

# Financial Technology Solutions for TechnoServe Programs

A preliminary framework and set of recommendations for implementing financial technologies across TechnoServe programs

December 2022

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

<b>Executive Summary</b>	<b>3</b>
Objective	3
Context - Beneficiary Needs and the Market Response	3
Current Fintech Solutions in TechnoServe Programs	3
A Framework for Solutions	5
Recommendations	5
Approach for developing this report	6
<b>1. THE PROBLEM</b>	<b>7</b>
Poverty and Financial Inclusion	7
TechnoServe's Theory of Change	10
<b>2. FRAMEWORK</b>	<b>11</b>
A Proposed Framework for Financial Solutions	11
Assessing TechnoServe programs based on the financial solution framework	12
<b>3. SOLUTIONS</b>	<b>15</b>
Market Landscape	15
UNDERSTAND - improving financial literacy and management	15
TRANSACT - improving transaction efficiency, visibility and traceability	16
SAVE - benefits of increased savings	19
FUND - giving businesses and farms access to credit and loans	20
PROTECT - helping TechnoServe clients manage risk	22
Other NGOs	24
<b>4. RECOMMENDATIONS</b>	<b>26</b>
1. Create a TechnoServe Fintech Community of Practice	26
2. Establish a Preferred Financial Service Provider (FSP) program	26
3. Work with FSPs to improve functionality for TechnoServe beneficiaries.	28
<b>5. NEXT STEPS</b>	<b>28</b>

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

## Executive Summary

### Objective

**The objective of this project is to develop a strategy and roadmap for TechnoServe to expand our impact in reducing poverty by making financial solutions more accessible.**

This project creates a framework to categorize financial technologies, provides an initial assessment of how different financial technologies are being implemented in TechnoServe programs and with other NGOs, and provides a roadmap for increasing TechnoServe's impact through the expanded use of financial technologies in our programs.

### Context - Beneficiary Needs and the Market Response

**TechnoServe beneficiaries have limited financial knowledge and face significant challenges accessing financial solutions that could increase their income.** There is growing evidence from numerous studies that financial literacy can significantly reduce poverty and that financial technology can positively impact resiliency and income. Yet just one third of the world's population is considered financially literate, over 1.4 billion people are unbanked, and there is \$170B in unmet financing needs in the agricultural sector.

**Because of the large, growing market for financial services in lower income countries, the market is responding with new and innovative solutions.** The explosion of investment in fintech companies in recent years is making financial solutions more accessible than ever before. Funding in fintech companies from 2020 to 2021 increased by 100% in Africa, 150% in LatAm and 270% in India. These companies are providing a variety of innovative solutions - mobile money for digital payments, "neo banks" for digital banking, digitized savings groups, and index-based and area yield-based insurance for agriculture.

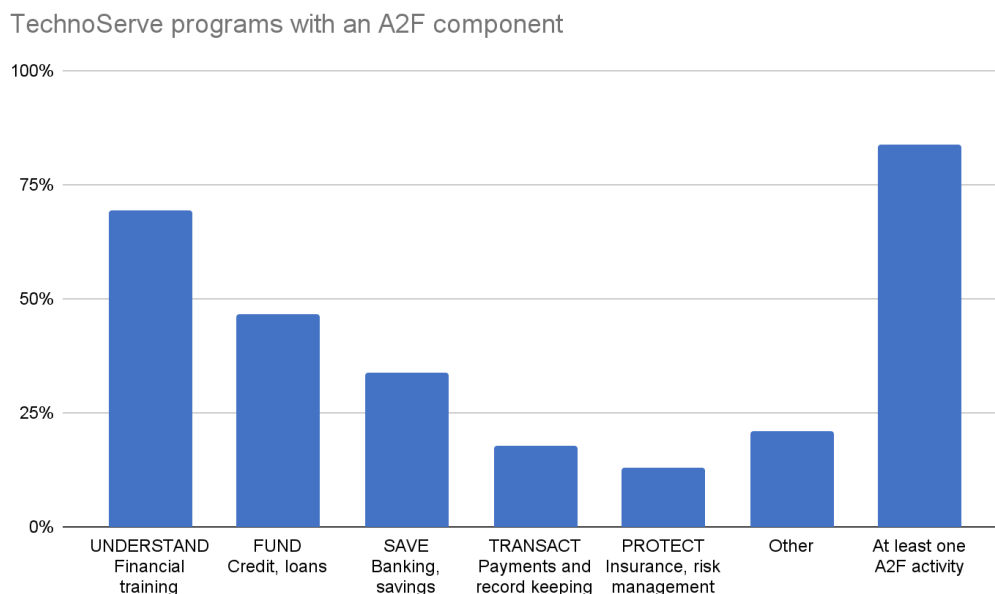
**However, these solutions have not gained widespread adoption among our beneficiaries.** There are several reasons that lower income consumers are not benefiting from the new financial solutions: (i) awareness and understanding among our beneficiaries is limited as solution providers have not targeted them; (ii) the fast-moving landscape of solution providers is confusing, (iii) certain solutions are not easily affordable for our beneficiaries.

### Current Fintech Solutions in TechnoServe Programs

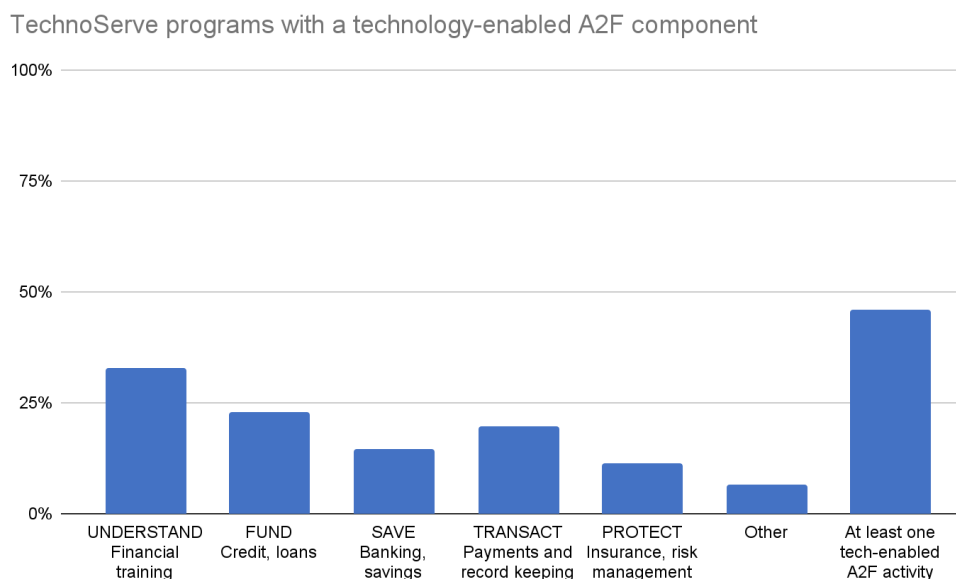
Because access to finance is a critical part of the theory of change for many TechnoServe programs, **84% of TechnoServe programs include some form of programmatic element for providing access to finance (Figure 1), and 46% have implemented a financial solution enabled by technology in some way (Figure 2).**

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*



**Figure 1. TechnoServe programs with an A2F component**



**Figure 2. TechnoServe programs with an technology-enabled A2F component**

Examples of access to finance elements included in TechnoServe programs include:

- Financial training that is commonly provided as a part of entrepreneurship programs and is digitized using learning management systems (LMS's).
- Digital and paper-based village savings and loan associations (VSLAs).

