
Financing Mechanisms for Agricultural Activities and Strategies for Repaying Agricultural Loans in the Couffo Department in Southern Benin

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Abstract

Agricultural finance is a key driver of economic growth and global food security, but it continues to face a perception of high risk due to climate vulnerability and market instability. The objective of this research is to examine the financing mechanisms for agricultural activities and the repayment strategies for agricultural loans in the Couffo Department.

The methodological approach is based on a literature review and surveys of 215 individuals. Data analysis was conducted using SPSS 17.0 and ArcGIS 10.8 software.

The results show that agricultural producers in the Couffo department have access to a variety of microfinance institutions for credit, with certain institutions clearly dominating the market. PEBCo-BETHESDA stands out significantly, serving 39.5% of the beneficiary farmers, reflecting its strong local presence, its ability to mobilize farmers, and its more flexible credit terms that are better adapted to agricultural realities. It is followed by PADME, with 29.0% of beneficiaries, and then by CLCAM at 24.8%. Within village savings groups and mutual aid societies, farmers organize themselves into cooperatives to build collective savings, which then enable them to access internal loans tailored to their needs. Access to credit in the Couffo department varies considerably, ranging from rigorous screening in formal institutions to immediate availability within informal networks. Furthermore, the loan repayment rate has fallen by 15.91% in the Couffo department. To meet their financial obligations, 81% of the producers surveyed sacrifice their personal assets—particularly livestock or household goods—to preserve their financial reputation, even though this compromises their future productive capacity. Furthermore, 19% turn to non-agricultural activities such as food processing, small-scale retail, or motorcycle taxi services to generate the necessary cash flow.

Keywords: Couffo Department, financing mechanism, repayment of agricultural loans

1. Introduction

Agricultural finance remains an essential driver for stimulating economic growth and ensuring food security worldwide. Globally, the agricultural sector is perceived as a high-risk industry due to its dependence on climatic uncertainties and market volatility (B. Formoso, 2018, p. 5). This perception often discourages traditional banking institutions from getting involved, as they are reluctant to lend to rural farmers due to a lack of solid collateral (A. Razakavololona, 2011, p. 6). To fill this gap, rural credit has emerged as a community-based tool designed to support the needs of small-scale producers (G.B. Voukeng, 2016, p. 23). Financing mechanisms vary from country to country, ranging from government subsidies to microfinance and community-based mutual aid systems (C. H. Sossou, 2015, p. 34). The growing use of digital technology now offers new opportunities for the financial inclusion of isolated farmers (B. A. C. Kouassi, 2021, p. 16). Agricultural credit finances the mechanization of plowing in cotton-growing areas and enables the expansion of cultivated land (S. Sagbo et al., 2018, p. 3). Credit provides producers with the necessary resources to meet the financing needs arising from the production cycle. This cycle is particularly long in agriculture due to the time lag between planting and harvest (P. Thenkabail et al., 2012, p.773). The availability of credit is expected to enable both greater consumption and greater use of purchased inputs, which increases farmers' production and, consequently, their income (A. B. Assouto and D. J. L. Houngbeme, 2020, p. 5). Repayment of agricultural loans is central to the viability of rural financial institutions worldwide. The ability to repay is intrinsically linked to farm profitability, which in turn depends on the stability of agricultural income. Climate-related risks pose the most unpredictable threat to borrowers' creditworthiness (I. H. Chabi, 2015, p. 19). Sudden droughts or floods can destroy an entire crop, making repayment impossible. The interest rates charged by financial institutions also influence the debt burden and the willingness to repay (MERF, 2017, p. 3).

In Benin, agriculture is the backbone of the economy, employing a large portion of the labor force and contributing significantly to GDP. Despite its importance, access to financing remains a complex process for the majority of Beninese farmers (H. Dannon et al., 2019, p. 30).

Family farms, which make up the majority of farms in the country, struggle to obtain loans tailored to their seasonal production cycles. Microfinance institutions have become the main players in rural financing, although their lending terms sometimes remain unsuitable (P. Aguera, 2015, p. 7). High interest rates and requirements for collateral pose major obstacles for the most vulnerable farmers. In some cases, credit initially intended for productive investment is diverted to cover social needs or household consumption (IFAD, 2021, p. 5). The information asymmetry between banks and agricultural borrowers exacerbates credit rationing in rural areas of Benin. Initiatives such as "warrantage," which allows crops to be stored in exchange for credit, aim to secure financial transactions (Y. J. P. Tohinlo, 2016, p. 8). The Beninese government acts as a regulator and facilitator through dedicated agencies. This fund aims to make credit more accessible while encouraging banks to finance agricultural value chains (J. Effon, 2023).

