

Financing Model for Micro, Small and Medium Scale Agricultural Enterprises

Kambale Kighoma Bob, Ecole Doctorale, Université Pédagogique Nationale (UPN-RDC)

Abstract. This article looks at how to meet the financing needs of businesses in the agricultural sector. The agricultural sector is the locomotive and carrier sector of economic development in the province of North Kivu to guarantee and ensure the well-being of the population. Not only does it touch the vital elements but it also generates employment for a large population. A system of financing for businesses in the agricultural sector is essential. The financial ecosystem shows that there is a deficit of traditional financing. Faced with these challenges, the fundamental question is whether the financial institutions have the appropriate credits for agricultural enterprises, taking into account their characteristics.

Through surveys of financial institutions coupled with structured interviews with key actors in the agricultural sector, including constructive and educational exchanges with farmers' organizations, we proposed a marketing strategy with various approaches, an associative dynamic and a financial education curriculum to attract the appetite of financial institutions towards rural financial markets.

Key words: enterprises, traditional financing, agricultural credit, associative dynamics, agricultural investment funds

Introduction

High-growth firms are more prevalent in the micro, small, and medium enterprise (MSME) group because they create jobs and generate income in a situation of economic crisis and structural adjustment. These micro, small and medium scale enterprises are highly innovative, contribute more to productivity growth, and are market-oriented (OCDE, 2014). In addition, they contribute to the dynamism of industrial sectors and would thus contribute to improving their impact. Nevertheless, they can only fulfil this role if they have access to finance. Financing the agricultural sector is fundamental to building an inclusive, resilient and more diversified economy in North Kivu province. The consumption of agricultural products is a founding act of economic activity because it allows the satisfaction of vital needs. Moreover, consumption (Jamel et al., 2015) is generally the main component of aggregate demand and as such is at the heart of the debate on the effectiveness of macroeconomic stimulus policies.

Today, it is important to finance agricultural enterprises through an associative dynamic. Financial institutions can also use digital channels to reach the rural world by reducing the costs related to the operation.

Problems

Agriculture is the pillar of development of several countries in the world. It is a source of employment, at least $\frac{3}{4}$ of the populations depend on it in the developing world.

In the Democratic Republic of Congo (DRC), as in the province of North Kivu, once known as the granary of the DRC, nearly 70% of the inhabitants live from agriculture. Statistics show that before Independence, especially coffee cultivation produced 380,000 tons, which was provided by large companies and small farmers who worked on the plantations.

After this period, production dropped to around 12,000 tons. After Zairianization, the decline was profound and total, down to 3,000 tons in the Goma, Masisi, Nyiragongo, Kelehe area. This production is insignificant in relation to the amount of arable land.

The challenges remain enormous, including access to financing, the problem of evacuating agricultural products, means of transport, the problem of land, lack of machinery

for the millers, insecurity and fraud orchestrated by a network of regional powers, etc. (Rapport de l'ONAPAC, 2021). Difficulties in accessing finance only worsen and reduce the resilience of enterprises in the agricultural sector. A very small proportion of the rural population (less than 10% in Africa) uses debt.

It is estimated that there is an unmet demand for financing for smallholder farmers of US\$170 billion in Sub-Saharan Africa, South and Southeast Asia and Latin America. To finance a business, financial institutions look at the borrower's creditworthiness, collateral, risk control, turnover, and the "bankability" of the project.

Many investments that are critical to agricultural production activities require the mobilization of large amounts of capital and long gestation periods to achieve a return on investment. These agricultural investments require medium- or long-term loans, leasing, or equity financing products (Hollinger, 2012).

In view of the above, it is necessary to question whether financial institutions have products that meet the financing needs of businesses in the agricultural sector in order to be competitive on the market. Our study proposes an alternative to the classic financing deficit of enterprises in the agricultural sector in North Kivu. We will propose a model for the development of agricultural credit that meets the needs of businesses in the agricultural sector.

Empirical Review

Agriculture contributes significantly to the gross domestic product. The mechanism for financing agricultural activities in African countries has gone through two successive phases (Sandra, 2022): public intervention and liberalization.