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

- Credit facilities and investment partnerships such as the Prosper Cashew partnership with the Initiative for Smallholder Finance (isfadvisors.org).
- Simple mechanisms for farmer incentive payments, such as stumping incentives being implemented in Ethiopia.
- The WIN initiative advising mPESA on changes to mobile money features to make mobile money more accessible to women.

## A Framework for Solutions

Financial solutions relevant for TechnoServe beneficiaries can be broadly grouped into five areas: financial training, transactions, savings, credit, and insurance. Through conversations with industry experts and TechnoServe Practice Area leaders, we have created a classification framework for fintech solutions.

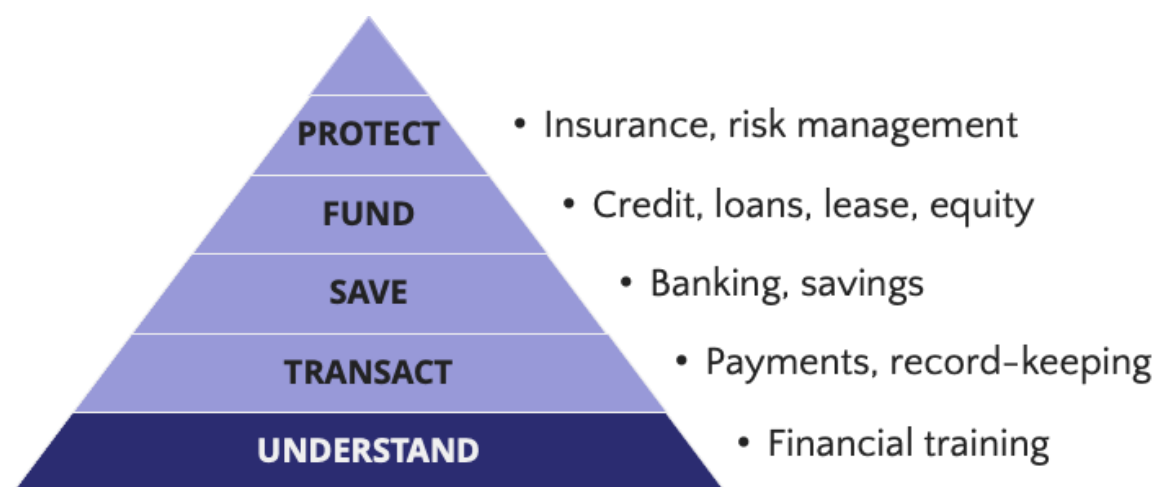


Figure 3. Framework for Financial Solutions

## Conclusions

Based on the framework in this report, TechnoServe is developing a coordinated strategy for providing beneficiaries with financial knowledge and solutions to:

1. **Scale fintech solutions across TechnoServe regions and practice areas.**
2. **Share financial management training across regions and programs serving different TechnoServe business clients.** For example, the highly successful TechnoServe entrepreneurship training program can be adapted to train managers of nutrition, cashew processing and coffee processing businesses.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

## Approach for developing this report

The project was conducted from June to December 2022 and involved the following activities:

- Interviews with TechnoServe program managers and practice leads to understand needs and opportunities
- Discussions with industry experts and FSPs, and participation in various webinars
- Review of industry publications and research reports
- Internal discussions to develop and get feedback on strategy and roadmap

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

## 1. THE PROBLEM

### Poverty and Financial Inclusion

During our 50+ year history, TechnoServe has played an important role in reducing poverty. TechnoServe has been ranked the #1 nonprofit at reducing poverty by ImpactMatters, driving \$3.91 in average return on investment. In 2021 alone, TechnoServe delivered \$250M in financial benefits to 407,000 beneficiaries. Through the efforts of TechnoServe and like-minded organizations, poverty globally has dropped from over 2 billion in 1991 to under 650 million in 2019 (World Bank).

While this is remarkable progress, the overall level of poverty is still high, with 8.4% of the world's population living in poverty and earning less than \$2.15 per day. Furthermore, the progress has not been universal. In fact, the population living in poverty in Sub-Saharan Africa has *increased* by 100 million; the region now represents 60% of the world population living in poverty.

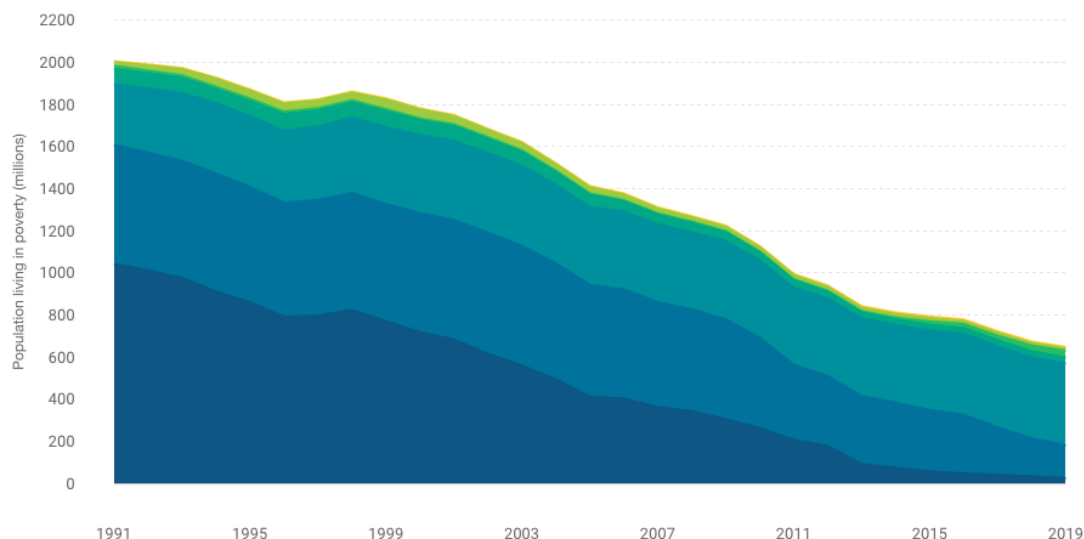
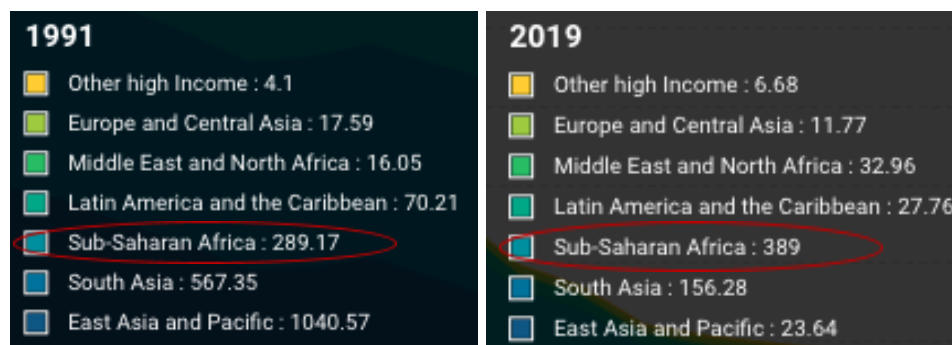


Figure 4. Population Living in Poverty (M)



# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

According to The World Bank, financial inclusion is critical for poverty reduction. Over the past decade, there has been meaningful progress to increase financial inclusion. Data supporting this include<sup>1</sup>:

- Account ownership - having an account with a bank, credit union, microfinance institution or mobile money provider increased from 51% to 76% of adults worldwide in the 10 years spanning 2011 to 2021.
- Digital payments - in developing economies the percentage of adults making or receiving digital payments increased from 35% in 2014 to 57% in 2021.