Beninese producers face increased price volatility in local markets. Limited access to microinsurance products leaves these farmers more vulnerable to exogenous shocks. Furthermore, the high interest rates charged by certain microfinance institutions make loan payments even more burdensome for smallholder farmers (INStAD, 2023, p. 13). The lack of structured market outlets limits farmers' ability to save to cover their loan payments. The sustainability of agricultural credit depends on the fragile balance between farm productivity and the mitigation of systemic risks (MASM, 2022, p. 5).

The Couffo Department, located in southwestern Benin, relies primarily on an agriculture-based economy. This agriculture, practiced mainly by small family farmers, forms the vital foundation of local food security. The main crops include corn, cassava, oil palm, and various vegetable crops. Despite this potential, the sector continues to rely on production methods that are often outdated. The modernization of tools and access to quality inputs are hampered by a chronic lack of capital. Financing for agricultural activities is therefore essential to boosting regional productivity. However, the traditional financial system struggles to adapt to the specific realities of rural areas. Commercial banks often view the agricultural sector as too high-risk. This financial reluctance creates a gap that microfinance systems are struggling to fill. The scarcity of institutional credit forces farmers to turn to costly informal mechanisms. Access to credit is also contingent on requirements for collateral that small-scale producers do not possess. Land tenure security, which remains precarious in some areas, further limits borrowing capacity. The high interest rates charged by local financial institutions drastically reduce farmers' profit margins. The mismatch between loan repayment schedules and crop growth cycles is a major obstacle. This timing discrepancy often forces farmers to sell their harvests at rock-bottom prices immediately after harvest to pay off their debts. Climate variability is another structural challenge that undermines yield forecasts. Unpredictable droughts or floods can ruin an entire growing season in a matter of days. These external shocks directly impact farmers' creditworthiness with lenders. The risk of default then becomes a persistent reality for financial institutions. This high risk prompts these institutions to further restrict credit availability, trapping the sector in a vicious cycle. The lack of appropriate agricultural insurance exacerbates this vulnerability among smallholder farmers. The lack of organization within agricultural supply chains also complicates the management of credit contracts. Isolated producers have less bargaining power than those organized into structured cooperatives. Technical support, which is often insufficient, limits the ability to optimize agricultural income needed for repayment. Poor household financial management can also lead to the diversion of credit funds toward other needs. Erratic fluctuations in agricultural commodity prices on local markets destabilize cash flow plans. Farmers often lack adequate storage infrastructure to preserve their produce and sell it at the best price. Improving access to certain production areas in the Couffo Department remains a logistical challenge that weighs on profitability. Producers are developing various strategies to repay agricultural loans. The objective of this research is to study the financing mechanisms for agricultural activities and the strategies for repaying agricultural loans in the Couffo Department.

2. Tools and Methods

The methodological approach combines data collection, processing, and analysis.

2.1. Overview of the Study Area

The Couffo Department is located between 6°40' and 7°35' north latitude and between 1°32' and 2°25' east longitude. It is bordered to the north by the municipality of Djidja, to the south by the Mono Department, to the west by the Republic of Togo, and to the east by the municipalities of Toffo, Agbangnizoun, Abomey, and Djidja. Figure 1 shows the geographic and administrative location of the Couffo Department.

