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**ASSESSING  
THE IMPACT  
OF**

# Digitally-Enabled Microcredit for Smallholder Farmers

*Findings from the A-Card pilot initiative*



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### DISCLAIMER:

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## EXECUTIVE SUMMARY

mSTAR/Bangladesh, working with the Agriculture Extension Support Activity (AESA) led by Dhaka Ahsania Mission (DAM), conducted pre- and post-assessments in Faridpur district to understand the impact that a *micro-credit product* (called A-Card) delivered to smallholder farmers through Bank Asia's agent banking had on participating farmers, associated ag-input retailers, and other relevant stakeholders, as well as to understand what further action can be taken to improve uptake of these services.

This report includes findings from the pre- and post-assessment surveys, beginning with farmers and retailers' demographic information, including age, sex and education; as well as their mobile phone ownership, access and usage patterns. It also examines the knowledge and perceptions that stakeholders have of digital financial services (DFS), in addition to their perceived benefits from A-Card, associated challenges, and opportunities to scale up. In addition, this report includes some findings from a separate survey conducted solely by AESA. It concludes with recommendations based on the findings and feedback from stakeholders.

The following are some of the key findings from these assessments:

- » All interviewed farmers and retailers during the post-assessment reported an **understanding of agent banking as a model**, which is a significant gain over the pre-assessment where few farmers and no retailers expressed an understanding of agent banking.
- » Almost all (96%) farmers perceived that **A-Card transactions were safer than cash**.
- » Most (92%) farmers voiced their **satisfaction with A-Card due to its low interest and flexible repayment terms**. Likewise, all retailers during the post-assessment voiced their satisfaction with accepting payments through A-Card, which enabled them to increase their sales and reduce sales on credit.
- » While pre-assessment showed that a lack of funds was a major challenge for farmers to purchase quality inputs, the post-assessment showed **around three-quarters of interviewed farmers were able to purchase higher quality inputs directly from retailers**.
- » **Just over a third of farmers (35%)** reported that they were able to store their harvest for one to two months before **selling at a higher price** thanks to the six-month repayment tenure of the Just over three-quarters (77%) of the farmers experienced difficulties purchasing inputs due to **network problems** that led to transaction failures. Also, all retailers experienced network errors, which hindered the verification process and led to incomplete transactions. However, these problems were temporary and did not ultimately limit any purchases.
- » A significant number of farmers (35%) confronted difficulties with repaying the loan due to **not having a nearby Bank Asia agent banking point or bank branch**.
- » Most of the farmers (88%), felt that the **processing time to receive a loan was long compared to MFIs**.
- » Retailers reported instances when the biometric devices at the Bank Asia agent points did not function, which **delayed their ability to withdraw funds** from their accounts.

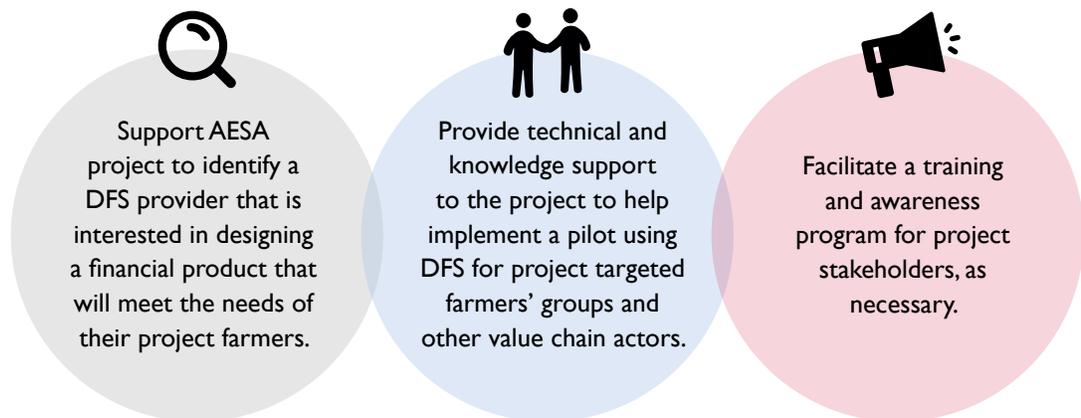
Based on the findings from mSTAR/B and AESA surveys, the following recommendations are proposed:

- » **Bigger loan amounts** with an **over-draft facility** may be particularly useful for farmers.
- » Bank Asia should consider **increasing the number of transaction points**, while potentially expanding the product to livestock and fisheries farmers as well.
- » More **awareness raising activities** are required to train agent banking agents, retailers and farmers on how to use the product.
- » Considering the seasonal income of farmers, a **small and flexible savings scheme** with interest tied to the A-Card might be attractive to enhance farmers' savings behavior.
- » A reconsideration of the **revenue sharing model** between Bank Asia and participating MFIs may be necessary to increase the likely sustainability of this product.

# I / Background

## USAID Agricultural Extension Support Activity (AESA)

Starting in May 2016, USAID's Mobile Solution Technical Assistance and Research (mSTAR) project collaborated with the USAID Agricultural Extension Support Activity (AESA), implemented by Dhaka Ahsania Mission (DAM), CARE Bangladesh and mPower, to support a pilot to integrate digital financial services (DFS) to meet the needs of their project beneficiaries. In the same year, mSTAR/Bangladesh (mSTAR/B) received a technical assistance request from AESA with the following required support for integrating DFS in their project activities:



Based on the understanding of the needs of AESA, mSTAR/B entered into discussions with several financial institutions and identified an interested DFS provider, Bank Asia Limited, to use its agent banking facility to pilot A-Card, a customized financial product initially conceptualized by AESA. In order to understand the benefits of this pilot initiative, mSTAR/B jointly with AESA project's monitoring and evaluation unit conducted a pre- and post-assessment with the pilot beneficiaries.

## Overview of AESA project

USAID Agricultural Extension Support (AESA) project is implemented by Dhaka Ahsania Mission (DAM) in partnership with CARE Bangladesh and mPower. It is a five-year project running from October 2012 – February 2018, which has been working in 12 districts in the central and southwest areas of Bangladesh. The overall project goal is to “strengthen the existing agriculture extension system in southwest and central Bangladesh to sustainably improve food security and nutrition for smallholder farmers with an emphasis on women.” This project focuses on capacity building activities and fostering a farmer demand-driven agricultural extension system, incorporating the use of information communication technology (ICT) to improve farmers' access to quality agricultural inputs, improved technologies and management practices with access to finance and market opportunities.<sup>1</sup>

<sup>1</sup> <http://www.aesabd.org/>

## Background of the A-Card pilot

In September 2014, AESA conducted a study in order to design an activity for the improvement of access to finances by its beneficiary smallholder farmers. The study observed that the smallholder farmers, despite their socio-economic importance, tend to have little or no access to formal credit, which limits their capacity to invest in technologies and inputs. The respondents also reported that traditional microfinance support faces a number of challenges, including: high interest rates, overlapping loans, insufficient repayment periods and lack of attention to the ultra-poor (Hossain, 2014).

