Research Application Summary

Financing innovations for agricultural credit facility policy challenges in Uganda. Contextualizing the usefulness of the Decision Enhancement Credit Facilitation Approach (DECFA) for farmer financing

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Abstract

This paper outlines financial innovations that can generate controlled, quality and timely data on the credit management practices of smallholder farmers in Uganda, ideal for policy makers to strengthen the design and implementation of contextual agricultural financing policies. These financial innovations ensure that smallholder farmers are included in accessibility of financing opportunities as they are traceable and compliant to repayment. This would counteract agricultural credit facility policy challenges of poor record keeping by farmers, lack of collateral security and delayed loan processing as a result of delayed farmer verification. The paper evaluates the usability of the Decision Enhancement Credit Facilitation Approach (DECFA), a financial innovation in generating contextual and timely credit facilitation data from the smallholder farmers organized in Agricultural cooperatives in Uganda. The results from the usability evaluation indicated that the approach was useful for generating information to counteract Agricultural Credit Facility challenges in Uganda.

Key words: Agricultural Credit Facility Policy, DECFA, farmers, Uganda

Résumé

Cet article décrit les innovations financières qui peuvent générer des données contrôlées, de qualité et opportunes sur les pratiques de gestion du crédit des petits exploitants agricoles en Ouganda, idéales pour les décideurs politiques afin de renforcer la conception et la mise en œuvre de politiques de financement agricole contextuelles. Ces innovations financières permettent de s'assurer que les petits exploitants agricoles sont inclus dans l'accessibilité des opportunités de financement car ils sont traçables et respectueux des remboursements. Cela permettrait de contrecarrer les défis de la politique de facilité de crédit agricole, à savoir la mauvaise tenue des dossiers par les agriculteurs, le manque de garanties et les retards dans le traitement des prêts en raison de la vérification tardive des agriculteurs. L'article évalue la facilité d'utilisation de la Decision Enhancement Credit Facilitation Approach (DECFA), une innovation financière permettant de générer des données contextuelles et opportunes sur la facilitation du crédit auprès des petits exploitants agricoles organisés en coopératives agricoles en Ouganda. Les résultats de l'évaluation de l'utilisabilité ont indiqué que l'approche était utile pour générer des informations afin de contrer les défis de la facilité de crédit agricole en Ouganda.

Mots clés : Politique de Facilité de Crédit Agricole, DECFA, agriculteurs, Ouganda

Introduction

The Government of Uganda recognizes that over 72 % of the Ugandan population is employed in agriculture (UBOS, 2013).Thus, the agricultural sector was identified as central in poverty reduction, as majority the farmers in Uganda cultivate on small- scale and are characterized by financial challenges (WorldBank, 2014). These challenges range from poor financing systems, declining financial support for cooperatives, limited tailor-made agricultural technologies, high capital and labor costs, inadequate research ,among others (AGRA, 2016). In an effort to address this situation, there has been increased public financing for the sector since the financial year 2009/2010 (CSBAG, 2014). However, this public financing was not sufficient compared to the financial requirements of the agricultural sector and as such, the Government of Uganda had to rally further financing for increased productivity, from private partners.

It is upon the above background that the Government in 2009 signed a Memorandum of Agreement with the Participating Financial Institutions (PFIs) which initiated the Agriculture Credit Facility (ACF) guided by policy (MFPED, 2018).The Agriculture Credit Facility was intended to facilitate the provision of medium and long term loans to agricultural and agro-processing projects on more favorable terms than are usually available from the PFIs that directly lend to customers. The eligible projects included agricultural machinery, post-harvest handling equipment, storage facilities, agro-processing and any other related agricultural and agro-processing machinery and equipment (CSBAG, 2014). Agricultural inputs required for primary production were also considered as long as they did not exceed 20% of the total project cost for each eligible borrower. The ACF operates on a refinance basis in that the participating financial institutions disburse the whole loan amount to the client and then apply to Bank of Uganda (BOU) for interest free re-embursement.

The Agricultural Credit Facility policy enacted was timely support to farmers' credit extension challenges, however, the agricultural sector has been posting poor growth of less than 2% per annum for the last four (4) years, i.e., 2013/ 2014 to 2017/2018 (CSBAG, 2014) even with the intervention. This implies that despite the sector's indispensability in spurring growth existing policies and interventions like the agricultural credit facility were not providing dividents. This makes Uganda's much celebrated growth strides especially in solving agricultural finance unlikely. This poor growth could be attributed to the challenges of implementation of the ACF Policy as highlighted by the policy brief (MFPED, 2019). The major challenges of the ACF Policy implementation include: delays in loan processing due to long procedures of creditor verification; inadequate funds disbursed compared to credit needs; lack of collateral security from farmers due to land tenure issues and the nature of agricultural systems which is smallholder; and poor record keeping by farmers due to lack of recording mechanisms and training.

