

PAPER

WORKING



BOLSTERING WOMEN'S CLIMATE RESILIENCE AND ADAPTATION THROUGH FINANCIAL SERVICES

June 2023

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ACKNOWLEDGMENTS

Thanks to CGAP researcher Sidra Minhas for her contributions, and to CGAP’s peer reviewers for their valuable feedback: Alexander Sotiriou, Jahda Swanborough, Melinda Wood, and Claudia McKay. A special thank you to Reema Nanavaty, Self-Employed Women’s Association (SEWA); Vicki Wilde, Bill & Melinda Gates Foundation; and Jennifer Phillips and Christian Lopera, InsuResilience Centre of Excellence on Gender-Smart Solutions (GIZ) for reviewing and providing invaluable input to this paper.

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INTRODUCTION

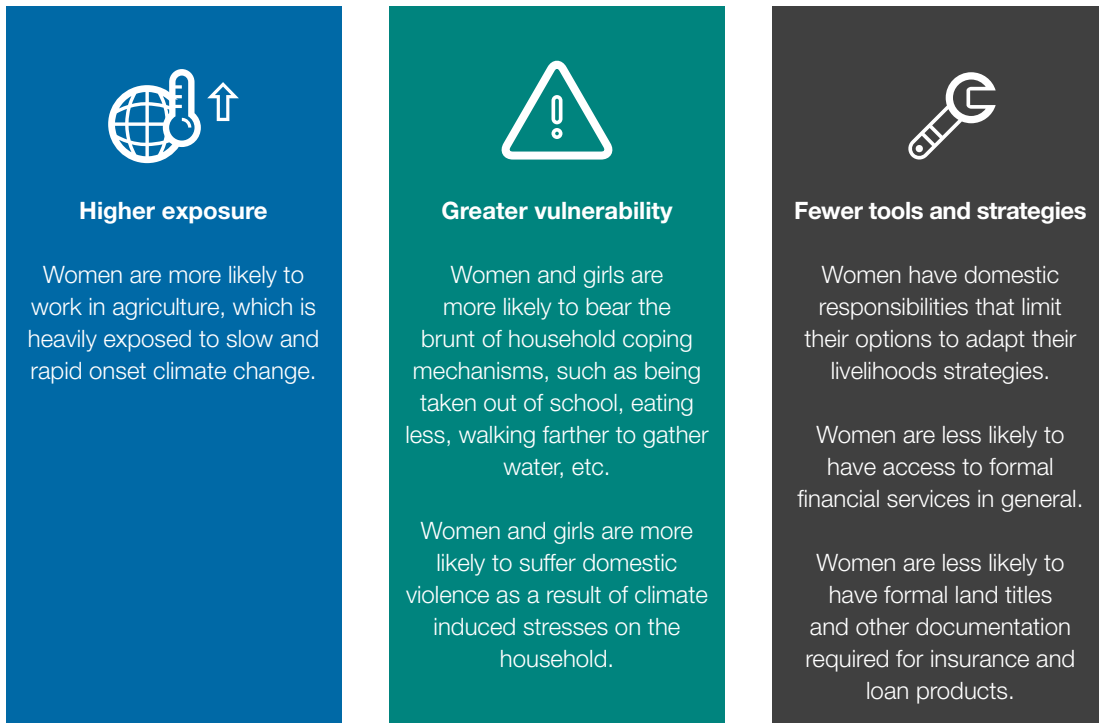
GENDER INEQUALITY EXISTS IN VARIOUS CONTEXTS—AND CLIMATE change is no exception. Across the developing world, women face a greater climate threat than men for several reasons. First, women¹ in low-income countries are often more exposed and vulnerable than men to climate hazards. Second, evidence shows that gender-based barriers to autonomous climate adaptation² limit women’s resilience and adaptive capabilities to cope with the hazards they are exposed to (UN Women 2015). Finally, climate change has a differential impact on men and women, with risks and disasters caused by natural events disproportionately affecting women and girls (de la O Campos and Garner 2014; Hallegatte et al. 2017). These inequities occur because climate change intersects with existing social norms and economic inequalities, such as land ownership rights and patriarchal power structures, that increase the exposure and vulnerability of women and girls to the effects of a changing climate (2X Climate Finance Taskforce 2021). Climate change in turn exacerbates a wide range of existing inequalities, such as increased risk of gender-based violence (GBV), early forced child marriage, and even higher mortality rates (Sida 2021). These inequalities affect the availability of resilience and adaptation strategies and how women leverage these strategies to respond to climate shocks and stresses (e.g., heatwaves, floods). (See Figure 1 for illustrative examples.)

The differential impact women face occurs on multiple levels and leads to first-, second-, and third-order knock-on effects (e.g., on health and livelihoods caused by climate change). Women often have less decision-making power not only in their choices and strategies but also in household-level decisions. When an extreme climate event occurs and households are not well prepared, women may resort to coping strategies that have greater negative effects on their immediate and future well-being than the negative effects men experience (de la O Campos and Garner 2014; Hallegatte et al. 2017; Winsemius et al. 2018). Examples of coping strategies women use include reducing food intake (even while pregnant), taking children (especially girls) out of school, reducing health expenses, and selling durable assets—which could consequently undermine productivity.

