarian challenges, and how development practitioners can navigate emergent trends in digital technology.

USAID GeoCenter - The USAID GeoCenter is an internal team of geographers and geospatial data analysts who provide direct program support to USAID staff in Washington, DC, and in Missions around the world. The team uses geographic insights to help USAID make data-informed decisions that improve the strategic planning, design, monitoring, and evaluation of USAID programs. Through the YouthMappers program, the GeoCenter also empowers thousands of university students in over 60 countries with digital mapping and leadership skills.

2021 TECHNOLOGY DIVISION HIGHLIGHTS

Photo Credit: Riaz Jahanpour for USAID

CELEBRATING 10 YEARS OF THE USAID GEOCENTER

In 2011, USAID established the GeoCenter, a team of geographers and geospatial data analysts who help the Agency apply a geographic approach to development to make data-informed decisions about where to invest resources. In the last decade, the GeoCenter has influenced hundreds of USAID programs by providing expertise to each bureau in Washington, DC, and 80 field Missions, on everything from strategic planning to program design, monitoring, evaluation, and communication about the geography of Agency programs. The team has also provided access to satellite imagery for USAID projects in more than 55 countries, led the establishment of Agency policies to collect activity location data, built a growing geospatial community of 165 members across the Agency, trained more than 2,000 USAID employees on how to use geospatial data and technology in development, and helped equip students from nearly 300 universities around the world with digital mapping skills through its YouthMappers program. This video highlights the GeoCenter's impact on USAID global programming over the last 10 years.

See Video: https://www.youtube.com/watch?v=_xBHHUupPC8

A Geographic Approach to Development

Using geographic, economic, and demographic data, the GeoCenter applies geospatial technology, data analytics, and visualization techniques to illuminate hotspots of vulnerability and identify the areas where development needs are the greatest. These efforts build the capacity of USAID to make data-informed decisions that support countries in their efforts to move beyond foreign assistance. The GeoCenter has supported nearly every USAID development sector, including:

- Analyzing and mapping forest loss with satellite imagery and project location data from USAID/Peru. Results of the analysis dispelled concerns that USAID agroforestry programs in coffee and cacao growing had led to deforestation in Peru's nationally protected areas.

- Country-specific, COVID-19 mapping dashboards to display critical information by geographic areas within countries. For example, the Bangladesh dashboard maps Coronavirus infections by district and tracks tests, recoveries, and deaths to help implementing partners, the Bangladesh government, and USAID Mission staff understand the country's high-risk areas to prioritize.

- Mapping Kenya to assist the Mission in Nairobi with its 5-year strategic planning efforts by creating more than 60 maps showing Government of Kenya social and infrastructure investments, poverty, demographics, health, and environmental information. The maps helped facilitate engagement with the government and citizens of Kenya in every county across the country.

- Providing access to high-resolution satellite imagery worth $80 million to USAID projects. The imagery has been used for flooding in the Hindu-Kush Himalaya region, landmine clearance in the Nagorno-Karabakh region of Eastern Europe, land titling and malaria prevention in sub-Saharan Africa, and monitoring of illegal mining in the Amazon.

Shaping How USAID Collects Data for Development

The GeoCenter has led USAID in establishing Agency-wide geospatial standards and policies. In 2016, the team published guidance on collecting and analyzing geographically disaggregated indicator data to promote place-based performance monitoring, learning, and adapting (ADS 201). In 2018, the team established requirements for collecting activity location data to promote better accountability and transparency (ADS 579 and 201). In 2021, the GeoCenter initiated an Agency-wide, collaborative effort to develop USAID's first-ever Geospatial Strategy, following the Geospatial Data Act of 2018. The Geospatial Strategy is expected to be released in late summer 2022.

