Digital Credit for Smallholder Farmers
Lessons learned from the field

KWPF
WORLD BANK GROUP
Entire Project activities took place between early 2017 and late 2020. Project operations effectively ceased by the end of 2020.
The challenges
CHALLENGES

Smallholder farmers lack access to finance needed to invest in their farms and improve production.

Financing gaps inhibit the economic growth of smallholder farmers and further perpetuate existing cycles of poverty.

70% of global demand for smallholder farmer household finance is unmet, equivalent to around US $170 billion.

Short-term agricultural financing needs—estimated to be US $66 billion—is undersupplied (equal to a 67% shortfall).
CHALLENGES

Gender disparity in service access

There are persistent gaps, especially within rural communities, between female and male populations. In general, men are more likely to achieve higher incomes and profits, and to own land. They are also more likely to have formal forms of ID, which gives them an advantage in attaining access to finance.
CHALLENGES
Commercial lenders struggle to reach smallholder farmers

Formal financial providers face two key challenges in offering affordable credit to smallholder farmers:

- **the cost of initiating and servicing loans** given the remote locations of many of farmers relative to formal provider branches, and;

- **analyzing the risk** this lending entails given the limited information available about the clients.
Approach
APPROACH

Connecting smallholder farmers to finance

This pilot intended to make appropriately designed loans more accessible to smallholder farmers, enabling them to improve their productivity by investing in seasonal inputs. This entailed supporting a financial institution to test the effectiveness and commercial viability of digitally enabled financial services.

The project sought to use digital technologies to remove barriers for financial institutions to provide such loans by:

- **Lowering acquisition and operational costs** by allowing the financial institution to digitize key aspects of the process.
- **Improving accuracy in risk analysis** through digital credit assessments.
The implementation of this pilot relied upon a multi-stakeholder partnership with private service providers to effectively deliver the loan product to farmers.

The World Bank
The Facilitator
Coordinated with project partners, supporting research and product/process design, and capturing learnings from the pilot experience.

BRAC MFI
The Lender
 Responsible for all aspects of the loan origination and servicing process, as well as contributing anonymized data on customer loans and repayment.

Telenor
The Phone Data
One of the leading mobile network operators in Myanmar; provided the phone data, which was used to help calculate one aspect of the credit scoring.

Ongo
The Mobile Money Provider
Provided agent support in the pilot area to help with loan disbursement and repayment and ensure adequate levels of physical liquidity were present.

L-IFT
The Rural Promoter
Supported go-to-market activities and provide hands-on client support during the loan application process in the rural communities selected for this pilot.

aWhere
The Ag Data
A weather-based agricultural intelligence company; provided the models and agricultural data that drove the agricultural risk part of the credit score.

Experian
The Platform Provider
Provided access to a digital lending platform and a credit scoring model that drew on non-financial data sourced from Telenor and aWhere.
WHAT WE DID

The project was implemented from 2018 to 2020 within a concentrated geographic area — two townships, Daik-U and Nyaung Lay Pin in the eastern Bago Region of southern central Myanmar. The loan product itself was launched in three iterative cycles over a one-and-a-half-year period. Refinements were made to the product and processes after each cycle based on experiences and reactions of key personnel and borrowers.

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WHAT WE DID

Using human-centered design

The pilot team used a process known as human-centered design (HCD) to develop an understanding of the needs and circumstances of target customers. HCD is a set of methods and guiding principles that help organizations discover and address the needs of their end users.

GROUNDED IN KNOWLEDGE ABOUT USERS
Before we create solutions, we talk to users to understand goals, needs, and attitudes.

COLLABORATIVE
Complex problems require broad and deep expertise and cannot be solved by one person or organization.

VISUAL
Visualizing helps us to see problems, communicate complex ideas, and identify new opportunities.

ITERATIVE
Prototyping ideas early and often, and testing them with users ensures that our concepts meet our objectives before spending time and money creating high-fidelity designs.
WHAT WE DID
Key findings from field research

• **Instances of informal and formal borrowing** on a seasonally recurring basis.

• **Some participants averse to taking on loans** because of embarrassment or a fear they would be unable to repay the debt.

• **The majority of farmers interviewed own smartphones.** However, some of the smartphones were low-end models with factory settings pre-set to a foreign language the users could not understand.

• **Few knew how to use smartphones for more than just making phone calls.** Without the support of someone with digital literacy, many farmers are unlikely to perform more complicated tasks.
WHAT WE DID
Findings on mobile phone practices

Many smart phone owners don’t use any ‘smart’ features. Smart phones are attractive to farmers because the bigger dialer makes calling easier. Few buy them to use features beyond calling.

- There is a low correlation between the kind of phone someone owns and the complexity of the tasks they are able to perform.
- Few people use SMS.
- We didn’t see significant gender differences.
WHAT WE DID

Taking a high touch approach

Based on the findings from field research — and the limited comfort levels most farmers had using their phones — the project took a “high touch” approach to implement the pilot, with farmers receiving support from specially trained rural promoters, BRAC credit officers, and mobile money agents.
Developing engagement model options

Equipped with a better understanding of farmer practices, the project team presented five engagement models to the farmers. Models varied by the i) degree of direct engagement a farmer would have with digital technology and ii) the type of person the farmer would interact with.