The 1960s and 1980s were marked by favourable commodity prices and a strong state presence in most economic activities. In view of the resulting rent and the need to better orient the financing of agricultural activity, public decision-makers during this period encouraged the creation of specialized public institutions and agricultural banks that granted credits at subsidized rates. The program failed, which was characterized by the deterioration of the macroeconomic situation, the deterioration of the balance sheets of banks, creating a movement of "banking panic".

In order to restore the failing banking system, some banks were liquidated and merged. This phase of crisis management was particularly characterized by the disengagement of the state in the 1990s from most economic activities.

The International Monetary Fund (IMF) recommends an approach based essentially on market laws, austerity policies, privatization and liberalization. The attraction of financial intermediaries to rural financial markets practicing mainly agriculture would have decreased due to the lack of collateral, precariousness of agricultural activities, and distance.

During the 1980s, government policy approaches to agricultural finance showed their limits, based on the theory of financial repression (a term coined in 1973 by Edward S. Shaw and Ronald Mc Kinnon), with state interventionism in the financial banking system. The banking institutions had given too much credit to fail (too big to fail), because the rates were capped.

The recovery and restructuring of the financial markets led to a scarcity of agricultural credit; microfinance was gradually built to cover part of the demand for agricultural financing. However, microfinance only imperfectly meets this demand (Morvant-Roux, 2009). One of the main limitations of microfinance is the lack of medium- and long-term loans (Fall, 2010), but they are also called upon to observe the regulations of the Central Bank authority on prudential management, with regard to the ceiling on the maximum amount of credit that must be dependent on equity.

Agriculture remains an essential tool for sustainable development and poverty reduction. Nevertheless, "financial deficits in the agricultural sector are everywhere and they are costly and inequitably distributed, which seriously limits the competitive capacity of small farmers" (World Bank, 2008).

Camilleri (2007) identifies the main issues surrounding micro, small and rural enterprise development programs including:

- 1) The need to properly segment within the informal sector, micro, small enterprises carrying out survival activities and micro, small enterprises with growth potential in order to better tailor relevant interventions.
- 2) The problem of Business Development Service (BDS) or SAE (service of assistance to the companies), by distinguishing the council and the technical training relating to the management of the companies.
- 3) Finally, access to credit presented as a priority for micro, small and medium enterprises.

There is a need to support micro, small and medium sized farmers to succeed and access finance; success in the sense of contract compliance, increased income for producers, and shared benefits for the various parties (Prowse, 2013). A priority for governments today is to help create jobs (Sarah, 2000). Only the agricultural sector would be able to meet this priority. The public authorities certainly cannot ignore the role played by these institutions that manage the means of payment and create a large amount of money in circulation in the economy (Diagne, 2015). These banks in an economy provide liquidity and credit services to businesses and households.

Too few farmers in North Kivu have access to traditional financing. They find it difficult to invest in agricultural technologies that would boost their activity, (hitches, tractors, power tillers, irrigation systems, mini-industries, transportation, etc.).

During the 2nd Economic Forum of North Kivu Province (June 2015), there were sectoral recommendations. Regarding agriculture, some tracks were mentioned: to create funds to support agriculture and rural areas (agricultural credit); to bankers to ease the conditions of access to credits. Short-term credits offered by financial institutions can finance certain expenses of the agricultural campaigns and meet punctual needs for monetary resources. These credits intrinsically finance working capital. However, they remain unsuitable for enterprises wishing to invest capital in order to develop their production system (Loveluck, 2008). Medium-term agricultural credit finances more the acquisition of machinery and production equipment.

As for productive agricultural investments, they are financed by long-term credit. Successful micro, small and medium-sized enterprises are those that also have stable (sustainable) resources on their balance sheets. These resources are generally equity, bonds and medium and long-term loans. Banks and microfinance institutions can be considered as two types of financial intermediaries of different types, but which have the same objective: to collect savings from surplus agents to finance projects that are deemed profitable (Fall, 2010).