Creating a New Generation of Digital Mappers

In collaboration with university partners, the GeoCenter founded the YouthMappers program in 2014. The program provides thousands of students around the world with digital mapping skills using OpenStreetMap, a web-based digital public good. The data generated by the students has been used by USAID, host country governments, and researchers along with development and humanitarian assistance actors to address issues such as: food security, climate change, access to electricity, malaria, and COVID-19. In 2020, the GeoCenter launched Everywhere She Maps, a YouthMappers initiative that focuses on empowering young women to become leaders in their communities through digital mapping and increasing employment opportunities in industries that utilize geospatial technology.
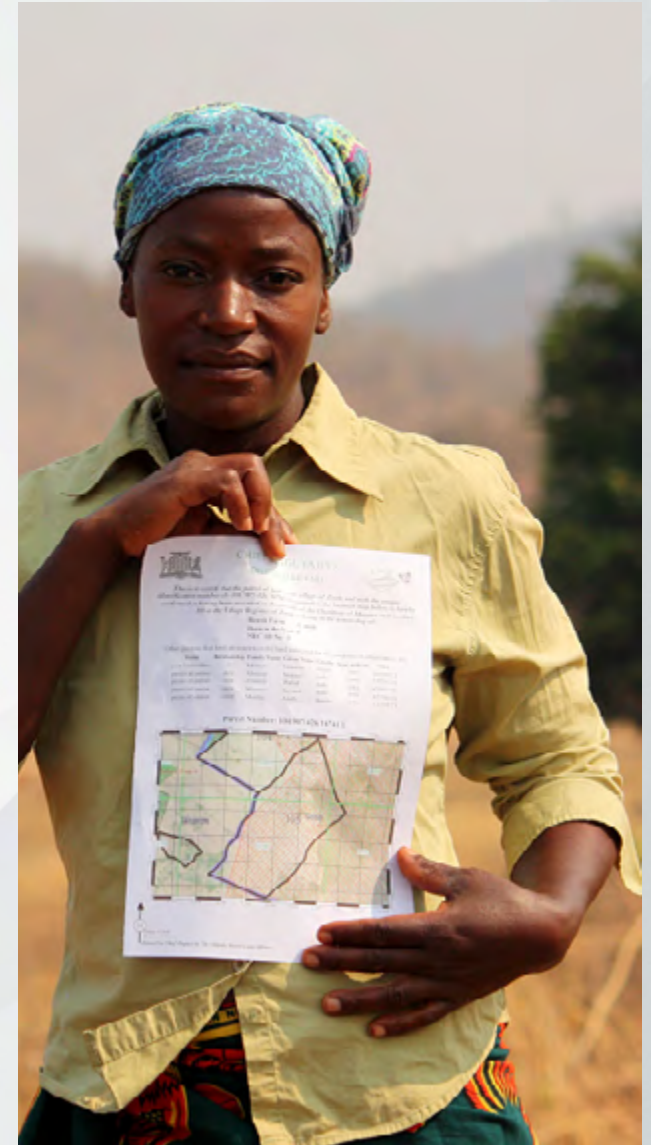

Photo Credit: Jeremy Green for USAID

CATALYZING OPEN, SECURE, AND INCLUSIVE DIGITAL ECOSYSTEMS

Closing the Gender Digital Divide in India

USAID has partnered with the Reliance Foundation, the non-profit arm of Reliance Industries, to help bridge the gender digital divide in India. The gender digital divide in India is the largest in the world at 33 percent for Internet usage. The USAID/Reliance Foundation WomenConnect Challenge (WCC) India supports innovative approaches that will close this gap, expand business opportunities for women, and empower women to uplift themselves and their communities. Reliance Foundation is funding 10 grantees across 17 states in India that will use successful, proven strategies from other USAID WomenConnect projects to close the gender digital divide and increase women's economic empowerment in India. These strategies include challenging social and cultural perceptions, developing skills and opportunities, building confidence, growing community advocates, and designing creative women-centric technology.

Learn more about the
WomenConnect Challenge India winners:

Anudip Foundation will train women from rural areas in five states on basic digital literacy skills and facilitate livelihood options by connecting them to digitally enhanced careers.

Barefoot College International's "Sakhi" application will enable non-formally educated women trained as solar engineers to sell solar products and provide subsidies and credit lines in their communities.

The Centre for Youth and Social Development will support women in tribal areas of Odisha to become digitally empowered enterprise leaders through their "Banashree" application.

Development Alternatives will build the capacity of neo-literate women in digital and entrepreneurial skills to ensure financial inclusion and economic independence in the Bundelkhand region.