**Rural Customer Feedback Regarding Engagement Models**

1. **BRAC OFFICER**  
   8 participants preferred this option. Three participants said they would only be okay with the BRAC option (no mobile money process)  
   - existing relationship/trust  
   - comfort from in-person interactions  
   - no other parties in between  
   - more private than agent or supplier

2. **BRAC OFFICER & MOBILE MONEY AGENT**  
   4 participants preferred this option.  
   - more efficient for farmer and BRAC  
   - Money on my own time, I don’t have to wait for the officer to come  
   - Don’t want to be seen at the BRAC office  
   - If BRAC introduces the agent to me, this is great

3. **DIGITAL**  
   2 participants preferred this option.  
   - more efficient  
   - my kids can help me with the process  
   - downloading app & figuring out the process would be difficult

4. **MOBILE MONEY AGENT**  
   1 participant preferred this option.  
   - continent, agent can explain the process  
   - I don’t trust the agent to have time to explain this well  
   - I don’t have a relationship with the agent, I don’t want him to know I’m borrowing money  
   - What if something goes wrong, are they accountable  
   - Don’t like adding a middleman to the process

5. **SUPPLIER**  
   Everyone stated that the supplier option didn’t work or was not convenient for them.  
   - I don’t use a single supplier, want the freedom to shop anywhere  
   - I need more than just fertilizer or seeds, I need cash for labor  
   - I don’t trust these people, they are too good at selling
**WHAT WE DID**

A customized user journey

The customer journey and product prototype bundled the following elements: a “high touch” approach, reduced verification procedures and expedited approval timeline, mobile money optional, and bullet payment at the end (in lieu of recurring payments at the start).

**The User Journey**

1. Farmer learns about loan and receives information on how to apply.
2. Promoters support farmer to digitally on-board, create an account, and fill out a digital loan application.
3. Farmer receives loan decision made by officer; if approved, officer visits, if denied, officer calls them by phone.
4. After approval, a credit officer conducts a second site visit and the farmer accepts loan terms and conditions.
5. Farmer receives a disbursement notification (SMS + phone call follow-up if using mobile money, or phone call if collecting from the branch).
6. Farmer travels to collect the money from either a mobile money agent or branch at specific times.
7. Farmer receives a repayment reminder via a phone call.
8. Farmer repays the loan via mobile money agent or at a branch.
**WHAT WE DID**

Summary of key pilot indicators

A total of 2,626 farmers were reached over the course of the three loan cycles of the pilot.

1,441 loans were disbursed, of which 992 (or ~69%) were made to women.

<table>
<thead>
<tr>
<th></th>
<th>FIRST CYCLE</th>
<th>SECOND CYCLE</th>
<th>THIRD CYCLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAIN FOCUS:</td>
<td>Loan Product &amp; Enrollment</td>
<td>Digital Platform &amp; Credit Scoring</td>
<td>Mobile Money &amp; System Refinement</td>
</tr>
<tr>
<td></td>
<td>Focus on developing an appropriate agricultural loan, prototyping the go to market activities, enrollment process, and disbursement.</td>
<td>Focus on developing the digital platform and the credit scoring algorithm. Refine loan and enrollment based on findings from first cycle.</td>
<td>Focus on improving the credit scoring algorithm and streamlining the application and the back-end process for BRAC.</td>
</tr>
<tr>
<td>Farmers Reached</td>
<td>785</td>
<td>957</td>
<td>884</td>
</tr>
<tr>
<td>Loans Applied For</td>
<td>458</td>
<td>709</td>
<td>884</td>
</tr>
<tr>
<td>Loans Approved</td>
<td>269 (59%)</td>
<td>453 (64%)</td>
<td>811 (92%)</td>
</tr>
<tr>
<td></td>
<td>Women: 169 (63%)</td>
<td>Women: 278 (61%)</td>
<td>Women: 610 (75%)</td>
</tr>
<tr>
<td></td>
<td>Men: 100 (37%)</td>
<td>Men: 175 (39%)</td>
<td>Men: 201 (25%)</td>
</tr>
<tr>
<td>Loans Disbursed</td>
<td>227 (100%)</td>
<td>453 (100%)</td>
<td>761 (94%)</td>
</tr>
<tr>
<td></td>
<td>Women: 227 (100%)</td>
<td>Women: 441 (75%)</td>
<td>Women: 68 (55%)</td>
</tr>
<tr>
<td></td>
<td>Men: 0 (0%)</td>
<td>Men: 226 (25%)</td>
<td>Men: 72 (45%)</td>
</tr>
<tr>
<td>Repaid On Time</td>
<td>227 (100%)</td>
<td>453 (100%)</td>
<td>707 (93%)</td>
</tr>
<tr>
<td></td>
<td>Women: 227 (100%)</td>
<td>Women: 441 (75%)</td>
<td>Women: 68 (55%)</td>
</tr>
<tr>
<td></td>
<td>Men: 0 (0%)</td>
<td>Men: 226 (25%)</td>
<td>Men: 72 (45%)</td>
</tr>
<tr>
<td>Disbursed via Mobile Money</td>
<td>227 (100%)</td>
<td>453 (100%)</td>
<td>160 (21%)</td>
</tr>
<tr>
<td></td>
<td>Women: 227 (100%)</td>
<td>Women: 441 (75%)</td>
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*Note: the percentages after each number (except for gender breakdowns) shows the conversion rate between stages.*
Lessons learned
LESSONS LEARNED

