CONNECTED RESILIENCE:

Gendered Experiences of Meaningful Connectivity through a Global Pandemic

About Global Digital Inclusion Partnership

The Global Digital Inclusion Partnership is a coalition of public,
private, and civil society organizations working to bring internet
connectivity to the global majority and ensure everyone is
meaningfully connected by 2030. Founded by a global team
of experts who successfully championed affordable and
meaningful connectivity around the world, GDIP advances
digital opportunities to empower and support people's lives
and agency, leading to inclusive digital societies.

Acknowledgements

Table of
CONTENTS

Executive Summary

The COVID-19 pandemic changed the world.

The past years have made it clear that meaningful connectivity is now a basic requirement for all.

Yet, too many women, too many of the world's impoverished, and too many people living in rural communities remain unconnected, underconnected, and left behind. The stubbornness of the digital divide remains a constant undercurrent. Just as policymakers continue to anticipate fourth industrial revolutions and digital transformations from these technologies, millions of people have yet to benefit.

From our latest research on meaningful connectivity through the pandemic, we see hope — in the resilience of people living in marginalized communities and in the potential for policy actions that leverage opportunities to support people's everyday lives. The frontier of digital inclusion policy lies in people-centered solutions that can empower everyone. This requires conscious efforts that put community consultation and community leadership front and center in the decision-making process, moving away from siloed interventions that are often top-down and driven by external motivations.

Our research set out to reflect on what we might learn from recent history to understand more about what the future of inclusive ICT policy should be. We carried out focus group discussions in India, Mozambique, Nigeria, and the Philippines and surveyed over 6,000 women from Bangladesh, Cambodia, Ghana, Mozambique, South Africa, and Uganda. We interviewed policymakers in the digital sector from across Africa and Asia regions and updated the **Cost of Exclusion model.**

Our insights highlight that — without substantial policy interventions to close the digital divide — **countries are on track to lose over USD $500 billion in the next five years,** essentially repeating economic losses.

While internet **access during lockdowns** became a lifeline for billions of people around the world, internet access is not universal nor evenly distributed.

Looking at patterns between those with meaningful connectivity — defined as having daily internet use with 4G-like speeds, owning a smartphone, and an unlimited access point at home, work, or a place of study — and those with just basic or no internet access at all, we saw key distinctions between women based on geography and education in our study sample which impacted their experiences of the internet.

Across our six survey countries, **women with a tertiary education were nearly twice as likely to be meaningfully connected** compared to their peers with less education.

Women living in rural areas were three times more likely to lack internet access than their urban-dwelling peers, while **women living in cities were over 50% more likely to have meaningful connectivity.**

Barriers to internet access **created new divides during the lockdown** along the lines of gender, geography, education, and class.

Meaningful connectivity enabled women around the world to learn, earn, access government and financial services, and connect with family and communities, thereby also saving essential time and money in transport costs.

Women's educational level and having meaningful connectivity are the strongest predictors of finding information online or participating in the digital economy.

Women interviewed in underserved localities — such as remote villages in India and impoverished urban settlements in Nigeria — reported restricted digital access due to:

lack of infrastructure (such as mobile towers)

income-generating activities and unpaid care work leave little to no time available to access connectivity or digital skills educational initiatives.

high cost of devices and data services

dependency on men in their family to use devices

Despite women standing up to formidable challenges to access online content for education, employment, entertainment, and family purposes, systemic barriers such as poverty, early marriage, and education level create thick boundaries to women's digital inclusion around the world.

Clearly, policies and **targeted investments in meaningful connectivity will open new trajectories and possibilities** for societies and women in the digital economy.

As millions more use the Internet, responding to **new online harms** with data protection, **online safety**, and **consumer protection laws and standards** is also an urgent concern for policymakers.

We propose four tiers of achievable solutions
— and call attention to policymakers, investors, and the ICT sector at large to fast-track meaningful connectivity and inclusive digital development for all.

Deep investments
that use substantial resourcing to make profound changes in a specific policy area or for a specific community.

Universal Service and Access Funds (USAFs) represent a key mechanism across the majority world for deep investment strategies. When well executed, they provide clear interventions with measurable changes in the lives of affected communities.

1

Grand visions
that combine years of effort with substantial funding resources to revolutionize the status quo.

National broadband plans and other key strategy documents — when appropriately supported and resourced through implementation stages — represent a core example of grand visions within this space.

2

There are a range of strategies and policies that policymakers can adopt. No single combination of solutions will be universally correct: policymakers should engage with stakeholders and communities to design and implement the appropriate strategy within their context. This study offers illustrative examples of good practices from around the world.

Moving beyond mere infrastructure, the advancement of meaningful connectivity now hinges not only on technological development but also on fostering a supportive social environment for users and ensuring affordable costs for everyone.

This report provides a comprehensive overview of the challenges and opportunities in achieving gender and digital inclusion, particularly in the wake of the COVID-19 pandemic. We emphasize the need for targeted investments, policy interventions, and inclusive strategies to bridge the digital divide and support the digital empowerment of women and marginalized communities.

Easy wins

that are comparatively discreet and specific changes that can still create tangible value at their scale.

Gender data — collecting it, creating it, analyzing it, and using it — is a critical component to several easy wins that have been implemented in recent years. Policymakers can start from this level of research and measurement to make clear steps in the right direction.

3

Scalable systems

that represent large, programmatic change in the pre-existing ways of working.

Multistakeholder approaches and gender targets can provide the foundation for long-term, ongoing processes that scale progress towards closing the gender digital divide. By using policy and regulation to create mechanisms and procedures that consider digital inclusion, policymakers can build habits and routines that gradually and consistently change the course of history.

4

In one remote indigenous village in India,

the only spot where there is intermittent mobile network is at the village head's house, where there is a pole with a basic number pad mobile phone tied to it, covered with a towel to keep it cool. A solar panel is next to it.

In one interview, a woman reported that there are no recharge shops in her village, with the closest place to access the internet located one hour away. She relies on her father, who travels to the town for work purposes and downloads online content for her to access. Another woman who works as a teacher relied on her husband to look for jobs for her at a cyber cafe.

Indigenous women in remote villages of India who were interviewed reported extremely limited access to technology, with only 10-15 women in a village population of 2,000 having their own phones. The focus group discussion revealed that women without personal phones allegedly use their husbands' phones and learn to use them nonetheless.

In this village, women's mobility and digital access are restricted by geography, lack of infrastructure such as mobile towers or bridges, and dependence on men who control devices and mediate access. Women travel long distances to access intermittent mobile signals and internet weekly when visiting markets, but still rely on husbands to download information. Despite some women who reported learning to use phones independently, systemic barriers such as poverty, early marriage, and limited education perpetuate women's digital exclusion.

As a result, women from indigenous tribal villages interviewed for this study face immense challenges participating in town halls and public events due to reliance on costly boat and bus transport and scarce mobile connectivity.

Traveling to the nearest town, where internet access is available, requires an arduous journey. Attendance at community forums often depends on boatmen's availability, availability of limited bus routes, and mobile signals for travel coordination. The frequency of this trip is higher for men because men in the village have motorbikes or can hitch a ride from another man, which makes the transportation cost considerably less and more reliable. Motorbikes are usually carried in the boat itself while crossing the river.

With few personal phones and limited money, women depend on husbands to control devices and mobility, limiting access to information and public participation. The far distances, travel time and costs of transport required to access internet services also have differential trade-offs and impacts on women in terms of the disproportionate time spent on unpaid care responsibilities.

1

Introduction

The COVID-19 pandemic **changed the world**

— and yet, too many women, too many of the world's impoverished, and too many people living in rural communities remain unconnected, underconnected, and left behind.

The stubbornness of these digital divides remains a constant undercurrent. Just as policymakers continue to anticipate fourth industrial revolutions and digital transformations from these technologies, millions of people have yet to benefit.

From our latest research on meaningful connectivity through the pandemic, we see hope — in the resilience of people living in marginalized communities and in the potential for policy actions that leverage opportunities to support people's everyday lives. The frontier of digital inclusion policy lies in people-centered solutions that can empower everyone. This requires conscious efforts that put community consultation and community leadership front and center in the decision-making process, moving away from siloed interventions that are often top-down and driven by external motivations.

The findings in this report provide a comprehensive overview of the challenges and opportunities in achieving gender and digital inclusion, particularly in the wake of the COVID-19 pandemic. We emphasize the need for targeted investments, policy interventions, and inclusive strategies to bridge the digital divide and support the digital empowerment of women and marginalized communities.

Highlights of the report

Persistent Digital Divide and Economic Impact:

The research underscores the persistent digital divide, particularly affecting women, the world's impoverished, and those in rural communities. Countries face a potential loss of over USD $500 billion in the next five years due to the digital divide. There is an urgent need for substantial policy interventions to mitigate these economic losses.

Importance of Meaningful Connectivity:

We define "meaningful connectivity" as an evolving concept that starts with the basis of having daily internet use with 4G-like speeds, owning a smartphone, and having unlimited access at home, work, or a place of study, as aligned with agreed global ITU targets. Meaningful connectivity is crucial for women to learn, earn, access government and financial services, and connect with family and communities, thereby also saving essential time and money in transport costs. However, the barriers to internet access create new divides along the lines of gender, geography, education, and class. It is, therefore, crucial that measuring meaningful connectivity includes addressing gender by default.

Systemic Barriers to Digital Inclusion:

Women in underserved localities face restricted digital access due to a lack of infrastructure, high costs of devices and data services, dependency on men for device usage, and limited time due to income-generating activities and unpaid care work. These systemic barriers, along with socio-economic factors like poverty, early marriage, and education level, create significant obstacles to women's digital inclusion.

Disparities in Internet Access:

There are significant disparities in internet access and meaningful connectivity based on geography, education, and gender. Women with tertiary education are nearly twice as likely to have meaningful connectivity compared to those with less education. Rural women are three times more likely to lack internet access than urban dwellers.

Strategies for Enhancing Digital Inclusion:

The report proposes four tiers of achievable solutions to enhance digital inclusion: deep investments (e.g., through Universal Service and Access Funds), grand visions (e.g., national broadband plans), easy wins (e.g., data collection and analysis), and scalable systems (e.g., multistakeholder approaches and gender targets). These strategies aim to foster meaningful connectivity and inclusive digital development for all, moving beyond infrastructure to address the social environment and affordability.

This report calls upon policymakers to close the gender digital divide by adopting policies of digital possibilities — direct applications of ICTs into other sectors that empower marginalized communities — and guides a new trajectory for digital inclusion policy

2

Literature Review

Internet use around the globe has seen exponential growth over the past few decades, with roughly two of every three people now having access to the internet (ITU, 2023). However, despite this widespread advancement in connectivity, significant disparities exist, particularly concerning gender and geography (ITU, 2023; GSMA, 2023; A4AI, 2020). Gender inequality in internet access is prevalent in many regions, with women often facing barriers such as affordability, digital literacy, and social norms that restrict their online participation (GSMA, 2023).

The global lockdown through the COVID-19 pandemic significantly increased internet usage worldwide. This occurred in tandem with a surge in online activities such as virtual schooling, the implementation of vaccine e-passports, and the widespread adoption of digital applications (UNESCO, 2022; Wikipedia, 2024; WHO, 2023; UNDESA, 2022). However, this expansion has also highlighted existing social disparities in access to digital resources, exposing the stark realities of digital inequality (BBC, 2020; OECD, 2020; New York Times, 2020; EdWeek, 2021).

The lockdown years changed the trajectory of internet access and digital inclusion and added urgency to closing digital divides.