Photo Credit: Riaz Jahanpour for USAID

Friends of Women's World Banking, India will train and mentor potential and existing micro-entrepreneurs in Gujarat, Manipur, and Maharashtra on the use of smartphones and the adoption of digital platforms to enhance livelihood opportunities.
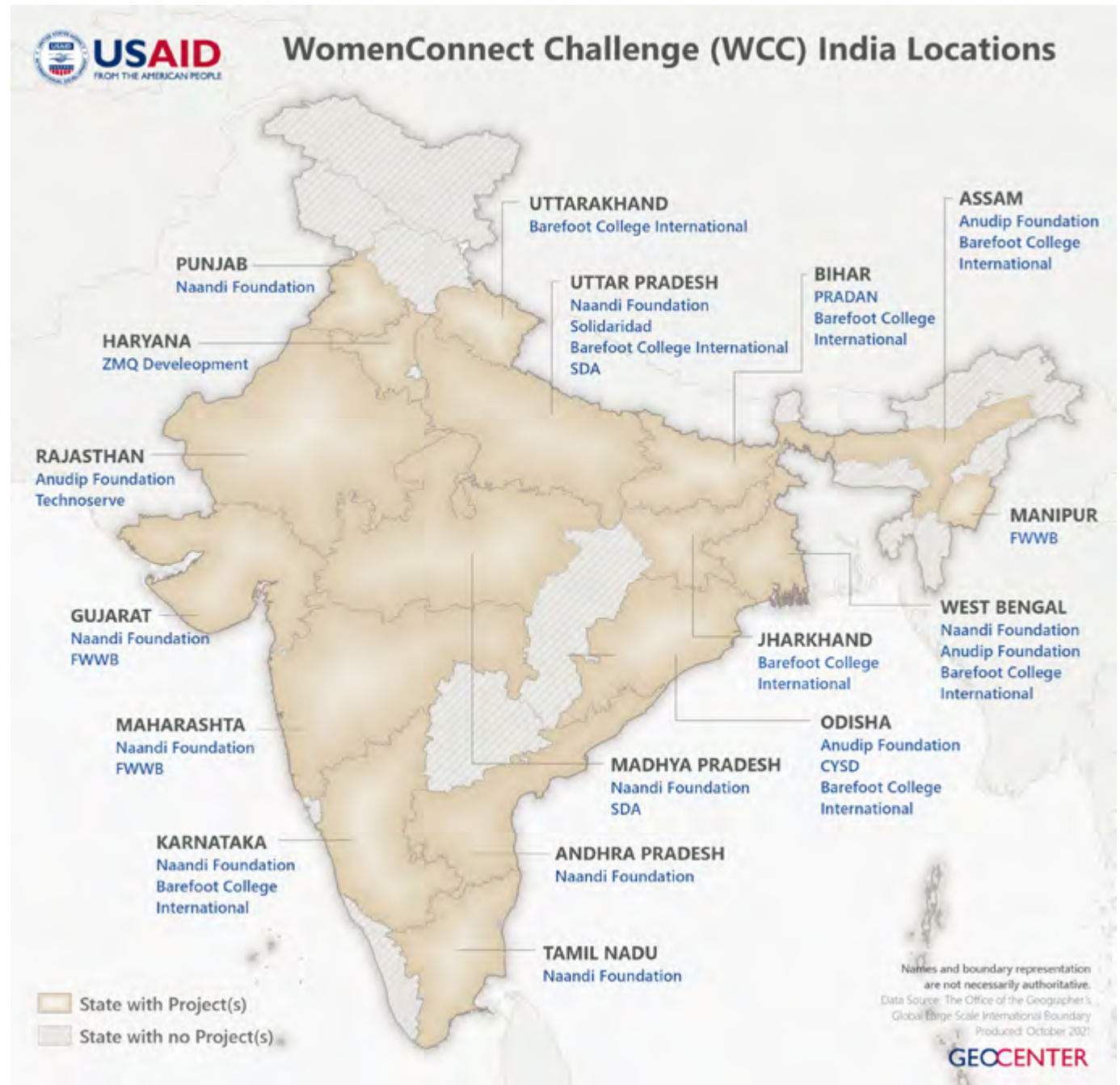
"SportStar" is an application being developed by **Naandi Foundation** for women field workers who will facilitate multi-sports learning, leadership skills, and access to nutritional information for underprivileged girls.