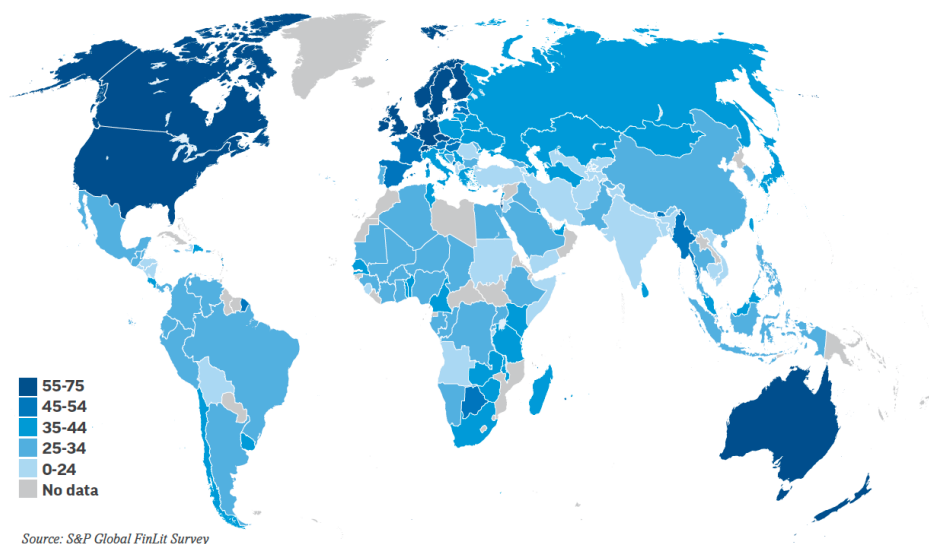
*"Financial inclusion is a building block for both poverty reduction and opportunities for economic growth, with access to digital financial services critical for joining the new digital economy."*

- The World Bank

Despite this progress, significant challenges remain:

- **Financial literacy** - only one third of adults worldwide are considered financially literate; that means around 3.5 billion adults, most of them in developing economies, lack an understanding of basic financial concepts<sup>2</sup>.

**MAP 1: GLOBAL VARIATIONS IN FINANCIAL LITERACY**  
(% OF ADULTS WHO ARE FINANCIALLY LITERATE)



**Figure 5. Global Financial Literacy Rates**

<sup>1</sup> World Bank, The Global Findex Database, 2021;

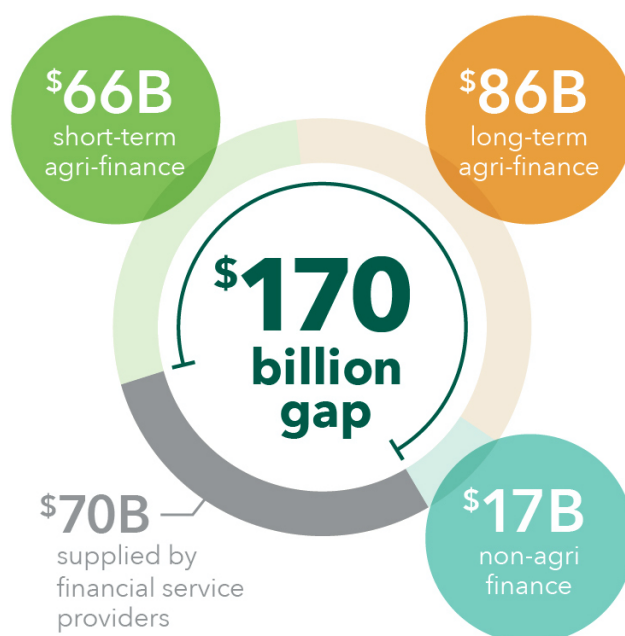
<sup>2</sup> S&P Global Finlit Survey



# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

- **Resilience & Savings** - only about half of adults in developing economies could access extra funds within 30 days if faced with an unexpected expense. In particular, they are worried about covering health expenses in the event of a major illness or accident.<sup>3</sup>
- **Funding** - within the agricultural sector, an estimated 270 million households in South & Southeast Asia, sub-Saharan Africa, and Latin America consider smallholder farming an integral part of their livelihoods and require around \$240 billion in financing. Financial service providers are currently supplying \$70 billion to smallholder households, leaving a gap of around \$170 billion<sup>4</sup>. See Figure 6.



**Figure 6. Funding Gap in Agricultural Sector**

- **Insurance & Risk** - smallholder farming families are particularly vulnerable to climate and disease risk, and also account for the majority of households living in extreme poverty. The 2017 Global Findex found that about half of households that rely on agriculture as their main source of income reported experiencing a bad harvest or significant loss of livestock in the previous five years. The majority of these households bore the entirety of the loss on their own, with only a minority receiving any kind of compensation<sup>5</sup>. Given such risks, smallholder farmer families often engage in low-yield, low-variability agriculture practices, with little investment in farm inputs, to avoid losses in case of a weather-related shock.

These macro issues are reflected in the challenges facing TechnoServe beneficiaries, both in agriculture and entrepreneurship. Findings from interviews with TechnoServe leaders indicate that our beneficiaries face significant challenges accessing financial solutions that could increase their income.

<sup>3</sup> World Bank, The Global Findex Database, 2021

<sup>4</sup> "Pathways to Prosperity", Rural and Agricultural Finance, 2019

<sup>5</sup> World Bank 2018

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

Specific issues include:

- Financial knowledge – financial literacy and financial management skills are limited among our beneficiaries
- Know-how – the “how to” required to access various financial solutions is lacking
- Processes – processes are often cumbersome and paper-intensive, for example, to apply for a loan
- Record-keeping – our beneficiaries don’t always have the records required to access certain financial products (eg. revenue/expenses to apply for a loan)
- Digital infrastructure – some of our beneficiaries don’t have basic digital infrastructure – smartphones, tablets, data services etc.
- Financial products & infrastructure – financial products at affordable rates are not available in some segments; infrastructure (eg. bank branch locations) is also limited in certain geographies

In summary, access to financial solutions is an important enabler for reducing poverty. Yet the lack of access to such solutions remains a formidable barrier for many TechnoServe beneficiaries.