Based on the study findings, in 2016, the AESA project started this new initiative titled “Smallholders’ financial inclusion for digital purchase of farm inputs.” In short it is known as “A-Card”. “A-Card” is a financing model to support smallholder farmers in accessing their necessary agricultural inputs in time with minimum costs and longer payback periods. It aims to bring smallholders access to microcredit services through the formal banking system, using digital technology to enhance their access to savings and credit products, thus improving their socio-economic status.



Figure 1: A-Card Model

The initial framework was conceived by Mr. Bidyuth Mahalder, Chief of Party of the AESA project, and it was refined and finalized through discussions with Bank Asia Ltd., partnering microfinance institutions (MFIs), and mSTAR/B. It was then piloted through the AESA project in three of the USAID Feed the Future (FtF) districts in southwestern Bangladesh. The operation involves a four-way linkage between farmers, input retailers, Bank Asia, and partnering MFIs. It uses an automated lending platform developed and administered by Bank Asia. The operation starts by registering farmers as clients

with an MFI, filling out the required ‘Know Your Customer’ forms and submitting the forms with credit request to the designated section at Bank Asia. The latter uses their automated lending platform to process credit requests quickly. Once the forms are approved and the amounts are credited to the farmer’s loan account, Bank Asia then issues debit cards to the farmers to purchase agricultural inputs from pre-selected input retailers who have savings accounts with Bank Asia. To process A-Card transactions, each input retailer is equipped with Near Field Communication (NFC) enabled smartphones and biometric devices serving as point of sale (PoS) devices. Farmers can buy inputs directly from them using the A-Card, which can be tapped against the smartphone of the input retailer, who can then also use the biometric device to confirm their fingerprint or other methods, such as one-time passwords to verify the identity of the farmer.

Through A-Card, Bank Asia offers loans to farmers at an annual interest rate of 10%, with payback made at the end of a six-month term. The participating MFIs work as an agent to Bank Asia and receive a share of the interest rate charged by the bank. This commission was equivalent to 1% of the loan value during the pilot, although it has since been raised to 1.5%. To be eligible for a loan through A-Card, smallholder farmers must own at least 50 decimals of cultivable land or have at least two dairy cows or one bull for fattening, must have received AESA project provided value chain training, have no previous defaults of any MFI or bank loan, and have a monthly household

income of at least BDT 6,000 taka (US \$75). As on July 31, 2017 a total of 3,100 farmers (of which 64% are women) have opened accounts with Bank Asia. A total of BDT 15,200,000 (US \$190,000)<sup>2</sup> have been disbursed by Bank Asia to 1,300 farmers with each loan ranging from BDT 10,000 to 20,000 (US \$125-250). A-Card aim to reach to 50,000 smallholder farmers by 2021.

For further information on 'A-Card' please refer to the following resources: '*A-Card: Progress and Prospects- Re-Shaking Microfinance Systems in Bangladesh*' by AESA, '*A-Card: Concept Note*', and '*DFS Product Innovation: Bank Asia*'. Additional information on A-Card can also be found at: <http://www.aesabd.org/a-card-documents/>.

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<sup>2</sup> USD 1= BDT 80

# 2 / Assessment Overview

## Objective

This assessment has been conducted on the first batch of 26 farmers from Faridpur district who received loans of BDT 10,000 (US \$125) each through A-Card, all of whom made use of those loans and repaid them within the stipulated timeframe. The objective of this assessment is ‘to understand the impact of adopting digital finance services (DFS) by value chain actors, specifically smallholder farmers and ag-input retailers, and what further action can be taken to improve uptake of such services.’ This report presents an analysis of the behavioral changes seen among farmers, specifically buying and selling behavior, the cost effectiveness to farmers and retailers, the perception of farmers and retailers on A-Card, and challenges experienced with using A-Card.

## Methodology

A total of 17 farmers and two retailers participated in the pre-assessment and 26 farmers and four retailers participated in the post-assessment survey, which was conducted by mSTAR/B with support from AESA. Among these participants, eight farmers and two retailers participated in both the pre- and post-assessments. Data was collected through focus group discussions (FGD) and key informant interviews (KII) using semi-structured questionnaires. Separate questionnaires were developed for both stakeholder groups. The details of the sample frame can be found in Table 1 below:

Table 1: Respondent profile and sample size

| Stakeholder | Pre-assessment   |      | Post-assessment  |      |
|-------------|------------------|------|------------------|------|
|             | FGD participants | KIIs | FGD participants | KIIs |
| Farmers     | 7                | 10   | 19               | 7    |
| Retailers   | -                | 2    | -                | 4    |

Total Participants  
(FGDs 26 and KIIs 23)

 **49 people**

## Limitations

A limitation of this assessment was the relatively small size of the first batch of loans, which were disbursed to 30 farmers with 5 participating retailers. Although the post assessment covered most of the farmers (87%) and input retailers (80%) from the pilot sample, the findings reflect the perceptions of these limited number of actors, and do not necessarily represent all farmers and input retailers’ perceptions. However, these assessment findings indeed provided some idea about the impact of using DFS for microcredit and merchant payments. Another limitation was the fact that the initial batch of farmers were all from the same district, and may not have the same planting patterns as farmers in other districts. Another major limitation of this particular assessment was that the first batch of recipients were predominantly male, so females are underrepresented as assessment participants. This is despite the fact that the majority of loan recipients through A-Card have actually been women (57%), although no women were found as input retailers due to social norms and practices in rural areas.

# 3 / Findings

This section includes information on the demographics and information communication technology (ICT) access of the interviewed stakeholders. It also contains users' experience with using A-Card and their suggestions on how it could be improved.

## General information

This section containing the demographic information like age, sex and education level of the FGD and KII participants as well as the ICT access and ownership patterns of the assessment participants.

## Demographic information

### FARMERS

The following table 2 provides the socio-economic and demographic profile of the farmers who participated in the post-assessment. All of the data presented here are averages.

Table 2: Socio-economic and demographic profile of farmers

| Sex                                 | Female | Male  | Total  |
|-------------------------------------|--------|-------|--------|
|                                     | N=5    | N=21  | N=26   |
| Age (years)                         | 42     | 46    | 45     |
| Education (years of schooling)      | 5      | 6     | 6      |
| Family members (No.)                | 6      | 5     | 5      |
| Male members                        | 3      | 3     | 3      |
| Female members                      | 3      | 2     | 2      |
| Earning members                     | 2      | 1     | 2      |
| Total household land (Decimal)      | 360    | 294   | 307    |
| Homestead                           | 79     | 53    | 58     |
| Cultivable land                     | 241    | 239   | 239    |
| Dependents                          | 4      | 3     | 3      |
| Monthly household Income (BDT)      | 20,530 | 9,504 | 11,624 |
| Monthly household expenditure (BDT) | 12,883 | 9,652 | 10,273 |
| Agri to total income ratio          | 5%     | 18%   | 15%    |
| Livestock to total income ratio     | 22%    | 1%    | 5%     |

### RETAILERS

**Sex:** All of the interviewed retailers were male. Due to social norms and practices in rural Bangladesh, women are often not considered to be 'business people', which is reflected in the participant composition.