These challenges were previously empirically confirmed to affect agricultural performance (ACORD, 2010; Danso, 2016) but also dependent on access to quality and timely information, invariably from the majority of the farmers in Uganda who are rural-based and operate on small-scale. It is also worth noting that technology supported-innovations have been able to enhance information quality and collection in other domains of agriculture (Lubega *et al.,* 2019) like marketing and pricing. However, less empirical studies have been undertaken in the case of financial innovation targeting counteracting agriculture financing gaps. The paper examines the usefulness of the Decision Enhancement Credit Facilitation Approach (DECFA), a financial innovation to generate relevant and timely information that can improve the ACF policy implementation.

The DECFA is a six-suited practical innovation solution conceived and designed out of the credit facilitation decision challenge experienced by smallholder farmers' in agricultural cooperatives in Uganda (Ahabyoona *et al.*, 2019). The DECFA' six suites are user management, internal capitalization, external capitalization, credit terms, credit screening and credit reports.

Prior to the design of the DECFA, the decision challenges confirmed empirically using an exploratory study included: ill-structured processes in setting the cost of subscription that undermined technical stakeholder involvement limited formal structuring in selecting providers for external credit, insufficient information to select optimal sources of credit capital for cooperatives and thus cooperatives looked more on internal capitalization instead of establishing structures that would attract and interest external investors. Other constraints were lack of credit duration setting structures, credit limits specified terms for the borrowers and the varying lending rates utilized. These constraints comprised the predictability of the returns to the cooperatives but also made credit for lending unavailable at the peak times of the agricultural seasons. Thus, there emerged lack of an all-encompassing credit application decision tool that would capture all relevant credit assessment information including making optimal credit acceptance and rejection decisions in relation to time. Absence of credit notification guidelines, credit reporting for both in-lending and out-borrowing was inconsistent and untimely and this affected decision-making (Ahabyoona, *et al.*,, 2019).

These challenges placed agricultural cooperatives as financially high risk ventures. This concern motivated the design of the DECFA which is hosted and available on www.decfastudio.com with over 500 farmers and farmer stakeholders (Lubega *et al.,* 2019). Thus, an evaluation of the usefulness of the DECFA was needed to provide ACF policy guidance. Hence the objective of the study was to evaluate the usefulness of the DECFA in generating quality information for the Agricultural Credit Facility Policy.

Methodology

To address the study objective, an evaluation study was conducted amongst four agricultural cooperatives in Kamwenge district in Western Uganda. These were selected purposively with a bias to those utilizing the DECFA and the selection was supported by the case study method as a naturalistic method that supported the evaluation studies. The agricultural cooperatives were Bwizi, Nkooma, Tukolerehamwe and Nyabbani. The participants were selected using stratified sampling method in order to comprehensive cover all the four cooperatives.

The criteria used for the evaluators to be part of the process included: i) Signing an evaluator consent, ii) being registered in one of the four cooperatives and these had to be involved in credit facilitation, iii) willingness to interact with technology either with the smart phone or computer, and iv) having rights to share the cooperative information in the DECFA. A total of 116 respondents were involved in the study, composed of cooperative managers, cooperative members and domain experts. A convergent mixed research design was adopted as this supports using of quantitative and qualitative methods of data collection which supports triangulation (Creswell, 2014). Data collected from the respondents were sorted, coded and data exploration done using SPSS version 22. Descriptive statistics such as frequencies, mean, and standard deviation were used to generate reports for discussion. Triangulation of the quantitative data was done using the qualitative data extracted from managers during individual interviews.

Results and Discussion

Analyzing the response rate of the participants before undertaking an evaluation exercise for the DECFA is very vital as it provided the confidence of the results established. Mugenda and Mugenda (2003) have previously posited this fact and recommended that 70% is ideal response rate. In this evaluation exercise, a population of 116 participants from four agricultural cooperatives met the participants' criterion. This provided a 87.9% response rate that justified the results from evaluation and this reflected the commitment towards the DECFA.

The participant demographics revealed that 29% of participants were from the finance office of the cooperatives, while the other participants were from the positions of chairperson, manager and members accounted for 24%. This study confirms the importance attached to the DECFA but also raises the need to unpack the term respondents to establish the value attached to the DECFA by each category of stakeholders. In the evaluation the term manager was used to mean, all officers in a cooperative who were decision makers in the credit facilitation process. Under this term there were managers, board members, annual general meeting representatives, finance persons and secretaries. These titles were used interchangeably across the different agricultural cooperatives surveyed and therefore understanding the particular positions was vital in deciding whether the cooperatives used the DECFA or not.