## TechnoServe’s Theory of Change

TechnoServe’s Theory of Change incorporates three essential elements to develop thriving market systems, resulting in competitive farms and businesses, and reduced poverty:

- Developing capacity of individuals and businesses
- Promoting connections to improve access to markets
- Improving the business environment

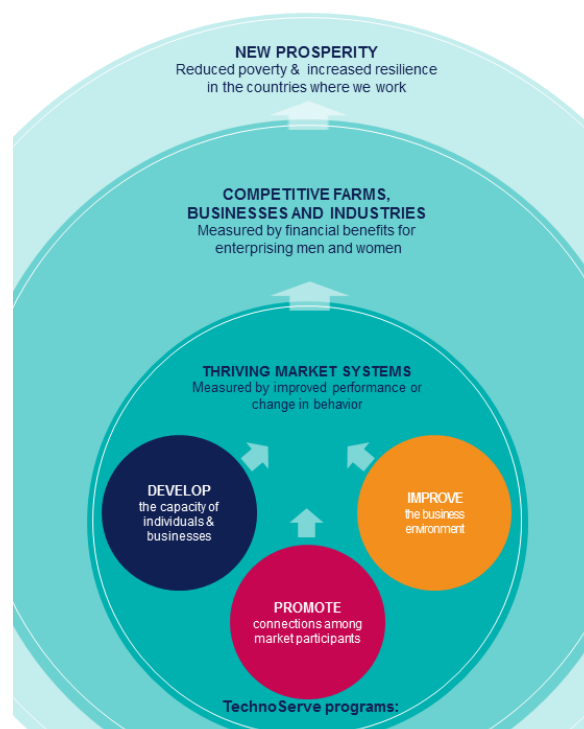


Figure 7. TechnoServe’s Theory of Change

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

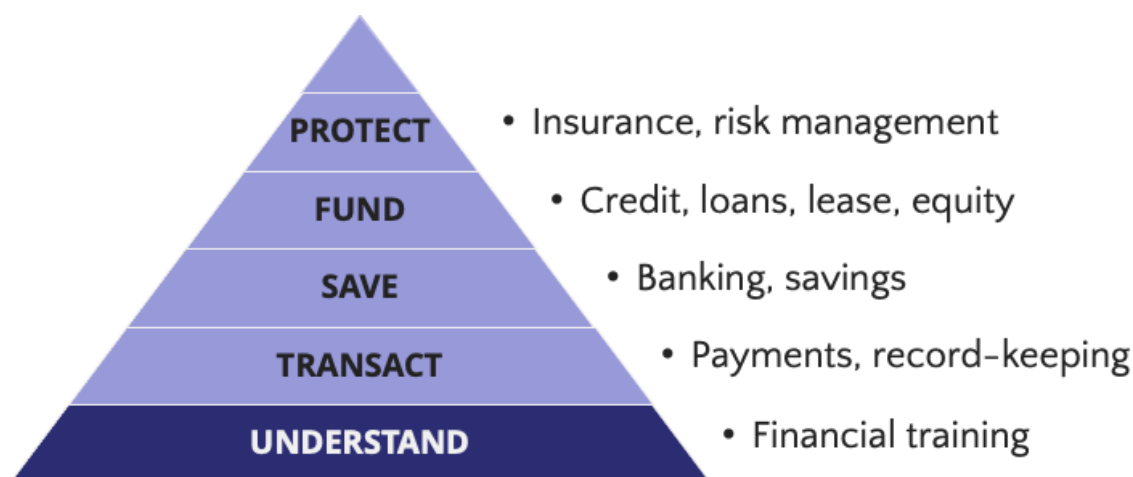
An important element of developing capacity is improving financial literacy and financial management skills. This has a direct impact on the ability of individuals and businesses to generate additional income. Additionally, a critical part of improving the business environment is making various financial solutions more accessible and closing the gap in financing needs.

**Therefore, tackling the issue of financial inclusion – both improving financial knowledge and making solutions more accessible – should continue to be a core part of TechnoServe’s approach.**

## 2. FRAMEWORK

### A Proposed Framework for Financial Solutions

To facilitate analysis of financial technology and segmentation of TechnoServe programs and mapping of beneficiary needs to appropriate fintech solutions, we have created the framework below for financial solutions that applies both for the agriculture and entrepreneurship sectors.



**Figure 8. Framework for Financial Solutions**

- **‘Understand’** is the foundation for delivery of financial solutions. It entails various forms of financial training, ranging from basic financial literacy for individuals to more complex financial management skills for growing businesses.
- **‘Transact’** is natural as a first set of financial solutions relating to the basic processes around a business transaction. This includes digital payments as well as digitizing record-keeping to improve traceability.
- Solutions to **‘Save’** become important for both downside protection and to invest in growth as individuals and businesses accumulate income. Banking, while often coupled with payments, is also a bridge to savings and hence categorized under ‘Save’ in this assessment.
- **‘Fund’** becomes important as businesses see the need for access credit, loans, or other financial instruments such as leases or equity investments. As businesses improve their record-keeping, demonstrate their ability to generate positive cash flow and accumulate savings, they position themselves for increased funding.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

- Finally, as business mature and their understanding of opportunities and risks develop, solutions to **‘Protect’** against downside such as crop insurance or business insurance, as well as risk management practices (eg. loss control) become relevant.

This framework is used throughout this document to categorize financial needs and solutions.

## Assessing TechnoServe programs based on the financial solution framework

Given the diversity of TechnoServe programs, the type and level of need varies by program. However there are common needs across programs.

Beneficiary needs have caused TechnoServe programs to pilot and/or deploy a variety of solutions to address these needs. However most of these solutions have been at a country or regional level and have not been scaled across programs or geographies.

Figure 9 and Figure 10 highlight some important implications of the preliminary subjective assessment of needs across TechnoServe program segments:

- **Financial literacy is a common need across all TechnoServe programs.** With a common learning management system in use across TechnoServe, and increasing experience with digitizing training content, building common capacity building solutions should be a priority.
- **Transaction and record-keeping solutions are a common need across sectors.** Therefore it may be possible to create a model where we partner with FSPs to support training on financial management practices and tools for financial management.
- **For the “Funding” pillar, there are common approaches for partnering with banks and investors to ensure access to finance for these segments.** For example, we can provide a technical advisory facility (TAF) to prepare businesses for loans and investment and/or we can provide capacity building, as in the agri-SME Accelerator program in Kenya
- **It is not TechnoServe’s role to provide banking solutions,** even for larger businesses in the Entrepreneurship, agri-SME / Processing, and Nutrition areas.
- **For rural beneficiaries (primarily farmers), TechnoServe programs will be strengthened by offering services across ALL pillars** of the financial solution framework.
- **Micro-retailers have needs across all pillars of the framework,** but more work is required to understand needs in the Save, Fund and Protect pillars.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

CATEGORY	BENEFICIARY NEEDS
PROTECT	With both farmers and entrepreneurs being susceptible to a variety of risks (including climate, market, macro economic), they need solutions to protect them through insurance (eg. crop, business insurance) and other risk management solutions (eg. incentive payments).
FUND	Funding needs include farmers and entrepreneurs purchasing goods on credit, obtaining loans for personal or business needs, leasing capital equipment and securing equity capital for business growth.
SAVE	Solutions for savings whether through local communities or through financial institutions are important both to provide downside protection / resilience as well as to provide access to capital for income growth.
TRANSACT	Digitizing transactions and payments not only improves efficiency but also increases traceability and record-keeping - critical for access to funding. Accepting digital / card payments could also increase income for entrepreneurs.
UNDERSTAND	From basic financial literacy for farmers to more sophisticated financial management skills for entrepreneurs, knowledge and understanding of money is foundational for our beneficiaries.