In rural areas of Bihar, **PRADAN** will set up digital classrooms equipped with devices and Internet to empower underprivileged women and girls through a curriculum on basic digital literacy.

Solidaridad Network will work towards integrating women dairy farmers of Uttar Pradesh in the formal supply chain by digitally connecting them with milk collection centers, financial linkages, and advisory services.

TNS India Foundation will facilitate trainings on the use of mobile phones and internet-based applications through community-based advocates for the women from low-income farming households in Rajasthan.

ZMQ will develop and deploy a customized and localized edutainment-based mobile courseware through mixed media such as comic strips and radio. This will provide entrepreneurship training for women from self-help groups in rural Haryana.

WomenConnect Challenge (WCC) India Locations

UTTARAKHAND
Barefoot College International

PUNJAB
Naandi Foundation

HARYANA
ZMQ Deveeopment

RAJASTHAN
Anudip Foundation
Technoserve

UTTAR PRADESH
Naandi Foundation
Solidaridad
Barefoot College International
SDA

BIHAR
PRADAN
Barefoot College International

ASSAM
Anudip Foundation
Barefoot College International

MANIPUR
FWWB

GUJARAT
Naandi Foundation
FWWB

JHARKHAND
Barefoot College International

WEST BENGAL
Naandi Foundation
Anudip Foundation
Barefoot College International

MAHARASHTA
Naandi Foundation
FWWB

MADHYA PRADESH
Naandi Foundation
SDA

ODISHA
Anudip Foundation
CYSD
Barefoot College International

KARNATAKA
Naandi Foundation
Barefoot College International

ANDHRA PRADESH
Naandi Foundation

TAMIL NADU
Naandi Foundation

State with Project(s)

State with no Project(s)

Names and boundary representation are not necessarily authoritative. Data Source: The Office of the Geographer's Global Large Scale International Boundary Produced: October 2021

GEOCENTER

Exploring Opportunities and Challenges Related to Open RAN Technology

In January 2021, USAID launched the International Open RAN Initiative to explore opportunities, challenges, and ongoing tests and trials of open radio access network (RAN) approaches. Open RAN approaches define standard software interfaces between wireless network equipment and operating software, which allows for their interoperability in a manner that gives mobile network operators (MNOs) more control over how its network operates and is secured. This new industry-led approach to telecommunications networks, presents valuable opportunities for developing countries including local manufacturing and jobs. USAID is launching three pilot open RAN programs in the Democratic Republic of the Congo, Peru, and the Philippines to support tests and trials of open RAN approaches in our partner countries.

- **Democratic Republic of the Congo (DRC)**: USAID/DRC, USAID Bureau for Africa, and the USAID ITR Hub are working together to support ongoing open RAN tests and trials in the country, including supporting private sector company tests, capacity building or partnering with higher education institutions, and participation in standards development organizations.

- **Peru**: USAID/Peru and the ITR Hub will work with Peruvian internet operator Internet Para Todos ("Internet for All") to use open network architectures to build public WiFi access points in three rural Amazon communities in Peru. Internet Para Todos is a rural internet service provider, created through a partnership between Facebook, Telefonica, the Inter-American Development Bank (IDB), and the Development Bank of Latin America (CAF).

- **The Philippines:** The USAID Bureau for Asia and ITR Hub are working to improve access to skilled workers that mobile network operators need to deploy open RAN in Southeast Asia. Though based in Manila, the Asia O-RAN Academy will have a regional scope and seek to develop relevant curriculum and training materials needed to teach the next generation of telecommunications sector professionals to deploy open RAN approaches. The Academy will strengthen the ability of MNOs to implement open RAN.