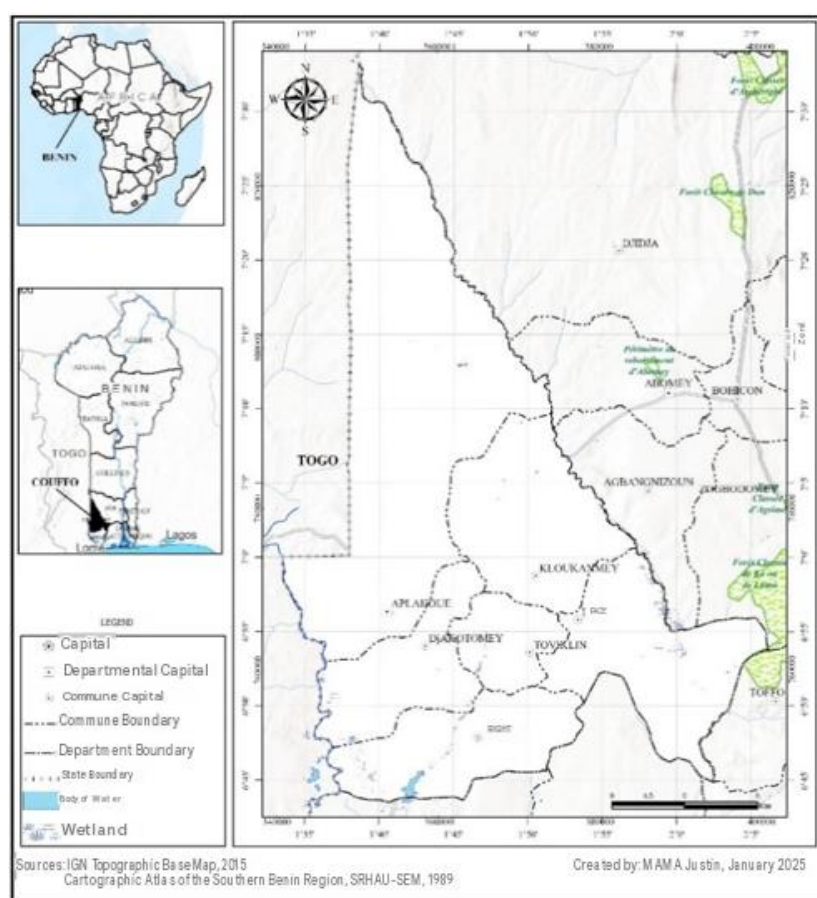


Figure 1: Geographic and Administrative Location of the Couffo Department

The Couffo Department covers an area of 2,404 km². It encompasses 450 villages or city neighborhoods and six municipalities, namely the municipalities of Aplahoué, Djakotomey, Dogbo, Klouékanmè, Lalo, and Toviklin. The Couffo Department is composed of 50 districts. The sub-equatorial climate of the Couffo Department, characterized by four seasons and rainfall peaking at 166 mm in June, strongly influences the local agricultural calendar. This alternation

between rain-fed agriculture and off-season crops in low-lying areas creates specific financing needs for farmers, aligned with production cycles. However, the wide temperature fluctuations in the early months of the year and the unpredictability of rainfall require tailored credit mechanisms capable of anticipating the climate risks inherent in these diversified production systems.

2.2. Data Collection Tools

Several types of data were used in this study. These include :

- socio-anthropological data, which provided insight into the population's perceptions of agricultural production and their ability to repay agricultural loans ;
- socioeconomic household data, which enabled an analysis of borrowers' economic vulnerability;
- financial data, with repayment capacity as the dependent variable, which enabled an assessment of the credit portfolio's performance, the contractual terms of the products, and the use of alternative financial services acting as buffers against climate shocks.

Sampling was conducted based on predefined criteria. It was grounded in the representativeness of the various stakeholders involved in agricultural production and agricultural financing in the Couffo Department. Respondents were selected based on the following criteria:

- be at least 30 years old, since at this age, respondents are expected to recount or describe climate trends;
- have resided in one of the municipalities of the Couffo Department for the past 30 years in order to better describe the population's socioeconomic experiences;
- be a member of a cooperative specializing in the production and marketing of agricultural products and have been active in this field for at least the past twenty (20) years in the Couffo Department. This criterion was selected because individuals who have engaged in agricultural activities in the research sector are able to provide substantial and concrete information on the various climate changes that have occurred in the research sector.

The target population consists of agricultural producers, producer associations (agricultural cooperatives), local authorities, and key informants. Districts known for their agricultural activity were selected. The sample size was determined using the formula by D. SCHWARTZ (1995, p. 17):

$n = (z^2 p(1-p))/d^2$; where n is the sample size; z^2 is the 95% confidence level ($z = 1.96$); d : margin of error or level of precision that can be accepted for the parameters estimated from the selected sample; p : proportion of farming households in the Couffo department. The Couffo department has 77,596 farming households and 461,428 people engaged in agriculture. Thus, $p = 77,596 \div 461,428 = 0.16816$; $q = 1 - 0.16816 = 0.8318$;
 $n = (1.96)^2 \times 0.16816 \times 0.8318 \div (0.05)^2$;
 $n = 3.8416 \times 0.139875 \div 0.0025 = 214.93$, or $n = 215$.