**Age:** Of the two interviewed retailers in the pre-assessment, one was below thirty years old and the other one between 31 – 45 years old. For the post-assessment, two retailers were in the age range of 31 – 45, one was below thirty and other was more than forty-five years old.

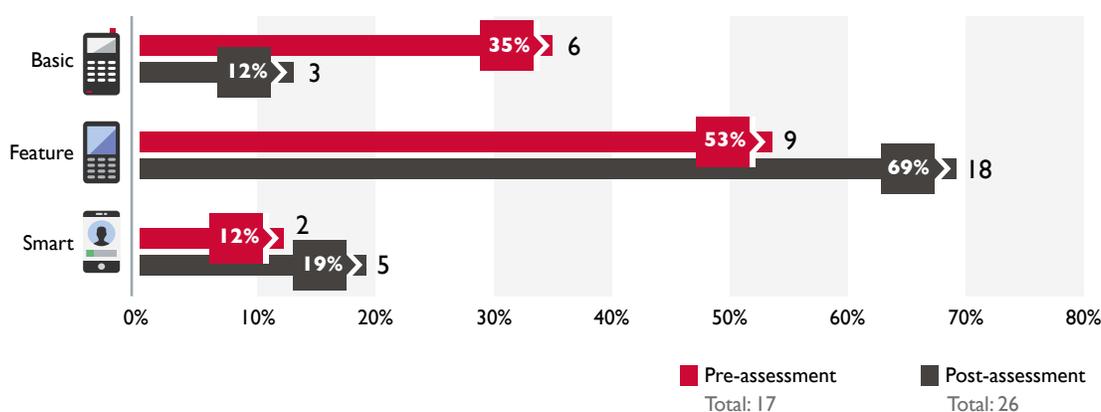
## ICT usage and patterns

It was commonly observed among interviewed farmers and retailers that they accessed and use mobile phones for communication and information purposes. This section describes the phone ownership, type of phone used by farmers and retailers, and purpose of phone usage.

### FARMERS

**Ownership and type of phone used:** It was noted during the pre-assessment that all but one farmer owned a phone, although that one farmer could access a phone from his household members. During the post-assessment, all of the interviewed farmers reported owning a phone. Figure 1 depicts the type of phones farmers use:

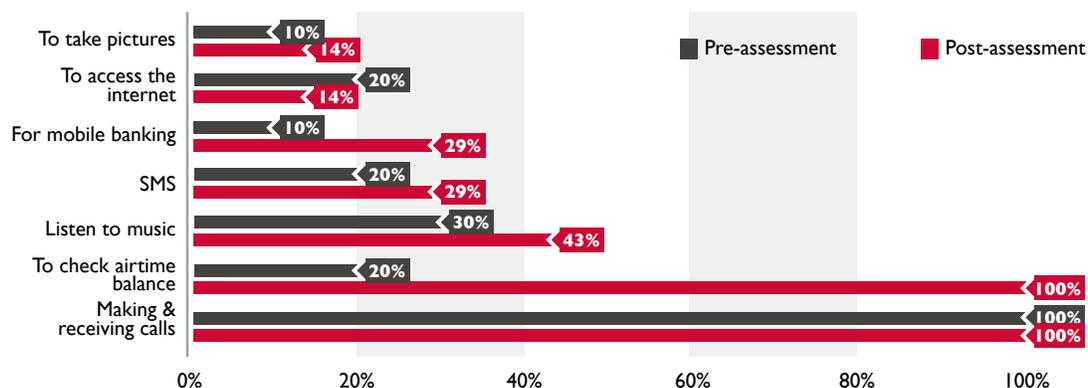
Figure 1: Type of phone used by farmers



As can be seen from the above, feature phones are the most common type phone used by farmers. Although the sample size was limited, ownership and usage of smartphones among farmers seemed encouraging.

**Purpose of phone usage:** It was noted that beside voice calls, farmer used their phones for other purposes, such as SMS, checking airtime balance, accessing the internet and some other purposes. Figure 2 shows the results from the pre- and post- assessment in terms of mobile phone usage.

Figure 2: Purpose of phone usage pre- and post- assessment

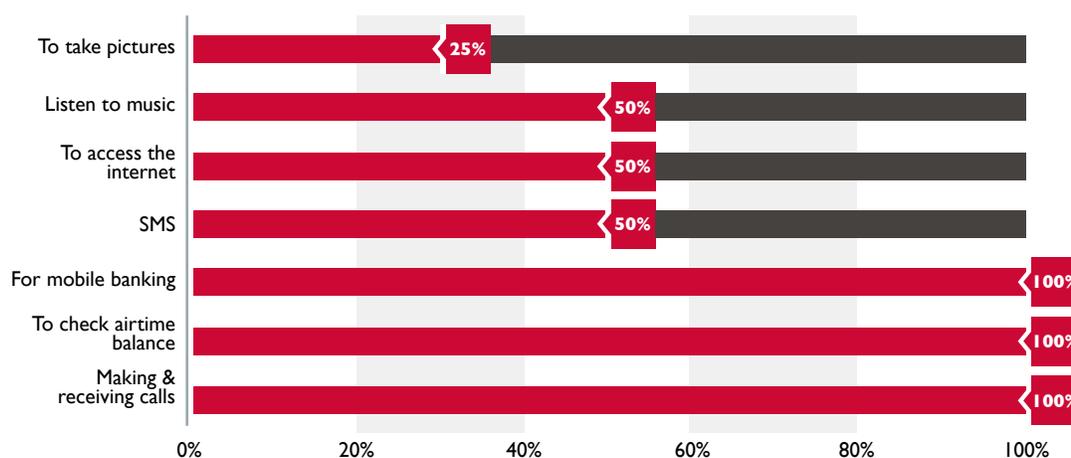


## RETAILERS

**Ownership and type of phone used:** It was noted during the pre-assessment that of the two interviewed retailers, one owned a feature phone and the other owned a basic phone. Post-assessment results revealed that since the interviewed retailers signed up with AESA, they all use smartphones since this is required to operate the NFC-enabled Android app needs to receive payments from farmers using A-Card. It should be noted that those smartphones were provided to the retailers by AESA. Beside that smartphone, retailers also owned and used phones for family and business communication purposes. It was noted during the post-assessment that besides the smartphone provided by AESA, all retailers used feature phones. Of these, one retailer owns both a feature and smartphone.

**Purpose of phone usage:** The post-assessment revealed that retailers' usage of phones included voice calls, as well as listening to music, using the internet, mobile banking and some other purposes. Figure 3 depicts the different ways retailers reported using their phones in the post-assessment.