Among other tools, financial services are of value in helping vulnerable individuals and households to reduce the impact of climate change and to adapt to climate-related risks.

- 1 It is well noted that the terms “women,” “men,” “girls,” “female,” and “male” do not denote homogenous groups. This Working Paper takes that into account when making statements that refer to these groups.
- 2 Autonomous adaptation refers to actions that vulnerable populations can take themselves. The term is in contrast to planned adaptation, which refers to adaptation plans and policies developed and implemented by governments and public agencies in affected countries.

FIGURE 1. Illustrative examples of how women face higher exposure and greater vulnerability to climate hazards yet have fewer tools and strategies to manage them, including access to relevant financial products and services.



Yet women have less access to such tools. While access to financial services has expanded considerably in low-income countries, it is still low—and a clear gender gap remains. The World Bank 2021 Global Findex Database finds that 20 percent of women in low-income countries own accounts at financial institutions compared to 28 percent of men—and women also find it more difficult to access money in an emergency. The lower levels of account ownership among women constrain their ability to build resilience and to adapt. Given that climate change already exacerbates the inequalities faced by women and girls, and many of the financially excluded or underserved women live in highly climate vulnerable countries, there is a compounding of negative effects for women. In this context, financial services that meet women’s needs and equip them better to pursue their own climate adaptation strategies become vital.

Digital technology, including digital financial services (DFS), presents a potential solution for increasing women’s access to financial services where mobility and accessibility to traditional financial services may be limited. However, the digital gender gap is far too prevalent in low-income countries. In considering the overall role of financial services it is thus important to keep in mind the existing gaps low-income populations face, as well as the diversity of geographies, climate shocks or stresses, women’s lives and livelihoods, and existing gender norms³ that lead to varying financial needs when women are faced with climate-related risks.

3 For more information on the nexus of gender norms and financial inclusion, see CGAP’s report on *Addressing Gender Norms to Increase Financial Inclusion: Designing for Impact*.

This Working Paper aims to illustrate how women's lives and livelihoods are differently impacted by climate change and how financial services can play a better role in strengthening their autonomous adaptive capacities to climate change. This concept will be explored through illustrative examples of gendered impact when women face climate shocks and stresses that affect health, agricultural livelihoods, and women-owned businesses.

Photo by Sabaa Notta



HEALTH

CIMATE IMPACTS ARE ALREADY HARMING HEALTH THROUGH RISKS

such as air pollution, disease, extreme weather events, forced displacement, pressure on mental health, and increased hunger and poor nutrition in places where people cannot grow or find sufficient food (United Nations 2023). Sudden onset climate events (e.g., extreme heat, floods) can cause health problems such as waterborne diseases, as well as limited (or no) access to healthcare. Slow onset climate events (e.g., increasing temperatures, desertification) can cause health problems such as mental health pressure, increased hunger, and malnutrition. Women are substantially more likely to receive fatal injuries when a climate-extreme event strikes and to face higher negative impacts to their overall health compared to men in risk contexts (Aamer 2022). Due to three underlying factors, women tend to face greater negative health impacts than men from both sudden and slow onset climate events.

First, *preexisting gender inequalities* leave women ill-equipped when extreme events hit. For example, social norms often prevent women from learning skills such swimming or self-defense; thus, they suffer from increased fatalities. In certain contexts, women’s access to healthcare is further reduced compared to men’s, as sociocultural norms may dictate that they do not leave the house without a male member’s permission or presence—even in an emergency (e.g., in rural areas of Pakistan during the floods of 2022). Along the same lines, compared to men, women experience higher exposure to climate change-driven mental health issues (e.g., post-traumatic stress disorder, depression) due to increased household responsibilities (e.g., taking on food and nutrition responsibilities for their children), GBV, etc. (Rothschild and Haase 2022). Women are also more susceptible to vector-borne diseases (e.g., malaria, urinary tract infections [UTIs]) as they are more exposed to water sources since they often take on the role of obtaining water for the household. In Bangladesh, women’s increased exposure to saline water due to climate events led to an increase in health issues such as UTIs, skin diseases, and hypertension.⁴

Second, *physiological characteristics* play a role. For example, high temperatures and heat stress can reduce women’s working hours by approximately 40 percent⁵ as women are more likely to work in places where they are exposed to high temperatures, especially in the context of engagement in informal trades such as construction, agriculture, salt farming, vending, and hawking.⁶ In many cases men can compensate for the loss of working hours by working

4 CGAP demand-side research in Bangladesh, 2023.

5 SEWA research in Ahmedabad, India, 2023.

6 Ibid.

overtime in the evening. However, many women, especially those living in poverty, have household responsibilities in the evening. Therefore, many cannot work overtime and hence face a loss in wages. This reduction in income can translate into food insecurity for the family—even more so for women and girls in the family. Physiological characteristics can also lead women to develop other types of health issues such as UTIs, low blood pressure, skin diseases and rashes, etc.⁷ Moreover, pregnant women are more vulnerable to certain illnesses and diseases (e.g., dengue, Zika virus, etc.) that can affect both their health and the health of their fetus.