In total, $n = 215$ people. Only the head of household is counted in each household.

2.3. Data Processing and Analysis of Results

The survey results were quantified based on the actual score for each section of the questionnaire, calculated using the total number of respondents. Thus, the population's perception of climate change was determined based on the responses of the survey participants. The number of responses per question type was calculated using the statistical formula $P = \frac{n}{N} \times 100$, where n is the number of households that gave positive responses and N is the sample size at the departmental level. The analytical method adopted for this study is analytical and descriptive. The survey forms and interview guides were analyzed (coding; counting) using SPSS version 21.0 to determine descriptive statistics in terms of percentages and means. Graphs and maps were created, and certain statistical values were calculated using parametric tests, using software such as Excel 2010 and ArcGIS 10.8, respectively. To analyze the level of repayment, the repayment rate was determined. Agricultural incomes are, by nature, seasonal, cyclical, and subject to numerous uncertainties (climatic, economic, and health-related). To assess a farmer's ability to repay a loan (whether it is a seasonal loan for inputs or an investment in infrastructure), microfinance institutions and agricultural development banks use an approach based on the farm's operating account (D. Lamboni, 2008, p. 29). This is the key indicator used by financial institutions to assess your creditworthiness. It measures the recovery rate and evaluates the impact of shocks (drought, floods, market price fluctuations) on the financial health of the farming community (S.F.N.C. Djessonou, 2023, p. 71). The statistical formula is: $\text{Repayment Rate} = \frac{\text{Amount of Repayments Actually Received}}{\text{Amount of Instalments Due}} \times 100$.

The methodological approach adopted yielded the following results.

3. Results

3.1. Overview of Financing Mechanisms in the Couffo Department

3.1.1. Types of Credit Offerings

In the Couffo Department, agricultural financing offerings fall into three major, complementary categories.

3.1.1.1. Microfinance Institutions (MFIs)

Microfinance plays such an important role that it has become a tool for subsidiarity in public policy. In the Couffo Department, microfinance institutions are classified according to criteria related either to the financial activities they carry out or to their legal status. From the perspective of their activities, microfinance institutions can be classified into three (03) main categories (Table 1).

Table 1: Categories of microfinance institutions

Category	Structures	Main activities	Legal status
Savings and credit institutions	Mutuals, cooperatives, savings and credit groups (CLCAM)	Savings collection, granting of loans to members	Legal personality by agreement (mutuals and cooperatives)
Direct credit institutions	Institutions using their own resources or lines of credit (PADME, ALIDé)	Granting direct credit to customers	Not constituted as mutual societies or cooperatives
Microfinance projects	NGOs, government initiatives (CAVECA, RENACA)	Microfinance as a support activity (training, entrepreneurship)	Associations or NGOs, associative status
Savings and credit unions and cooperatives	CLCAM, FECECAM	Basic savings and credit institutions	Legal approval, regulated by law
Structures not constituted as mutuals or cooperatives	CAVECA, RENACA, savings and credit groups	Community or associative microfinance activities	Associations governed by the 1901 law and national texts

Source: Field surveys, May 2026

An analysis of Table 1 shows that mutuals and cooperatives are the most formally structured institutions, having obtained legal authorization. Unincorporated entities (NGOs, associations) play a complementary role but operate with a more flexible organizational structure. Direct credit institutions and projects with a microfinance component expand access to financing, but their legal status is less strictly regulated. This sector includes regulated organizations that offer structured financial products. Table 2 presents the main types of loans and microfinance mechanisms in the Couffo department, along with their characteristics and the stakeholders involved.

