



Going Digital: The Effect of Digitizing Water and Sanitation Loans on Women in Kenya

Research Brief

The global financing sector is rapidly being refined by advancements in technology. Through this digital transformation, a myriad of digital financial services are now available. From online banking to mobile banking and digital lending, more people than ever before can access financial services. Digital platforms have been seen as a means to increase financial activity and accessibility in underbanked groups, such as women. This brief highlights the findings of a study conducted by Johns Hopkins University examining the impact of digital water supply and sanitation (WSS) loans on women in Kenya. Originally developed by Water.org and Equity Bank Kenya, these loans were integrated into Equity's digital lending applications in 2021. Digital WSS loans were found to have numerous benefits for women, including improving accessibility of women's access to finance by eliminating distance barriers and reducing loan application time, allowing women borrowers to improve their credit scores over time, and improving women's access to finance by eliminating requirements for security and collateral.

Introduction

The water and sanitation crisis disproportionately affects women

Today, 2.2 billion people – 1 in 4 – lack access to safe water, and 3.5 billion people – 2 in 5 – lack access to a safe toilet. In Kenya, it is estimated that 41 percent of the population still rely on unimproved water sources, such as ponds, shallow wells, and rivers, while 59 percent of Kenyans use unimproved sanitation solutions that put their health and safety at risk. Women are disproportionately affected by the water crisis, as they are often responsible for collecting water for their families. Women and girls spend 200 million hours every day collecting water and 266 million hours every day finding a place to go. This takes time away from work, school, and caring for family.

One of the major barriers to safe water and sanitation is access to affordable financing. Those living without these basic services are caught in a cycle of poverty, unable to afford long-term access to safe water in their homes. People living in poverty spend up to 15% of their income on water. They pay in other ways as well, with their time, lost opportunity (collecting water means women can't work and girls miss school), and increased healthcare costs.



Digital finance can close the financial inclusion gap for women

Financial inclusion, particularly for women, also remains a major concern in the developing world. While the majority of informal small and medium enterprises (SMEs) are women-owned, women are still the majority without access to financial services. Studies show that technology, notably mobile money, is enabling increased financial inclusion, especially for women. A 2021 study by the World Bank showed that women are as likely as men to have a digital money account and, of those who had accounts, were 9% less likely to be in poverty.

In Kenya, the digital financing space is growing rapidly and analysts predict that this is only the beginning for other developing economies as more players enter the market offering more choices for customers. This growth is partly fueled by mobile, internet, and smartphone penetration. The strong growth of Kenya's mobile market (51 million subscriptions) and internet access has catalyzed the emergence and growth of digital platforms. Water.org partner Equity Bank has capitalized on this growth through the development of its Equity Bank app and Equitel platform.

Background

Water.org and Equity Bank develop the digital Maji loan

Water.org aims to help women in need of access to safe water and sanitation overcome these barriers through WaterCredit, a solution that uses the tools of microfinance to partner with local financial institutions to develop small loans for water and sanitation.

Since 2011, Water.org has been working with leading commercial bank Equity Bank to implement WaterCredit as part of their base of the economic pyramid approach to WSS finance.

Realizing the vital role digital participation plays in social and economic inclusion, Equity Bank and Water.org integrated WaterCredit into Equity's digital banking portfolio in 2021, developing a digital version of *Maji* ("water") loans. Prior to this pilot intervention, clients were only able to access these loans via conventional in-person banking methods at Equity Bank.

The digital Maji loan is a short-term loan that enables customers to access water and sanitation-related equipment, such as water tanks, without the need for physically visiting a branch, guarantors, or filling out forms.



Customers access Maji loans via digital channels either using: a) Equity Bank’s Equitel application- a mobile banking app available on smartphones or b) Equity Bank’s Equitel line- a mobile phone platform that allows customers to carry out their financial transactions, make calls, send SMS, and access the internet. The loan is paid directly to selected Equity merchants to provide equipment once the customer is approved. These loans have a repayment period of up to 12 months and are only available for pre-approved water and sanitation products.

Digital Maji loans show promising results

Since April 2021, more than 8,000 digital Maji loans have been disbursed, reaching more than 38,000 Kenyans with access to safe water and sanitation. The loans are reaching people in need – 100% of the borrowers are located in rural areas where there is often a lack of physical bank presence, 31% are women, and 87% live under \$6.85 per day.

38,190

People Reached

8,489

Loans Disbursed

\$10.7 M

Capital Mobilized (USD)