Finally, the *varying coping mechanisms* men and women use when a climate shock or stress occurs further increase women's health risks. For example, when food insecurity arises as a result of climate change, women are the first to reduce their own food intake to ensure sufficient food for the household. Deprivation can lead to malnourishment, which can increase health complications, including during pregnancy. Moreover, as caregivers (a role women usually undertake regardless of the socioeconomic status of the household), women tend to prioritize their family's health needs and care over their own when a climate shock or stress occurs.⁸

Climate-related health emergencies cause financial stress and highlight the need for multiple financial products and services to meet healthcare costs.⁹ During extreme climate shocks, health expenditures are one of the major causes of households falling into poverty. Since women are more likely to prioritize the health needs of other family members, the financial burden can disproportionately fall on them and force them to draw down on already limited personal savings. Health savings accounts and climate insurance products (e.g., extreme heat income insurance) are examples of types of products that can provide support to women who face financial stress from climate-related health emergencies. This topic will be further explored in the section titled Considerations at the nexus of gender, climate change, and financial inclusion.



Photo by Sabaa Notta

7 Ibid.

8 Ibid.

9 CGAP demand-side research in Bangladesh, 2023.

AGRICULTURAL LIVELIHOODS

WOMEN MAKE UP 63 PERCENT OF THE AGRICULTURAL LABOR

force in low-income countries (Miller et al. 2023). Yet there are stark differences between women and men in land and livestock ownership, wages, decision-making participation, and access to financial services. These gender biases create barriers for women in agricultural livelihoods to improve their agricultural productivity. They also limit women's agency over cropping and agricultural practices and reduce their ability to take up climate adaptive strategies, primarily due to limited access to resources and labor support.

In terms of access to resources, women's farming decisions are affected by their limited access to secure financial capital (e.g., cash, credit). For example, CGAP research in Nigeria¹⁰ found that women in cassava and goat livelihoods received up to 50 percent less in remittances than men in the same livelihoods during a climate-impacted year. Women also experience limited access to agricultural resources (e.g., training, seeds, fertilizers, high-quality water supplies) (Fletschner and Kenney 2014) and limited awareness about the most appropriate climate resilient technology that is also affordable, reliable, and sustainable¹¹ enough to support their resilience and adaptation strategies. While many male farmers leverage new agricultural technologies and methods to pursue climate adaptation, gender norms limit the ability of female farmers to invest in new resources.

When it comes to accessing labor support, women tend to have less time for shared labor networks, lower access to household labor, less financial resources to hire labor, and lower returns on the labor they do hire. With climate change putting increasing stress on the growing season, access to timely and quality labor will become even more critical to maximizing productivity and minimizing loss (Anderson et al. 2021). More information on gendered impacts in relation to labor can be found in CGAP's research on women in rural agricultural livelihoods and climate.¹²

Overall, these factors make it more difficult for women to expand or diversify their farming activities and to make investments in climate adaptation, thereby hindering their resilience and

10 CGAP demand-side research in Nigeria, 2022.

11 SEWA research in Ahmedabad, India, 2023.

12 See Anderson et al. 2023.



Photo by Sabaa Notta

worsening outcomes (Paavola 2008). CGAP's research in Nigeria found that women in both goat and cassava livelihoods suffered greater losses than men as a result of climate change.

Gender barriers can also limit women's mobility and options to migrate in the face of climate-related risks. In some contexts, many men migrate away from rural areas for their livelihoods and often leave behind female relatives (who may not be able to move due to social and cultural norms) to take on their roles. While some women may migrate off-farm, it is often for more temporary reasons than men's. Men tend to go into nonagricultural trades, which leaves women with more of the agriculture responsibilities. The decision on how long to migrate, and where, depends on socioeconomic factors subject to gender. Women who choose to migrate off-farm often face increased time poverty (Falsini 2021) and less productive labor opportunities (van den Broeck and Kilic 2018; Anderson and Donald 2022).

WOMEN-OWNED BUSINESSES

WOMEN OWN 25 PERCENT OF FORMAL BUSINESSES IN LOW-INCOME countries (Halim 2020). Female entrepreneurship is an important vehicle for women's economic empowerment in these countries. However, women tend to own smaller and more informal businesses than men and face greater challenges in accessing business financing. Climate vulnerability heightens these challenges for women-owned businesses.

The socioeconomic and cultural factors that lower women's participation in the formal economy heighten their climate vulnerability and exclude them from critical financial protection (e.g., access to insurance and pension schemes) (Chant and Pedwell 2008). Women often lack decent work opportunities, which leads many of them to work the informal economy as wage laborers in industries such as street vending or to run informal businesses as entrepreneurs (UN Women 2015–2016). Patriarchal norms create further difficulties for many women as they seek to acquire capital to diversify their livelihood strategies and effectively respond to climate shocks (Ajibade and McBean 2014). Female business owners often do not have business documents such as trading permits, licenses, and registrations, which, in many places, are still necessary to access formal financial services like credit. Their ability to protect their businesses from flooding, fire, and other climate-related risks is thus limited.