Table 2: Types of loans and microfinance schemes

Type of credit/device	Main features	Duration / Amount	Objective	Actors involved
Campaign credits	Funding for agricultural inputs (seeds, fertilizers) and labor	6 to 12 months, aligned with the crop cycle	Supporting seasonal agricultural production	Local cooperatives, savings and credit unions
Equipment credits	Acquisition of small equipment (motor pumps, tools, solar equipment)	Medium term (2 to 5 years), variable amounts	Modernize production tools	FNM Partner Institutions, PEBCo - BETHESDA
Alafia Microcredit	State-run program targeting vulnerable people (often women)	30,000 – 100,000 FCFA, preferential rate	Promoting financial inclusion and income-generating activities	National Microfinance Fund (FNM), local NGOs
Main actors	PEBCo - BETHESDA network, FNM partner institutions, local cooperatives	—	Ensure the distribution and monitoring of loans	Microfinance institutions, NGOs, community structures

Source: Field surveys, May 2026

An examination of Table 2 shows that crop-cycle loans are essential for agricultural production but remain dependent on the seasonal cycle. Equipment loans enable modernization but require solid collateral, making them less accessible. Alafia Microcredit is a tool for financial inclusion, particularly for women and vulnerable households. Local actors (PEBCo-BETHESDA, FNM, cooperatives) play a key role in distribution and support. The credit offerings in the Couffo department are structured around several mechanisms tailored to farmers' needs. Crop-cycle loans, with terms ranging from six to twelve months, finance the purchase of agricultural inputs, such as seeds and fertilizers, as well as the labor required for the growing cycle. Medium-term equipment loans facilitate the purchase of small equipment, such as motorized pumps or solar-powered equipment, although these loans are less common and subject to stringent collateral requirements. In addition, the government's "Alafia Microcredit" program targets vulnerable populations, particularly women, by providing small loans ranging from 30,000 to 100,000 CFA francs at favorable interest rates to support their financial inclusion. This financial ecosystem is primarily driven by the PEBCo-BETHESDA network, partner institutions of the National Microfinance Fund (FNM), and various local cooperatives. The agricultural financing ecosystem in the Couffo department has diversified over the past decade, shifting from a model dominated by traditional banks to one characterized by a strong presence of community-based microfinance institutions and government programs. Figure 2 shows the microfinance institutions that have provided loans to producers over the past ten years in the Couffo department.

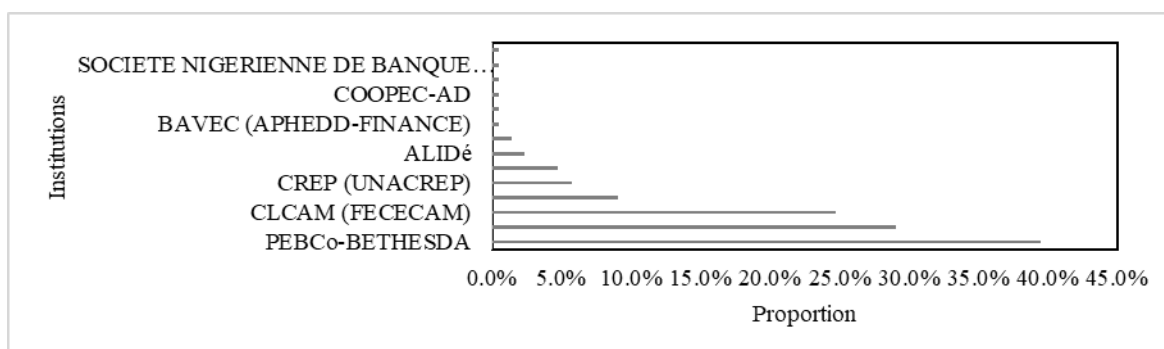


Figure 2: Microfinance institutions that have provided loans to producers over the past 10 years

Source: Field surveys, July 2025

An analysis of the agricultural credit market in Couffo reveals a high concentration around three dominant institutions, which alone account for 93.3% of reported loans. As the market leader, PEBCo-BETHESDA serves 39.5% of producers, followed by PADME (29.0%) and CLCAM (24.8%), all of which are long-established players with a strong presence. In contrast, other institutions such as CAVECA, CREP, and ALIDé hold a marginal share of the market, limited by restricted geographic coverage or more selective eligibility criteria. The rest of the sector consists of a multitude of players, including traditional banks and certain mutual financial institutions, which hold market shares of less than 0.5%. This dominance by the major networks highlights unequal access to financing for farmers depending on their location or the organization to which they belong. The agricultural credit landscape in the Couffo department remains dominated by a few large microfinance institutions, with little diversity in funding sources for producers. This concentration could limit competition among lenders and reduce options for producers, hence the need to promote diversification of financial services tailored to the agricultural sector.