Individuals using the Internet
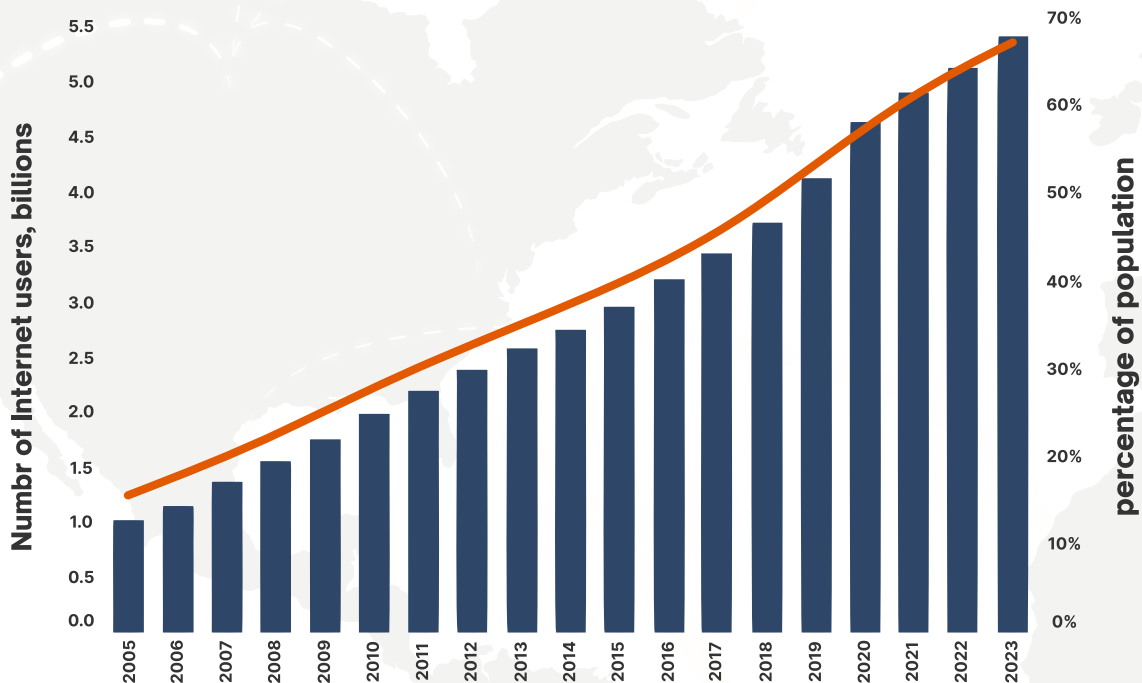
Digital inclusion, defined as ensuring that all individuals and communities have access to and effectively use information and communication technologies (ICTs), is crucial in addressing these disparities (World Bank, 2016). Efforts to promote digital inclusion include initiatives focused on increasing internet access, providing digital skills training, and addressing sociocultural barriers to women's participation in the digital realm (USAID, 2022; UN Women, 2018).

Beyond connecting the world, policymakers are increasingly paying attention to when that connectivity becomes meaningful. For GDIP, meaningful connectivity refers to when someone has daily access to the internet, at 4G-like speeds or higher, and an unlimited access point somewhere like home, work, or school (GDIP, 2022). This builds on earlier work that has begun to illustrate the difference in human impact between basic access and meaningful connectivity (A4AI, 2021). Global institutions such as the ITU have set the target for universal and meaningful connectivity by 2030 (ITU, 2023). We can only achieve this with inclusive ICT policies that understand the connection between infrastructure and impact.

Moving beyond mere infrastructure, the advancement of meaningful connectivity now **hinges not only on technological development but also on fostering a supportive social environment for users** and **ensuring affordable costs for everyone.**

Research, including our own findings later in this report, underscores the persistent challenge that inadequate infrastructure still presents, particularly in rural areas (ITU, 2023; OECD, 2023). Affordability remains a critical barrier as well, with millions still living in countries where data costs are above international definitions of affordability (ITU, 2022). Moreover, the presence of a supportive social environment, both online and offline, plays a pivotal role in shaping the online experiences of women and girls (USAID, 2022). These multifaceted factors collectively influence the extent to which women can fully engage and benefit from meaningful connectivity.

Universal Meaningful Connectivity
- an evolving concept

Affordable Access

2%

Affordability means less than 2% of average monthly per capita income.

Supportive Social Environment

Education and digital skills

Relevant local content

Respect for human rights

Meaningful Connectivity

4G-like speed

An Appropriate device

Unlimited Broadband Connection

Daily use
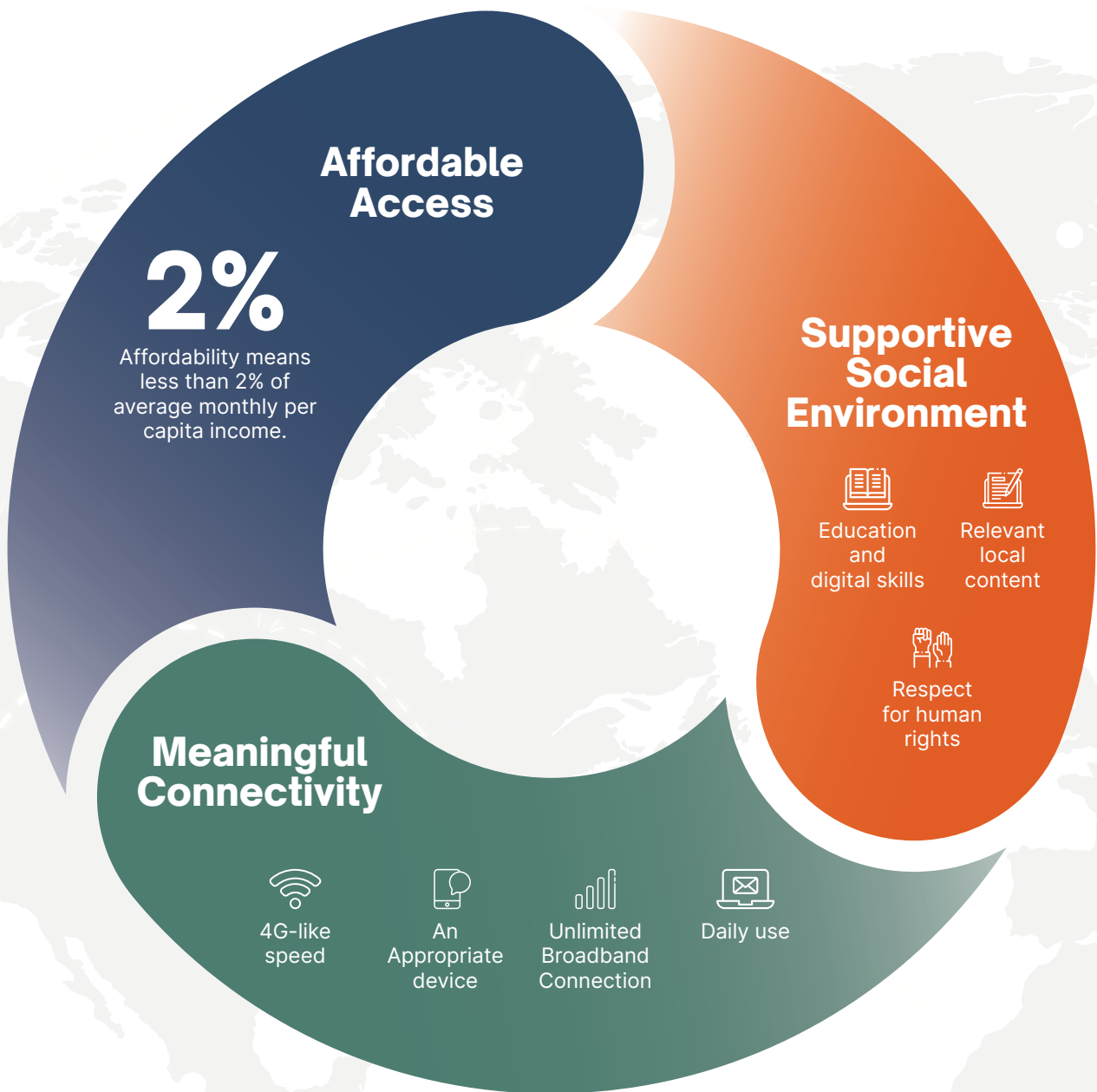
Source: GDIP

The gender digital divide is not just a women's policy issue; **it damages our collective prosperity.**

The economic effects of internet use and digital inclusion are multifaceted. On one hand, greater internet access and digital inclusion have the potential to stimulate economic growth by fostering innovation, entrepreneurship, and job creation (Katz and Callorda, 2018). However, the gender gap in internet access and digital skills can exacerbate existing economic inequalities, limiting women's opportunities for employment, entrepreneurship, and participation in the digital economy (World Bank, 2019). **As connectivity becomes more meaningful for societies at large, digital exclusion becomes a more acute problem for those unconnected.**

Digital exclusion carries a price tag for us all. In addition to the economic cost of digital exclusion for women and girls, many societies suffer financial losses from smaller, more isolated markets, lower spending power, and other economic inefficiencies. The Costs of Exclusion research project estimated that in the past decade, low- and middle-income countries (LMICs) lost over US$ 1 trillion in economic productivity due to the gender digital divide (A4AI, 2021).

The COVID-19 lockdown changed the trajectory of internet access globally. ICTs play a critical role in society today, and connecting the unconnected becomes an increasing imperative as more of life moves online. Digital exclusion persists today along the lines of gender, geography, education, class, and other social boundaries. This bears a cost for us all and drives new urgency for policymakers to adopt bold and inclusive ICT policies to close the digital divide.

3

Research Question and Methodology

Our research set out to reflect on what we might learn from recent history to understand more about what the future of inclusive ICT policy should be.

Globally, the COVID-19 lockdown was a catalyst moment for connectivity.

Millions more people connected to the internet for the first time, and a wide range of activities moved online as stay-at-home orders persisted for months in many parts of the world. **This catalyst moment changed the global internet access trendline — but how?**

This report summarizes months of research into understanding the human experiences of thousands of people living in LMICs across the globe and how they persisted through the lockdown. **We focus on the experiences of women and girls to understand in full detail the unique challenges, experiences, and opportunities they face. Looking at the individual level, we hope to understand — and continue to sustainably scale — the jump in the global internet access trendline we saw until we reach universal, meaningful connectivity.**

Women experienced the pandemic differently. From labor to education, care work to partner violence, women and girls globally were less likely to find support or keep their income and were more likely to make sacrifices in education or quality of life to support family members (UN Women, 2021; Oxfam, 2022). Indeed, the lockdown appears to have had a 'generational' setback for gender equality globally (WEF, 2022). This research focuses on the digital within this experience to understand the ways in which it is consistent with the global trend and how digital, patchy and limited where it may be, still offers hope for a better future.

Research Questions

The COVID-19 lockdown period invoked a flurry of new ICT policies and regulations (ITU, 2023). **Knowing the impact the past few years had on digital transformation and gender equality, what can we learn for inclusive ICT policies in the future?**

Our research focuses on women's use of ICTs through the COVID-19 lockdown. We researched this moment in history with:

1   **Focus groups and interviews with women in four LMICs and with policy makers from across regions**

Drawing in women from various walks of life to understand their experience

2   **Mobile surveys in six LMICs**

Focusing on and measuring women's ICT use and experiences online

3   **Updating the Costs of Exclusion model**

Exploring the economic consequences if we fail to act

Methodology

The **focus groups and interviews** were conducted in India, Mozambique, Nigeria, and the Philippines.[1] Both were designed to draw on women's experiences from various backgrounds and represent a diversity of perspectives across these countries. Participants included women in underserved areas, civil society, and policymakers. Most focused on women who had some kind of access to the internet, although several participants across countries had no access to the internet. Interviews and focus group discussions were conducted on a semi-structured basis, with a facilitation guide provided by GDIP. Interviews and focus group discussions were also carried out by GDIP with policymakers from across Africa and Asia to document good practice cases and shape policy recommendations.

The six-country **mobile survey** drew in just over 6,000 respondents from Bangladesh, Cambodia, Ghana, Mozambique, South Africa, and Uganda (over 1,000 women representative of each country).[2] Respondents were exclusively women, with around 10% in each country not using the internet. Because of the methodology of the survey, it oversamples women living in urban areas and with higher educational attainment than would be nationally representative. However, the richness of the data, based on this sampling plan, allows for comparisons among different women who use the internet to understand the ways in which a woman's background affects her experience online.