Figure 3: Purpose of phone usage among retailers



## 3.1 Knowledge and Perception of DFS

### FARMERS

During the pre-assessment, it was noted that only 2 farmers had heard about agent banking. Some had mentioning hearing that it is possible to disburse money using a card but they did not know any details about agent banking. After availing the A-Card, a change in understanding was observed among the interviewed farmers. All of them reported their understanding about agent banking as a model that offered banking services for rural people and added that they learned about card payments and received small loans through A-Card. Farmers perceived that this service was useful for them due to its' terms and conditions. After the A-Card experience, 92% of the farmers in the post-assessment shared their positive interest to use other digital financial services, such as savings, shopping, utility bill payments, sending and receiving funds, using ATMs, and transacting through DFS at other transaction points.

Besides the A-Card service, usage of mobile financial services (MFS) was also discussed to understand the usage level of DFS more generally. During the pre-assessment, only one farmer had used MFS only for money transfer. On other hand, the post-assessment revealed that over half (54%) of the interviewed farmers had used MFS, mainly to receive local and foreign remittances and send money through over-the-counter (OTC) services. The remaining farmers who do not use MFS reported that they did not need to use it. Nevertheless, among those non-users, two farmers' families had *SureCash* accounts in order to receive education stipends for their children provided by the government of Bangladesh. It was also noted during the post-assessment that multiple MFS providers existed in the assessment areas, including bKash, ROCKET, mCash, UCash and SureCash.

#### RETAILERS

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During the pre-assessment, it was noted that neither of the retailers had any knowledge of agent banking and only one had ever seen a PoS device. However, they both expressed their positive interest to accept card-based transactions in their retail business, with preference for biometric security.

The post-assessment results revealed that all of the retailers understand agent banking and all of them were maintaining an agent banking account with Bank Asia. They were also all equipped with NFC-enabled smartphones for accepting payments in their Bank Asia merchant account from farmers who were using A-Card to making payments. In addition, all of the interviewed retailers were using MFS for person to person (P2P) transfers and mobile top-up.

### 3.2 Knowledge and Perception of A-Card

This section relates to farmers and retailers understanding of the A-Card service and its' offering, based on the post-assessment data gathering.

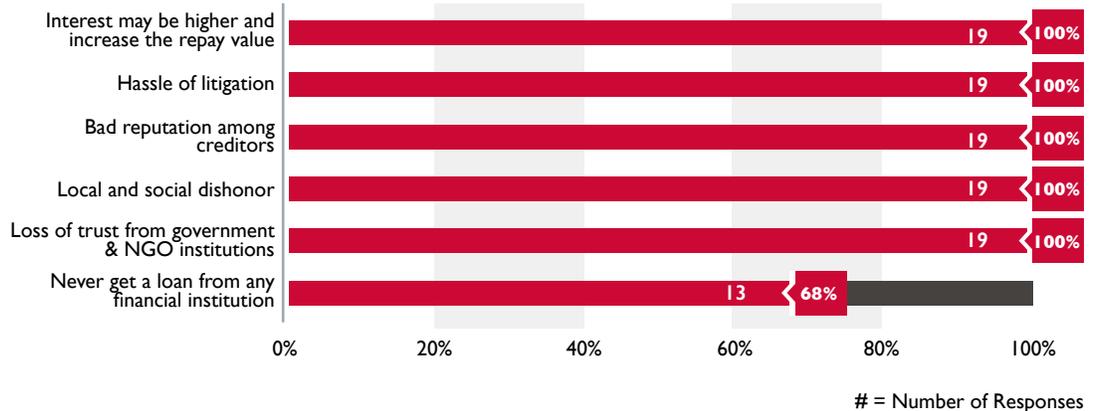
#### FARMERS

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All of the respondents reported that they paid BDT 10 (US \$0.12) to the MFI to open their agent banking account with Bank Asia. At this point it might worth mentioning that this falls under the government policy to allow farmers to open a Bank account with BDT 10 (US \$ 0.12) (popularly known as the Ten Taka account). This amount was deposited to the newly opened farmers own account and shown as balance. They also paid BDT 50-100 (US \$0.62 – 1.25) to SDC, the A-Card MFI partner in Faridpur, as a service charge for preparing and processing their documents for opening an account. All of the first batch of farmers included in this assessment received BDT 10,000 (US \$125) into their Bank Asia agent banking account in the form of an agricultural loan from Bank Asia. They were aware of the interest rate and repayment tenure, which was 10% annual with a six-month repayment tenure. Farmers reported that they paid BDT 10,500 (US \$131.25) after the six-month period. Though farmers reported their understanding of the interest rate, repayment terms, and conditions, 38% of respondents reported that they did not know whether they could repay the loans on an installment basis. This is likely due to the fact that they were encouraged by AESA to make a one-time payment after harvest. Similarly, all but one farmer reported that they were not aware whether they could save money in their Bank Asia account. As farmers were also given the option to open a savings account with the participating MFI and the MFI was the main interface with the farmers, it is likely that they promoted their savings products more than Bank Asia's, hence explaining the extremely low awareness of saving in their Bank Asia accounts. However, this assumption was not tested during the post-assessment.

Almost all of the farmers reported that they repaid the loan at one time; only one made his repayment in two installments. It was noted that all farmers were concerned about the consequences if the loan was not paid. The below table depicts their perception on the possible consequences if the loan was not repaid.

Figure 4: Consequence if loan is not repaid



One thing that was uncovered during the conversations with farmers was that they were generally unaware of any other services that could be used through their Bank Asia account. Only two farmers mentioned that they thought their accounts might be able to be used to receive foreign remittances and for savings. Also, the post-assessment data revealed that 85% of farmers expressed their satisfaction with A-Card. Common positive feedback included being able to purchase quality inputs at a fair price, its low interest rate, the flexible payback period linked to their cropping cycle, and social pride. Only 15% of A-Card users were not satisfied with the product due no provision for cash out, insufficient credit limit and slow processing of the loan.

#### RETAILERS

During post-assessment, all of the input retailers surveyed shared that they opened their merchant account with Bank Asia free of cost and all of them were aware of the transaction process. They discussed that most of the time they processed transactions using one-time password (OTP) verification for farmers as retailers used NFC-enabled smartphone to process the transactions, as those retailers did not yet have biometric devices. All retailers were aware about the cash withdrawal option from their merchant account, though they did not often cash out unless required for business transactions. However, it was noted that retailers did not have a clear understanding of the conditions for charges applied on cash withdrawal. Two retailers shared they paid a charge while withdrawing money from a Bank Asia agent banking point, which they interpreted as not being consumer friendly. On this point, it worth mentioning that Bank Asia does not charge a cash withdrawal fee for withdrawals made at the same agent where the account was opened. However, a fee is charged for withdrawals from other agent points. Of those two retailers, one was not clear about the exact amount charged and the other mentioned the charge was more than BDT 140 (US \$1.75) for BDT 50,000 (US \$625) withdrawal.