Demographics findings also presented the type of gadget used to access the DECFA, that is, computers and mobile phones. The results revealed that 41% of the participants had both smart phones and computers at their cooperatives that were used to access the DECFA; 35% had smart phones only for accessing the DECFA, while 24% had a computer for accessing the DECFA. These results clearly reflect the ability of the participants to access the DECFA. The use of a computer or a smart phone enabled the interaction between the DECFA and the cooperative decision makers. Davis (1989) asserted that "however much an artefact is well developed, if its users can not interact with it, it is irrelevant to addressing their challenges." Therefore, the presence of the smart phones and computers indicated the preparedness of the cooperatives to utilize the DECFA. This implies a good avenue that could be used to link the agricultural credit facility policy makers with the farmers to access information fast and with easy but yet from creditable sources.This solves the issues around delayed verification of loan application by Participant financial institution as noted by MFPED (2019.

Demographics findings also indicated agricultural cooperatives share capital and loan value borrowed externally. The findings revealed that Bwizi had a loan value of 72% of the total share capital (22,000,000); at Nkooma the loan value was at 25% of the entire share capital (24,000,000); at Nyabbani the loan value was at 67% of the share capital (18,000,000), and at Tukolereehamwe, the loan value was at 49% of the share capital (17,500,000).These findings indicate that the cooperatives depended heavily on external facilitation. Thus if the Government was able to access this financing, productivity of the sector will easily be realized.

The study also evaluated the usefulness of the DECFA in generating quality information to address the ACF Policy challenges. Usefulness was measured based on ability to generate credit capital sourcing information, credit screening, terms information and credit reporting information. To present these findings, descriptive in the form of mean, and standard deviation are presented to illustrate the feedback from respondents. The feedback from the respondents was measured on five-point Likert scale. The Likert scale enabled the research team to tap into the cognitive and affective components of the user's attitude towards the DECFA which emphasized the importance of measuring psychological attitudes in a scientific way. To interpret the Likert scale, ranges of values were re-assigned to each scale in a legend basis as recommended by Gail and Anthony, (2013) i.e., Strongly Disagree was 1-1.9; Disagree was 2-2.9; Not Sure was 3; Agree was 3.1-4; and Strongly Agree was 4.1- 5. Any mean value below 3.1 was considered not acceptable.

The study showed that the majority 67% of the respondents strongly agreed that the DECFA was usable while 19% of the respondents simply agreed and 4% were not sure. On the other hand, 10% of respondents disagreed that DECFA was usable. From Table 1, the results indicate that the responses followed a negatively skewed distribution (skewness: –1.748) with the mean and mode tending to (5). The mean response was (4.735) which showed that the majority of responses were in the affirmative with the parameters used to measure usefulness of the DECFA. A very small standard deviation of (0.405) signifies that majority of the respondents in the affirmative were closely clustered about (5). The overall mode was (5) which also suggested that

Table 1. Descriptive statistics on DECFA' usefulness

Variables	SD (%)	D (%)	N (%)	A (%)	SA (%)	$\bar{x}$	Mode	Sd
The DECFA records all information about a farmer credit need and ability to repay the credit extended.	-	-	-	47	53	4.53	5	0.514
The DECFA supports my ability to make effective decisions about credit facilitation processes	-	-	-	23	77	4.76	5	0.437
The DECFA facilitates my access to information concerning the Agricultural Cooperatives	-	-	-	18	82	4.82	5	0.393
I can access the DECFA anywhere and thus can make decisions concerning my operations in real time		-		35	65	4.65	5	0.493
The Internal Capitalization suite provides necessary information about sourcing for capital through subscriptions determination	-	-	18	-	82	4.65	5	0.786
The External capitalization suite provides necessary information about sourcing for credit capital outside the cooperative	-	-	18	6	76	4.59	5	0.795
The Credit determination suite enables my ability to effectively set the credit limit, lending rate and duration for the loans to be given to members	-	-	-	29	71	4.71	5	0.470
The Credit screening is helpful in providing information about the credit approval decisions at the agricultural cooperative	-	-	-	18	82	4.82	5	0.393
The Credit Reporting suite is helpful in providing information on how the cooperative has collected back from its borrowers and how much is due.	-	-	-	18	82	4.82	5	0.393
The suites in the DECFA provide and useful information in regard to credit facilitation of agricultural cooperative	100	-	-	-	-	5	5	0.000
Over-all	*10*	*-*	*4*	*19*	*67*	*4.73*	*5*	*0.405*

In regard to the DECFA recording all information about a farmer credit need and ability to repay the credit, this help creat an understanding of the credit facilitation processes of an agricultural cooperative. The results suggested agreement to this statement by the respondents, where 47% of the respondents agreed and 53% strongly agreed. These results translated into a mean of 4.53, a mode of 5 and a standard deviation of 0.514. Based on these results, it can therefore be concluded that using the DECFA helped the cooperative officers to record the needed information about a farmer credit needs and ability to pay.