The Costs of Exclusion **economic model update** moves us one year into the future.[3] Due to limited data availability, especially gender-disaggregated data, the model lags two years behind the present day and only uses data current up to 2022. To make the model more representative, South Africa and Uganda have been added to this edition. Noting the ongoing war in Ukraine, it has been withdrawn from this edition of the model. Due to limited data availability and its outlier impact on the model, India has been excluded from this edition.

Together, this research project offers a snapshot of a global trend. It is not a definitive answer on how things were, how things will be, or how things should be. Indeed, ICT policies, regulations, and trends will naturally vary across different countries and within countries. This research provides additional understanding to continue the conversation towards better-informed, more inclusive ICT policies of the future.
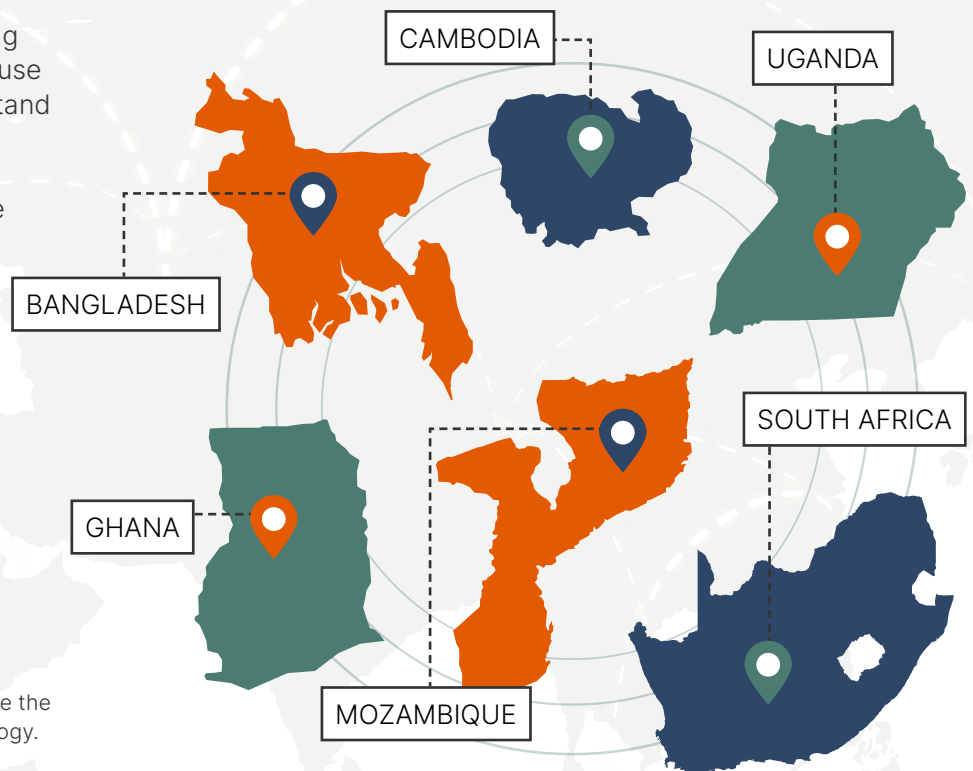
[1][2][3] For additional details see the Annex: Research Methodology.

4

Results

We learned **several lessons from studying ICT** use across the global majority during the COVID-19 lockdown.

1 Internet **access during lockdowns** became a lifeline for billions of people around the world.

2 **Barriers** to access created new divides during the lockdown along the lines of gender, geography, education, and class.

3 People use internet access to **build resilience** in their lives — personally, socially, and economically.

4 Greater connectivity enables us to do more, and making connectivity more meaningful will open **new possibilities** for societies.

5 As millions more use the internet, new **online harms** are becoming an urgent concern for inclusive ICT policy.

Internet access was not universal nor evenly distributed. Looking at patterns between those with meaningful connectivity — defined as having daily Internet use with 4G-like speeds, owning a smartphone, and an unlimited access point at home, work, or a place of study — and those with just basic or no internet access at all, we saw key distributions of geography and education in our sample.

Across our six survey countries, **women with a tertiary education were nearly twice as likely to be meaningfully connected** compared to their peers with less education.

Women living in rural areas were three times more likely to lack internet access than their urban-dwelling peers, while **women living in cities were over 50% more likely to have meaningful connectivity.**

Connectivity Type by Education Level

Education Group

- Primary
- Secondary
- Tertiary
- Other/Don't Know/ Refused

0%   20%   40%   60%   80%   100%

■ Marginally Connected   ■ Meaningfully Connected   ■ Unconnected
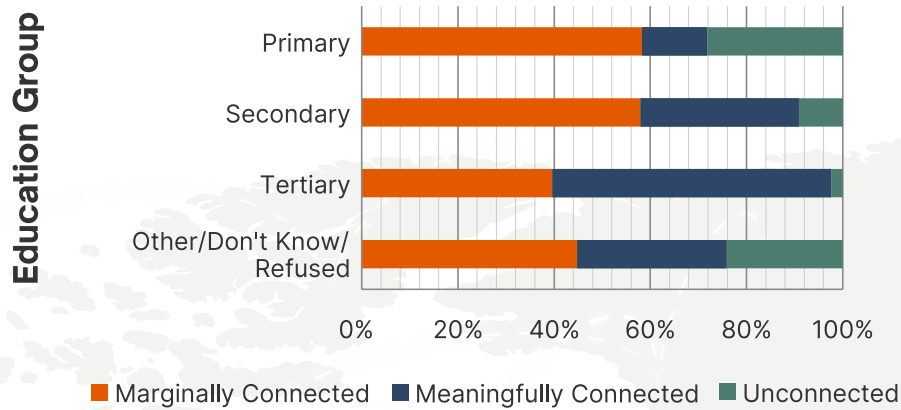
Connectivity Type by Geography

Geography

- Rural
- Urban

0%   20%   40%   60%   80%   100%

■ Marginally Connected   ■ Meaningfully Connected   ■ Unconnected
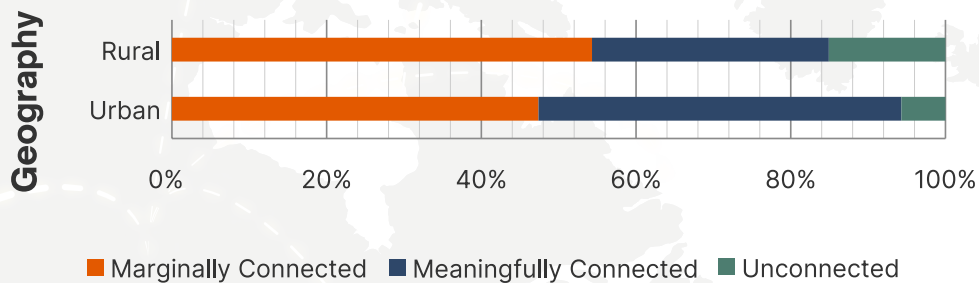
These numbers reaffirm the disparities that exist within countries and the importance of measuring and understanding them. Across all six countries, internet access was noted as a lifeline during the COVID-19 lockdowns. However, where that access runs along the lines of gender, geography, education, and class, it creates a digital divide that reinforces social and economic divides. As policymakers look to digital technologies to transform their economies and lift people out of poverty, the ICT policy agenda must have inclusive foundations.

Understanding the pandemic

Overwhelming numbers of respondents in our surveys said internet access had a positive impact on their lockdown experience. In almost every country, over three of every four respondents who had internet access reported a very positive or somewhat positive impact. 93% of respondents in Ghana and Mozambique had a positive opinion.

Impact of Internet access during lockdown
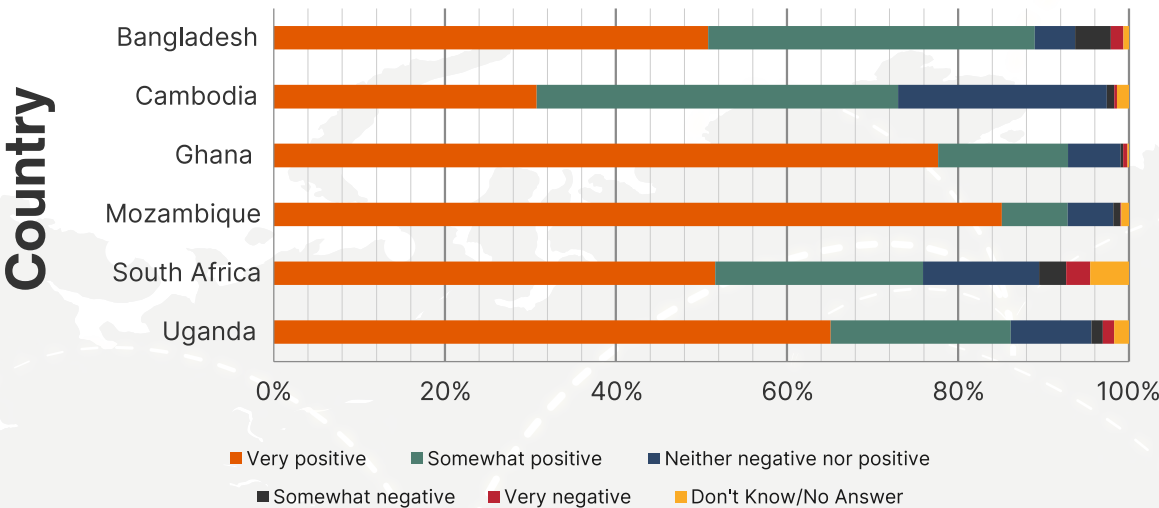
In our focus groups and interviews, people were able to use the internet to continue studies, remain in contact with friends and family, find information about public health conditions, and — in some cases — retain work or find new sources of income. While internet access did not guarantee a better or safer experience, it did help people find normalcy in their lives and ease some burdens.

In **Mozambique,** university students highlighted the impact of the pandemic on education and technology use. Namely, *"COVID-19 brought its advantages and disadvantages: it affected our studies a lot because we couldn't solve the doubts we had during the classes. But we finally managed to adapt... We were forced to adapt and enter pages like YouTube, study how we can handle Excel, handle Word better because most of our work was already done digitally."*

Just as our respondents were more likely to have meaningful connectivity with higher levels of education, they were more likely to report doing more essential activities online with higher education and better connectivity.[4] Some of the most stark differences emerge in financial areas, such as e-commerce and online banking, where a woman with a tertiary education was three times more likely to do those activities than her peer with only a primary education.

However, even within educational groups, differences emerge with better connectivity. In particular, for respondents with secondary education, having meaningful connectivity brought their rates of online activities during the lockdown up close to parity with women with tertiary education and only limited connectivity in most activities. This indicates an inclusive potential for meaningful connectivity to help close social disparities with internet access.

Activities undertaken during lockdown, as % of respondents

Legend: Marginally Connected, Primary · Marginally Connected, Secondary · Meaningfully Connected, Secondary · Marginally Connected, Tertiary · Meaningfully Connected, Tertiary
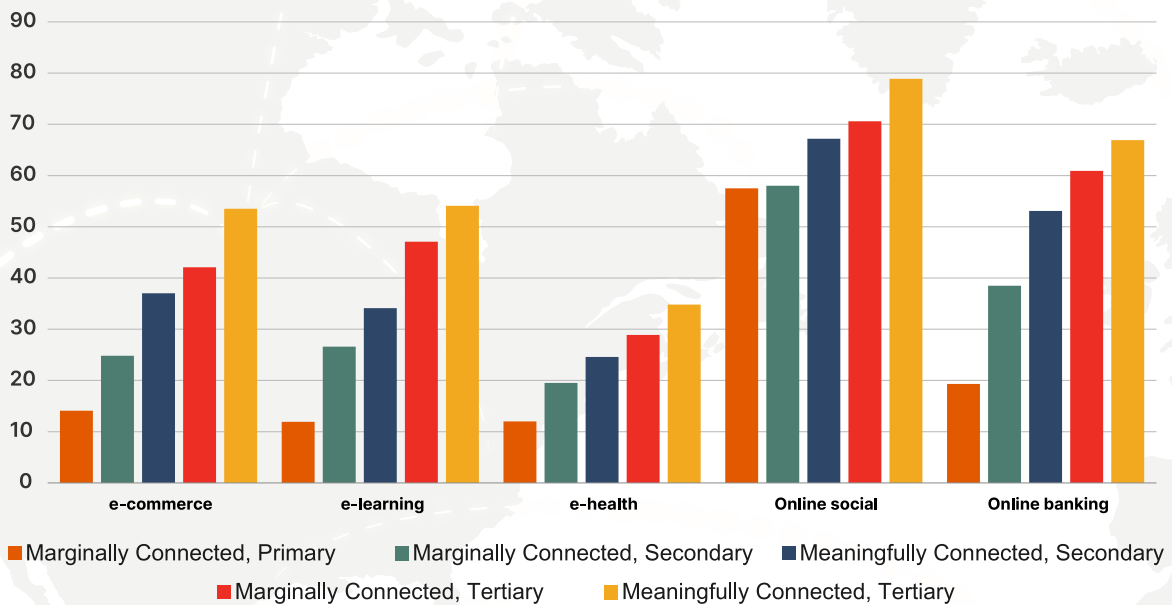
[4] We do not include numbers for meaningfully connected women with only a primary education due to small sample size.

