Swiss Capacity Building Facility

Rural digital finance ecosystem empowering women small-scale farmers

SCBF PUW 2023-04 **Report Date: July 2026**

Project Summary

Financial sector partner	AB Bank Zambia	Targeted segment	Women and Rural clients
Grantee / TA provider	Symbiotics Association for Sustainable Development	Targeted outreach	26,000
Country of implementation	Zambia	Instrument type	Technical Assistance
Product / Solution	Digital Loans, Savings, Agent Banking and Mobile Money	Project Duration	June 2023 – June 2026

1. Executive Summary

The initiative aimed to address the critical lack of rural cash-in and cash-out (CICO) agency networks, which severely limits the adoption of digital financial services among small-scale farmers in Zambia. By developing a gender-inclusive agency banking platform linked to the eTumba mobile wallet, AB Bank Zambia aimed to empower rural women with secure payment solutions, savings, and merchant services. The target geography focused heavily on rural areas, particularly the Eastern region (Chipata). Despite a significant cyber-attack that led to an extended closure of the eTumba platform and challenges with the anchor COMACO value-chain partnership, the project adapted its delivery model, successfully deployed a Climate Smart Loans pilot, and completed financial empowerment training for 2,280 women small-scale farmers.

2. Context

In rural Zambia, digital financial services (DFS) face a critical bottleneck: the lack of a reliable cash-in and cash-out (CICO) infrastructure. While digital wallets enable mobile harvest payments, this CICO deficit creates a severe trust and usability gap that hits women small-scale farmers the hardest. With existing agents concentrated in urban centers, rural women face mobility constraints and often surrender financial autonomy, relying on their husbands to perform transactions. Meaningful financial empowerment requires a foundational trinity: an account, a phone, and a proximate, reliable CICO agent network with adequate client support.

A stark divide characterizes formal financial inclusion in Zambia: 83.8% in urban zones versus 54.8% in rural areas, plummeting to just 27% among smallholder farmers. Gender and literacy gaps compound this; only 21.4% of women are formally included compared to 26.1% of men, and rural financial literacy is a mere 16.2%. Despite these barriers, the National Financial Switch (NFS) interconnects banks and mobile operators, enabling wallets like eTumba to offer cost-effective USSD onboarding (*888#) that runs on basic feature phones without requiring internet data.

Traditional "brick-and-mortar" banking remains entirely inappropriate for rural communities due to prohibitive travel costs and time. While commercial agent networks exist, they are heavily concentrated in urban centers. The few rural agents are frequently ill-funded, lack liquidity, and provide no technical support to low-income clients. Consequently, agricultural cooperatives continue to bear the high operational and security risks of distributing physical bulk cash, while women remain financially excluded, relying entirely on cash or their spouses' accounts.

This spans hundreds of thousands of unbanked agricultural workers, presenting an enormous market opportunity. Large social agricultural enterprises, such as Community Markets for Conservation (COMACO) with its 220,000 small-scale farmers, are highly eager to completely digitize their value-chain payments. Establishing a structured network of liquid, well-trained agents—strategically prioritizing women—enables the capture of high transaction volumes (targeting ZMW 2 million initially to ZMW 7 million post-closure) while providing income-generating employment directly within rural chiefdoms.

Realizing this vision required an intensive blend of core software development, system upgrades, localized training logistics, and advanced digital security.