**Figure 9. Beneficiary needs in TechnoServe programs**

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

Fintech Solution Category	Agriculture		Nutrition	Entrepreneurship		Other
	Farmers	Processors		Micro- retail	SGBs	
<b>PROTECT</b>	Ag insurance, risk management	Ag and business insurance	Business insurance	Business insurance	Business insurance	Needs vary based on program
<b>FUND</b>	VSLAs / MFIs	Credit, loans	Credit, loans	Credit, loans	Credit, loans, equity	
<b>SAVE</b>	VSLAs / MFIs	Business banking	Business banking	Savings communities	Business banking	
<b>TRANSACT</b>	Payment & record-keeping	Payment & record-keeping	Payment & record-keeping	Payment & record-keeping	Payment & record-keeping	
<b>UNDERSTAND</b>	Financial literacy	Financial management	Financial management	Financial management	Financial management	

**Figure 10. Proposed priorities for fintech solutions in TechnoServe program areas.**

Overall, the need for financial solutions across our programs and beneficiaries are broad and extensive.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

## 3. SOLUTIONS

### Market Landscape

Over the past decade, there have been significant developments in digital financial solutions globally driven by: (i) advancements in digital technology, (ii) innovations in business models, and (iii) investments to develop innovative solutions. Funding has poured into a plethora of fintech companies. Investments in fintech companies in Africa, Latin America and India (markets where TechnoServe operates) have grown at unprecedented rates.<sup>6</sup>

Fintech Investments 2021 (% change from 2020)			
Africa	\$1.6B	↑	100%
LatAm	\$5.0B	↑	150%
India	\$7.8B	↑	270%

Additionally, traditional financial solution providers have also driven significant innovations in order to compete with emerging fintech.

There are too many players to conduct an exhaustive analysis within the scope of this work, but this section includes a *sample* of companies in each of the categories. Our focus has been primarily on providers in Africa and Latin America which represent the majority of TechnoServe's work.

### UNDERSTAND - improving financial literacy and management

There is mounting evidence from a variety of studies that financial literacy and knowledge have a significant impact in reducing poverty solutions.

- A [2022 study in China](#) concluded that “financial literacy significantly reduced the relative poverty of households.” The study finds that “financial literacy promotes household participation in business and industry, and continuous operation significantly reduces household relative poverty.”
- A [2021 study of rural population in Bangladesh](#) concluded that “knowledge regarding financial services is one of the most influential forces to promote inclusive finance.” The study recommends “A comprehensive and long-term education program should be delivered broadly to the rural population to make a big stride in financial inclusion, a key driver of poverty reduction and prosperity boosting.”
- A [2020 study in the Middle East and North African \(MENA\) region](#) concluded that “financial access measures have a positive, statistically significant impact on reducing extreme poverty.”

There is also evidence showing that households and businesses that have access to financial services are better able to withstand financial shocks than those that do not. A [2019 study by Innovations for Poverty Action](#) finds that “well-designed financial products and services can play a role in increasing low-income families’ resilience by helping them be prepared for risk, reduce risk, increase investment in the face of risk, and respond when a shock occurs.”

There are many organizations playing a part in improving financial literacy and knowledge. These fall under several categories:

---

<sup>6</sup> KPMG, “Pulse of Fintech”, 2022 (Africa and LATAM). EY, “\$1 Tn India FinTech Opportunity”, 2022

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

- **Development Organizations** – organizations such as World Bank and OECD have been instrumental in conducting research, developing policies and promoting financial literacy. Regional development organizations such as the Inter-American Development Bank and the African Development Bank have funded initiatives to drive economic development, including those that impact financial literacy. Governments naturally play a role as well.
- **Financial Institutions** – financial institutions including global banks, regional banks, credit card companies, lenders, mobile money providers, and insurance companies play an important role in improving financial understanding. This is done both through foundations that these organizations have to make a social impact as well as through the natural course of business of selling their products and services.
- **Solution Providers** – a variety of solution providers are also helping educate individuals and businesses around finance. This includes financial management / bookkeeping software companies (eg. Intuit), providers of payment solutions (eg. Stripe), digital savings solution providers (eg. DreamStart), edtech companies that offer learning content (eg. Udemy), and others.

## TRANSACT - improving transaction efficiency, visibility and traceability

Digital payments not only increase the efficiency and reduce the cost of a transaction but also improve visibility and traceability. Visibility and traceability are further enabled by another key category of solutions – digital record-keeping solutions, primarily bookkeeping/accounting software to record financial information.

Multiple studies support the benefits of digital payments in a variety of use cases.

- A large-scale coffee buyer in Uganda worked to digitize payments to 5,500 smallholder coffee farmers, which saved time and money and reduced risk.<sup>7</sup>
- Farmers in Malawi whose earnings were deposited into savings accounts spent 13 percent more on farming equipment and increased their crop value by 15 percent.
- In Kenya, mobile money users who experienced an unexpected drop in income were able to receive money quickly and affordably from a more geographically dispersed social network of family and friends.
- In India, a government workfare program that reached over 100 million people found that women who received benefits paid directly into their own account in a financial institution were more likely to find employment than those paid in cash.

In developing countries, the percentage of adults making or receiving digital payments has grown from 35% in 2014 to 57% in 2021. However in the agriculture sector in developing countries, just 25% of people received payments digitally for the sale of agricultural products – most were in cash.

---

<sup>7</sup> World Bank Global Findex report



# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

In the entrepreneurship sector, accepting digital payments (eg. mobile money, debit or credit cards at POS terminals, online payments) offer an opportunity to grow revenues and reach customers who prefer digital payment options.

The benefits of record-keeping solutions include: (i) improved visibility for farmers and entrepreneurs to manage their business and financials, and (ii) the ability to provide reports needed for credit / loan applications.