Our qualitative fieldwork reaffirmed the impact of digital divides on marginalized communities. Interview participants in the Philippines talked about how indigenous communities were more vulnerable to misinformation and fake news around vaccines because of lower media literacy and less available public information, while one deaf advocate detailed a friend's challenges in isolation:

> *Because he was always at home, depression started because family members didn't know how to signal. They often use video calls to connect with their friends, but because the bandwidth or data is low, they can no longer interact with their friends. The attitude and behavior were different during the pandemic."*
> **- (Interview subject in the Philippines)**

Just as greater connectivity gave freedom to those who could benefit from it, digital divides left millions in social isolation and economic deprivation. This duality offers two lessons for policymakers: from the benefits, we see the urgency with which we must act to maximize the potential returns of universal, meaningful connectivity; from the divides, we see the dangers of ICT policies that fail to include marginalized communities.

The barriers that remain

Several barriers continue to keep millions of people offline. Among our survey respondents who did not use their mobile phone to connect to the internet — roughly 550 women — affordability and time were consistent barriers to their participation. Device cost and having a basic mobile phone that could not connect to the internet were the two most common reasons given

Reasons to not use Internet, as % of non-user respondents

Bangladesh   Ghana   South Africa   Average
Cambodia   Mozambique   Uganda
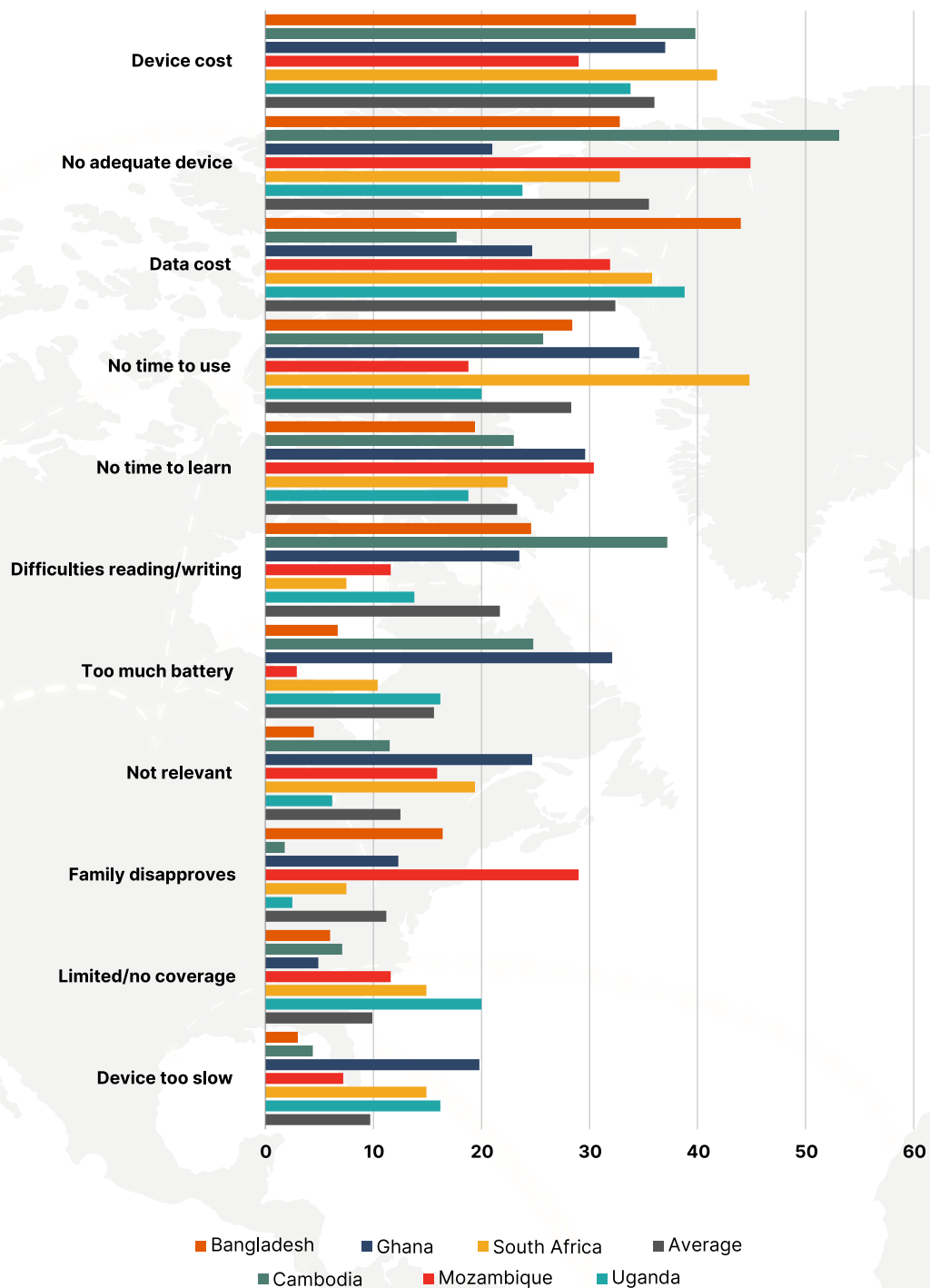
Infrastructure remains a limitation, especially in rural areas. Among our respondents, urban dwellers were more likely to own all types of internet-capable devices compared to their rural peers, while women in rural areas were more likely to own a basic phone with no internet connectivity. Rural women were also less likely to report having a 4G connection and more likely to have 2G or 3G on their mobile device.

Device Ownership Gap, as % of Rural/Urban Respondents
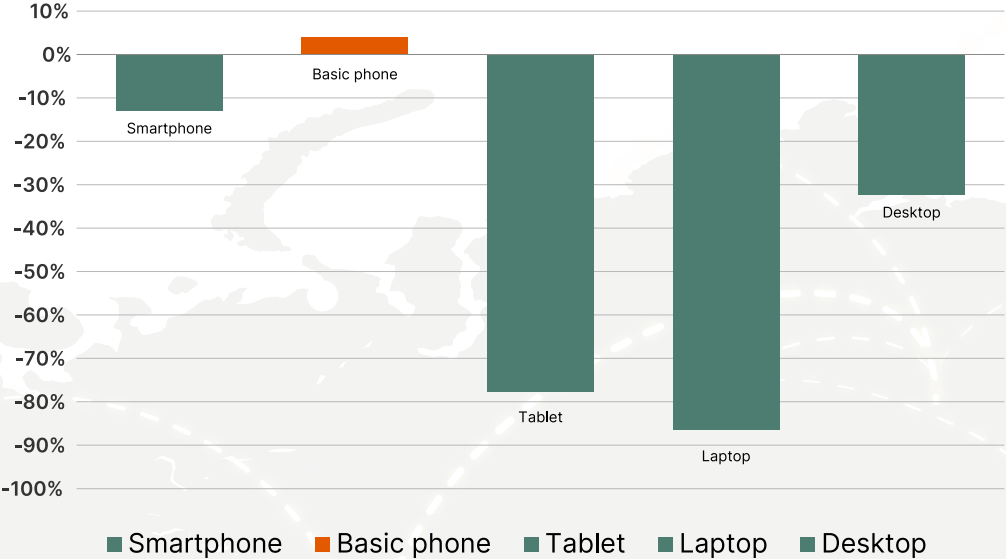
Our focus group participants in India validated this experience and illustrated how the affordability barrier continues beyond the digital divide of online/offline and affects levels of connectivity, too. In urban areas, the affordability barrier was illustrated in the need to purchase multiple SIM cards to access multiple networks when one fails or when traveling around the city. Meanwhile, for rural participants, data packs themselves were deemed expensive.

In addition to geography, gendered terms of access continue to keep millions of women and girls digitally excluded. This comes in the form of hard barriers — like the fact that women are less likely to have a form of identification that may be necessary to purchase a SIM card — and soft barriers — such as gender norms around women's online participation. These barriers continue to affect women's participation beyond just connectivity but also in career progression within the tech industry and working as entrepreneurs in online spheres.

Some women will be like, 'Oh, I don't like it, I'm not the social type, or because of my husband...' You know, some men have this mentality that when they allow their wives access to the internet, they will be doing all manner of things, like having the opportunity to talk to other men or also learning things that they are not supposed to learn. From there they will learn how to speak for themselves. You know, some men don't really want their women to have access to that, to know that they can actually grow or learn more from the internet. So, I think some people are really having a problem with that."
- (Research participant in Nigeria)

Many women reported the lack of time as a barrier to internet access, which correlates to the disproportionate time women spend on domestic and caregiving activities ([UN Women, 2023](#)). Time scarcity, compounded by the high cost to connect, leads to a perceived lack of relevance of the internet, as highlighted in qualitative fieldwork. Perceived lack of relevance is further heightened by the experience of poor quality of service, slow speed and constrained connectivity that many women reported once they managed to connect.

In India, one respondent who has an art business online expressed her recognition that posting photos and videos of herself could increase customer engagement. However, she feared harassment and inappropriate, unsolicited messages. Another female artisan from a Muslim community highlighted that the reason women are apprehensive about sharing pictures publicly online stems from religious values and family restrictions. Although some women reported that their husbands allowed participation, most women reported conforming to communal norms, prioritizing modesty over digital visibility. Addressing cultural gender-based fears and social taboos through education, sensitization, and training could empower women to harness social media for income generation and collective organizing.

You hardly find people in my generation that are married going to tech at a certain level because of the stress and the cultural side of it, you know. 'You have a home; what are you doing in tech?' You have other things to do, and there's no support. For you to focus on that kind of work, even for me as a co-founder, I know how it is because I'm married and I have kids."
- (Research participant in Nigeria)

In addition, these boundaries intersect with education, which gravely affects a woman's experience once online. A woman's education level was one of the strongest predictors of her likelihood of being confident in finding information online or participating in the digital economy. Having meaningful connectivity, compared to basic internet access, increased her odds in both areas, too.