There is a fundamental demarcation between banking and microfinance in Walras' sense. Banks have the power to create money, which microfinance institutions do not have. The latter are non-monetary financial institutions. However, there is a complementarity. The aim is to analyze how banking and non-banking financial institutions can effectively improve the financing of agricultural enterprises in order to impact the living conditions of rural communities. Theoretically, this complementarity is based on the theories of financial intermediation, agency, decision making and industrial organization to justify the complementary contributions of micro-financial intermediation to banking in the financing of the economies of the South, the coordination of activities and the decision to choose.

This relationship is established with the aim of maximizing the lender's profit, and allows the borrower to benefit in exchange. Based on the assumption that the lender expects a return on its capital and the borrower expects to benefit from its action, the activity of financial intermediation consists of channelling funds between third parties, one of which has surplus resources and the other of which is seeking funds. The intermediary itself bears a risk by acquiring financial assets and entering into commitments on its own behalf (e.g., banks, insurance companies, investment funds).

In reality, the bank will collect resources from clients who have a surplus and therefore a financing capacity, and will grant loans to economic agents who have a deficit and therefore a financing need. The bank is therefore both a debtor and a creditor. According to Gurley and Shaw, intermediation in fact involves the creation of two distinct debts: the primary debt and the secondary debt.

Complementarity will be based essentially on the limits of intermediation in terms of financing approaches. The theory of industrial organization also analyzes the concept of complementarity in a logic of coordination of economic activities.

By questioning why MFI and banks are not interested in financing agricultural enterprises, this leads us to rethink Paul Samuelson's decision theory in the choice of the financing orientation area and market segment, risk, psychological cost and constraints. In this case, it would allow financial intermediaries to rationalize the decision, to justify the choice, to delimit the perimeter. Similarly, a parallel could also be drawn with the relationship between microfinance and the agricultural sector.

In a similar way, we justify the complementary relationship between banks and microfinance by basing our analysis on the failure of banks to finance low-income categories of the population on the one hand, and on the functional particularity of microfinance institutions to ensure profitable financing in non-bankable niches, the segment of informal, semi-formal and formal enterprises and to serve illiterate clients on the other.

Financial markets are imperfect, which is why not all individuals who participate in them share the same information, some are better informed than others; not all have the same willingness to keep their commitments, a fortiori, when it comes to the promise of money, not all place their actions within the same time horizon. Firms, for example, need to borrow over a time horizon that households would not accept to be lent funds (Diagne, 2015).

In the credit markets, lenders face two major problems. First, how do they ensure that the right risks are selected? Second, once credit is granted, how do they ensure that the funds will reach their intended destinations and that repayments will be made? These two questions are the basis for the existence of financial intermediaries. For a single lender to select borrowers, monitor their projects, and encourage repayment is too costly.

For this reason, it is preferable to delegate this task to a specialized financial intermediary, in this case an agricultural investment fund (AIF). To reduce the risk of adverse selection, banks have three main tools at their disposal (Eber, 2000): screening, the long-term relationship and credit scoring.

Screening is a "menu of contracts", a self-selection mechanism that causes borrowers to reveal their type, choosing a contract from among those offered by the bank. Screening consists of a game of interest rates and guarantees. In equilibrium, good borrowers choose the contract where the interest rate is lower and the guarantee is higher (Frédéric, 2007). On the other hand, risky borrowers choose the contract where the interest rate is very high and the material security is low. Thus, by offering a "menu of contracts", the bank manages to separate borrowers according to their level of risk.

Credit scoring models have the advantage of being faster, more objective and less costly for the bank (Eber, 2000). These scoring methods are more reliable when they are part of a "long-term relationship" between the bank and the client. Thus a third way for banks to

reduce the risk of adverse selection lies in the "long-term relationship" with the client, for additional information produced by "monitoring" in the control of moral hazard phenomena; this requires that the economic agent who is then a farmer be able to provide the necessary formal elements – documents and guarantees.