All retailers knew that they could save money by depositing automatically from their merchant account and it was observed that all of them registered with different savings scheme products offered by Bank Asia agent banking, although, they were not sure about the interest rate on their savings. Apart from savings, retailers did not avail any other services from their merchant account due to not having a clear understanding about the services. Likewise, all of the retailers shared that they do not know whether payment to their dealers for purchasing supplies is possible through their merchant account. While this is technically possible, it was not enabled for A-Card accepting retailers.

### 3.3 Perceived Benefits of A-Card

#### FARMERS

Of the farmers interviewed during the post-assessment, 92% stated their satisfaction with A-Card and expressed an eagerness to continue with the service. In a separate survey done by AESA, they found similar results, with almost all of their surveyed farmers expressing their satisfaction with using A-Card, in part due to increased social capital that they enjoyed due to holding A-Card. AESA's survey revealed that 43% of the surveyed farmers were highly satisfied with A-Card while 42% were moderately satisfied. The following reasons for their satisfaction were commonly observed in both the mSTAR/B and AESA administered surveys:

- » More convenience due to low interest rate, no collateral requirement (unlike traditional bank loans)
- » Longer payback period with flexible terms and conditions, unlike MFIs' weekly repayment requirement
- » Secure transaction method
- » Timely access to quality inputs at fair prices
- » Social pride

A more detailed examination of some of the most commonly expressed benefits by farmers during the mSTAR/B administered post-assessment are included below.

**Low interest and suitable tenure:** A common observation from previous assessments was that farmers require loans during their planting season. The pre-assessment results revealed that more than half (59%) of the farmers accessed loans from MFIs with around 25% annual interest rates and weekly repayment for 46 to 52 weeks. During the pre-assessment, two farmers were also found who took agricultural loans from a bank with 12% interest and two-year repayment period. Despite the low interest rate offered by banks, it was observed that farmers generally do not consider applying for traditional agricultural loans from banks due to collateral requirements and long processing times, particularly given the small loan size they require. Thus, MFIs were perceived as being more convenient for them.

The post-assessment result revealed that farmers felt the repayment for A-Card was more flexible compared to MFIs, which require weekly repayment in most cases. All farmers reported that they enjoyed the lowest interest rate ever offered to them for microcredit and the flexible repayment terms and conditions.

**Purchase quality inputs:** From the pre-assessment results, it was found that most (76%) of the interviewed farmers made their agricultural input purchases partly in cash and partly on credit from the retailers. Lack of available funds was a major challenge to accessing quality inputs.

The post-assessment results revealed that almost all farmers (96%) made their input purchases with full payment using A-Card. Around three-quarters (73%) reported that they purchased quality inputs as they were no longer dependent on credit from retailers, who would often push them to buy certain products. Also, 81% of farmers reported that they received a small discount on the price of inputs since they were paying in full, and sometimes making bulk purchases due to greater availability of cash. As a result, 88% of the farmers surveyed shared that having funds available through A-Card resulted in timely application of necessary inputs.

**Production and selling behavior:** The post-assessment data showed that 50% of farmers reported cultivating jute followed by Boro rice (25%) and vegetables (25%). In comparison to the last cropping season, farmers reported production increases of 5.5%, while production costs increased 4.4%. While it is possible that the requirement that farmers use their loans to purchase quality agricultural inputs contributed to these changes, it is not possible to prove at this time. The respondents also reported that sales price of their products increased 15% over last year as they had more flexibility about when to sell. During the pre-assessment, 71% of interviewed farmers reported that they could not sell their produce at an ideal time due to immediate cash needs to pay back their debts, as well as limited options for storing crops for a month or more.

For those farmers that did have access to storage, the post-assessment revealed 35% of farmers reported being able to receive a higher price for their crops by storing them for a month or two after harvest before selling. It was also noted by some farmers that they could not store crops due to limited storage facilities.

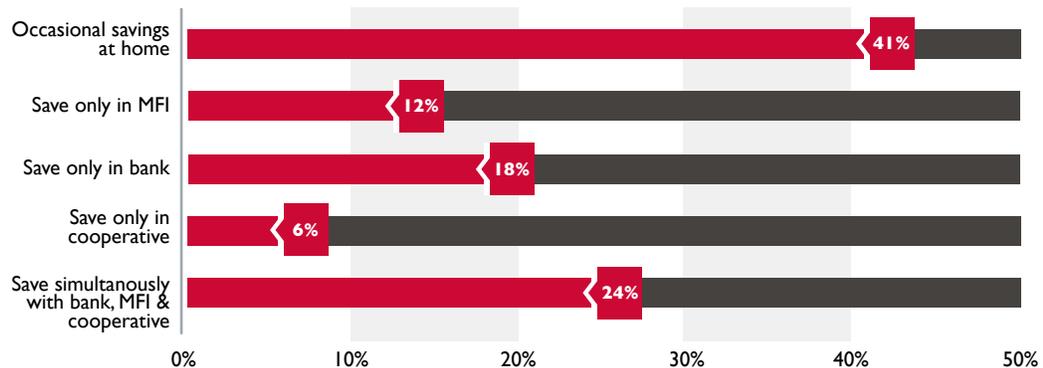
**Storing money:** During the pre-assessment, the results revealed that all farmers commonly reported that they usually kept money at home for purchasing inputs and household groceries so that the money could be easily accessed.

Since by design, farmers were explicitly informed that they could not withdraw money from their Bank Asia account using A-Card, the post-assessment found that they kept their money in their accounts. Farmers reported their realization that through A-Card they could store money easily without the need to carry cash. In fact, although a small minority of farmers (15%) knew that they could withdraw cash from their accounts, they did not avail that service as they perceived the digital wallet as safer than carrying cash.

**Savings behavior:** During pre-assessment, it was noted that 24% of farmers had savings simultaneously with banks, MFIs and cooperatives, while 12% saved only with an MFI, 18% saved only in a bank through a deposit pension scheme (DPS) and 6% saved only with a local cooperative. A significant number of farmers (41%) reported that they could save money occasionally at home to meet family urgency as well as to meet cultivation costs.

During post-assessment, it was noted that farmers were continuing the same practice as found in the pre-assessment. Although AESA gave participating farmers the choice to decide whether they wanted to maintain savings accounts with Bank Asia or the local partner MFI—in this case, SDC—it was observed that farmers mostly chose to save with SDC. Though interestingly, a significant number (46%) of interviewed farmers shared their positive interest to save money with their Bank Asia agent banking account if they could access it more easily and had more transaction points where they could use their A-Card.