Informational autonomy, as % of respondents

Legend:
- Marginally Connected, Primary
- Marginally Connected, Secondary
- Meaningfully Connected, Secondary
- Marginally Connected, Tertiary
- Meaningfully Connected, Tertiary

Categories: Tomorrow's weather forecast, Local news including election dates, Health information, How to report a crime, How to book a medical appointment, Government services
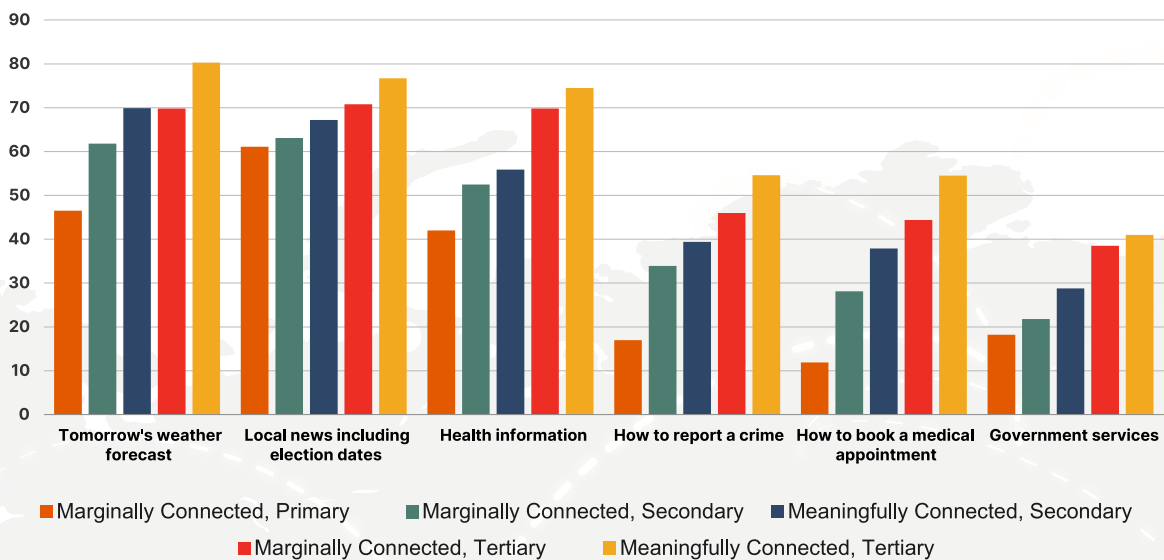
Some of the starkest adjustments are seen in the factors that relate to further social participation — namely, how to report a crime or book a medical appointment — which had nearly 30 percentage points difference between confidence rates among women with a primary education versus women with a tertiary education.

These differences repeat themselves in terms of social participation online, too. In all variables, women with more education participated online more, even when separating respondents based on what kind of connectivity they have.

A **better education** or **better connectivity increases a woman's confidence** in finding all types of information online.

Online social participation, as % of respondents

Chart legend:
- Marginally Connected, Primary
- Marginally Connected, Secondary
- Meaningfully Connected, Secondary
- Marginally Connected, Tertiary
- Meaningfully Connected, Tertiary

Categories: Contacted a family member or friend online, Posted something on social media, Took a class online, Connected to an online community
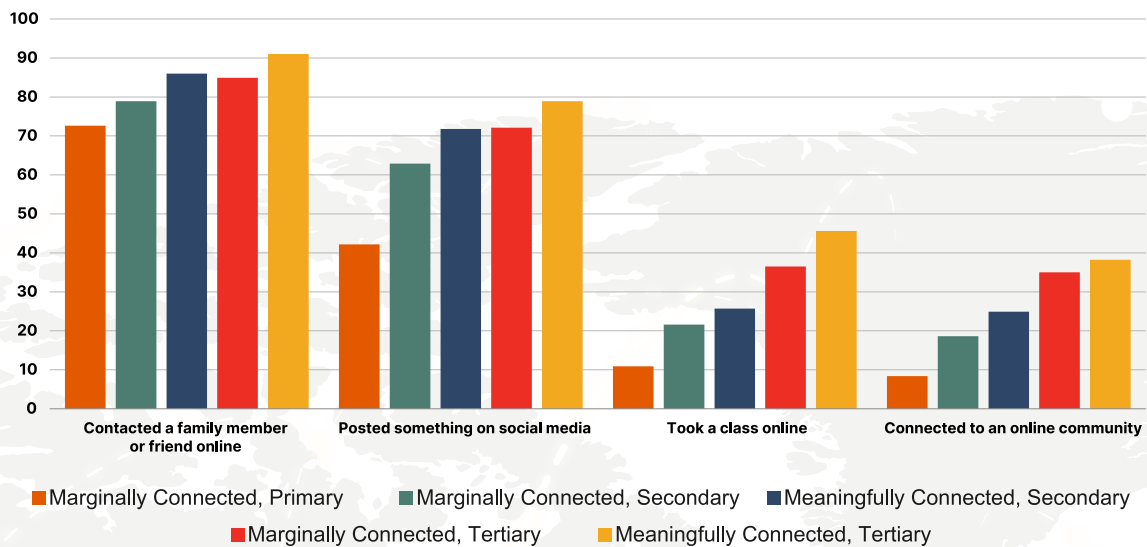
This research illustrates the compounding effect of intersecting identities around gender, geography, class, and education. A woman in a rural area is less likely to have completed her studies to an advanced degree and more likely to live in poverty than her male peer living in a nearby city.

Because of these differences and the way they reinforce each other — because of infrastructure gaps in rural areas, gender norms and discrimination, affordability barriers for new devices, and digital skills and educational access — **certain groups across the globe are more vulnerable to digital exclusion.**

Policymakers looking to build scalable, inclusive foundations for a vibrant digital economy must address the specific access, affordability, social and educational barriers rural and impoverished urban women face within their ICT policies.

The adaptations that people make

From our fieldwork, we learned several stories of how people change with technology but also change the technology itself.

The infrastructure isn't neutral, and the technology doesn't only exist in the ideal use case. As the story from the beginning of this report illustrates with the single phone at the village head's house and the stories of SIM-swapping and network hopping show, communities change the technology to adapt to their means and needs. In the absence of sufficient devices for each person, families and even larger groups will share devices and network access to make the costs more affordable and share the benefits of connectivity.

Indeed, the role of community extends throughout many users' journeys with ICTs. Across different countries, research participants talked about learning new skills from family members and neighbors: this step is particularly critical for women and girls who are more likely to lack access through formal education or training.

> *It was my aunt who taught me how to enter WhatsApp, M-Pesa, e-Mola, but now I know. I already know how to transfer money. I already know how to withdraw money."*
> **- (Research participant in Mozambique)**

Digital transformation represents the way that technology changes our lives as individuals navigate and interact with the world around them. One example came from a student in the Philippines who explained how their university adapted to asynchronous learning models, wherein lessons are recorded and made available for later viewing. This adaptation not only addresses the practical constraints faced by students with limited internet access or device availability but also underscores the evolving nature of education in the digital age, especially for those in the global majority where device sharing is more common.

> *You could attend it asynchronously because they would always record the lessons, especially for students who had to go home to the province and their families, and the areas didn't have a connection to the internet so they couldn't always make it to class, or the other issue was if it was one family sharing one device and then they have several kids."*
> **- (Research participant in the Philippines)**

These threads of technology and adaptation underline the importance of inclusive and adaptable approaches to digital transformation. Instead of imagining through limited use cases of new technologies, policymakers need to engage with a wide array of communities to understand how different perspectives and different interactions with technology lead to different outcomes.

The possibilities available to us

Greater connectivity, especially in meaningful connectivity, holds benefits for us all. As more people come online and participate, the social, economic, and educational benefits of internet access grow. Social networks have become more resilient, digital markets have expanded in competition and demand, and e-government services have become increasingly more efficient and impactful.

Instead, to date, countries have lost out because of the gender digital divide. The Costs of Exclusion economic model estimated that low- and lower-middle-income countries had lost over USD $1 trillion in economic activity over the past decade because of women's lower rates of participation in the digital economy (A4AI, 2021). In our update of this model,[5] **countries are on track to lose over USD $ 500 billion in the next five years — essentially repeating our economic losses — without substantial policy interventions to close the digital divide.**

Annual and Cumulative Cost of Exclusion (New Model), as MM

Legend: Cumulative Cost (Right Axis) / Annual Cost (Left Axis)
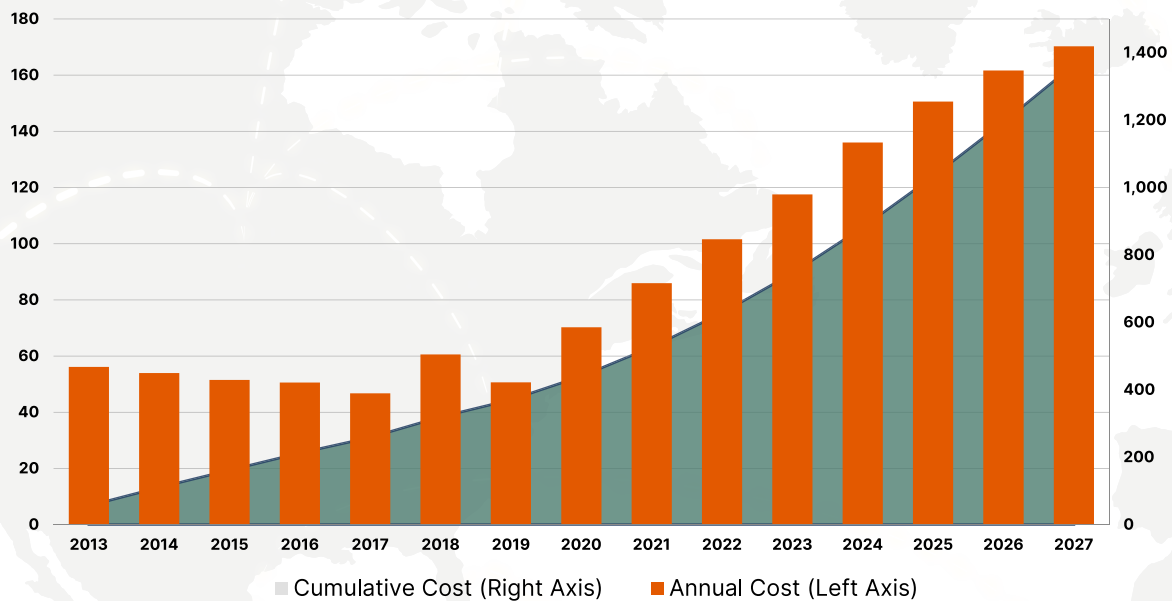
[5] Calculations from the new model are not directly comparable to the old model because of a change of the countries included. We note that, if we had kept India in the model, these costs would be significantly larger.

This comes from a dual effect: first, as countries continue to fail to act, the problem continues to exacerbate, and second, as countries rebound economically from the lockdown, the inferred impact of digital exclusion grows, too.

In other words, **as more economic activity moves online, the cost of exclusion grows, too.**
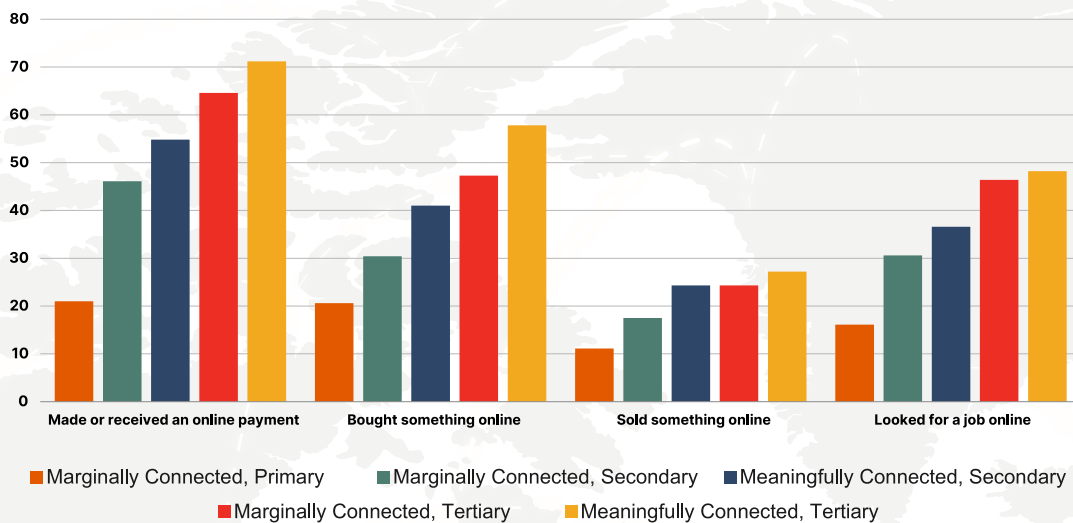
Greater, more meaningful connectivity has benefits for individuals. In our fieldwork in India and the Philippines, women digital entrepreneurs were clear about how the internet helped them economically.