Table 1 gives examples of some key providers of digital payment solutions operating in Africa and Latin America. They include mobile money operators, card payment / POS providers, digital payment processors as well as some innovative companies, eg. one providing a blockchain e-voucher solution. Some of these companies have raised significant funding, allowing them to scale their solution across multiple countries.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

**Table 1: Digital Payment Solution Providers**

Company	Overview	HQ	Reach	Maturity
<b>Mobile Money Operators</b>				
M-Pesa	Original mobile money operator est. by Vodacom and Safaricom. Expanded to provide loans, savings, insurance	Kenya	Kenya, Tanzania, Lesotho, DRC, Ghana, Mozambique, Egypt	51M customers, 600K agents
MoMo	MTN Mobile Money	South Africa	17 countries in Africa	57M users, 1M agents, 800K merchants
Wave	Mobile money	Senegal	Senegal, Ivory Coast	\$200M raised
<b>Online / Offline Payment Processors</b>				
Flutterwave	Payment processor - collect payment in 30+ currencies. Send money. Cross-border. Setup online store. Marketplace with 30K merchants	USA, Nigeria	34 countries in Africa	\$475M total raise, Series D. 1M business customers. 30+ currencies. 15+ payment options
OPay	Mini POS for merchants. Allows unbanked to send/receive money & pay bills through a network of agents with mini POS but more B2B focus	Nigeria	Nigeria, Egypt	\$570M raised. 2018 founded. 5M customers in Nigeria
PalmPay	Payment app for consumers, POS for agents. Seems like a competitor of OPay but started with B2C focus	Nigeria	Nigeria, Ghana	\$100M raised. 5M customers, 40K agents
Yoco	Card payments, online payments	South Africa	S.A. only. Plan to grow across Africa.	\$100M raised. 250K small businesses
Paystack / Stripe	Online and offline payment, part of Stripe	Nigeria	Nigeria, Ghana, South Africa. Stripe has presence in Mexico, Brazil	Acquired by Stripe in 2020 for \$200M. 60K businesses
Ebanx	Payment platform for global techs for Latam. Cross-border payments	Brazil	15 Latam markets	\$460M raised.
Bold	Card payment	Columbia	Plan to expand to Peru, Ecuador, Chile	2019, \$55M raised. 100K merchants
Clip	Card payments, digital payments	Mexico	Mexico	\$400M raised.
<b>Other Innovative Solutions</b>				
Hiveonline	e-Voucher - blockchain solution for Cash & Voucher Assistance	Denmark	Rwanda, Sweden	2016, \$1M raised. < 10 employees

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

In terms of financial record-keeping solutions, Table 2 lists a few of the large global bookkeeping solution providers.

**Table 2 : Bookkeeping Solution Providers**

Company	Overview	HQ	Reach	Maturity
Intuit	Quickbooks is the market leader. Operates in LatAm, India. Some presence in Africa. Corporate responsibility: "powering prosperity around the world for those that need it most"	US	20 offices in 9 countries	Public company, \$9.6B in revenue. 14,200 employees
Xero	Fast growing competitor to Quickbooks. Scaling globally. Talks about sustainability	Australia	Offices in 8 countries including South Africa	\$1.2B revenue, 3M customers, 4500 employees
Fresh Books	Canadian company expanding globally. Acquired a Mexican accounting software company.	Canada	Dozen countries including Mexico and South Africa	30M have used it

## SAVE - benefits of increased savings

While the benefits of savings may appear obvious in both providing the ability to invest in growing a business and providing cushion for emergencies, there are several studies cited in the Global Index report supporting the benefits of formal savings products.

- A [2014 Harvard Business School study](#) found that low-income earners in Chile who received free savings accounts were able to reduce their reliance on debt and improve their ability to make ends meet during an economic emergency.
- In Kenya, women-headed households spent 15 percent more on nutritious foods after receiving free savings accounts.
- In the Philippines, women who used commitment savings products that encouraged regular deposits into a personal bank account increased their household decision-making power and shifted their spending to household goods relevant to their needs.

**Despite these benefits, only 25% of adults in developing countries have formal savings accounts.** Beyond formal savings, saving semi-formally through associations is common in some parts of the world and offers many of the benefits of formal savings. These are sometimes known as Village Savings and Loan Associations (VSLA). **In Sub-Saharan Africa where savings communities are common, the combination of formal and semi-formal savings is around 40% - not dismal, but certainly room for improvement.**

There are several categories of solutions for savings:

- **“Traditional” financial institutions** – for a long time, traditional financial institutions such as banks and credit unions were the only ones offering accounts to enable savings.
- **“Neobanks” / digital banks** – over the past decade, a new category of banks have emerged that are largely or fully digital. These are often called “neobanks” and fall under the category of “fintech companies.” These innovative banks can be easier to access (eg. customers don’t have to go into a branch to open an account), easier to do business with, and have competitive products.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

- **Mobile money** – mobile money providers have started offering savings accounts associated with mobile money. For example, M-PESA has a savings product called M-Shwari.
- **Digital savings groups (DSGs)** – several promising solutions have emerged to help semi-formal savings groups digitize their financial records, achieve their savings goals, and build credit history.

Some of the major digital banks in LatAm and Africa are identified below in Table 3, and key providers of digital savings solutions for groups or communities are listed in Table 4.

**Table 3 : Neobanks / Digital Banks**

Company	Overview	HQ	Reach	Maturity
Nubank	Digital bank, credit card. Largest neobank in LatAm	Brazil	Brazil, Mexico, Columbia, Argentina	Publicly listed on Nasdaq. 60M customers
Neon	Digital bank. No fee.	Brazil	Brazil	2016. \$726M raised. 15M accounts
Uala	Digital bank. Finance app linked to a Mastercard card	Argentina	Argentina, Mexico, Columbia	\$600M raised
Tyme Bank	Digital bank	South Africa	South Africa	5M customers
ALAT	Digital bank	Nigeria	Nigeria	1.5M customers

**Table 4 : Digital Savings Groups**

Company	Overview	HQ	Reach	Maturity
DreamStart Labs	DreamSave is a leading solution. TechnoServe pilot in Benin and one starting in Uganda	US, Rwanda	20 countries across Africa, Asia & LatAm	Founded in 2016. 20 languages.
Jamii.one	Similar to DreamSave	Denmark	Available globally, in use in 50 countries	5K groups, 110K members. 5 languages

DSG HUB ([dsghub.org](https://dsghub.org)) is a comprehensive source of information on digital savings groups, and has created a [summary of various digital savings solutions](#) in the market.

## FUND - giving businesses and farms access to credit and loans

When the term “Access to Finance” (A2F) is used, it is often associated with the FUND category - accessing funds, typically in the form of credit or loans. While those are the primary forms of funding in the agricultural and the entrepreneurial sectors, there are other forms of funding such as equity and leases (for capital purchases, eg. farm equipment). In this analysis, we will focus on credit and loans.

Smallholder farmers and small entrepreneurs are challenged to obtain credit / loans from traditional financial institutions for a variety of reasons, including: low income, lack of credit history, lack of financial records, high interest rates, and a difficult application process.

The emergence of fintech companies over the past decade have made more options available for individuals and businesses to access credit / loans.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

- **Agricultural “impact” investors** - there is a category of companies focused on lending solely to the agricultural sector, not only to generate financial returns but also to make a positive social impact on the sector and the livelihoods of farmers. They primarily lend to agri SMEs (eg. coops), not directly to smallholder farmers.
- **Fintechs focused on lending** - numerous fintechs have emerged focused solely on lending in Africa, LatAm and other markets. Through digital technology, they make lending easier and can potentially offer more competitive rates.
- **Credit / lending solutions from neobanks, mobile money and DSGs** - with their digital first approach, neobanks have made credit / lending more accessible. For example, Nubank in Brazil started as a company offering a no fee credit card (in a market with high fees); they have now emerged as the largest fintech in LatAm with one third of Brazilians as their customers. Mobile money operators are starting to offer loans, typically micro-loans to their customers. DSGs allow group members to borrow from the group savings and also build credit history data to enable financial institutions to lend to the group.
- **Buyers** - certain buyers extend credit facilities to agricultural producers and/or processors to enable them to purchase inputs or operate their farms / facilities. Additionally, TechnoServe has worked with corporate partners to create financing programs. For example, we have worked with Danone to create a \$1M fund in Mexico to guarantee loan repayments to local lenders that lend to milk farmers.