An example can be found in India, where many women work as informal street vendors. Due to extreme temperatures, the ground they sit on to sell their wares can become excessively hot and unbearable. There is no access to drinking water in open markets and women are therefore forced to purchase packaged drinking water. The shelf life and quality of their products (perishable and nonperishable) rapidly degrades, leading to increased losses and reduced income. Customer footfall in open markets also declines in extreme temperatures and thus further reduces income. Reduced income and the unavailability of free drinking water forces vendors to reduce their water intake, which can lead to various health impacts.¹³

¹³ SEWA research in Ahmedabad, India, 2023.

THE ROLE OF FINANCIAL SERVICES

FINANCIAL INCLUSION PLAYS A CENTRAL ROLE IN ENABLING THE autonomous climate adaptation responses that vulnerable people can take to cope with climate change. Helping people manage risk and build resilience is one of the central functions of financial services. Most obviously, insurance can protect important assets against risk and help people recover and rebuild after a crisis. However, reliable savings and remittance products can also help smooth consumption during periods of drought or support recovery after a devastating flood. Access to credit can be crucial in helping people living in poverty to invest ahead of time in risk-reduction measures like irrigation, hardier seed varieties, or the transition to more climate resistant livelihoods and more diversified sources of income. Digitization of financial services can further extend and enhance these functions to help meet the climate challenge, with DFS igniting progress on the Sustainable Development Goals (SDGs) (UNSGSA 2019).

Financial inclusion can be particularly important for empowering women in the face of growing climate risks. For example, borrowing is often the key to self-employment and playing a role outside the house. Evidence also shows that when women earn or manage money it is better used for the household and the children benefit more. Financial inclusion also provides vulnerable people and those living in poverty with the means to protect themselves against shocks, thus making them more resilient (Sirtaine 2022). Formal and informal financial services can help women build resilience by enabling them to mitigate, anticipate, and prepare for climate risks—and transfer some risks (to, for example, insurance companies). These services also help women to eventually absorb the negative impacts of climate-related risks by adopting more climate resilient livelihoods and diversification,¹⁴ accessing and creating more climate-resilient assets, smoothing consumption, and accessing funds in emergency situations (ADB 2022).

Women are more likely than men to use informal financial services. Their relatively high use of informal financial services can come with drawbacks, such as less access to and control over resources for building climate resilience. Women often hold longer term savings in physical

¹⁴ Example: CGAP's demand-side research in Bangladesh showed saline can have strong health implications, especially on women. Along with practiced approaches, livelihood options in less saline areas such as horticulture gardens (Hafiza and Neelormi 2015) can be a climate-resilient livelihood option.

assets like livestock, which can degrade or be lost due to climate change (Sharma et al. 2022). However, studies also show the advantages and resilience of informal financial services. For example, CARE's Rapid Gender Analysis (CARE 2023a) showed how women responded to the COVID-19 pandemic. Surveys found that women were 33 percent more likely than men to adapt community groups to a crisis context and 17 percent more likely to participate in leadership committees post-crisis. In fact, village savings and loan associations (VSLAs) continued to lend and save throughout the pandemic. While prior to the pandemic one may have thought that the resilience of groups such as VSLAs would weaken when shocks hit (e.g., climate shocks), the CARE study found that group participants found a way to make VSLAs work and that women who participated fared better than those who did not.

The benefits of financial services for women go beyond the personal and can support the household, community, and market to build resiliency and adapt to climate change. At the household level, for example, families have more savings and resources to fall back on. At the community level, members have more viable and resilient businesses to withstand climate-related risks. At the market level, economies experience more broad-based and resilient economic development as well as a reduced burden on resources¹⁵ such as healthcare.

We have yet to see sufficient innovation in making financial products and services more responsive to the climate needs of people living in poverty, let alone the specific needs of women. A CGAP scan identified relatively few climate-responsive financial products other than agricultural index insurance—and almost none explicitly developed with women in mind (Notta 2022). Meanwhile, CGAP interviews with over 100 financial services providers (FSPs) revealed that few are actively exploring how to make product offerings more relevant to the climate-related needs of their clients, and fewer still are considering the specific climate-related needs of female clients.

15 In a health context, midwives play an important role when climate shock occurs. When health-related infrastructure is damaged after a significant shock such as a typhoon, midwives often go door-to-door to provide health services. Financial services, such as loans for climate-related educational attainment and training for midwives, can play an important role at the personal, household, community, and market level.