In India, one digital entrepreneur working with female artisans said that her locality received access to the internet and Android phones during the COVID-19 pandemic. However, they still face network issues. *"Even now, when we send a design from the office to the artisans, if we make a video to explain the instructions, they face issues with internet connectivity. They face network issues during video calls."* Having meaningful connectivity to ensure the smooth operation of the business is essential because of the distance between the artisans. Respondent also said, *"Some artisans travel from around 12 km — that means they are paying Rs 40-50 in transportation costs. But, if they have the internet, we can easily send videos to them related to some training or designs. They can easily learn also."*

It has a big impact because I wouldn't grow personally and professionally as a freelancer if I didn't have an internet connection because, through that, I am able to upgrade my skills. So, my market expands, at the same time that I get to upgrade myself in terms of what I can offer to the client."
- (Research participant in the Philippines)

Across all six survey countries, greater and more meaningful connectivity led to substantial advancements in women's participation in the digital economy.

Online economic participation, as % of respondents

Particularly for economic participation and informational autonomy, having greater connectivity correlated with substantially higher rates among our respondents. **Across all ten economic indicators, meaningful connectivity correlated with around a 20-30% increase in economic digital participation or economic informational autonomy among women with a secondary education.** Similarly, bumps were measured in all indicators among women with tertiary education, although higher base figures reduce this increase on a percentage basis.

Economic informational autonomy, as % of respondents

Legend:
- Marginally Connected, Primary
- Marginally Connected, Secondary
- Meaningfully Connected, Secondary
- Marginally Connected, Tertiary
- Meaningfully Connected, Tertiary

Categories: Places to buy or sell goods | Employment or job opportunities | Information regarding career choices | How to open a mobile money or bank account | How to buy a bus or train ticket | Where to find a service provider
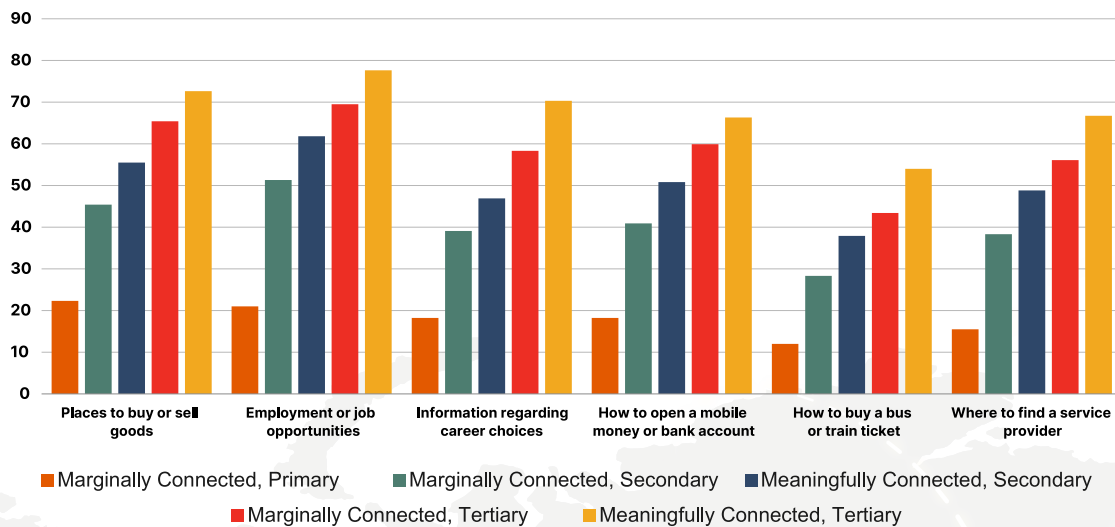
Spread across the globe, this jump represents millions of women whose lives could be improved with greater connectivity and the greater potential to contribute to the digital economy — if we change the way we think about digital inclusion.

Inequalities persist — in internet access, online activity, and digital possibilities. The intersection of gender, geography, class, and education creates thick boundaries of digital exclusion that leave millions of people unconnected and underconnected. ICT policymakers need to close the gap — and a failure to act harms not just those excluded but also means economic losses for us all.

After connectivity, online harms

When addressing the gender digital divide, we must address not just how to get more women and girls online but also how to handle online harms, which disproportionately affect people from marginalized communities.

Across our survey respondents, **the experience of online harms was a consistent trend, representing roughly a quarter of each major demographic group.** This evidence suggests that this issue is not isolated but rather a commonplace occurrence for women and girls online. If it has not affected them directly, it likely has to a friend or family member.

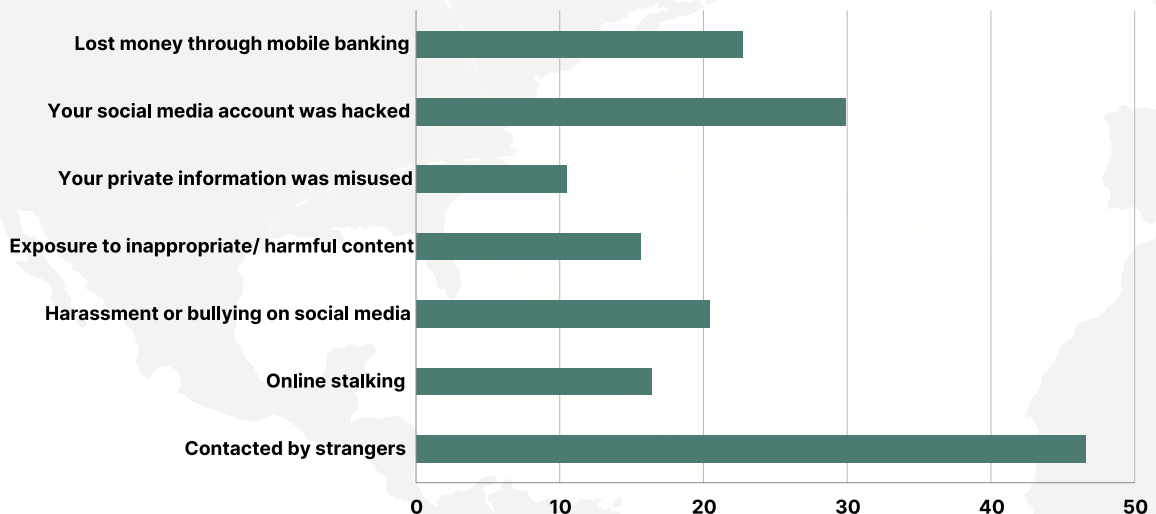## Experienced online harm, as % of respondents
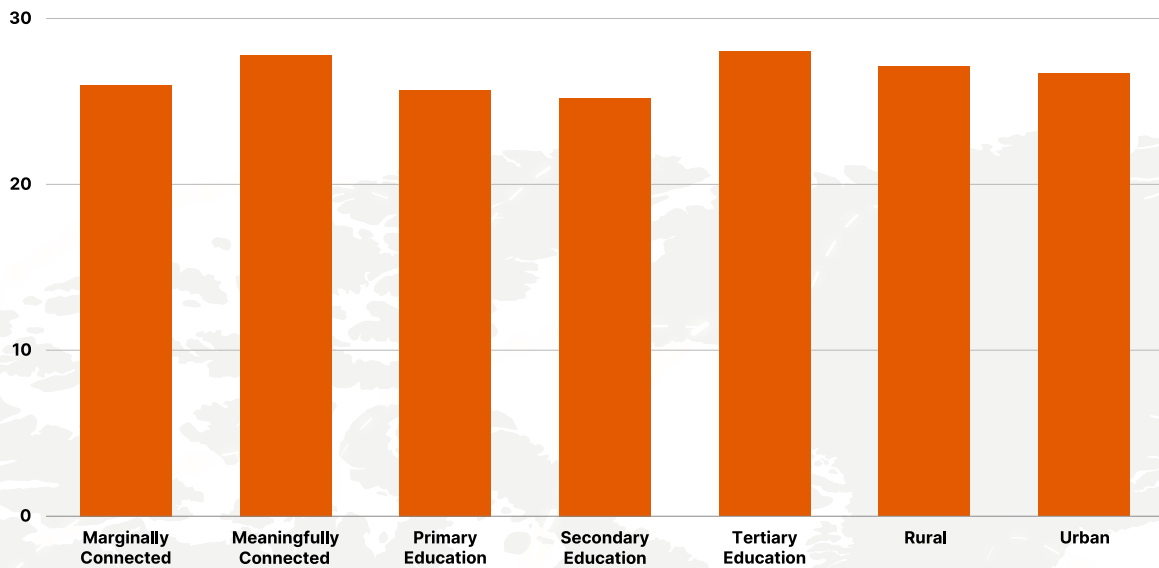
Online harms represent a wide array of potential dangers. Among our respondents, by far the most commonly reported harm was unwanted contact by strangers, with nearly half of all online respondents reporting having experienced it.

Online harms experienced, as % of affected respondents

In addressing online harms, women used a variety of different tactics. As might be expected, women with higher education levels were more likely to use almost all forms of harm reduction, from reporting content to blocking users, and changing their settings. However, the inverse indicates a clear gap in addressing online harms, with 33% of women with only primary education or less reporting that they took no action.

Harm reduction efforts, as % of respondents by education group
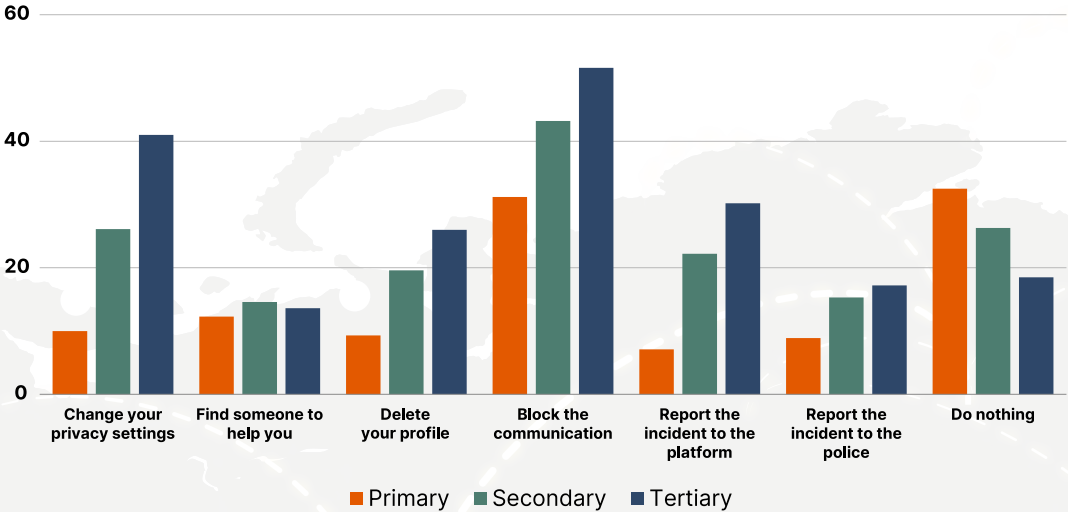
This exposes a clear difference: **while four of every five women with a tertiary education took action to protect themselves from online harms, one of every three women with a primary education simply accepted the harm as part of the online experience.**

As policymakers build inclusive foundations, they must think about what happens once people come online and how to protect them against online harm.