Some of the neobanks, mobile money providers and DSGs have already been profiled in the sections above. Leading impact investors focused on agriculture are profiled in Table 5. Many of these organizations are members of the Council of Smallholder Agricultural Finance (CSAF), an association focused on financing agri SMEs. In 2021, the CSAF members (17 and growing) lent over \$750M to 640 businesses, reaching 2.5M smallholder farmers in 59 countries, primarily in Africa and LatAm.<sup>8</sup>

Some of the fintechs focused primarily on lending are profiled in Table 6.

**Table 5 : Agricultural Impact Investors**

Company	Overview	HQ	Reach	Maturity
Root Capital	Nonprofit lender to agri SMEs whose needs are too big for microfinance and too risky for commercial banks.	USA	13 countries across Africa, LatAm	1999. \$1.7B disbursed. 750+ lending clients. 2.4M farmers reached.
responsAbility	Impact investor focused on sustainability	Switzerland	Invest in 73 countries	2003. \$12B invested. \$3.6B assets under mgnt (\$2.4B financial inclusion, \$900M climate, \$300M food)
Rabo Rural Fund	Part of Rabobank focused on financing coops and ag SMEs. Rabobank has a focus on food / ag sector.	Netherlands	25 countries across Africa, LatAm, Asia	2012. \$143M lent. 210 projects. 130K farmers.
Oikocredit	Social impact investor and worldwide cooperative. Focus	Netherlands	33 countries across Africa,	1975. EUR 1.2B in assets. 500+ partners funded (avg EUR 2M)

<sup>8</sup> CSAF annual State of the Sector report. <https://csaf.org>.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

Company	Overview	HQ	Reach	Maturity
	on financial inclusion, agriculture, renewable energy. Fund local partners (MFI, fintechs etc.)		LatAm, Asia	
Triodos	Impact investor	Netherlands	50+ countries globally	30 years. EUR 6.4B in assets. 750+ direct investments. 17.8M borrowers
MCE Social Capital	Impact investor investing through Financial Service Providers and in small & growing businesses	USA	33 countries	\$53M outstanding in 38 FSPs and 17 SGBs
Alterfin	Invest in sustainable development - improve the livelihoods of socially and economically disadvantaged people	Belgium	35 countries	1994. 6K co-op members, EUR 68M of share capital. 160 investments.
Global Partnerships	Impact investor focused on alleviating poverty. Fund social enterprises	USA	27 countries	1994. \$630M total lent. 29M lives impacted.
Babban Gona	Mission-driven focus on farmers - training, credits, inputs, marketing support	Nigeria	Nigeria	2012. \$29M debt financing

**Table 6 : Fintechs Focused on Lending**

Company	Overview	HQ	Reach	Maturity
Tala	Mobile lending app. Low interest rates	LA	Kenya, Mexico, India	2011. \$389M, series. 6M customers, \$2.7B disbursed
Branch	Mobile lending app. Assesses credit worthiness based on smartphone data	San Francisco	Kenya, Tanzania, Nigeria, Mexico, India	\$274M, series C. 4M customers, 21M loans, \$600M disbursed Partnership with Visa. Backed by A16Z.
Konfio	Loans for small businesses. Also B2B payments and finance and operational platform	Mexico	Mexico	\$235M raised Country-specific solution for borrowing
Creditas	Secured lending at lower interest rates	Brazil	Brazil, Mexico	2012. \$829M raised

## PROTECT - helping TechnoServe clients manage risk

The 2019 report by Innovations for Poverty Action called [“Building Resilience through Financial Inclusion”](#) sheds some key insights on the impact of climate change and the role of financial solutions to protect low-income households.

Below are some highlights from the report:

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

- **Changes in climate conditions will affect the way in which agricultural activities are conducted, resulting in an impact on food security** (FAO 2016b). There is a large body of evidence suggesting that these impacts will be negative and will be amplified for more vulnerable populations (FAO 2016a).
- **Poverty alone amplifies exposure to risk:** any setback could become a crisis. Low-income households without financial tools like savings accounts and insurance therefore tend to “play it safe” and only invest in low-risk, low-return activities, with negative effects on their income and wealth. According to one model, underinvestment due to perceived risk accounts for two-thirds of the negative impact on well-being from natural disasters (Elbers, Gunning, and Kinsey 2007).
- **Small-scale (“smallholder”) farming families are particularly vulnerable to climate and disease risk, and also account for the majority of households living in extreme poverty.** The 2017 Global Findex found that about half of households that rely on agriculture as their main source of income reported experiencing a bad harvest or significant loss of livestock in the previous five years. The majority of these households bore the entirety of the loss on their own, with only a minority receiving any kind of compensation (World Bank 2018). Given such risks, smallholder farmer families often engage in low-yield, low-variability agriculture practices, with little investment in farm inputs, to avoid losses in case of a weather-related shock.

The report also cites numerous studies that provide evidence of the positive impact of insurance products designed for smallholder farmers:

- In India, farmers shifted to a riskier (less drought-resistant), but higher yield, variety of rice when they had access to insurance (Mobarak and Rosenzweig 2012).
- In China, Mali, and India, insurance led farmers to invest more in their farms and shift to farming more profitable crops (H. Cai et al. 2015; Cole, Giné, and Vickery 2017; Elabed and Carter 2014).
- In Ghana and Bangladesh, access to index insurance increased spending on productive inputs such as fertilizer (Karlan et al. 2014), irrigation, and pest control (Hill et al. 2017).
- A natural experiment in China found that insured farmers also increased their demand for credit and reduced their need for precautionary savings (J. Cai 2016).

Despite the potential benefits of microinsurance, demand for these products remains low. Interventions designed to increase customer understanding of and trust in insurance products may enhance these positive impacts. For example: In India, financial education increased rainfall insurance adoption from 8 to 16 percent (Gaurav, Cole, and Tobacman 2011), and demand increased from 28 to 38 percent when an insurance educator was recommended by a trusted local agent (Cole et al. 2013).

There is an opportunity to educate farmers and entrepreneurs regarding insurance, and also working with insurance providers and funders of risk management approaches (eg. governments, foundations) to make solutions more accessible.