Photo Credit: Jack Gordon for USAID

Supporting Digital Transformation in Liberia

Building on a program of telecommunications sector support to the Government of Liberia that intensified during and after the Ebola Virus Crisis of 2013-2014, ITR's Digital Inclusion team identified an opportunity to bolster the Liberia Telecommunications Authority (LTA) in playing its vital role in fostering growth and development across Liberia's information and communications technology (ICT) sector. Beginning in 2020, USAID's Promoting American Approaches to ICT Policy and Regulation (ProICT) program delivered technical expertise to the LTA with an aim to enhance that agency's critical role in promoting modern telecommunications services to its citizenry.

The ProICT Liberia activity focused on core components of the sector, including regulation of fiber optic cable infrastructure deployment, innovative and effective use of dynamic radio spectrum strategies to deliver rural broadband services, implementation of the Universal Access Fund (UAF), and establishment of certification and approval mechanisms for communications network equipment. Over the course of several months, the ProICT team was able to assess critical needs, deliver recommendations, draft regulations, and help facilitate policy discussions with Liberian stakeholders through extensive dialogues which were conducted both on virtual platforms and through multiple face-to-face meetings in Monrovia. These dialogues and training sessions helped the LTA staff and leadership gain a deeper understanding of the ProICT team's recommendations. ProICT's engagement with the LTA concluded in June 2021 after a series of in-person capacity-building workshops, which also involved representatives from the Ministry of Post and Telecom and the Ministry of Information, Cultural Affairs, and Tourism.

The impact of USAID's engagement is already being seen in the Liberian telecommunications sector. ProICT guidelines helped pave the way for the reconstitution of LTA's Universal Access Fund Committee and field trials to test the viability of dynamic spectrum approaches for rural connectivity have commenced in recent months. In November 2021, a number of ProICT recommendations were incorporated into an LTA-issued license extension to CSquared that paved the way for that company to invest $10 million in the construction of a national fiber backbone—a significant milestone in Liberia's ongoing digital transformation.

Photo Credit: ifc.org

BUILDING USAID CAPACITY

Improving Cybersecurity Capabilities in Partner Countries

The Digital APEX program provides cybersecurity training, vulnerability and risk assessments, and remediation to partner teams around the world through extensive consultations with USAID Missions and contracts with expert U.S. and foreign cybersecurity small businesses. The program is also able to provide guidance on a range of related information-security and emerging-technology issues, including secure social-media use and counter-disinformation techniques (a prime concern of many partners), the cybersecurity dimensions of political systems and elections, financial-system security, and emerging technologies such as AI and blockchain currencies.