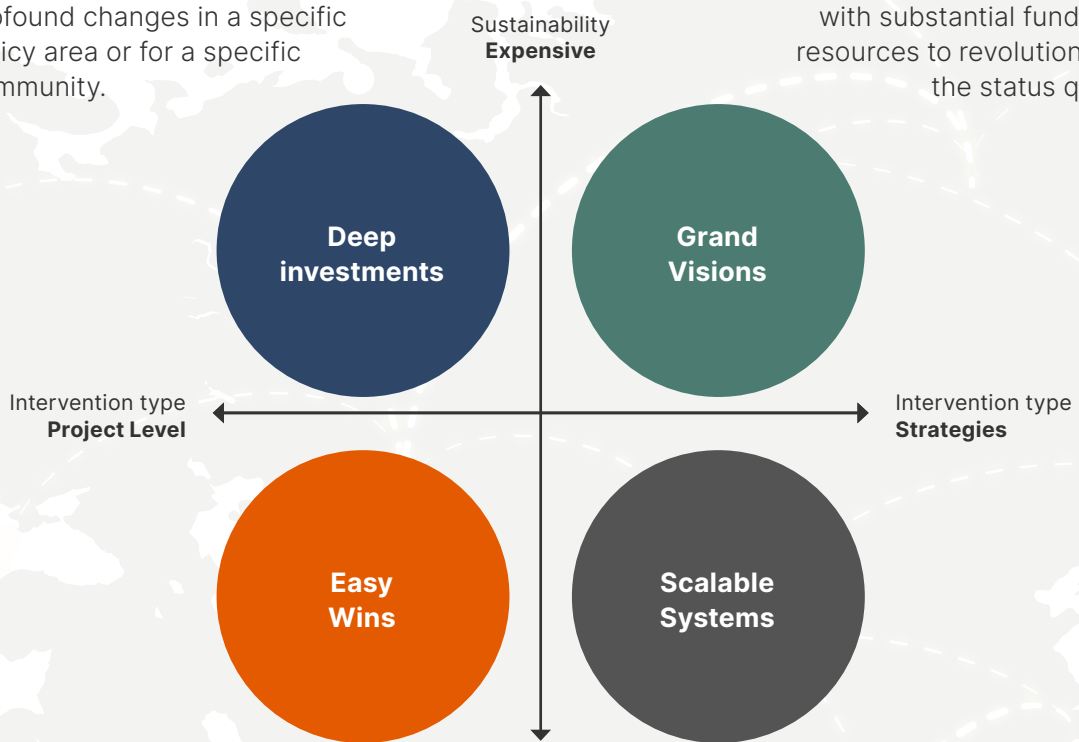# 5

Demonstration of Good Practice

If we fail to act, there will be consequences for us all. The cost is not just moral loss with continued gender inequality but also economic — with an estimated USD $500 billion at stake for low- and middle-income countries over the next five years. Closing the gender digital divide is a critical challenge that ICT policymakers must urgently address.

There are a range of strategies and policies that policymakers can adopt. No single combination will be universally correct: policymakers should engage with stakeholders to design and implement the appropriate strategy within their context. This research offers some illustrative examples of good practices from around the world.

The case studies are categorized into four types based on the type of intervention (project level or long-term strategy) and financial sustainability (expensive versus no/low cost). They are:

Deep investments that use substantial resourcing to make profound changes in a specific policy area or for a specific community.

Grand visions that combine years of effort with substantial funding resources to revolutionize the status quo.

Sustainability
Expensive

Intervention type
Project Level

Intervention type
Strategies

Deep investments

Grand Visions

Easy Wins

Scalable Systems

Sustainability
No/Low Cost

Easy wins that are comparatively discreet and specific changes that can still create tangible value at their scale.

Scalable systems that represent large, programmatic changes in the pre-existing ways of working.

Deep Investments

Universal Service and Access Funds (USAFs) represent a key mechanism across the majority world for deep investment strategies. When well executed, they provide clear interventions with measurable changes in the lives of affected communities.

In the Dominican Republic, the ICT regulator, INDOTEL, identified that 62% of the country's impoverished households are women-headed. This stimulated the solution to empower women through mobile technology, with rates that would allow women to connect from anywhere, at any time and with fast speeds. INDOTEL designed a pilot plan called Social Digital Basket as part of the Biannual Plan 2021-2022 Connect the Unconnected to provide a social digital basket that includes the partial subsidy of internet service and a smartphone to low-income and women heads of households. The initiative supported 2,000 women heads of household with a subsidized smartphone and data package that allows women to support their businesses.

In Ghana, financial services provider Opportunity International Savings and Loans Limited (OISL) offers savings and loan products to hundreds of thousands of low-income clients, including women farmers. OISL provided free smartphones to women and trained women and their spouses in digital financial literacy and gender awareness to boost their productivity and income from 2021. As a best practice, OISL also trained selected women in the community (including mobile agents) as trainers to ensure ongoing support for smartphone users. Other initiatives have been in existence in countries like India, Kenya, and Rwanda, as documented by GSMA.

In Uganda, solar-powered tablet devices, pre-loaded with data, were provided to thousands of low-income households across villages over three phases as part of a Uganda Communications Universal Services and Access Fund (UCUSAF) initiative and proof of concept on the necessity and role of access and usage of ICTs in eradicating household poverty. The Rural Household Devices Project aims to bridge the digital divide by addressing affordability barriers — including low smartphone and device ownership and affordability in access to data — to promote the usage of ICTs in selected villages and households and influence adoption into the wider community. The project has enhanced digital literacy by providing digital literacy training to beneficiaries and has increased beneficiaries' access to information to drive economic and livelihood opportunities, health, education, and lifestyle changes (GDIP, 2024).

The Indian government has initiated various programs to provide subsidized devices and training to women in rural and low-income areas. The Digital India program includes a rural digital literacy program, Pradhan Mantri Gramin Digital Saksharta Abhiyan, which provides digital literacy training at community centers, aiming to reach 40% of rural households and one member from every eligible household, including women. Over 52.4 million people have been trained. The State Government of Rajasthan launched the Bhamashah Yojana to provide free mobile phones to women living under the poverty line to help citizens access government services digitally. The state of Chhattisgarh has built cell phone towers in rural areas and distributed free-of-cost Reliance Jio and Micromax smartphones with the goal of having "a smartphone for one woman in every household." The government's endorsement of mobile phones through the program has contributed to the greater acceptability of young women using mobile phones.

The **government of Malaysia**, in partnership with mobile operators, implemented Jaringan Prihatin, a program that subsidized smartphone devices and data plans to low-income households over a period of 12 months (2021-2022). There were specific subsidy rates for households with children. The initiative involved a total investment of RM 3.5 billion (USD $793.7 million). The government provided RM 2 billion (USD $453.6 million) in funding, and 12 telecommunications companies and service providers supplied data plans valued at RM 1.5 billion (USD $340.2 million). Between May and September 2021, beneficiaries registered for the program through mobile operators and service providers. Participants acquired smart devices and 12-month data plans that were available through the program. According to the Ministry of Finance, as of June 2021, 2.8 million individuals registered for the program, and over 500,000 beneficiaries obtained new mobile devices.

In 2020, the **Mozambique Government's** Universal Access Service Fund (Fundo do Servico de Acesso Universal, FSAU) launched projects to improve connectivity in ten localities in the provinces of Maputo, Gaza, Inhambane, Sofala, Zambezia, Nampula, and Niassa. The program is intended to ensure broadband access and speed to benefit businesses, farmers, start-ups, and other sectors of the community. The Fund is financed by a 1% levy on operators' annual gross revenues.

Grand visions

National broadband plans and other key strategy documents — when appropriately supported and resourced through implementation stages — represent a core example of grand visions within this space.

Within the African Union, the mutually reinforcing policies of the Digital Transformation Strategy and the AU Strategy for Gender Equality and Women's Empowerment illustrate how digital can be embedded in gender policy and how gender can be included within digital policy. These two documents help guide the continent's development over the next decade, guiding policymakers to collaborate for lasting, sustainable development.

In the Philippines, the Department of Information and Communications Technology (DICT) implements programs and policies that promote digital inclusion such as the Free Wi-Fi for All Program, Tech4ED Project, and the Digital Jobs PH Program. DICT launched the Digital Innovation for Women Advancement (DIWA) program in 2022 to promote gender inclusion in the ICT field and increase women's participation. The department partnered with private companies and non-governmental organizations to aid in the implementation of advocacy and initiatives that educate and empower women.

Easy wins

Gender data — collecting, creating, analyzing, and using it — is a critical component to several easy wins that have been implemented in recent years.Policymakers can start from this level of research and measurement to make clear steps in the right direction.
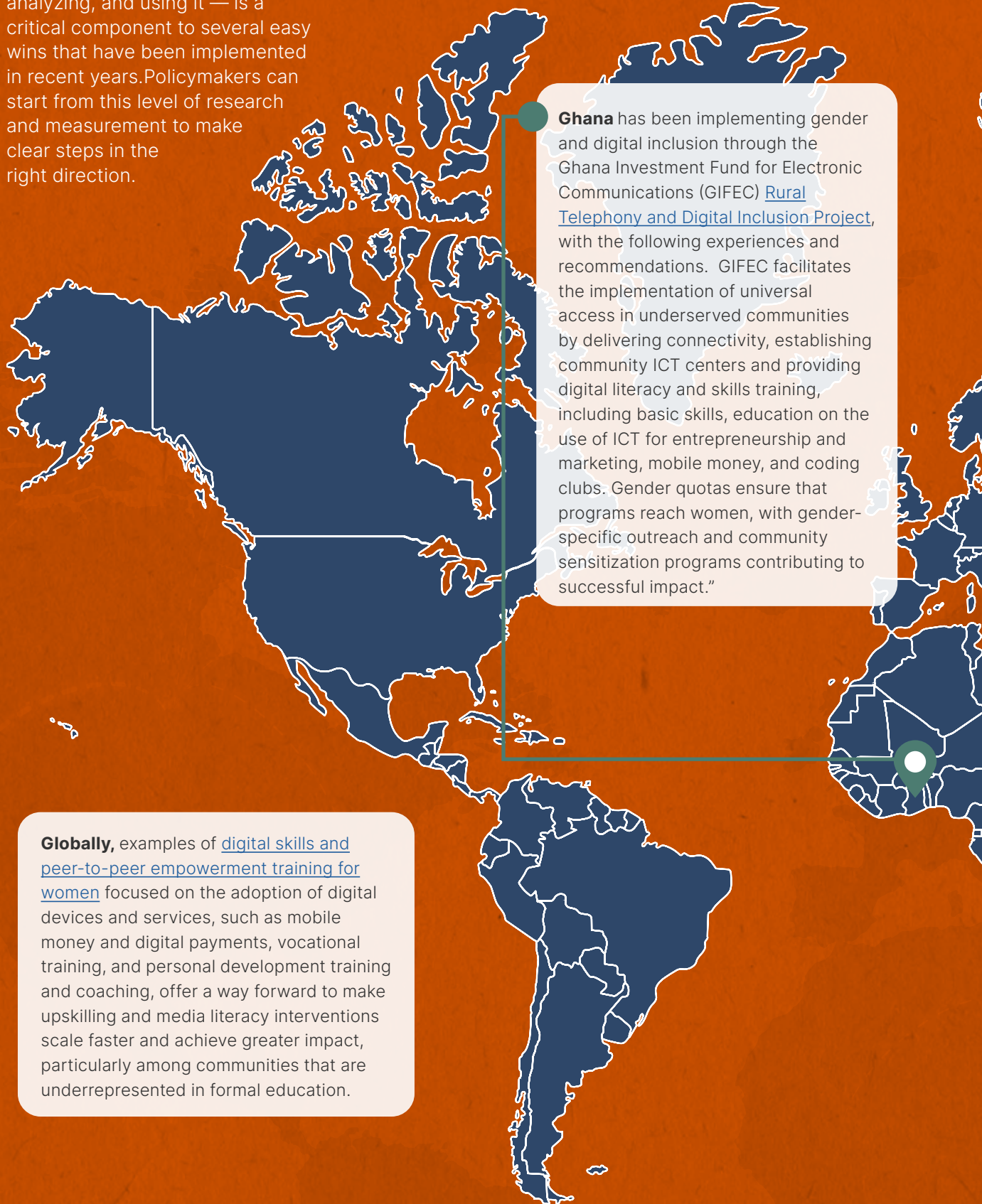
Ghana has been implementing gender and digital inclusion through the Ghana Investment Fund for Electronic Communications (GIFEC) Rural Telephony and Digital Inclusion Project, with the following experiences and recommendations. GIFEC facilitates the implementation of universal access in underserved communities by delivering connectivity, establishing community ICT centers and providing digital literacy and skills training, including basic skills, education on the use of ICT for entrepreneurship and marketing, mobile money, and coding clubs. Gender quotas ensure that programs reach women, with gender-specific outreach and community sensitization programs contributing to successful impact."