CONSIDERATIONS AT THE NEXUS OF GENDER, CLIMATE CHANGE, AND FINANCIAL INCLUSION

C GAP HAS IDENTIFIED FOUR AREAS FOR FURTHER EXPLORATION AT the nexus of gender, climate change, and financial inclusion. The considerations outlined below are contextualized to the illustrative examples of health, agricultural livelihoods, and women-owned businesses but can also be adapted to other contexts.¹⁶

1. Offering solutions for second- and third-order effects

FSPs can offer better solutions to manage the knock-on effects often experienced after a climate shock, such as increased health costs. Out-of-pocket health expenditures push 100 million people into extreme poverty each year. Covering common health risks (e.g., diarrhea, dengue, malaria, polio, COVID-19) with targeted financial products and services post-climate shock can protect households from unexpected expenses related to disease. We have seen products such as dengue insurance emerging post-flood in the Philippines. But how can these products be further tailored to consider the health impacts women specifically face? For example, many women in rural areas of India are illiterate. Even if they purchase a financial product such as insurance, many are unaware of how to properly use it or process their claims. This can lead to a lack of reimbursement for certain expenses, such as medical treatment. Issues like these need to be overcome in order for the financial system to help women manage climate-related risks.

¹⁶ Note: Opportunities identified may not apply to all contexts as they vary based on segment, geography, climate risk, etc.

2. Bridging physical and digital solutions

Within a suite of resilience strategies, research indicates that DFS are well positioned to help women improve their livelihoods in the face of climate stressors (FinEquity 2023). Access to appropriately designed and delivered financial services, especially digital services, can enable women to invest in inputs (e.g., seeds, technology) and other tools, including social assets, that can diversify and strengthen their livelihoods in the face of climate stressors (FinEquity 2023). However, it is important to keep in mind that digital solutions and products (e.g., smartphones) are not accessible to all women nor in all contexts, and that physical solutions continue to play an important role. For example, informal savings and lending groups also provide opportunities to women through community building. Solutions that bridge physical and digital channels can therefore be powerful resilience enablers for women that specifically warrant further exploration through a climate lens.

Considering women's frequent dependence on and trust in informal financial services, efforts to strengthen savings groups and credit cooperatives take on greater importance and a new climate aspect. The important role of VSLAs, for example, was highlighted by the COVID-19 pandemic. Despite the multifaceted challenges VSLA members coped with, a comparison of global-level data between women who were in VSLAs and those who were not showed greater resilience among women in VSLAs (CARE 2023b). Moreover, the existing agenda to digitize savings groups offered some promise in this regard and should perhaps be expanded to include an explicit focus on helping clients manage climate-related risks. For instance, would digital models open avenues to better leverage these groups for extending access to weather insurance to their clients, either individually or collectively? Is it conceivable to develop low-cost digital insurance models that offer informal or semiformal loan clients relief or indemnity in the event of a flood or drought?

3. Designing for women

To enhance women's resilience to climate change through financial inclusion, how can we better design financial services to align with women's uses, preferences, and needs—and at the same time embed features that address specific gender inequalities and barriers? Women face multiple barriers in accessing and using financial services, primarily due to sociocultural norms and social perceptions. However, some barriers

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are institutional, including lack of access to identification documents, collateral, or a credit history; mobility; and financial literacy. Institutional challenges such as a paucity of gender-disaggregated data contribute to the barriers women face. Issues around gender-disaggregated data go beyond paucity to include interpretation and use of data that makes the case for FSPs to design appropriate products for women. An example can be seen in the SEWA members' cooperative bank, which undertook a study to understand the various circumstances under which women were unable to repay loans. Based on the study's outcome, SEWA initiated integrated healthcare services, lifecycle insurance services, and capacity-building trainings to build women's resilience. Overall, these initiatives led to a reduction in loan defaults by SEWA members.

While many financial services are considered gender neutral, in reality this often means they are designed for men by default. Moreover, as men's and women's capacity to access financial services is different, the use and accessibility of financial services also differs. During emergencies, for example, men are more likely to be able to access emergency funds. Men tend to use their earnings from work as a source of emergency funding while women tend to rely more on savings and money they receive from family and friends (Global Findex 2021). CGAP research in Nigeria observed the same pattern specifically in the context of climate shocks: female respondents placed greater emphasis on various kinds of savings, whether in the bank or with informal savings groups, whereas men were more focused on various kinds of borrowing as their main way to support resilience strategies.¹⁷

4. The role of payments

For people living in poverty, remittances are often first responders when an extreme event occurs. These payments play an important role—especially for women who rely on funds from friends and family, not least their spouses that may have migrated and send money back home. Digital payments can be particularly important, not only because they lower the overall costs of remittances but because they increase access to funds in sociocultural situations where women are unable to leave their home without permission or a man's presence.

Learnings on harnessing digital technology in crises response that emerged from other crises (e.g., Ebola, COVID-19) can be used in this context. Through Ebola response efforts in Liberia and Sierra Leone in 2015, key responders learned to ensure that response design accommodates local realities and is sufficiently flexible, for example, anticipates challenges posed by local infrastructure weaknesses or uses digital platforms offline. Responders also led complete and robust assessments of service provider capacity by using standardized assessment tools, which ensured coordination with service providers and built beneficiary digital literacy through sensitization and awareness-raising (Dumas et al. 2017). These learnings can be expanded to design and tailor payment solutions that include an explicit focus on helping women manage their climate-related risks. Overall, ensuring that payments get through to women can be particularly important in the many contexts where women play a significant role, such as in staffing the healthcare sector.