Figure 5: Saving behavior of farmers (pre-assessment)



**Less travel:** During the pre-assessment, farmers reported needing to travel from three to ten kilometers to visit the nearest bank branch or MFI for collecting loans and repayment. Though MFI staff visited farmers' homes to collect repayment installments, some (18%) farmers reported that they visited the MFI's office every month for their repayment and to clear due installments. It was commonly noted that farmer travelled often more than one time in a month to collect and deposit cash at the bank and/or MFI. Those trips took 30 – 90 minutes round trip and cost BDT 30 – 50 (US \$0.37 – 0.62) round trip.

During the post-assessment, it was observed that farmers reported only having to travel once in the six-month period make their repayment at a Bank Asia agent banking point. Comparing earlier times of travel that occurred every month, farmer reported that A-Card reduced their travel frequency. However, it was noted that due to the unavailability of Bank Asia agent banking points, farmer reported the need to travel anywhere between four and twelve kilometers, which took 30 – 90 minutes and cost BDT 30 – 80 (US \$0.37 – 1.00) round trip. Thus, there was not significant cost reduction observed per trip, however since they now only had to travel once in a six-month period, compared to monthly, there were aggregate savings of time and money.

**Safe mode of transaction:** During the pre-assessment, all farmers mentioned that usually they made their transactions in cash. The major advantages of cash transactions they reported are its universal acceptance, easy access to cash, and speed for making transactions. However, they also understood that cash carries risks of theft and counterfeit notes.

The post-assessment revealed that almost all of the farmers (96%) mentioned that A-Card was safe due to less risk of carrying cash and no fear of counterfeit money. Also, they observed it was more secure as it had a two-layer security process, consisting of their PIN and one-time password or fingerprint, thus no one could use the card even it was lost or stolen. They recognized A-Card as more safe than cash.

**Easy access:** During the pre-assessment, farmers mentioned that they could access loans easily from MFIs, but they had forced savings requirements and high interest rates. On the other hand, banks offered lower interest than MFIs but required collateral for availing loan. Thus, farmers could not help but access loans from MFIs.

During the post-assessment, all farmers recognized that unlike traditional bank loans and MFI loans, farmers did not need any forced saving or any collateral to avail loans through A-Card. Also, while women traditionally find it difficult to access bank loans, AESA found that 57% of A-Card total number of loan recipients through July 2017 were women.

**Easy repayment process:** The pre-assessment revealed that farmers deposited repayment installments at the bank branch or they were collected from them directly at home for MFI loans. For traditional bank loans, repayment was required monthly and for MFI loans it was weekly. If one installment was missed, they also had to pay some extra charges.

In contrast, through A-Card farmers had to make only one single repayment at the end of the six-month repayment period. To place the repayment, farmers visited their nearby Bank Asia agent banking agent point or Bank Asia bank branch, and showed their A-Card to repay the money. They received a receipt against their repayment transaction. All farmers reported that the process was easy for them to use.

#### RETAILERS

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During the pre-assessment, all of the interviewed retailers reported selling inputs partly in cash and partly on credit. They had to wait two to six months for farmers to repay them and often had to travel to collect the money from farmers. With the transition to accepting A-Card, they received payments instantly and in full, with the funds being directly deposited into their merchant bank account with Bank Asia.

All retailers voiced their satisfaction with using A-Card to receive payments and they were keen to continue with the service. They felt that accepting this new payment method led to increased recognition by society. In addition, accepting digital payments led to increased customers, sales and profits, which they want to continue in the future. They also reported that this transaction method benefitted them by receiving instant payment and easy access to those funds. AESA found similar findings from data collected from a larger sample size of thirty retailers. The following provides further examination of the benefits expressed by the retailers interviewed in the pre- and post-assessments carried out by mSTAR/B.

**Ease of transactions:** All of the retailers surveyed in the post-assessment reported being able to access money from their accounts whenever required. On average they withdrew money from their merchant accounts anywhere from a couple of times a week to once a month, with the cumulative withdrawal amounts during the six-month pilot period ranging from BDT 100,000 – 800,000 (US \$1,250 – 10,000) per retailer. To withdraw money, retailers travelled to their nearby Bank Asia agent banking point. The location of agent banking points from the retailers varied fairly significantly, from less than 1 kilometer to 20 kilometers away, which took anywhere from 10 – 60 minutes and cost BDT 30 – 40 (US \$0.37 – 0.5) to reach round trip.

**Increased sale of quality inputs:** In the pre-assessment, all retailers reported that due to credit sales they often could not offer quality inputs to farmers. Retailers would only sell higher quality inputs to those farmers who paid the full price at the time of purchase.

The post-assessment results revealed that of all the interviewed retailers reported an increase in the sale of high quality inputs as farmers could offer them instant payment. Thus, retailers were also interested to sell quality inputs and take those farmers as regular customers.

Similar findings were also observed by AESA, which found that input retailers they surveyed reported increases of 20% in sales compared to the previous year due to A-Card.

**Regular savings:** Of the interviewed retailers, it was noted during the pre-assessment that one retailer saved seasonally in a bank account, while another retailer did not have a bank savings account.

Of those retailers surveyed during the post-assessment, all of them were maintaining regular savings accounts in the form of deposit pension scheme (DPS) accounts with Bank Asia. The monthly savings installments were automatically deposited from their merchant account to the DPS account. All retailers shared their expectation that since their transaction histories were saved due to digital transactions, it could bring more opportunities in the future for them to access low-interest rate loans for business capital.

**Less travel:** During the pre-assessment, retailers mentioned that they needed to travel to visit farmers to collect outstanding payments, which took almost one business day. Sometimes they had to urgently visit farmers to collect money in order to make payments to their dealers. Although they did not report any costs for this travel due to using their own transport or walking.

During the post-assessment, it was found that the reduction in sales on credit due to A-Card meant that they did not need to spend as much time traveling to collect outstanding payments.

**Safe mode of transaction:** During the pre-assessment, the two interviewed retailers reported that they felt safe to transact with cash as it was a common mode of transaction. However, they shared that there were risks with cash, as it could be stolen and potentially put them at risk of physical danger if they were robbed. One of those retailers also previously experienced receiving counterfeit notes.

During the post-assessment, all of the interviewed retailers recognized digital payments as a safe transaction method, and also found saving money through a digital channel to be safe. They noted that less cash handling also reduced the risk of receiving counterfeit and torn money, as well as from theft. Moreover, they felt that the security authentication process added additional security.

**Reduced credit sales:** During the pre-assessment, the retailers reported that 20 – 30% of their sales were on credit, which usually were not repaid for two to six months after the sales date. As a result of accepting A-Card, all of the retailers from the post-assessment reported that a reduction in sales on credit, which benefitted them by early return on their investment.

**Increase in number of customer and sales:** All of the retailers from the post-assessment reported observing 5 – 10% more customers than before, which resulted in increased sales and income. This is likely due to the fact that farmers could only use their A-Card to make purchases at retailers who had signed up to accept A-Card payments, which resulted in new customers who may have previously used a different retailer when paying in cash or buying on credit.