The financing deficit of agricultural enterprises is explained by the inadequacy of the credit supply. The financial system has developed operationally and geographically at odds with the rural community. From this rupture, there is an "inevitable information asymmetry", linked to the gap between the credit procedures and policies used and the socio-economic reality of the agricultural sector. Faced with this gap, other intermediation mechanisms are necessary.

This is where innovative financial complementarity comes into its own. Microfinance institutions, through the originality of their procedures and mechanisms, have succeeded spectacularly where banks have failed. The "screening" method, formulated by Bester (1987), for example, is not very effective in microfinance, where the clientele is generally poor and does not have sufficient material guarantees, because the poor, without sufficient guarantees, will always choose the contract with a low level of guarantee, regardless of the level of the interest rate.

This is also true for credit scoring. This technique is difficult to apply because most low-income clients do not have a credit history or accounting records or evidence on which to conduct a financial risk analysis. The use of scoring is relatively new in microfinance (Schreiner, 2004), particularly those microfinance institutions that do use it often deviate from their initial target. It is more relevant for the rich than for the poor.

The exclusion of farmers is due to the inability of financial intermediaries to take into account the needs of this clientele due to its particularities, which requires a business model adapted to its type.

Our Demarcation Point

In light of all these controversial debates, our position is not to argue about the superiority of functional approaches between individual and group lending; each product has a philosophical and strategic mission. Individual lending has a business mission of supporting sustainability. While group lending has a social mission. Group lending in its functionality suffers from aging syndrome over time and can hardly guarantee the profitability of a financial institution. Within the group, institutions disburse small loans that do not allow them to support the costs of monitoring and operating expenses of a portfolio.

Loan maturity is generally between 4 to 9 months on one hand. In another reading, focusing on individual loans would be a distraction from the target. There will not be broad financial inclusion to support the Sustainable Development Goals (SDGs). By analyzing the limits of the two systems with distinct operational methods, but also the particularities of this segment of agricultural clients, a financing system adapted to agricultural enterprises must be put in place through a specialized financing structure under the label of Agricultural Investment Fund whose nature of operations must be defined by the regulatory authority. This structure must develop a rural financial market by inventing a varied marketing model adapted to the different segments of agricultural enterprises.

The agricultural sector is a broad economic industry, with as many crops; as many sectors; as many value chains. The needs of agricultural enterprises are also varied and divergent. A financial institution that wants to develop an agricultural credit portfolio needs to know the farmers and their profiles. For each farmer segment and for an agricultural sector, a specific financing system must be attached *sui generis*.

There is financing that require a grace period and a long repayment period for the activity to generate a return on investment. For example, the project of cocoa or coffee

cultivation, the acquisition of processing machinery, the construction of an agricultural warehouse, livestock grazing, etc. And there are some that require a short period of time for example market garden products (tomatoes, cabbages, onions, etc.), the project of chicken coops, etc.

A credit card with specific contours must be developed by financial institutions. It is through this thought that our problematic can be stated in a series of questions:

- 1) Do financial institutions have adequate credit for agricultural enterprises?
- 2) Could the high risk of agricultural credit be an obstacle in the financing of agricultural enterprises?

Materials and Methods

Methodological Approach

We used the statistical method, analytical method and comparative method. Using these methods, we counted the financial institutions. We analyzed the benchmark data of the financial market in North Kivu and the different credit offers of financial institutions in relation to the agricultural portfolio.

Data Collection Techniques

We used documentary and participant observation techniques. We also conducted interviews with several key actors in the financial institutions and agricultural sectors.

Study Variables

We have retained the dependent variable and the independent variable. For our purposes, the dependent variable is traditional financing. The independent variable usually represents a causal factor. We write: $Y = f(X_1, X_2, X_3, \dots)$. The independent variable is: the absence of adapted agricultural credit, weak guarantee, risk in all its forms, etc.

Correlation between variables

We had retained the positive correlation, negative correlation and zero correlation.

If the calculated correlation coefficient is greater than zero, then we consider that the correlation is positive.

If the correlation coefficient is less than zero, then the correlation between variables is negative.

If there is no relationship between variables, then the correlation is zero.