In 2021, Digital APEX completed engagements with five Missions and continues to support USAID portfolios in nine other countries, including one digital health program. Digital APEX's work has supported over 100 organizations through digital security training, provided in-depth cybersecurity assessments to nearly 50 organizations, and trained (including the training of trainers) hundreds of individuals. During the past year, APEX provided cyber-hygiene training for over 800 partner staff (across 125 teams) in 37 different sessions. Digital security assessments identified 2,212 distinct cyber vulnerabilities across teams assessed.
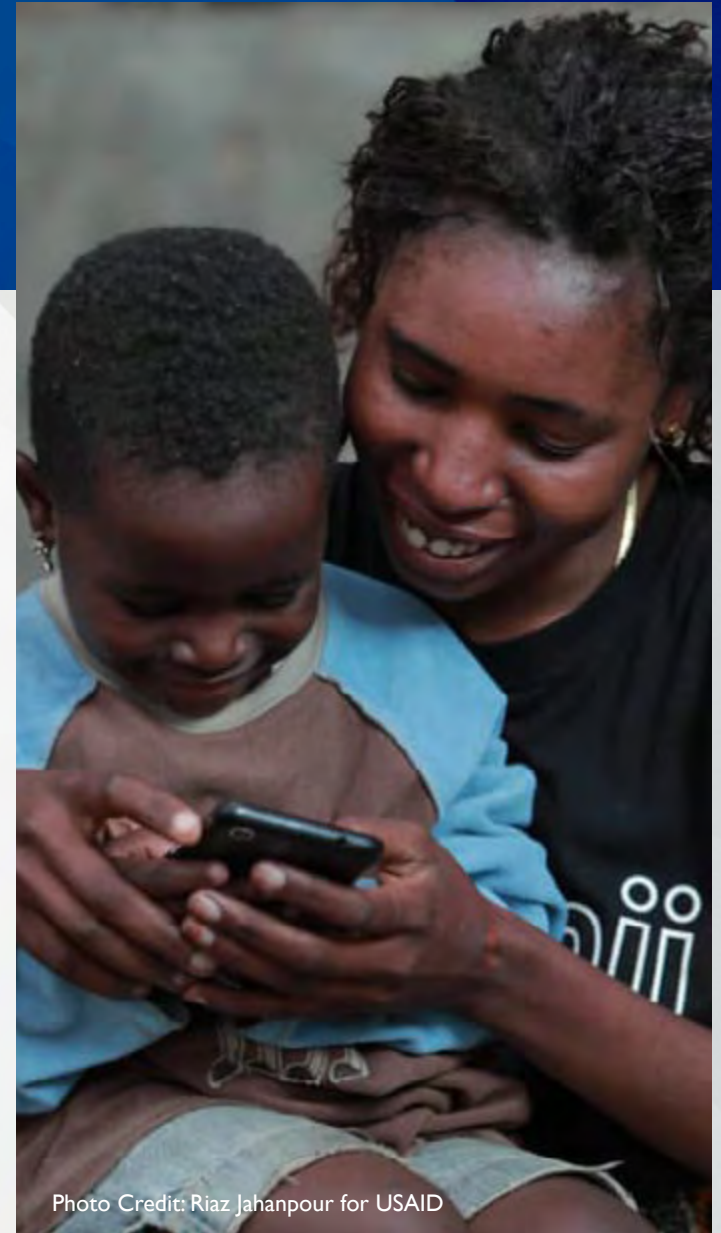
Photo Credit: Riaz Jahanpour for USAID

USAID Primer on Cybersecurity for Development

This year, USAID's new Cybersecurity team released a Primer on Cybersecurity for Development for use by development professionals. This first-of-its-kind Primer introduces USAID staff, implementing partners, and other stakeholders to the concept of cybersecurity as a development challenge, presents opportunities to integrate cyber awareness throughout the program cycle, and highlights cyber threat trends by sector. The Primer also informs USAID's partners of the Agency's emerging approach for incorporating cybersecurity into development programming.

Getting Smart about Artificial Intelligence

While tools relying on AI are still relatively new in international development, their use is rapidly growing across sectors and around the world. Examples of AI in international development contexts include applications that support disease diagnosis and patient treatment, programs that match jobseekers to promising jobs, platforms that identify those in greatest need after a natural disaster, tools that improve crop yield predictions, and many more. However, AI also presents risks, such as amplifying existing societal biases and inequities or automating processes in a way that masks unfair practices and shuts down meaningful redress of harms. Unfortunately, the most vulnerable populations are often harmed when AI is used irresponsibly. With careful planning and oversight, it is possible to mitigate these harms and reap the benefits that AI offers for improving development and humanitarian assistance.

A new training, offered by the Strategy and Research team, unpacks the opportunities and challenges posed by AI for USAID's work and offers resources and guidance for those interested in further exploring responsible implementation of this technology. With this training, participants gain a deeper understanding of: what AI is, the importance of data for making AI work well, how AI is being used in international development, how AI applications can lead to harmful outcomes, and how development professionals play a critical role in shaping the responsible use of AI in development work. This year, the Strategy and Research team has completed four six-hour virtual trainings with more than 75 participants from across the Agency.

Photo Credit: Morgana Wingard

ACCELERATING USAID PROGRAMMING

Integrating Digital Technology into Development and Humanitarian Assistance Programming

The Principles for Digital Development ('Digital Principles') are living guidance, which help donors and implementing partners integrate digital technology into development and humanitarian assistance programming. The Digital Principles codify decades of knowledge of what does and does not work in digital development. Today, 272 organizations have endorsed the Principles for Digital Development, which are stewarded by the Digital Impact Alliance (DIAL). USAID was one of the original drafters and initial endorsers of these Principles, which remain an integral component of our work.