3. Partnership model

- AB Bank Zambia: The Financial Sector Partner responsible for developing the technical software, funding local implementation, and managing the eTumba platform and agent network.
- AccessHolding Germany: Overseeing project implementation and quality assurance.
- Agro Partners - Good Nature Agro (GNA), the National Association of Smallholder Farmers (NASFA), and COMACO: Initially envisaged as essential rural partners to digitize bulk payments and drive mass onboarding. The COMACO partnership did not materialise, and engagement with GNA and NASFA has progressed slowly (NDAs signed, MoUs still in legal review); these partnerships are now treated as a complement to, rather than a precondition for, ABZ's bank-led, direct-to-farmer distribution strategy (see Way Ahead).
- Geography: Implementation focused on rural Zambia, with central agent network hubs and pilot programs launched in Chipata (Eastern Province).
  - Operating model: Following the cyber-attack on eTumba and the setbacks with agro-value-chain partners described above, the partnership model pivoted in early 2026 from an ecosystem/partner-led onboarding strategy to a bank-led model, in which ABZ onboards farmers directly at account opening and converts them to eTumba (approximately 1,000 new bank clients per month, over 90% of whom are being converted to the wallet).

4. Intervention approach

- The core solution leverages AB Bank Zambia's mobile wallet eTumba, offering USSD and app access to rural populations without requiring internet data. ABZ introduced a tailored agency banking module designed to provide payment solutions, merchant services, and facilitate transactions for off-grid energy products.
- SCBF enabled the technical design and market strategy underpinning the agent network, with a deliberate focus on gender inclusivity: the project set a target that 60% of recruited agents should be women, reflecting the evidence that female farmers are significantly more comfortable transacting with female agents.

- Financial education was highly prioritized; a comprehensive Women Empowerment Training Program was integrated into the project, involving localized field training on financial literacy, business management, and digital solutions. As part of physical outreach, the Bank deployed "phygital" strategies, using mobile eTumba buses to reach the most remote unbanked populations.
- Following the 2025/26 platform rebuild, ABZ moved away from open self-registration and now links eTumba registration to an existing, fully KYC-compliant core-banking account, and has prioritised the USSD channel (*888#) – used by over 90% of active customers – as the primary access route while final security corrections to the mobile app are completed with the vendor.

5. Results, outcomes and impact

Note: eTumba was shut down following a cyber-attack; all clients were off-boarded and re-onboarding restarted in June 2025 with a reset baseline. "Achieved" figures below reflect this rescoped, shorter runway.

Key KPIs	Original Target	Achieved (End of Project (EOP), 30.06.2026)	Of which Women
Digital Finance Ecosystem – Agent Network			
Number of agents onboarded	100	5 (onboarded mid-term; agency banking not yet live at EOP)	5 (100%)
Transactions performed at agents (ZMW)	2,000,000	Not yet trackable – agency banking scheduled to go live on eTumba in late 2026	–
Small-Scale Farmer Onboarding (eTumba)			
New small-scale farmers onboarded on eTumba	26,000	1,097	559 (52.4%)
Active eTumba users (small-scale farmers)	–	286	126 (44%)
New small-scale farmers onboarded under 35 (youth)	–	372	188 (50.5%)
Small-Scale Farmers with a Digital Savings Account on eTumba (Yaka Savings)			
New savings accounts (small-scale farmers)	8,300	62	25 (40%)
New small-scale farming depositors	–	62	25 (40%)
Total deposits value (ZMW/CHF)	–	34,843 / 1,507	25,961 / 1,122
Average savings balance per farmer (ZMW/CHF)	–	562 / 24	1,038 / 45
Small-Scale Farmers with a Tailored Digital Loan on eTumba			
New borrowers (small-scale farmers)	160	Scheduled for September 2026	--
Women Small-Scale Farmers Empowerment Training			
Small-scale farmers trained	2,000	2,280	2,280 (100%)
Targeted Rural Farmer Manual Loan Pilots (COMACO Climate Smart Loans + GNA)			
Small-scale farmers reached via pilot loans (42 COMACO + 744 GNA)	–	786	338 (43%)

The SCBF grant played a significant role in enabling AB Bank to establish a new partnership with Good Nature Agro (GNA), providing AB Bank with access to GNA's client base and facilitating the planned disbursement of loans of up to USD 50,000 over time.

The initiative has made strides in building rural capacity through the successful execution of the Women Small Scale Farmers Empowerment Training Program. Informed directly by a comprehensive Customer Needs Analysis, the localized field training program successfully empowered 2,280 women small-scale farmers.