### 3.4 Challenges Associated with A-Card

Farmers and retailers expressed a number of challenges that they faced with using A-Card, which are listed below.

#### FARMERS

Despite being widely satisfied with A-Card, farmers did still face some challenges and concerns with the product and its implementation.

- » Some of the farmers understood that A-Card would come with an over-draft facility, although this was not the case. While this was never the intent of A-Card, this shows that perhaps some of the messaging relayed to farmers was unclear.
- » All of the farmers reported that restricting purchases only to select retail points created limited options for farmers to transact with other retail points. A significant portion of farmers (62%), reported that they had to visit A-Card retailers several times to purchase input due to unavailability of quality input stock. AESA discovered similar findings in conversations with some farmers in May 2017.
- » Some of the farmers mentioned dissatisfaction with not being able to withdraw cash from their A-Card associated account to pay for other costs, such as labor, fuel, and irrigation. While this was technically possible, AESA and Bank Asia restricted cash withdrawals as they wanted to make sure that all farmers used the loans only to purchase inputs. Despite this, there were a few instances where retailers apparently allowed farmers to receive cash back from their purchases, although this practice was not officially sanctioned.
- » Most of the farmers (88%), felt that the processing time was long and two farmers reported receiving loans at a time that was not appropriate for purchasing inputs for cultivation. As the farmers surveyed in the post-assessment were from the first batch, there were still some kinks in processing at that time. A survey of a larger sample, including those from subsequent batches, conducted by AESA in May 2017 found that only 15% of farmers were concerned with the processing time. This shows likely improvement in processing the first and subsequent loan batches.
- » Just over half (54%) of farmers surveyed confronted difficulties opening their account as they had to travel several times to submit documents required to open their account and process the loan. Opening an account required their photograph, a nominee's photograph, and full KYC forms, which took time to prepare and process. As with above, some of this was likely due to this being the first batch of loan recipients.
- » Just over three-quarters (77%) of the farmers felt difficulties during purchasing inputs due to network problems, which led to transaction failures. AESA found similar challenges with network stability in their May 2017 survey. Some farmers (18%) also faced retailers who were not ready to receive payments using their NFC-enabled smartphone due to lack of confidence, although this was likely due again to this being the first batch. In one instance, A farmer also reported being charged BDT 10 extra by the retailer to accept the payment.
- » In terms of loan repayment, 35% of farmers confronted challenges due to the far distances of the nearest Bank Asia agent banking point or bank branch. As Bank Asia continues to expand its agent banking footprint, this challenge will likely fall. When the first loans were disbursed in August 2016, Bank Asia only had 866 agent points nationwide, compared to 1,260 as of August 2017.

- » Some farmers also expressed concern that the loan disbursement timing was delayed therefore did not cover a full season since they received their loans in the middle of a season, with repayment due in the middle of another season. Thus, it was difficult for them to repay. However, AESA has reported that this problem was mostly been solved in subsequent batches.

#### RETAILERS

Despite perceiving of all the above-mentioned benefits, retailers confronted some difficulties during using A-Card. The difficulties they mentioned are as follows:

- » While using the Bank Asia agent banking platform, all retailers had experiences confronting network errors which hindered the verification process.
- » The OTP was not always received by the farmer from the system. Therefore, in those instances they could not successfully complete the transaction.
- » Sometimes the biometric devices at the Bank Asia agent points did not function, which delayed retailers ability to withdraw funds from their accounts.
- » In some instances, farmers tried to make purchases before the loan amount was available in their accounts.
- » One retailer noticed that account statements do not show the transaction details of cash withdrawals from the agent point, thus he could not tracked his transactions properly.
- » Sometimes farmers thought that retailers were charging more due to the fact that there were a limited number of retailers who accepted A-Card payments, which was not comfortable for those retailers.

### 3.5 Opportunities for Further Improvement

During the post-assessment, farmers and retailers were also asked for suggestions on how the A-Card could be further improved. The most common findings are presented below in more detail.

#### FARMERS

**Desire for other services:** Although none of the interviewed farmers reported saving with their Bank Asia agent banking account, close to half (46%) of respondents expressed their positive interest to do so. On the contrary, 31% thought it would not be worthy to save with their Bank Asia agent banking account due to limited transaction points. The remaining 23% of farmers did not have an opinion.

**Product revamping:** Almost three-quarters of farmers (73%) asked for larger loan amounts, suggesting that it should not be less than BDT 20,000 (US \$250) in order to cover the full costs of purchasing inputs. It should be mentioned that subsequent batches of farmers did receive up to BDT 20,000 (US \$250) in loans. In addition, 58% of farmers felt that the account should also have an over-draft facility. While, 23% of the farmers thought that there should be allowed to withdraw cash from their accounts, this was deliberately not allowed due to AESA's desire to ensure that the total loan amount was used to purchase inputs from participating retailers.

**Loan repayment term and conditions:** Most of the interviewed farmers (85%) felt that the tenure should be more than 6 months, with most suggesting a one year tenure so it could cover multiple cropping seasons to offset risk of default due to loss from natural hazards in a single season. Beside this, some farmers also wanted to be able to make repayments in two or three installments instead of a single repayment, as they felt this might be more convenient for them.

**Lower interest rate:** Though most farmers reported their satisfaction with the present loan interest rate, some shared that Bangladesh Krishi Bank (BKB) was offering subsidized loans to farmers with only a 4% annual interest rate. However, in reality, most farmers do not avail the loans from BKB due to the paperwork requirements, such as having to submit original copies of their land agreements, and other unofficial fees which they are apparently charged by some bank officials.

**More transaction points:** All farmers suggested that there should be more transaction points to use the A-Card and that it should not be limited only for input purchases. They explained that there should be an option to use the loan amount for fuel, labor and other costs.

**Improved awareness raising:** Many of the farmers mentioned they were not clear about the full offerings of A-Card. They felt that it would have helped to have provided them with a more detailed orientation so that they fully understood the product and how to use it.

#### RETAILERS

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As with farmers, retailers also had several suggestions for how to improve A-Card for the future.

**Ease of cash out process:** All but two retailers mentioned that Bank Asia should not charge for cash withdrawals, even from different agent locations. They wanted the service free of cost.

**More channels for retailers:** All retailers mentioned that it would be great if they could make payments to dealers and input companies digitally for purchasing supplies. It would also reduce their travel to the agent point to withdraw cash.

**More purchase options for farmers:** Retailers mentioned that some farmers mentioned to them that they should be able to use A-Card for other purchases besides just purchasing inputs from retailers, since farmers still need to pay cash for many of their other purchases.

**Increase awareness:** All retailers discussed that it was important to initiate some activity to increase awareness among farmers so they understood A-Card better. They suggested that village campaigns and television advertisements could be used to enhance awareness.

**Farmer selection:** One retailer raised the point that for the A-Card service, farmers should be selected by retailers as they are closely and directly connected with farmers. They have long-term relationships with farmers and could suggest the best farmers for the loan product, although this could be a conflict of interest, as retailers may be inclined to push more loans to increase their sales.