This year we offered a new virtual workshop for Mission staff on the Digital Principles. The Informatics team hosted 25 workshops over the year, where, together, we discussed how to better integrate the principles into our Agency's work. In Fall 2021, the Technology Division offered the workshops to nine Missions that received Digital Ecosystem Funds. Through this, we reached 128 attendees from Agency colleagues and our implementing partners.

Photo Credit: USAID

Inspiring a New Generation of Digital Mappers

Founded in 2014 by the USAID GeoCenter and a consortium of US-based universities, the **YouthMappers** program is a global network of student-led mapping clubs at almost 300 universities in over 60 countries. The program provides university students with digital mapping skills, leadership experiences, and opportunities to create new geospatial data for humanitarian and development projects in undermapped places where USAID works. Students map features such as roads, bodies of water, buildings, businesses, government offices, schools, and health facilities using a web-based platform known as OpenStreetMap (OSM).

The OSM platform is a digital public good, which means mapping data created by YouthMappers is available for use by anyone with Internet access. The data generated by YouthMappers has been used to address a range of issues, such as food security, environmental management, disasters, electric power access, and health (HIV/AIDS, malaria, and COVID-19). For example, YouthMappers in Uganda **mapped COVID-19 hotspot areas near border crossings** in 2020. Data produced by the student-mappers have helped national government institutions and humanitarian organizations working on the front line of the pandemic.

In 2021, we established the **YouthMappers Academy**, an online course to help university students learn the fundamentals of working with open geospatial data and technology. The Academy will strengthen YouthMappers students' knowledge and proficiency to work with the ecosystem of OSM software and tools and the social and organizational skills related to creating open spatial data for humanitarian and development needs. Course materials encourage YouthMappers to engage more confidently in open mapping communities and seek to stimulate critical thinking around research and mapping activities, leading to higher-quality outputs. The added opportunity to earn micro-credentials will enhance YouthMappers' job marketability by providing formal recognition of proficiency and achievement in targeted geospatial techniques and concepts.

Co-hosting the 2021 Global Digital Development Forum (GDDF)

In May 2021, USAID co-hosted the virtual **2021 Global Digital Development Forum** (GDDF) with Chemonics, Save the Children, TechChange, IREX, IntraHealth International, and the Digital Impact Alliance. 3,147 participants from 1,481 organizations across 133 countries interacted with each other through keynotes, breakout panel sessions, workshops, lightning talks, tech demos, and networking activities related to key topics in international development. Designed in 2020 in response to in-person conference cancellations related to COVID-19, GDDF, a virtual ICT4D conference, is breaking down barriers and creating a space where a global audience of low- and middle-income country practitioners can discuss opportunities and challenges related to digital development.

Photo Credit: Bobby Neptune for USAID

ENGAGING WITH THE PRIVATE SECTOR

Utilizing Blended Finance to Expand Internet Connectivity and Digital Financial Services

Digital Invest is a new blended finance program that seeks to mobilize private capital for digital finance and internet service providers (ISPs) serving traditionally excluded consumer populations.

Digital Invest provides technical assistance, fund capitalization support, and direct portfolio engagement to help financiers support earlier-stage, higher-risk projects and startups with clear development impact, including the advancement of gender equality and women's economic empowerment.

The program is led by the Technology Division within USAID's ITR Hub as part of the U.S. Government's Digital Connectivity and Cybersecurity Partnership (DCCP), a whole-of-government global initiative to promote an open, interoperable, reliable, and secure digital economy. In addition to the ITR Hub, this year's fund manager partnerships are co-funded by the State Department's Bureau of Economic and Business Affairs Division of International Communications and Information Policy and USAID's Gender Equality and Women's Empowerment Hub.

Partnering with Mastercard to Expand Digital and Financial Inclusion for Women

Digital financial services represent a new approach to financial inclusion—they give poor families access to an array of affordable resources that make financial transactions cheaper, more secure and transparent. At the same time they help build lasting, inclusive economic infrastructure that improves governance and provides a foundation for innovative business models that offer relevant services to poor and underserved populations. To overcome barriers preventing women's access to these vital services, the Digital Finance team partnered with Mastercard on three key activities related to digital and financial inclusion for women.