The project's single biggest disruption was a cyber-attack on the eTumba wallet that forced a platform closure of over a year, collapsing the active customer base from approximately 300,000 to around 2,000 accounts and requiring a full security rebuild. Compounded by unforeseen vendor software delays and rigorous cybersecurity penetration testing requirements, this necessitated a fundamental re-scoping of the rollout timeline and targets – yet the project still delivered tangible financial and technical outcomes.

In addition to these technical challenges, the project was impacted by significant regulatory changes introduced during the implementation period. Following the relaunch of the eTumba platform, enhanced Know Your Customer (KYC) requirements and regulatory compliance measures were implemented to strengthen customer due diligence and improve the security of digital financial services. Under the revised framework, every eTumba user is now required to possess an AB Bank account linked to a valid Taxpayer Identification Number (TPIN) before accessing the wallet. While these measures substantially improved regulatory compliance, customer protection, and platform security, they also eliminated the self-onboarding functionality that had previously enabled rapid customer acquisition. Prior to the cyber-attack, customers could register directly for eTumba with minimal onboarding requirements, facilitating rapid growth to over 300,000 users. The introduction of mandatory bank account opening and TPIN verification created additional onboarding steps that significantly slowed customer acquisition and limited the accessibility of the platform, particularly for women small-scale farmers in remote rural communities where obtaining a TPIN and accessing banking services remains challenging. Consequently, the project's original digital adoption and outreach targets had to be revised to reflect the new regulatory environment while maintaining full compliance with national financial sector requirements.

Since the relaunch of the eTumba platform, the project has (re-)/onboarded 1,097 small-scale farmers, of which 559 (52.4%) are women, including 372 young farmers under the age of 35 (34%). Of these, 286 farmers are currently active eTumba users, 126 (44%) of whom are women. On the savings side, 62 small-scale farmers have opened a Yaka Savings digital savings account, 25 (40%) of them women, with total deposits of ZMW 34,843 (CHF 1,507) and an average savings balance per farmer of ZMW 562 (CHF 24). Onboarding of small-scale farmers under the tailored digital loan product is scheduled to begin in September 2026. Agency banking, which will unlock the agent network and associated transaction volumes, remains pending pen-testing sign-off and is expected to go live on eTumba in late 2026.

A notable achievement was the completion of the Climate Smart Loans Pilot in Chipata. As part of the manual pilot initiatives to maintain momentum, AB Bank successfully disbursed 42 loans totalling ZMW 434,500 to COMACO farmers, which included 17 women (40%).

Simultaneously, a partnership with GNA facilitated input loans to 744 small-scale farmers—of which 321 were women (41%)—totalling ZMW 1,000,000. This progress continuously focuses on building a secure, compliant, and female-focused digital ecosystem that aims to set the standard for rural banking in Zambia.

6. Way ahead: Future scaling and sustainability plans

Following final cybersecurity corrections, agency banking and digital loan functions will officially go live on eTumba in 2026. The initial scale-up will center heavily on the Eastern Province, using Chipata as a management hub, before iteratively expanding to other rural Zambian regions. While AB Bank will pursue the rollout with a hands-on, in-house approach, it will also review re-engaging agricultural partners like GNA and the NASFA to secure long-term growth. Future expansion will be fully funded by internal capital, driven by mobilized deposits (Yaka Savings), digital loan portfolio revenues, and extended resource support from the AccessHolding Group.

AB Bank has built the internal capacity and governance structures needed to sustain digital operations independently, with daily oversight of operations and agent liquidity now embedded within the bank and executive-level ownership of risk retained by leadership. Long-term sustainability is anchored by the "phygital" (physical plus digital) banking model; once deployed, replicating the gender-inclusive agent network incurs exceptionally low marginal and maintenance costs compared to traditional brick-and-mortar branches. Additionally, the bank is actively diversifying its rural outreach channels – reducing dependence on agricultural partnerships and strengthening resilience against future disruption.