¹⁷ CGAP demand-side research in Nigeria, 2022.

STATE OF THE INDUSTRY

THE INTERPLAY BETWEEN GENDER, CLIMATE CHANGE, AND

financial inclusion is considerable and increasingly carries implications for outcomes in each of those areas. Relevant stakeholders such as funders, development actors, FSPs, and government actors need to explicitly bring the three agendas together to tackle today's challenges and contribute additional research and evidence.

CGAP research shows that development funders are still largely working on these topics in isolation. Most major funders work on climate change as well as financial inclusion—and many are integrating gender in their work on both subjects—but very few work on all three in an integrated manner. Over half of private and public funders adopt a gender focus in their climate work yet many still do not. Very few make explicit connections between climate change and financial inclusion in their strategies and operations. At the project level, a growing number of climate efforts now include financial services elements but lack a strategic and intentional effort to understand and build inclusive financial systems that enable more equitable access to climate-responsive financial services.

Similarly, our literature review found relatively little academic work at the intersection of gender, climate change, and financial inclusion. There is voluminous research on gender and climate change, as well as on gender and financial inclusion, but strikingly little work that explores how the three intersect. The literature is also hampered by a lack of agreed-upon standards on how to define and measure resilience and adaptation, which significantly reduces the comparability of existing research.

CGAP studies of the supply-side landscape reveal that FSPs are not thinking much about the climate adaptation needs of their clients, let alone clients who are women. There is little product innovation taking place in this space due to a combination of low priority on climate adaptation and a lack of climate expertise within FSPs. Our global scan of climate-responsive financial products uncovered only a single product that had explicit gender intentionality in its design.

RESEARCH AND ACTION AGENDA

WITH THESE CONSIDERATIONS IN MIND, CLEAR AND IMPORTANT research and action agendas emerge for the development and practitioner communities working on climate change, gender, and financial inclusion. These agendas include:

- Which financial products and services do women need to manage climate change? What is most needed to build resilience and opportunities for autonomous adaptation on the one side and recovery from climate shocks and stresses on the other? No single product or service will meet all the growing needs of women as they face climate-related risks. Moreover, the *features* of products and services that best bolster resilience will vary by context and the type of climate shock or stress. Similarly, there is no single optimal channel for distribution. It is important to focus a gender lens on product design and distribution and to develop a suite of solutions that are truly grounded in women's needs, all the while bearing in mind that women are not a homogenous group, and their needs vary by circumstance as well as preference.
- How can development practitioners help build a business case for FSPs to offer financial products and services that support women's climate resilience and adaptation? To the extent that FSPs focus on climate at all, their current focus tends to be on opportunities for green lending (climate mitigation) and managing their own risk (i.e., the impact of climate-related risks on their portfolios). Most FSPs struggle to develop products that support climate adaptation and layering on a gender lens will only increase the challenge. Yet this challenge must be met in order to help low-income women across the developing world protect themselves against the ravages of climate change. How can funders and development actors combine incentives, technical assistance, financing, and risk sharing to drive FSPs toward a stronger focus on the climate-related risks their clients face—with a particular emphasis on women?
- How can development practitioners reduce the risks for FSPs to serve female clients as climate impacts grow? Since women in many contexts are particularly exposed to climate hazards and weather patterns continue to grow more extreme and unpredictable, women's risk profiles may deteriorate more rapidly than men's. This will, in turn, increase the vulnerability of FSPs serving women and introduce new climate-related biases against those clients. Given the gendered impacts we see around climate change, the barriers women

face in accessing financial services, and the specific needs of female clients, which areas can funders and development actors support to offset some of the risks for FSPs without further increasing risks for women?

- How can public and private players more effectively collaborate on raising the effectiveness of financial services in climate resilience and adaptation to accelerate innovation and scale solutions that work? Public finance can be central to catalyze, extend, build, and scale markets—a role that will be even more important in the climate space given how fraught it is with risk and uncertainty. Government programs, subsidies, and mandates can be critical for extending access to services to underserved populations, notably women, but they need to be provided in a way that complements rather than displaces markets. This goes beyond financial authorities and involves other relevant ministries and agencies that can provide gender-disaggregated data and other data related to climate risk. The role of private players also needs to be expansive, going beyond FSPs to include players across value chains as well as climate change actors and specialists. It is important to start thinking about how to have these conversations and how public and private finance will play a collaborative role.
- What can funders do to strategically and programmatically create greater synergy across their many efforts on gender, climate change, and financial inclusion? As first-, second-, and third-order climate effects impact women, how can other program areas take gendered impacts into account and respond to the interlinkages between these areas? As this Working Paper outlines, programs related to health, agriculture, and women-led businesses are a few examples of where this can be considered. For the funder community to effectively respond in bolstering women’s climate resilience, it is vital to get beyond silos and ensure a consistent focus on the specific needs of women in coping with and adapting to a changing climate.