Photo Credit: Bobby Neptune/USAID

Start Path Empodera is a business accelerator that supports women technology entrepreneurs in Colombia and Peru, graduating its first cohort and welcoming its second cohort of sixteen women-led startups this past year. Through a pitch competition selection process, women entrepreneurs will have the opportunity to join Start Path Empodera, a business accelerator with customized curriculum providing access to skill-building, mentorship, technical assistance, and network-building support.

Through **Project Kirana**, a business development and digital financial literacy program created to expand the digital and financial inclusion of women shop owners in India, 1,730 women entrepreneurs in Lucknow and Kanpur, India, have received financial management training. The program has developed ten training modules, a YouTube video series, and an app to increase women's digital financial literacy and improve business management practices.

The Digital Finance team also reinvigorated the Smart Communities Coalition by developing a short-term strategic priorities plan to grow membership and funding. The Smart Communities Coalition seeks to improve the delivery of essential services to forcibly displaced individuals and host community members through enhanced coordination between public and private entities and strategic implementation of technology. Smart Communities Coalition efforts focus on three foundational pillars—energy, connectivity, and digital tools.

The USAID/Microsoft Airband Initiative

Launched in August 2020, the USAID/Microsoft Airband Initiative made great strides in helping to bring Internet access to more women around the world. The initiative is working with local internet service providers and other partners in five countries to close the gender digital divide and improve community connectivity. For example,

- In Guatemala, local internet service provider New Sun Road has opened 10 solar-powered centers that are offering digital literacy and women's entrepreneurship programs in Indigenous communities.

- In Colombia, AndiTel has opened 11 community connectivity centers, collaborating with 946 women in cocoa and beekeeping cooperatives.

- In Ghana, Bluetown has opened five community centers and launched a partnership with The Hunger Project for a 5-module employment and job training program.

- In Kenya, Mawingu has placed 299 hotspots in merchant businesses, 57% of which are female-owned.

Creating More Responsible and Ethical Digital and Data Ecosystems

USAID aims to ensure that the digital revolution is equitable and respects the dignity, perspectives, and rights of all. In 2021, USAID's Technology Division launched a partnership with Mozilla Foundation, signing a Memorandum of Understanding (MOU) and executing a three-year award under the Global Development Alliance (GDA) in September 2021 to create more responsible and ethical digital and data ecosystems. Under this Responsible and Ethical Digital and Data

Ecosystems (REDDE) award, Mozilla Foundation will implement the Training for Responsible and Ethical Computer Science (TRECS) and Strengthening Data Ecosystems (SDE) activities.

Via the TRECS activity, the Strategy and Research team is supporting the Mozilla Foundation to expand its Responsible Computer Science (RCS) Challenge in select USAID partner countries. Against the backdrop of the increasing power that technologists wield in all aspects of our life, this Challenge is built on the recognition that the technology industry must shift toward more responsible, risk-aware practices. The RCS challenge advances existing curricula of computer science, data science, software engineering, and related computing fields towards a more ethically rooted, interdisciplinary, and human-impact centered pedagogy. This project extends Mozilla's RCS Challenge model internationally, with the goal of encouraging a similar systemic shift in computing training programs in select USAID partner countries. Through this challenge process, USAID and Mozilla hope to identify and work collaboratively with computing training programs to adapt existing curricula, and ultimately instill a much needed ethical shift in the computing industry.

Via the SDE activity, the Informatics team and Mozilla Foundation are jointly supporting responsible, rights-oriented development of technology to foster more open, secure, and inclusive digital ecosystems. The SDE activity aims to empower students, parents, teachers, and other education sector stakeholders to have more agency over how their data are collected and used in school decision-making. The activities will develop participatory data governance approaches, tools, and resources for schools with EdTech and digital education interventions.

LEARN MORE

Have questions or want more information on the latest digital development tools and programs? Stay in touch to learn more about our latest projects, resources, and updates:

Email Us

DigitalDevelopment@USAID.gov

Visit our Website

https://www.usaid.gov/digital-development

Follow Us on Twitter

[@USAID_Digital](https://twitter.com/USAID_Digital)