3.1.1.2. Semi-formal Sector

The semi-formal sector, organized around Professional Agricultural Organizations (OPAs), offers mutual financing mechanisms that rely primarily on group solidarity. Within village savings funds and mutual aid societies, farmers organize themselves into cooperatives to build collective savings, which then enable them to access internal loans tailored to their needs. According to 78% of respondents, this system also relies on joint guarantees, a mechanism particularly widespread in the Couffo department, where members of the same group act as guarantors for one another. This innovative approach greatly promotes the financial inclusion of smallholder farmers, as it serves as a beneficial alternative to the requirement for land or physical collateral—conditions that are often too complex or inaccessible for this category of farmers.

3.1.1.3. Informal Sector

Despite the continued expansion of microfinance institutions, the informal sector remains the dominant pillar of rural financing in the Couffo Department. Tontines have established themselves as revolving or accumulative savings-and-loan systems, effectively managed at the community level by the farmers themselves. These mechanisms offer remarkable flexibility by completely avoiding the cumbersome administrative formalities that often characterize traditional banking structures. In addition, 32% of the producers interviewed turn to private lenders and local merchants to meet their immediate cash flow needs. Although these lenders sometimes charge high interest rates, farmers prefer these solutions because of their speed of execution. In this context, loans are frequently repaid in kind, thereby facilitating farmers' cash flow management. Specifically, a substantial portion of the harvest is transferred to the lender according to pricing terms agreed upon in advance by both parties. This practice allows farmers to secure inputs or funds without having to provide immediate monetary collateral. Community-based finance addresses gaps in access to formal financial systems by closely adapting to the seasonal constraints of rural life. This reliance on informal networks reflects the persistence of structures of solidarity and exchange that are deeply rooted in the local dynamics of the Couffo department.

3.1.2. Accessibility and Lending Conditions in the Couffo Department

Clients of decentralized financial services come from the production, trade, and service sectors. Clients who wish to obtain a loan must operate a business from a fixed location, and the loan received may not exceed 60% of their working capital. Table 3 presents the eligibility criteria for agricultural loans in the Couffo Department.

Table 3: Accessibility and conditions for granting credit in the Couffo department

Credit Type	Accessibility	Conditions for granting (requirements)	Level of constraint
Formal (MFIs/Banks)	Selective (restricted access)	Application review, proof of income, real guarantees (land titles, guarantor's guarantee), application fees, mandatory savings.	Pupil
Semi-formal (OPA)	Adapted (group access)	Membership in a cooperative, proven morality, joint and several guarantee from the members of the group, minimum prior savings.	Moderate
Informal (Tontines)	Immediate (universal access)	Interpersonal trust, respect for community social rules, absence of material guarantees.	Weak
Informal (Traders)	Quick (targeted access)	Verbal agreement or crop pledge contract (forward sale), implicit interest rate often integrated into the buyback price.	Variable

Source: Field surveys, May 2026

Table 3 shows that access to credit in the Couffo Department varies considerably, ranging from strict screening by formal institutions to immediate availability through informal networks. This disparity illustrates a duality between the restrictive administrative requirements of banks and the social flexibility that facilitates financing for smallholder farmers. While the formal sector offers technically lower interest rates, indirect costs (travel, processing time, and securing collateral) increase the total cost of accessing credit for farmers in the Couffo Department. In the department, joint liability guarantees within the OPA appear to be the main safeguard against financial exclusion. They substitute the producer's social value for the market value of their assets (which are often nonexistent). Although credit from merchants facilitates short-term cash flow, the practice of repayment in kind (selling crops at a reduced price) often traps farmers in a structural dependency that limits their ability to save. Based on the savings collected and the internal credit lines obtained, microfinance institutions offer their members individual or group loans: loans to groups, marketing loans, processing loans, storage loans, and loans to women and men entrepreneurs. Table 4 presents the types of loans and the eligibility criteria.