\$1,265

Average Loan Size

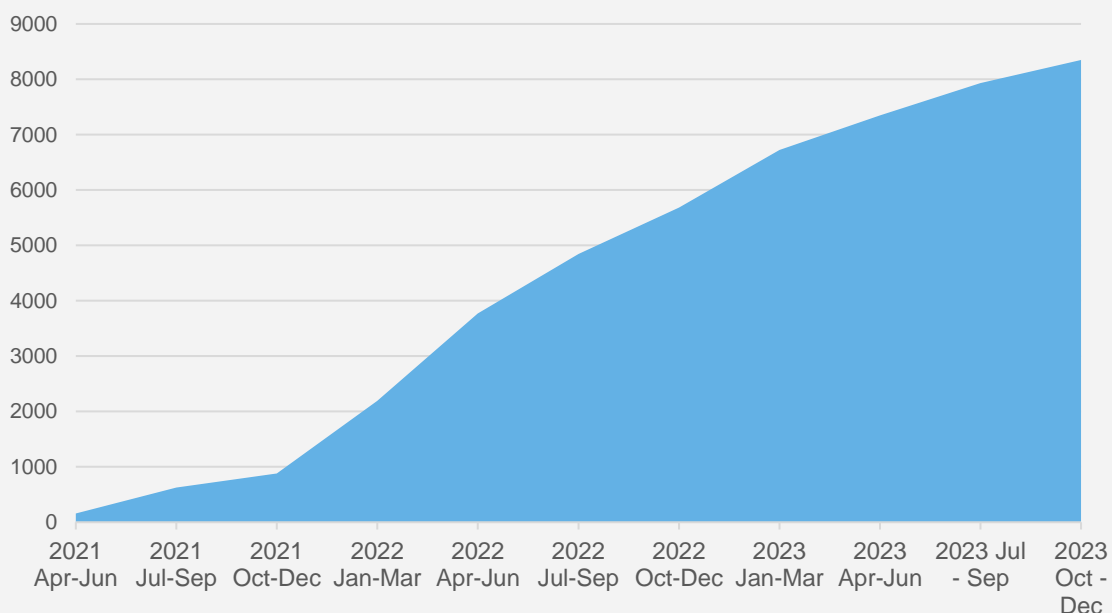
31%

Female Borrowers

87%

Living Under \$6.85/day

Figure 1: Total digital Maji loans disbursed (cumulative)



About the Study

In 2023, graduate students from Johns Hopkins University School of Advanced International Studies (SAIS), Women-Led program examined the advantages and barriers to accessing WaterCredit for women in Kenya using the digital Maji loan pilot project. In doing so, the study looked at rural and peri-urban areas near Nairobi to determine the advantages and barriers of accessing WaterCredit digitally for women in Kenya to better understand how the digital expansion of WaterCredit can increase women's access to financial services and credit.

The study used a qualitative research design. Data was collected through four different methods: four focus group discussions (FGDs), 16 structured individual interviews, three key stakeholder interviews, and two expert interviews. In total 53 female digital and conventional Maji loan customers were interviewed. Interviews were conducted with representatives from Water.Org, Equity Bank, and two field experts.

Multi-stage sampling was used for the telesurveys. Out of a list of 2,500 customers who borrowed loans in the past 2 years, 60 female customers who accessed the loan digitally were randomly selected. FGDs were utilized to gain a better understanding of women's experience accessing and using Maji loans.



Source: JHU

Findings

The digital Maji loan is more advantageous for women when compared to the traditional in-person lending approach

Digital loans improve accessibility and convenience. One key theme that emerges from the data is that digital Maji loans improve the accessibility of WaterCredit loans. This accessibility is enhanced through the elimination of the distance and reduction of the time it would take for women to travel to physical branches. This advantage is particularly important for rural women who have traditionally been subjected to long commutes to physical bank branch locations.

Digital loans improve women's access to finance by eliminating requirements for security and collateral. The digitization of the loan process allows women to take control of their household water and sanitation supply, without the requirement of collateral, which they do not typically have access to. Women borrowers have cited the lack of requirements for a guarantor or collateral as an advantage of the digital Maji loans. Traditionally, women seeking credit may have had to use their husbands as a co-applicant. However, the study indicates that women borrowers are primarily responsible for obtaining and repaying these digital loans.

Digital WaterCredit loans allow women who were previously unbankable to enter the credit market and improve their credit scores over time. The nature of the digital Maji loans allows women to take small loans with longer repayment periods. If they can make their payments frequently and on time, they can gradually build their creditworthiness and receive larger loans with longer repayment periods. Equity Bank uses technology-enabled algorithms to build predictive models that can be interpreted to predict credit schemes for different individuals.

Certain barriers make the Maji loans less attractive.

Network connectivity issues inhibit access. For customers in rural and peri-urban areas, network connectivity is a major challenge. Poor network service in rural areas and intermittent connection in peri-urban areas make accessing these loans digitally very challenging.

Women borrowers tend to obtain lower credit limits than men borrowers. The study further found that women borrowers are offered smaller loans compared to their male counterparts. This was explained because women borrowers typically have little to no credit history and their collateral assessment is lower than men. Since the digital credit scoring process is automatic, the system's algorithm scores them much lower than their male counterparts consequently some women have resorted to visiting the bank in a bid to get higher loans.

Borrowers are dissatisfied with the high interest rates associated with the Maji loans, both digitally and traditionally. A 13 percent per annum interest rate applies across both the individual and group lending options of accessing the Maji loan. Considering the high-risk nature of these loans, where the loans lack collateral as lending is based on modeling of customer history, financial institutions price these loans accordingly to offset loss.

Looking ahead

The digital evolution has the potential to enable Kenya to make meaningful steps towards actualizing SDG 6 and there are evident opportunities to catalyze faster growth in the sector.

The creation of a women-centered product that provides female borrowers with better terms could help drive gender parity overall. As Water.org works to make financial instruments more equitable, an area of focus must be on developing and implementing more context-responsive, sustaining, and affirming water and sanitation products. These efforts will ensure that barriers that hinder the ability of women to obtain credit such as not having prior credit history.

Improvement in the supply side will positively improve user experience. Increasing merchant and product options was highlighted heavily by the participants. Participants noted that they would prefer to choose their merchant as some do not provide the products they need or want. This is expected to positively impact local business communities that will benefit from increased business.

Continued collaboration between WSS sector players will be essential to removing barriers, streamlining efforts, and setting up growth drivers in the WSS sector. If these efforts are successful, the country can unlock even more financing opportunities for the base of the pyramid population in Africa.



Empowering women is critical to solving the water crisis. When women have access to safe water at home, they have time to work and add to their household income. Digital water and sanitation loans can offer women access to water and financial services.