7. Lessons learnt and recommendations

i. Cybersecurity Experience, Root Cause Analysis, and Posture Evolution

Given that the cyber-attack represented the single biggest operational challenge to the project, the specific learnings, technical root causes, response measures, security posture changes are detailed below:

- Root Cause Analysis: The security breach originated from a third-party API integration flaw combined with vulnerabilities in legacy self-onboarding authentication logic. Attackers exploited an unvalidated input endpoint within the mobile application middleware, allowing unauthorized privilege escalation and session hijacking. The incident highlighted the need for stronger security controls between the digital wallet environment and core banking systems. It also underscored the importance of balancing rapid customer onboarding with robust verification, authentication, and governance measures to protect customers and the platform.
- Response and Recovery Measures:
  - Immediate Containment: ABZ immediately suspended the eTumba platform, isolating the compromised middleware from the core banking infrastructure to prevent data loss or lateral movement within bank networks.
  - Crisis Management & Stakeholder Communication: A dedicated incident response task force—comprising internal IT security, executive leadership, and external vendor specialists—was mobilized. Transparent, proactive notifications were communicated to regulators and project partners (including SCBF), and monthly steering committee updates were instituted.

- System Rebuild & Penetration Testing: The platform underwent a total architectural overhaul. The team decommissioned vulnerable self-registration pathways and subjected the application to rigorous, repeated third-party penetration testing. The platform remained offline for over a year until all high-risk vulnerabilities were fully resolved and certified.

- Concrete Changes to ABZ's Security Posture: As a direct result of this experience, ABZ fundamentally transformed its enterprise security framework:
    - Mandatory Core-Banking KYC Integration: Self-registration was permanently replaced with a secure, branch assisted workflow tied directly to core-banking accounts and strict TPIN/KYC verification.
    - Continuous Vulnerability Management: Institutionalized regular, independent third-party code reviews and automated vulnerability scanning protocols prior to deploying any software updates or feature expansions.
    - Governance & Oversight: Cybersecurity risk oversight was elevated directly to executive leadership and the board risk committee, embedding security audits as non-negotiable milestones in future digital deployments.

ii. A proximate cash-in/cash-out (CICO) agent network is an absolute prerequisite for building trust in rural digital finance. Furthermore, women face unique mobility and documentation barriers, meaning active digital engagement requires gender-sensitive interventions like female agents.

Key constraints and mitigation:

- Regulatory (KYC): Strict national rules mandating a Taxpayer Identification Number (TPIN) blocked feature-phone account openings.
    - Solution: AB Bank engaged the Tax Authority for USSD simplifications and strategically pivoted from "mass onboarding" to "targeted inclusion."
- Information Security: Late-stage app vulnerabilities surfaced.
    - Solution: The Bank enforced rigorous, repeated pentesting, delaying the public launch until the vendor corrected all high-risk items.
- Platform resilience: A cyber-attack forced ABZ to close eTumba for over a year and rebuild it on a fully KYC-compliant, non-self-registration basis.
    - Solution: ABZ rebuilt the platform with stronger controls linked to core-banking KYC.

Top recommendations for future initiatives:

1. Prioritize Female Agents: Deliberately recruit trusted female agents to build accountability and trust among female clients.
2. Buffer Technical Timelines: Allocate substantial contingency time in roadmaps for external software development and mandatory pentesting.
3. Secure Partner Alignment: Finalize deep strategic alignment (via detailed MoUs) with value-chain partners before integrating them into volume-based KPIs.
4. Deliver Gender-Sensitive Literacy: Pair digital rollouts with localized financial literacy and spousal engagement programs to reduce household conflict and foster autonomy.
5. Build Cyber-Resilience and Independent Assurance: Commission an independent IT security audit of any core digital wallet or agency banking platform before scale-up, and after any major rebuild.