In detail, this correlation coefficient is interpreted.

- If $r = 0.20$, then correlation too low (or almost zero).
- If r belongs to this interval $[0.20 - 0.40]$, then low correlation.
- If r belongs to this interval $[0.40 - 0.60]$, then higher correlation.
- If r belongs to this interval $[0.60 - 0.80]$, then good correlation.
- If r belongs to this interval $[0.80 - 1]$, then high correlation.
- If $r = 1$, then perfect correlation (rare case).

The correlation coefficient is more assertive and objective because it measures the strength of the relationship between the variables. The correlation coefficient has certain limitations, namely: (i) correlation is not causation; (ii) the relationship being tested is linear. A zero correlation coefficient indicates that the covariance between variable x and variable y is zero. Thus, two variables in total dependence can have a zero correlation coefficient: $x^2 + y^2 = R^2$. To overcome this limitation, it may be necessary to transform the variables before calculating the correlation coefficient (Claude et al., 2001).

Models

A model is a simplified and idealized abstraction whose objective is to represent in an approximate way the behavior of a system. An economic model is the mathematical expression of a certain economic theory.

We are formulating an economic model when we say that the conventional financing required in the competitive market, *ceteris paribus*, is a function of its rate; this is expressed by the equation: $Q_d = f(P_t)$. Thus, assuming that the financing variables are linked by a linear relationship and knowing intuitively that the classical financing is not only a function of its rate but also of several other factors we specify our model as follows:

$$Q_t = b_0 + b_1 P_t + u_t$$

where u_t is the stochastic (random) variable that picks up, among other things, the influence of the factors omitted in our model.

In doing so, we have developed an econometric model that is nothing other than an "economic model that contains the necessary specifications for its empirical application" (Barbancho A.G.).

Population and Sampling

Our target population is financial institutions, agricultural businesses, farmers to cross-check the data provided by banks and MFIs.

In fact, the sample represents the group of people interviewed and representing the universe to which the survey is addressed.

Some limitations of the sample

This is a very sensitive and confidential field of study and access to the data was very delicate. The respondents were not open with us, for fear of exposing themselves and their business model to competitors.

The mentality of the rural population is rooted in humanitarian assistance and subsidies. This behavior has led to some misunderstandings in the farmers' responses.

Presentation and use of the data processing software

We used the Kobo collect application to process the field data. We also used PBI (Power Business Intelligence).

Assumptions

We formulated our assumptions as follows:

- 1) Financial institutions do not have adequate credit for agricultural enterprises.
- 2) The high risks of agricultural credit constitute an obstacle for the traditional financing of enterprises in the agricultural sectors.

In the course of this research, we will try to confirm or refute these hypotheses and propose solutions to the community's problem.

Research Objectives

General objective

- To make a contribution in the analysis of financing model adapted to agricultural enterprises.

The specific objectives

The specific objectives are the following:

- To propose an associative dynamic of farmers' organizations to guarantee and access to bank credit opportunities
- To develop a financial education curriculum for farmers

The Expected Results

Agricultural credits adapted to the farm sector are proposed.
A financial education toolkit for farmers is developed.

Purpose and Interest of the Subject

The DRC has great agricultural potential; 75% of its population lives in rural areas. In addition, agricultural activities contribute 56% of the Gross Domestic Product (GDP).

Our interest in this study stems from:

- Our commitment to researching economic development initiatives in the rural world.
- The pursuit of the objective of financial inclusion of rural areas, which many financial institutions do not meet.

Delimitation of the Subject

This study is limited to the province of North Kivu, which is considered the breadbasket of the DRC. It covers the period from 2017 to 2021.

Discussion, Analysis of Research Data

Testing of the First Hypothesis (H1)

H1: Financial institutions do not have credit adapted to the agricultural sector.

The financial sector landscape in North Kivu is made up of COOPECs, microfinance institutions and banks.