Photo by Silvia Baur Yazbeck



REFERENCES

- Aamer, Farwa. 2022. "Pakistan Floods: Women Should Be at the Forefront of Relief Efforts and Future Climate Policies." Commentary. Stimson Center, 1 September. <https://www.stimson.org/2022/pakistan-floods-women-should-be-at-the-forefront-of-relief-efforts-and-future-climate-policies/#:~:text=Water%20Security%20Project-,Pakistan%20Floods%3A%20Women%20should%20be%20at%20the%20forefront%20of%20relief,gender%20inequ>
- ADB. 2022. "Financial Instruments to Strengthen Women's Economic Resilience to Climate Change and Disaster Risks." Manila: Asian Development Bank, August. <https://www.adb.org/sites/default/files/publication/813981/financial-instruments-women-economic-resilience.pdf>
- Ajibade, Idowu, and Gordon McBean. 2014. "Climate Extremes and Housing Rights: A Political Ecology of Impacts, Early Warning, and Adaptation Constraints in Lagos Slum Communities." *Geoforum*, Volume 55, pp. 76–86, August. <https://www.sciencedirect.com/science/article/pii/S0016718514001298?via%3Dihub>
- 2X Climate Finance Taskforce. "2X Challenge." Webpage viewed May 2023. <https://www.2xchallenge.org/gender-and-climate-taskforce>
- Anderson, Jamie, and Aletheia Donald. 2022. "Limited by Labor: Rural Women, Hired Labor, and Financial Services." Blog. Washington, D.C.: CGAP, 27 January. <https://www.cgap.org/blog/limited-labor-rural-women-hired-labor-and-financial-services>
- Anderson, Jamie, Gerhard Coetzee, and Max Mattern. 2021. "Financial Solutions for Women in Rural and Agricultural Livelihoods: Evidence and Strategy." Slide Deck. Washington, D.C.: CGAP. https://www.cgap.org/sites/default/files/publications/slidedeck/2021_11_Slide_Deck_WIRAL_Financial_Solutions.pdf
- Anderson, Jamie, Victoria Clause, Max Mattern, and Kassim Zani. 2023. "Strengthening Rural Women's Climate Resilience: Opportunities for Financial and Agricultural Service Providers." Working Paper. Washington, D.C.: CGAP and Mercy Corps Agrifin, May. https://www.cgap.org/sites/default/files/publications/Working%20Paper-RRW_CGAP-Agrifin.pdf
- CARE. 2022a. "COVID-19 and Women: Saving for Resilience." Final Report. June. <https://www.care.org/news-and-stories/resources/covid-19-women-saving-for-resilience/>
- CARE. 2022b. "Women Respond." Webpage viewed April 2023. <https://www.care.org/our-work/disaster-response/emergencies/covid-19/women-respond-leadership-covid-19-response/>
- Chant, Silvia, and Carolyn Pedwell. 2008. "Women, Gender, and the Informal Economy: An Assessment of ILO Research and Suggested Ways Forward." Discussion paper. Geneva: International Labour Organization (ILO). https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_091228.pdf
- de la O Campos, Ana Paula, and Elisabeth Garner. 2014. "Women's Resilience to Food Price Volatility: A Policy Response." Food and Agriculture Organization of the United Nations (FAO). <http://www.fao.org/3/i3617e/i3617e.pdf>
- Dumas, Tristan, Amandine Frisetti, and Holly Welcome Radice. 2017. "Harnessing Digital Technology for Cash Transfer Programming in the Ebola Response, 2015–2016." Study. USAID and CaLP, September. <https://www.calpnetwork.org/wp-content/uploads/2020/03/calp-ebola-case-study-web-1.pdf>
- Falsini, Sophie. 2021. "Time Is Money: Financial Services Can Help Rural Women Save More of It." Blog. Washington, D.C.: CGAP, 19 May. <https://www.cgap.org/blog/time-is-money-financial-services-can-help-rural-women-save-more-of-it>
- FinEquity. 2023. "Women and Climate Hypotheses and Assumptions." Blog. FinDev Gateway, 27 January. <https://www.findevgateway.org/finequity/guide/2023/01/women-and-climate-hypotheses-and-assumptions>
- Fletschner, Diana, and Lisa Kenney. 2014. "Rural Women's Access to Financial Services: Credit, Savings, and Insurance." In: Quisumbing, A. et al. (eds) *Gender in Agriculture*, pp. 187–208. Dordrecht: Springer. https://link.springer.com/chapter/10.1007/978-94-017-8616-4_8
- Hafiza, Sheepa, and Sharmind Neelormi. 2015. "Climate Resilient and Empowering Livelihoods for Women." Report. Dhaka: UN Women. <https://asiapacific.unwomen.org/sites/default/files/Field%20Office%20ESEAsia/Docs/Publications/2016/01/CLIMATE%20RESILIENT%20AND%20EMPOWERING%20LIVELIHOODS%20FOR%20WOMEN.pdf>