Smallholder farmer demand for an individual agri-loan product

Rural demand for this type of loan product exists and appears strong. The product must fit the circumstances and activity patterns that shape a rural borrower’s financial health and capacity to absorb debt. It is important to anticipate the need for appropriate financial literacy training and a tailored communication strategy.

• **High demand and strong ability to repay** was observed among participating smallholder farmers.
• **Providers require commercially viable models** with acceptable operating costs and lending risks in order to accommodate demand.
• **Many smallholder farmers struggled to comprehend** how interest for this new type of loan was calculated.
• **The ability to adapt loan tenure, grace period, and repayment schedule** to seasonal cash flow cycles of dominant crops played a key role in strong repayment rates.
LESSONS LEARNED
Digitizing operations from the smallholder farmer perspective

Digitization alone does not cure all. A well-designed product or service and an effective delivery strategy for rural market segments will need to consider what degree of digitization is appropriate to pursue, at what pace, and involving which intended end users. It must also anticipate and address issues related to i) gender, ii) building confidence and capacity in a product or service and what the benefits of usage are, iii) the role of human interaction, as well as iv) trust, and v) privacy.

• **Digital solutions need to be calibrated** to the operating environment, customer segment, mobile usage patterns and preferences of smallholder farmers.
• **Residents may own multiple SIM cards & SIM “swapping” is common**, which may impact the ability to develop individual scoring models.
• **Understanding gender differences** is critical to proper product design and deployment.
• **Building a human bridge for rural last-mile service delivery is often necessary** to stimulate acceptance and usage.
• **Developing trust among rural populations** requires the ability to connect with customers and communicate its value proposition.
• **Digitization may help alleviate mental barriers to borrowing**, but it also raises concerns about how to treat, manage, and protect information.
LESSONS LEARNED
Digitizing operations from the service provider perspective

Digitization should be viewed as a gradual process. It will require a broadly established and well-understood internal rationale, adjustments to organizational culture, and adequate investments of time and resources to align structures, processes, and staffing. It also requires a strategy that identifies digitization’s potential to address current pain points in the system as well as its limitations and the need to maintain certain human-based operations and interactions.

- Not all processes and systems are equal.
- Digital technology reduces need for on-the-ground presence.
- Mobile money offers attractive benefits for lenders & borrowers.
- Awareness of unique e-KYC challenges is key when entering new markets.
- Alternative data sources for credit scoring models requires further research & experimentation.
- Robust credit scoring models require strong individual data.
- Mobile credit scoring can exclude some potential customers.
- Crop risk models may require multiple data inputs, and score interpretation across different crops needs to be understood.
- Service providers should balance the potential efficiencies of digitization with the flexibility of human-based operations.
Recommendations
RECOMMENDATIONS

Design

• Employ a research and design approach that incorporates principles and methods capable of surfacing relevant practices, perceptions, and patterns of rural customers as well as key needs and challenges they encounter.
• Build a platform of multiple partners with bundled services that allow more borrowers to access financial services, at scale.

Various Users

• Where appropriate, let rural customers remain at the periphery of digitization but be able to interact with the product or service through credible intermediaries.
• A rural-facing offering does not need to be fully digitized when launched; an incremental approach may be warranted that starts with digitizing “low hanging fruit” to give stakeholders an opportunity to absorb and adjust.
• Prioritize and adequately fund an internal “digital readiness” assessment to surface training needs across departments and at different staffing levels.
• Do not exclude human-based operations entirely given the limitations of basic rural infrastructure required to power digital services reliably at scale.
RECOMMENDATIONS

Service Providers
• Service providers may need to adjust or expand the type of information collected from smallholder farmers to accommodate the information gap and collection challenge and rely more heavily on direct engagement to satisfy account registration requirements.
• Explore partnerships for financial and digital literacy training.
• Explore potential partnerships with agritech companies, technology firms, and academic institutions to obtain data relevant to smallholder farmer credit risk.

Public Sector
• The public sector has a role in ensuring a healthy enabling environment for rural-facing products and services, including digital information standards and digital infrastructure.
• Digitization of certain public sector services could reduce private sector risk and improve efficiency in agricultural investment.
Many thanks to BRAC team, all partners, KWPF, et al.
Report: Link

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