When analyzing the global portfolio of financial institutions in relation to the share of the rural financial market, there is an unparalleled deficit, only 3% of the outstanding credit is oriented in the financing of enterprises in the agricultural sector against 97% allocated in loans to employees, commercial credit to SMEs, housing loans, consumer credit, education credit. The few rural clients and agricultural enterprises that have agricultural credit, they contract it at similar rates of commercial credit between 24% - 48% per year. This would confirm our first hypothesis.

By analyzing data related to financial inclusion. The data shows that only 1% of agricultural businesses are clients in financial institutions. 99% are urban saver clients and urban borrowers of commercial credit.

There are several reasons for the low development of agricultural credit:

- Political: uncertain political environment, insecurity in rural areas.
- Economic: macroeconomic environment is not reassuring. Too much fluctuation in the value of money.
- Financial: Low level of resource mobilization (stable public savings (term deposit), long and medium term loans).
- Strategic: Financial institutions prefer to finance short-term trade and investment in safe sectors.
- Absence of inadequate and liquid guarantees (mortgage, guarantee fund, moral guaranty).
- Geo-meteorological: climate change and drought. No microinsurance to reassure commitments.
- Source of capital: Banks and large MFIs are capital companies of foreign origin. Strategic decisions are made outside the DRC, to capture opportunities with immediate economic effect (profitability), which have a short payback period.

Testing of the Second Hypothesis (H2)

H2: High agricultural credit risks are a barrier to conventional financing of businesses in agricultural sectors.

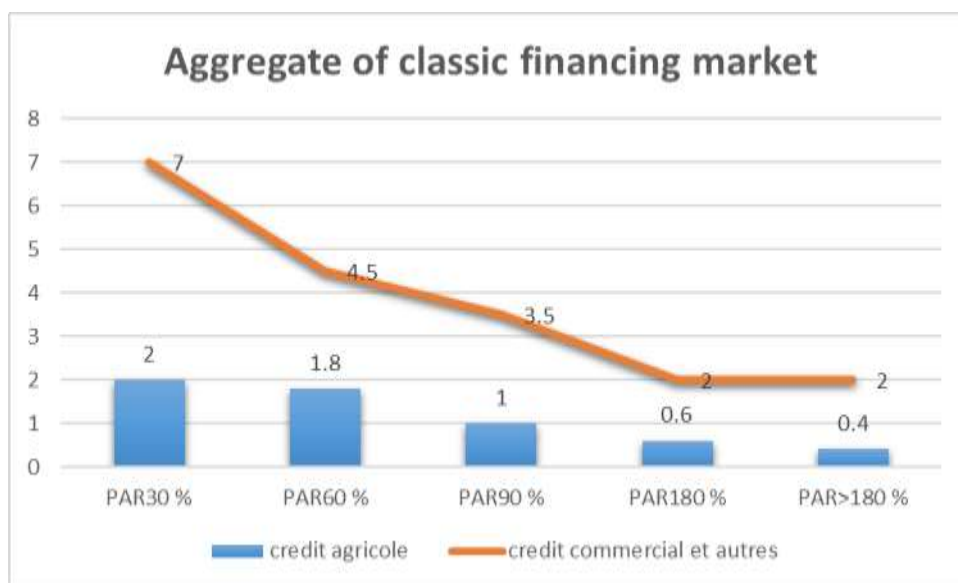
“Without risk, therefore without risk-taking, there is no business,” says Jean-David Darsa; “Risk comes from not knowing what you're doing,” says Warren Buffet. Risk is defined as an uncertainty that has an impact on our wealth (Bodie & Merton, 2000), it is the level of exposure or the occurrence of an event, an incident (obviously unfortunate) that may impact the institution. Credit risk is the risk that the counterparty to a credit transaction will not be able to meet all or part of its contractual obligations to the institution. Risk is the probability that events, expected or unexpected, may have a negative impact on the institution's profitability or equity. It is a probable event, which poses a threat or danger to the sustainability of the company.

In the financial sector, portfolio risk has been quantified in a framework called the "aged balance". Each age bracket of the portfolio at risk is calculated on the basis of a provision which is the risk cost. It is calculated on the outstanding capital. There are prudential management accounting standards for calculating the provision that are imposed on financial institutions by the Central Bank of Congo (BCC).