- Halim, Daniel. 2020. "Women Entrepreneurs Needed—Stat!" Blog. Washington, D.C.: World Bank, 5 March. <https://blogs.worldbank.org/opendata/women-entrepreneurs-needed-stat>
- Hallegatte, Stephane, Adrien Vogt-Schilb, Mook Bangalore, and Julie Rozenberg. 2017. "Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters." Washington, D.C.: World Bank. <https://openknowledge.worldbank.org/handle/10986/25335>
- Koning, Antonique, Joanna Ledgerwood, and Nisha Singh. 2021. "Addressing Gender Norms to Increase Financial Inclusion: Designing for Impact." Technical Guide. Washington, D.C.: CGAP, October. <https://www.cgap.org/research/publication/addressing-gender-norms-to-increase-financial-inclusion-designing-for-impact>
- Miller, Howard, Lakshmi Krishnan, and Lucciana Alvarez Ruiz. 2023. "Green Inclusive Finance: A Framework for Understanding How Financial Services Can Help Low-Income and Vulnerable People Respond to Climate Change." Center for Financial Inclusion (CFI) at Accion International, January. <https://content.centerforfinancialinclusion.org/wp-content/uploads/sites/2/2023/01/Green-Inclusive-Finance.pdf>
- Notta, Sabaa. 2022. "State of the Climate-Responsive Financial Product Landscape." Blog. Washington, D.C.: CGAP, 7 December. <https://www.cgap.org/blog/state-of-climate-responsive-financial-product-landscape>
- Paavola, Jouni. 2008. "Livelihoods, Vulnerability and Adaptation to Climate Change in Morogoro, Tanzania." *Environmental Science & Policy*, 11(7), pp. 642–654, November. <https://www.sciencedirect.com/science/article/pii/S1462901108000695?via%3Dihub>
- Rothschild, Julia, and Elizabeth Haase. 2022. "Women's Mental Health and Climate Change Part II: Socioeconomic Stresses of Climate Change and Eco-Anxiety for Women and Their Children." *International Journal of Gynecology and Obstetrics*, 160(2), pp. 414–420, 17 October. <https://pubmed.ncbi.nlm.nih.gov/36254375/>
- Sharma, Nithya, Carolanne Boughton, and Sasha Polikarpova. 2022. "Climate Change Has a Disproportionate Impact on Low-Income Women. Here's How Financial Institutions Can Change That." Insights. Women's World Banking, 18 October. <https://www.womensworldbanking.org/insights/climate-change-has-a-disproportionate-impact-on-low-income-women-heres-how-financial-institutions-can-change-that/>
- Sida. 2021. "Gender, Equality, Environment, and Climate Change." Gender Tool Box Brief. Stockholm: Swedish International Development Cooperation Agency, March. <https://cdn.sida.se/publications/files/sida62377en-gender-equality-environment-climate-change.pdf>
- Sirtaine, Sophie. 2022. "Financial Inclusion for an Inclusive, Greener, More Resilient World." Blog. Washington, D.C.: CGAP, 17 January. <https://www.cgap.org/blog/financial-inclusion-inclusive-greener-more-resilient-world#:~:text=Financial%20inclusion%20also%20contributes%20to,the%20impacts%20of%20climate%20change>
- United Nations. 2022. "Causes and Effects of Climate Change." Webpage viewed May 2023. <https://www.un.org/en/climatechange/science/causes-effects-climate-change>
- UNSGSA. 2018. "Igniting SDG Progress through Digital Financial Inclusion." Compendium. <https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=2655&menu=1515>
- UN Women. 2015. "Pacific Gender and Climate Change Toolkit." Toolkit. New York: UN Women. <https://www.unwomen.org/en/digital-library/publications/2015/9/pacific-gender-and-climate-change-toolkit#:~:text=The%20Pacific%20Gender%20and%20Climate,into%20their%20programmes%20and%20projects>
- UN Women. 2016. "Women in Informal Economy." Webpage viewed May 2023. <https://www.unwomen.org/en/news/in-focus/csw61/women-in-informal-economy>
- van den Broeck, Goedele, and Talip Kilic. 2018. "Dynamics of Off-Farm Employment in Sub-Saharan Africa: A Gender Perspective." Policy Research Working Paper. *World Development*, 119, pp. 81–99. Washington, D.C.: World Bank Group, August. <https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-8540>
- Winsemius, Hessel, Brenden Jongman, Ted Veldkamp, Stephane Hallegatte, Mook Bangalore, and Philip Ward. 2018. "Disaster Risk, Climate Change, and Poverty Assessing the Global Exposure of Poor People to Floods and Droughts." *Environment and Development Economics*, Volume 23, Special Issue 3: Poverty and Climate Change, pp. 328–348, June. <https://www.cambridge.org/core/journals/environment-and-development-economics/article/disaster-risk-climate-change-and-poverty-assessing-the-global-exposure-of-poor-people-to-floods-and-droughts/BEAFC2320176380B7B9296B60CE71BCD>
- World Bank. "The Global Findex Database 2021." Report. Washington, D.C.: World Bank. <https://www.worldbank.org/en/publication/globalindex>



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