**Curtail expansion of the service:** Since the number of customers using A-Card was still relatively low, there was concern that if additional retail points were added that their sales could decrease. Therefore, every retailer suggested keeping the same number of retailers for now, and only increasing the number as loan recipients increase.

## MFI

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An interview was also conducted with the local A-Card MFI partner in Faridpur, Society Development Committee (SDC), who were responsible for helping to open accounts and providing support to farmers. SDC has suggested expanding the loan facility for livestock and fisheries as it seemed opportunity for more adoption among farmers. They shared the following observations and concerns for future operation of A-Card:

- » SDC was concerned about the operational cost required to continue A-Card after the end of AESA. In order to execute the A-Card pilot, SDC received support in terms of a dedicated employee and capacity building training that were funded by AESA. At the beginning of the pilot, they received only a 1% commission from Bank Asia for their role onboarding new loan recipients. They shared that without a higher commission it would be hard for them to continue to offer their full support. Given changes to the interest structure for agricultural loans, as permitted by Bangladesh Bank, Bank Asia recently raised their commission to 1.5%, although it is still to be determined if SDC and other MFI partners will find this new rate fully sufficient. It is also worth mentioning that during the post-assessment, farmers reported being charged an additional BDT 50 – 100 (US \$0.62 – 1.25) by SDC to open their Bank Asia agent banking account, which they used to cover operational costs, such as photocopies for the national ID card (NID), printing farmers' photos and so on.
- » The A-Card should come with an over-draft facility as they had originally understood. They reported that this was not possible due to technical difficulties and business case considerations on Bank Asia's end.
- » The loan processing time is lengthy and it required a lot of paperwork, including NID copies, photographs, and other documents that were part of the loan application, which were often completed with the farmers in their field. Preparation of all of these documents took time and made the process long. SDC suggested that once farmers were registered with Bank Asia, that future applications should only require the farmer's registered ID number without additional paperwork.
- » SDC shared that in their capacity as agent points they were not informed properly about the A-Card linked loans, including information on the interest rate and full repayment amount required. Bank Asia should improve the communication with its agent points in this regard.
- » Bank Asia should provide insurance coverage for A-Card loans in case of default.

## 4 / Success Factors and Overall Benefits

The following are the major drivers to the success and perceived overall benefits of the A-Card initiative, which were observed in the AESA study that was conducted in August 2017. These findings are separate from the mSTAR/B led post-assessment, which did not look into these in detail, thus mSTAR/B cannot independently verify their validity.

Based on AESA's findings, the following are the main factors associated with the initial success of the A-Card pilot:

- » The use of credit officers by partner MFIs with agricultural backgrounds is considered a significant success factor for agricultural lending. They are able to provide crop production training as well as training on value-chain based business planning to the farmers to encourage improved practices and higher production.
- » Agent banking networks, NFC-enabled debit cards, and a smartphone PoS app for retailers are the main cost-reduction attributes of the A-Card model, which enables less costly agricultural lending to smallholder clients.
- » Agricultural input retailers are generally used to selling their products in cash or on credit and have very limited knowledge about the use of ICT for their businesses, therefore, it is important to provide them with the right support to ensure their comfort and capacity.
- » In order to introduce agricultural lending, MFIs needed huge motivation as this was almost a 'cultural shock' for them to be involved in the planning and implementation in partnership with a private commercial bank. They also required high-level management commitments, creative thinking, realistic growth targets and a readiness to adjust terms and practices.
- » It is very important to organize the farmers initially under a project framework, as this made it easier for the bank to feel more comfortable lending to this new client segment since they could be sure that each farmer had been training on adopting improved agronomic practices and therefore were potentially lower default risks.

Based on the first year of implementation, the following overall benefits can be distilled from the implementation of A-Card, according to AESA:

- » It provided an opportunity for a commercial bank, in this case Bank Asia, to have a competitive edge with a new product in the rural agricultural lending market. For MFI partners, it provided an opportunity to partner on a diversified agricultural lending product with a commercial bank.
- » The introduction of agent banking operations in rural areas has made it possible for unbanked smallholders to become account holders. The farmers now have access to digitally-enabled financial services, which is facilitating their engagement with the agricultural lending market.
- » The piloted activity created ample scope for further adaptation, revision and expansion of the A-Card model in wider scale across the country. It could potentially serve as a model for replication by other commercial banks that are offering agent banking in Bangladesh as well.

# 5 / Recommendations for Scale Up

For more effective adoption among farmers, some refinement of the existing A-Card product is necessary to overcome existing challenges as identified by the stakeholders. Based on that, we suggest making the following changes a priority before scaling up A-Card:

- » **Bigger loan amounts with over-draft facility:** Observing the loan usage and feedback from stakeholders, it may be worth further increasing the loan amount as well as considering offering an over-draft facility tied to the account. The over-draft facility may be particularly useful for farmers who are not able to fully anticipate their expenditures in advance when applying for a loan. It could also lead to lower interest rates for some farmers, as a few farmers were found to have not fully used their loan amounts. In those cases, they still had to pay interest on the full loan, whereas with an over-draft they would only pay interest on the amount they withdrew.
- » **More transaction points with expanded sector usage:** Bank Asia should consider increasing the number of transaction points, as well as expanding the A-Card loans for livestock and fisheries farmers, perhaps tied to seasonal savings schemes.
- » **More awareness raising activities:** More awareness raising activities are required for training for agent banking agents, retailers and farmers, as many of them were still not completely aware of all of the details associated with A-Card.
- » **Seasonal savings with interest:** Considering the seasonal income of farmers, a small and flexible savings scheme with interest tied to the A-Card might be attractive to enhance farmers' savings behavior.
- » **Reconsideration of revenue sharing model:** Revenue sharing among Bank Asia and the participating MFIs is critical, as the MFIs play a crucial role in the implementation of this model. The one MFI partner interviewed during the post-assessment shared their concern with covering operational costs associated with A-Card after AESA project's completion. Thus, Bank Asia may need to reconsider what the revenue sharing model looks like moving forward to ensure that its MFI partners are fully motivated to continue.
- » **Develop a sustainability plan:** Bank Asia mentioned that they were able to reach a significant number of new rural clients through A-Card and expressed their interest to scale up without any development project assistance. Given the present operational model, however, it would be hard for Bank Asia to reach a significant number of new farmers using the same loan terms without the help from development projects to identify strong candidates to receive loans. Thus, before the AESA project ends, it may be worthwhile for the project, along with Bank Asia and the existing MFI partners to develop a plan to make this initiative sustainable. This plan could also potentially serve as a guide for other formal financial institutions to better serve smallholder farmers, should Bank Asia be comfortable with sharing it.

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ASSESSING  
THE IMPACT  
OF

# Digitally-Enabled Microcredit for Smallholder Farmers

*Findings from the A-Card pilot initiative*

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