%	PAR1	PAR30	PAR60	PAR90	PAR180	PAR360	Write off
Risk cost		5%	25%	50%	75%	100%	

It is the day-to-day portfolio at risk that feeds the rest. This risk can be broken down mainly into default risk (failure or delay on the part of the borrower to pay the principal and/or interest on its debt), recovery risk in the event of default and the risk of deterioration in the quality of the credit portfolio.

We analyzed the portfolio at risk of financial institutions in North Kivu province, in comparison with the portfolio at risk of agricultural credit. The latter appears to have lower risk costs than commercial loans to SMEs.



Considering the robust indicator of portfolio management in the institutions surveyed according to the prudential standards of the regulator, agricultural credit has a good performance in terms of quality compared to commercial credit and other types of consumption, housing, etc. The few institutions that dare to finance credit have made available to farmers a series of tools and provisions to manage risk. They have specialized in the chain and identifying the segments and jerseys of agricultural sector financeable with less risk. These MFIs/banks have varied operational approaches to serve appropriate loans. They have diversified their products. They have introduced digital finance technology to serve small loans to farmers and to drain their repayments via walet to bank and bank to walet, they have set up group credit, individual credit for specific needs, they have developed a coherent business model of agricultural credit marketing based on the 9 pillars (segmentation, value proposition, distribution channels, customer relationship, revenue streams, key resources, key activities, key partnerships, cost structure).

They have developed direct links with farmers' organizations, micro insurance, revolving credit, ... This invalidates our hypothesis. The high risks of agricultural credit are an obstacle to the traditional financing of agricultural enterprises, but not necessarily so. In view of this invalidation of the hypothesis, there are multiple reasons for not financing agricultural enterprises.

Reasons related to the institution:

- The "risk averse" attitude of management.
- Poor appreciation of risks.
- Lack of internal competence and expertise in the economy and rurality.
- Attachment to orthodox methods of credit linked to the mortgage.
- Bad historical memory as all banks and large MFIs are predominantly foreign-owned companies.
- Non-evolving financial guarantees (absence of guarantee funds, micro insurance, weak partnership, absence of co-construction of the associative dynamic).
- The cost of operation and supervision.
- The fear of evolving alone in a "corner of Bermuda" and a non-competitive path.
- The fear of failure.
- The lack of integration in the world of digital finance.

Reasons related to the agricultural borrower/contractor:

- Misunderstanding of the loan contract with respect to its requirements.
- Detour of the purpose of the loan.
- Lack of joint and several guarantee/moral guarantor or lack of solidarity among farmers.
- Adverse risk.
- Informality of the agricultural enterprise.
- Seasonal activity.

Associative Dynamics

Quadra BBLC (Bonding, Bridging and Linking-Connecting) in the associative dynamic

This approach consists of federating farmers to work together, to form a synergistic organization with a common vision. The organization will serve as a bridge and connect actors to build a commercial partnership and rural financial markets.

The associative dynamic remains effective and a business model that finally captures the appetite of financial institutions to go to the rural financial markets. The associative dynamic benefits from the mutualization to:

- Accessing market opportunities (marketing, distribution, group sales, market leader, negotiating price, quality, certification, bonus, malus, various contracts, etc.);
- Accessing traditional financing (credit, payment, bank facilitation, foreign exchange, etc.);
- Accessing bonding (sponsorship of the agricultural cooperative, moral guarantee, risk coverage);
- Gaining the confidence of financial institutions (credibility);
- Sharing experience and training;
- Accessing information with other members (training, expertise, etc.);
- Organizing finally to defend the common interests (tax exemption, reduction of taxes of import, export, administrative hassle, etc.);
- Constituting a bank of agricultural financing;
- Constituting a guarantee fund for small farmers.

Conclusion

This study focused on the alternative to the classic financing deficit of the agricultural sector enterprises by emphasizing an associative dynamic as an instrument of its development. Our research hypotheses were to know if:

- Financial institutions have the appropriate credits for agricultural enterprises;
- The risk of the agricultural sector constitutes an obstacle to attract the appetite of financial institutions.