Table 7 lists some insuretechs focused on agriculture as well as several organizations concerned with building resilience of farmers within the sector.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

**Table 7 : Insurtechs / Risk Management Organizations**

Company	Overview	HQ	Reach	Maturity
Pula	Index based crop and livestock insurance. Crop insurance based on yield index	Kenya	22 countries across Africa, LatAm and Asia	6.8M farmers insured, 3M hectares, \$44M premiums. \$10M funding
Acre Africa	Service provider, intermediary for insurance for farmers	Kenya	Tanzania, Rwanda	1.7M farmers  Collab around blockchain with Mercy Corp, ethereum foundation, Chainlink, etherisc
Blue Marble	Help design and launch index-based climate protection and personal/small business insurance for underserved	USA or UK	Zimbabwe, Columbia, others	2015  Partnered with Nespresso. Partnered with World Food Programme around insurance for farmers in Africa
MiCRO	Microinsurance Catastrophe Risk Organisation (MiCRO). Index-based insurance for climate	Barbados	Guatemala, El Salvador, Colombia	2011. <10 employees.  Founded by Mercy Corp after 2010 Haiti earthquake
World Food Programme	Has a "Risk finance" strategy to build resilience to food insecurity. Active in LatAm and supported African Risk Capacity program	Italy	LatAm	Launched 2020 in Guatemala and El Salvador
African Risk Capacity	Specialized Agency of the African Union established to help African governments improve their capacities to better plan, prepare, and respond to extreme weather events and natural disasters	South Africa	35 African Union countries	Launched 2012. 62 policies signed by Member States for total insurance coverage of \$720M for the protection of 72M vulnerable populations

**In summary, there is a large and growing landscape of financial solutions available in the market to address each of the five areas of TechnoServe beneficiary needs - Understand, Transact, Save, Fund and Protect.**

## Other NGOs

Before considering potential strategies for TechnoServe, it is worthwhile reviewing efforts by other NGOs to make financial solutions available to beneficiaries. Broadly speaking, other NGOs have deployed 3 approaches:

- **Direct Financing** - create a capital pool to provide some sort of direct financing. Eg. Mercy Corps has established a venture fund to invest in impact-focused startups. Heifer is making affordable capital available to farmers & coops.
- **Focused Solution** - Catholic Relief Services and Care have primarily focused on a single area, Save - promoting the creation and digitization of savings groups. One Acre Fund's primary focus is to provide farm products on credit.



# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

- **Partnerships** - Mercy Corp has partnered with various organizations including Mastercard, Safaricom and Equity Bank to deliver specific solutions around Understand, Transact and Fund, respectively.

Table 8 summarizes focus areas and examples of initiatives by other NGOs.

**Table 8 : Initiatives by NGOs to Provide Financial Solutions**

NGO	FOCUS AREA	EXAMPLES
<b>Mercy Corps</b>	<b>Diverse</b> Cash assistance, financial training, venture investing, mobile credit solutions	<ul style="list-style-type: none"> <li>• Cash &amp; Voucher Assistance via digital payments and e-voucher</li> <li>• Partnership with Mastercard (eg.entrepreneur training, prepaid cards, digitization)</li> <li>• Mercy Corps Ventures - "impact-first, early-stage investor". Investor in 32+ ventures (including Pula)</li> <li>• Developed the DigiFarm mobile platform with Safaricom, allowing 1M farmers to purchase inputs with M-Pesa and access credit.</li> <li>• Partnership with Equity Bank and DFID to manage a Risk Sharing Fund to increase capital to agri-SMEs</li> </ul>
<b>Heifer</b>	<b>Direct capital, crypto</b>	<ul style="list-style-type: none"> <li>• Established Heifer Impact Capital to provide affordable capital to farmers and coops</li> <li>• \$17M Heifer capital committed; \$52M from external investors</li> <li>• Partnership with Small Enterprise Assistance Funds (SEAF) that has a global network for impact investing</li> <li>• Acquired BitGive Foundation, a nonprofit that connects Bitcoin holders with charities</li> </ul>
<b>Catholic Relief Services</b>	<b>Savings communities, digitization</b>	<ul style="list-style-type: none"> <li>• Focus Savings and Internal Lending Communities (SILC) - helping community members to form groups, pool their savings, and make loans to each other</li> <li>• Created 200K groups with 4.6M members and \$7.7M in total savings since 2006. Mostly in Africa, some in LatAm and Asia. Beginning to pilot digitized SILC solutions.</li> <li>• Digitized 500 new SILC groups in Benin</li> <li>• Created 5K private service providers who help SILCs on a fee-for-service basis</li> </ul>
<b>Care</b>	<b>Savings communities, women</b>	<ul style="list-style-type: none"> <li>• Village Savings and Loans Association (VSLA) program, with a focus on women</li> <li>• Goal to support 50M women to use VSLAs by 2030</li> <li>• Digital sub-wallet trial in Uganda funded by Gates Foundation</li> </ul>
<b>One Acre Fund</b>	<b>Providing farm products on credit</b>	<ul style="list-style-type: none"> <li>• Provide farm products (seeds, fertilizers, trees) on credit</li> <li>• 97% farmers repay on time</li> <li>• 1.4M farmers across 6 countries in East &amp; South Africa</li> <li>• Measurable impact on farmer income - 30-50%</li> </ul>

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*

## 4. RECOMMENDATIONS

**TechnoServe can improve the effectiveness of its programs to reduce poverty by developing a coordinated strategy for providing beneficiaries with financial knowledge and solutions.** To expand the use of financial technology solutions across TechnoServe programs, TechnoServe will:

### 1. Share our experience

**Establish a global group of TechnoServe practitioners working on ways to make financial solutions more accessible to our beneficiaries.**

TechnoServe has over 1500 employees with over 80 active programs in 29 countries. Because over two thirds of programs already have implemented some form of programmatic element for providing access to finance, and over one third of programs have implemented a financial solution enabled by technology, the objective of this working group will be to share lessons learned across regions and practice areas.

A similar approach was very effective in building support and adoption of a common learning management system and distance learning best practices in the early days of building our capabilities for remote and blended learning.

### 2. Identify common solutions

**Identify solutions that can be scaled across TechnoServe, pre-screen financial solutions available in the market and establish relationships with a select group of financial service providers.**

We are already seeing some common solutions across TechnoServe practice areas and regional teams. The fintech practice group will prioritize the five categories and evaluate the prospective partners in each category, selecting 1-2 solutions per category that would best meet the needs of our beneficiaries.

Selection of solution providers must take into consideration two factors. First, can the solution scale globally or at least across a large region, or is it only available in a single country or region. Second, is the solution established and proven or is it still under development.

We will prioritize solutions that are existing and available globally; these solutions will be fastest to deploy and will have the widest impact. See Figure 11.

# Financial Technology Solutions for TechnoServe Programs

*Improving outcomes by making financial solutions more accessible*



Figure 11. Framework for Prioritizing Solutions

## 3. Work with financial service providers to improve functionality for our beneficiaries

**Use TechnoServe's extensive field experience to help FSPs to continuously improve solutions to better meet the needs of our beneficiaries.**

Many fintechs do not have experience in emerging markets, and even those that do may not have optimized their solutions for low-income consumers and/or women. TechnoServe is in a unique position to facilitate improvements that would benefit both our beneficiaries and the FSPs. An excellent example of this is the WIN program's work in Mozambique to improve the mPESA application to meet the needs of women customers.

In conclusion, we hope that with modest allocation of resources, over the next 3-4 years it will be possible to dramatically increase TechnoServe's impact for beneficiaries through the expanded use of shared financial tools across our global programs.