On the issue of DECFA supporting effective decision making, the results showed that majority of respondents agreed (Agree: 23%; strongly agree: 77%) with a mean of 4.76, a mode of 5 and a standard deviation of 0.437. Therefore, using the DECFA supported their ability to make effective decisions at the different processes of credit facilitation. Ndyabahika (2018) emphasised that with the DECFA, decision making was simplified in credit facilitation.

On the issue of facilitating access to information concerning agricultural cooperatives, the majority strongly agreed (82%) while 18% agreed.. The mean value was above 3.41 which reflects a high relevance of the statement to the DECFA. Therefore, the respondents agreed that the DECFA facilitated their access to information concerning the Agricultural Cooperatives.

On the issue of accessing the DECFA anywhere and thus making decisions in real time, the evaluation showed that majority of the respondents agreed (Agree: 35%; strongly agree: 65%; with mean of 4.65). The results imply that that cooperative managers and officers could access the DECFA anywhere and thus could make decisions concerning their operations in real time.

With regard to the DECFA' Internal Capitalization suite providing necessary information about sourcing for capital through subscriptions determination, the majority of the respondents agreed (Strongly agree: 82%; with mean: 4.65; mode: 5; SD: 0.786). The mean value was higher than 3.41 and thus this suite was very relevant in capturing and availing information on determining optimal subscription for cooperators.

In regard to the DECFA' External capitalization suite providing necessary information about sourcing for credit capital outside the cooperative, the results suggested that most of the respondents agreed (Agree: 6%; strongly agree: 77%; with mean: 4.59; mode: 5; SD: 0.795). These results imply that that using the external capitalization suite actually enhances the cooperative managers' ability to make effective external capital sourcing decisions for the agricultural cooperative. Moreso, ensuring that cooperative members through the cooperatives are able to unite to organize the, minimum standards for borrowing. Indeed Mugisa, (2018) noted that the DECFA practically empowers one to connect with lenders to ascertain ones capacity to borrow.

The study also examined if the Credit Screening Suite was helpful in providing information about the credit approval decisions at the agricultural cooperative. The results affirmed that the DECFA actually helped to avail information on credit approval. The majority of the respondents further agreed (Agree: 18%; strongly agree: 82%) that the Credit Reporting suite is helpful in providing information on how much the cooperative have collected back from its borrowers and how much was outstanding. These statistics were confirmed by the Manager of Tukorerehamwe Area Cooperative, 2019 who explained that DECFA helped to easily detect loan defaults early.

From the viewpoints of the cooperative managers that participated in the evaluation of the DECFA there was a general consensus that the DECFA was useful. The usefulness was based on the fact that the suites of the DECFA were able to generate the necessary information as required by cooperative stakeholders for the process of credit facilitation. It was observed that the Decision Enhancement Credit Facilitation Approach facilitated adherence to the logical flow of credit facilitation process, created awareness on possible irrational credit facilitation decisions and ability to collaborate with various agricultural cooperative decision enablers. Decisions enhanced by the DECFA included; i) decisions to make internal sourcing choices, ii) decision to make external capital sourcing choices in situations of insufficient internal capital, iii) decision to set the most effective credit limit, lending rate and duration for cooperative loans to be given, and iv) decision for approval of only well screaned credit applications, and v) the decision to timely report credit advances whether interms of complying or non-complying with the repayment terms.

In the case of poor record keeping as observed by MFPED (2019), the findings indicate that the DECFA was an information store for all credit information about all farmers registered in the cooperatives. It provided information on their net savings, loans applications made before, timely loan repayment, accrued loan debts and credit worthiness of the farmers. This information is regularly updated and can be shared with the ACF policy at needed. The records and information accessibility helps to identify farmer credit needs andfollow-up when needed.

Conclusion

Overall, results from the evaluation study rconfirmed the usefulness of the DECFA to counteract the Agricultural Credit Facility challenges. It eases credit decision challenges of the cooperative managers and has a positive effect on the financial performance in form of improved efficiency of agricultural cooperatives.

Acknowledgement

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