We used statistical, analytical and comparative methods. We also used observation techniques, survey questionnaires, interviews, but also technological means to reach respondents remotely via zoom conference, internet, appLog.

Agricultural credit is essential for the resilience of North Kivu province. However, most of the existing financing comes from rotating credit associations commonly known as tontines, AVEC or community funds. The coverage of actions carried out by microfinance and banking institutions is still weak and poorly targeted due to the lack of a business model adapted to the financing of agricultural enterprises.

The adaptation of credit to the financing needs of farmers can be stimulated by the agricultural investment fund created by an associative dynamic of farmers in the form of farmer shareholding. The study specifically assessed the share of agricultural credit in relation to the commercial and other credit portfolio in the financial landscape of North Kivu. The rate of traditional financing of agricultural enterprises was 3%, marginally low compared to commercial credit. Compared to financial inclusion, 1% of farmers have accounts in banks, MFIs, COOPECs.

On the other hand, the study evaluated the analysis of the quality of the portfolio at risk of agricultural credit in relation to commercial credits to SMEs. Through the study conducted, it was found that the agricultural credits granted are well repaid by the agricultural enterprises thanks to the various marketing approaches. The 30-day portfolio at risk (PAR) is at 2%, compared to commercial credit which is at 7%. There has been segmentation of farmers and the approach of mutualization of farmers through solidarity credit, market contract, adaptation of the loan offer, the convention with the farmers' organization, the financing of the value chain, digital finance technology, micro insurance (life) and index, leasing, extension and sensitization of a financial education curriculum adapted to farmers.

References

- Banerjee, A.-V., Besley, T., & Guinnane, T. (1994). Thy Neighbor's Keeper: The Design of a Credit Cooperative with Theory and a test. *Quarterly Journal of Economics*, 109(2), 491-515.
- Bhole, Bh. & Ogden, S. (2010). Group Lending and Individual Lending with Strategic Default. *Journal of Development Economics*, 91, 348-363.
- Camilleri, J.-L. (2007). *La micro entreprise rurale en Afrique «De la survie à la croissance»*. Edition L'harmattan.
- Diagne, C.A.B. (2015). *Economie et gestion bancaire « évolution du système bancaire et financier de l'UEMOA*. L'harmattan.
- Eber, N. (2000). Sélection de clientèle et exclusion bancaire. *Revue d'Économie Financière*, 58, 79-96.
- Fall, F.-S. & Servet, J.-M. (2010). La microfinance peut-elle être sociale et rentable? *Revue Banque*, 720.
- Fall, F.-S. (2010). *La complémentarité Banque/Microfinance : une perspective de la finance inclusive*. Thèse de doctorat soutenue à l'université de Rouen en juillet.
- Gangopadhyay, S., Ghatak, M., & Lensink, R. (2005). Joint Liability Lending and the Peer Selection Effect. *Economic Journal*, 115(506), 1005-15.
- Ghatak, M. (2000). Screening by the Company you Keep: Joint Liability Lending and the Peer Selection Effect. *Economic Journal*, 110, 601-631.
- Hermes, N. & Lensink, R. (2007). The Empirics of Microfinance: what do we know? *The Economic Journal*, 117(February), F1-F10.
- Mishkn, F., Bordes, C., Coeur, P.C.H., & Lacoue-Labarthe, D. (2007). *Monnaie, Banque et Marchés financiers* (8^e ed.). Pearson Education France.
- Morduch, J. (1999). The Microfinance Promise. *Journal of Economic Literature*, 37(4), 1569-1614.
- Nsabimana, A. (2004). Articulation entre activités bancaires et microfinancières : nouvelle sphère d'intermédiation ? *Monde en Développement*, 32(2), n° 126.
- Perkins, D. H., Radelet, S., & Linduer, D. (2008). *Economie de développement* (3e ed.). Nouveau horizon de Boeck.
- Prowse, M. (2013). L'agriculture contractuelle dans le pays en développement. *AFD*, 12.