Globally, examples of digital skills and peer-to-peer empowerment training for women focused on the adoption of digital devices and services, such as mobile money and digital payments, vocational training, and personal development training and coaching, offer a way forward to make upskilling and media literacy interventions scale faster and achieve greater impact, particularly among communities that are underrepresented in formal education.

The **Philippine** Statistics Authority commissioned the Women and ICT Development Index (WIDI) Survey in 2020 to strengthen the collection of gender-disaggregated ICT statistics to inform gender-responsive ICT policy formulation. In addition to commissioning gender and ICT surveys to inform policy-making on women's digital inclusion in the Philippines, the government's Gender and Development (GAD) budget policy directs all government departments and agencies to allocate a minimum of 5% of total annual budgets to finance gender programs, projects, and initiatives. Gender focal points within government work towards gender mainstreaming to ensure that policies and programs are gender-responsive.

In addition, **Mozambique'**s National Institute of Statistics updated its national census to include sex-disaggregated ICT data based on indicators that provide more accurate insights into women's ICT access and use. This data has been used in ICT policy interventions to close the gender gap.

Scalable systems

Multistakeholder approaches and gender targets can provide the foundation for long-term, ongoing processes that scale progress towards closing the gender digital divide. By using policy and regulation to create mechanisms and procedures that consider digital inclusion, policymakers can build habits and routines that gradually and consistently change the course of history.

Community networks, such as Zenzeleni in Mankosi, South Africa, and Gram Marg in India, have significantly benefited local communities by fostering sustainability through local ownership and direct partnerships. These examples have successfully enhanced human capabilities and improved livelihoods while collaborating with both public and private sectors, alongside village councils, to enhance connectivity. This has notably empowered women in rural areas, providing access to telemedicine, educational materials, e-government services, and economic opportunities. It's crucial for policymakers to facilitate the growth of such networks by supporting relevant regulations and exploring innovative solutions like utilizing unused television white space and optimizing spectrum allocation for rural community networks.

In **Bangladesh,** the government set gender targets in Bangladesh National Broadband Policy 2023. With measurable targets in a key document like a national broadband policy, policymakers are encouraged to consistently consider gender as a relevant angle within other ICT projects and developments and create a mechanism to regularly review progress towards digital gender equality.

In the **Philippines,** organizations such as Techie Senior Citizens, Retirees Philippines, Adaptive Technology for Rehabilitation Integration and Empowerment of the Visually Impaired (ATRIEV), Connected Women, and Break the Fake Movement provide capacity-building that targets women in vulnerable sectors such as senior citizens, persons with disability, informal workers, and unemployed mothers. These include learning sessions on online marketing, graphic design, data encoding, and media literacy. Communities such as The Freelance Movement provide support and guidance to online-based workers, which was significant during the pandemic due to the lack of regulation of gig work and limited benefits and protections to workers.

In **South Africa,** the Independent Communications Authority of South Africa (ICASA), the regulator of the South African communications, broadcasting and postal services sectors, hosts an active Consumer Advisory Panel (CAP) with updated regulations in 2022 and 2023. This panel is composed of members nominated through a public process, including representatives of persons with disabilities, women, youth, senior citizens and people living in ICT under-served areas. The ICASA Consumer Advisory Panel conducts stakeholder engagement and advocacy programs throughout South Africa to identify critical consumer concerns and promote consumer interests throughout the country.

6

Insights and Recommendations

From this research, we have seen the positive impact of ICTs. For individuals, internet access meant the opportunity to connect with family and friends, find critical public information, and even find work in some cases. For societies, the internet increased our resilience through the lockdown.

The COVID-19 lockdown was a catalyst moment for connectivity. However, policymakers do not need to wait for another crisis moment to come along to continue to sustainably scale meaningful connectivity — nor should they wait. Based on our updated economic model, **we stand to lose another USD $500 billion over the next five years if we fail to act.**

Examples of promising practices from Africa, Latin America, and Asia-Pacific offer policymakers guidance on the first steps towards tangible policy action in closing the gender digital divide.

Fundamentally, inclusive ICT policy needs to consider what technology can do for all sorts of people doing all sorts of activities. From the rural farmer to the urban school teacher, from the mother looking after her children to the daughter searching for health information, ICTs need to be designed with adaptability at their core and ICT policies implemented with anticipation of how these adaptations will occur.

This is done first by collecting gender-disaggregated data to understand the issue and multistakeholder processes to engage community advocates in designing policies — the easy wins and scalable systems. From there, gender targets and gender-sensitive projects can implement the changes we want to see in the world — our deep investments and grand visions.

The next generation in inclusive ICT policy does not see connectivity as the end goal but rather as the **means towards an inclusive, thriving digital economy.**

__In Makoko__ [an impoverished area in Lagos], __they're training the girls there on how to code. The struggle is getting the young girls they are training into jobs because those girls do not have a formal education. Those girls are losing interest; they would rather be selling fish and generating income for their parents immediately than spending time learning to code where there will eventually be no jobs.__

We particularly see how young people are being marginalized in these slum communities. They're unable to access quality education. They cannot afford it as well. And because of this, their earning potential is greatly capped, and so they cannot get quality work, decent work that pays well...

So the girls sell fish with their moms in the markets, for example, while the boys in the morning go out to fish. By 6 a.m., they're back home. So they have the rest of the day to do a lot more productive work. The girls are cut out from even getting to enjoy these opportunities. So that was the first thing.

And then second thing as well is cultural and social norms as well. Many of them are either forced into early marriages or perhaps teenage pregnancy as well.

And there's also a mindset that many of the ladies have, that education is not for women, and it's more prestigious to be married at a young age like 14, 15, 16. So they actually don't value education, essentially.

Whereas the men on the other end, because they are married to one, two, three wives, they are constantly looking for ways of making money. And I mean, in the older generation, that's usually through fishing or trade here and there, but then the younger ones actually get digital training. They go to learn how to use Microsoft Word, Microsoft Excel and all of that. So instantly, they have a lot more opportunities. They can apply for secretarial jobs. You'd find some of them working.

__So the boys, basically, because they have a lot more time throughout the day, they're able to engage in more productive work while the girls are working for their moms."__
- (Research participant in Nigeria)

7

Annexes: Research Methodology

Quantitative Research and Sampling Plan

A literature review informed the selection of study countries, research methodology and data collection tools. The research methodology for this study is a mix of quantitative and qualitative methods. Data was collected in six countries via a nationally representative mobile survey conducted in Nigeria, Uganda, Mozambique, South Africa, Bangladesh, and Cambodia. The mobile survey drew in just over 6,000 respondents, around 1,000 from each of the six countries. Respondents were exclusively women, with about 10% in each country not using the internet. Because of the methodology of the survey, it oversamples women living in urban areas and with higher educational attainment than would be nationally representative. However, the richness of the data, based on this sampling plan, allows for comparisons among different women who use the internet to understand the ways in which a woman's background affects her experience online.

The selection of countries ensured regional representation across East, South, West Africa and Southeast Asia. The existence of gender and ICT policy measures were considered too. Urban/rural population sizes and language diversity, which informed the translations required for survey, also played a role.

Sampling Plan Details

Each national sample had quotas set around first-level administrative districts (or clusters thereof), along with controls for gender and geographic diversity based on the latest available demographic data of internet users within the country.

Gender	Female
Age	18+
internet users	90%
non-internet users.	≤ 10%
income below USD $6.85 p/day	20 to 30%
Rural target quotas	38-50%
Sample Target per Country	1,000

The survey was translated into the following languages from English:
- Ghana: Akan
- Mozambique: Mozambican Portuguese
- South Africa: isiZulu, isiXhosa, and Sesotho
- Uganda: Luganda
- Cambodia: Khmer
- Bangladesh: Bengali

Survey Production Statistics, by country

	Bangladesh		Cambodia	
	Count	Percent	Count	Percent
Surveys Sent	9,671	100%	18,930	100%
Opt ins	1,443	15%	1474	8%
Completes	914	9%	918	5%
Dropoffs	326	3%	362	2%
Refusals	2,711	28%	2,864	15%
Ineligible	203	2%	194	1%
Nonresponse	5,517	57%	14,592	77%

	Ghana		Uganda	
	Count	Percent	Count	Percent
Surveys Sent	13,664	100%	46,012	100%
Opt ins	1,809	13%	4,958	11%
Completes	1,009	7%	983	2%
Dropoffs	574	4%	2,590	6%
Refusals	1,199	9%	5,094	11%
Ineligible	226	2%	1,385	3%
Nonresponse	10,656	78%	35,960	78%

	Mozambique		South Africa	
	Count	Percent	Count	Percent
Surveys Sent	11,099	100%	17,210	100%
Opt ins	1,627	15%	1940	11%
Completes	997	9%	1,080	6%
Dropoffs	412	4%	649	4%
Refusals	1,051	9%	2,546	15%
Ineligible	218	2%	211	1%
Nonresponse	8,421	76%	12,724	74%

Source: GDIP

Quality Assurance and Ethical considerations

GeoPoll was chosen to conduct the field study because of its experience in conducting national representative surveys and its ethics standard. Study participants were informed that their participation in the survey would remain anonymous, and their consent was obtained before the survey was administered.

Survey Limitations

Feedback on survey fieldwork was consistent across the countries of study. Participants indicated that the survey was too long, which could have challenged respondent retention and ultimately affected the quotas.

Qualitative Research Approach

The qualitative component of the research methodology involved working with local researchers to conduct focus group discussions (FGDs) and ethnographic research with women; expert interviews with stakeholders, including policymakers; and institutional ethnography of the gender and ICT policy landscape.

The focus group discussions and interviews were conducted in India, Mozambique, Nigeria, and the Philippines. Both were designed to draw on women's experiences from various backgrounds and represent a diversity of perspectives across these countries. Participants included women in underserved areas, civil society, and policymakers. Most focused on women who had some kind of access to the internet, although several participants across countries had no access to the internet. Interviews and focus group discussions were conducted on a semi-structured basis, with a facilitation guide provided by GDIP.

Interviews and online focus group discussions were also carried out by GDIP with policymakers from across Africa and Asia to document good practice cases and shape policy recommendations. This component of the study focused on institutional experiences designing and implementing gender-responsive meaningful connectivity, with the aim of collecting narrative and ethnographic data on the gender and ICT policy landscape from the policymaker perspective. This research component addressed critical knowledge gaps on the experiences, obstacles, and success stories of policymakers developing and implementing gender-responsive ICT policies, how the impact is measured, and specific examples of impactful programs.

Update of the Cost of Exclusion Model

To calculate the gender gap in internet access, we followed the women-centered model as used in the Cost of Exclusion (2021). To forecast the share of women and men that will be connected to the internet by 2027, we used an Autoregressive Integrated Moving Average (ARIMA) method. For the model selection and fitting, we took a number of steps to ensure the specific model we used would be appropriate for our purposes. There were data gaps with both the Inclusive Internet Index and the ITU data sets.

The following countries were used in this model: Algeria, Angola, Bangladesh, Burundi, Cambodia, Cameroon, Côte d'Ivoire, DR Congo, Egypt, El Salvador, Ghana, Guinea, Honduras, Kenya, Mongolia, Morocco, Mozambique, Myanmar Nicaragua, Niger, Nigeria, Pakistan, the Philippines, Senegal, Sudan, Tanzania, Tunisia, Uzbekistan, Zambia, Zimbabwe, Uganda, and South Africa.

The Costs of Exclusion economic model update moves us one year into the future. Due to limited data availability, especially gender-disaggregated data, the model lags two years behind the present day and only uses data current up to 2022. To make the model more representative, South Africa and Uganda have been added to this edition. While South Africa falls under upper-middle-income countries, it was included in this study and model because it is a highly unequal country from an income and gender perspective. Noting the ongoing war in Ukraine, it has been withdrawn from this edition of the model. Due to limited data availability and its outlier impact on the model, India has been excluded from this edition.