Table 4: Types of loans and eligibility criteria

Type of loans	Sector	Minimum amount	Maximum amount	Minimum duration	Maximum duration	Refund Method	Guarantee
Traditional loan	Commerc, Production , Service	25,000	75,000	3 months	6 months	Monthly	Reference person, group guarantees, guarantor
Large loans		≤250,000	≥250,000	4 months	10 months	Monthly	Pledge agreements, co-signatory
Special Project Loan		Customer capacity	Customer capacity	4 months	10 months	Monthly	Accompagnement
Market garden loan	Agricultural production	5,000	40,000	5 months	5 months	Two deadlines	Person/reference
Wholesale loans		75,000	250,000	4 months	10 months	Monthly	Pledge agreements, co-signatory

Source: Preliminary field survey, July 2025

An analysis of Table 4 shows that microfinance institutions can grant individual loans ranging from 25,000 FCFA to 75,000 FCFA for a term of up to six months without any collateral. However, when the loan amount is 250,000 FCFA or more, the borrower may provide collateral in the form of a pledge or a co-signer designated as a joint guarantor. Decentralized Financial

Services (SFD) promote the inclusion of rural populations through mutual guarantee schemes, enabling groups of farmers to overcome their lack of traditional collateral. This model, often based on mutual aid, complements financing with technical support (management, accounting) that strengthens collective entrepreneurship. However, access to credit remains contingent on a cash deposit ranging from 10% to 20%, depending on the institution (PEBCo-BETHESDA, CLCAM, CREP, CAVECA, PADME). Given the difficulties farmers face in raising these funds, neighborhood solidarity serves as an essential alternative for meeting these collateral requirements.

Applications are reviewed and forwarded by the manager, along with all documentation necessary to inform the members of the Credit Committee. The committee members review the loan applications in strict accordance with the rules established for this purpose to prevent the granting of unsound or frivolous loans. In accordance with internal procedures, applications approved by the Credit Committee are then forwarded to the chair of the board of directors or the institution's executive director and to the borrowers for the signing of contracts. Table 5 shows the interest rates charged by microfinance institutions.

Table 5: Interest rates at Microfinance Institutions

Institution	Average interest rate	Nature of the rate
PEBCo - BETHESDA	1% to 1.7% / month	Degressive
ALIDé	14% per annum (nominal)	Linear
CMMB	1.8% / month	Degressive
Alafia Microcredit	8% to 16% (per cycle)	Fixed
FECECAM	1.5% / month	Degressive

Source: Field surveys, May 2026

A review of Table 5 shows that interest rates range from 1% to 16%. The diversity of interest rates and calculation methods used by these institutions highlights the heterogeneity of financial products available in the Couffo department. While the degressive method, favored by most providers, allows for a gradual reduction in the cost of credit for the borrower, the use of fixed or linear rates by certain institutions can increase the actual financial burden.

3.2. Repayment Strategies and Success Factors

3.2.1. Repayment Dynamics

The Couffo department's significant exposure to climatic hazards, such as droughts and floods, places this area at the center of development and microfinance challenges. This environmental vulnerability shapes local financial performance by determining, at the municipal level, borrowers' actual ability to meet their repayment obligations (Figure 3).

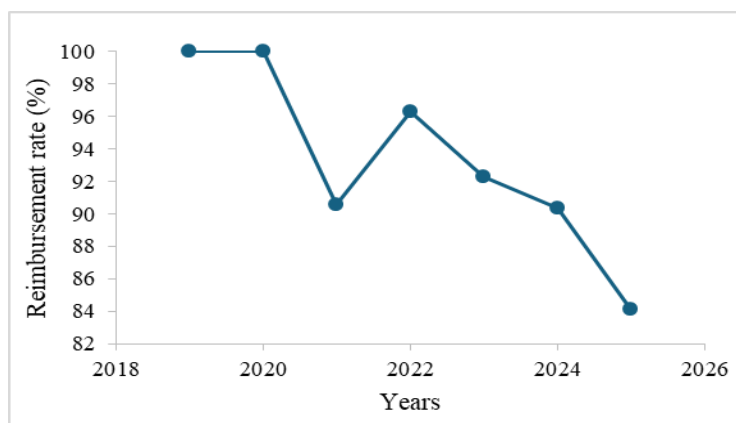


Figure 3: Trends in the loan repayment rate

Source: Survey data, July 2025

An analysis of Figure 3 shows that the repayment rate fell from 100% in 2019 to 84.09% in 2025. Thus, the loan repayment rate declined by 15.91% in the Couffo department. The rise in non-performing loans has prompted financial institutions to adopt a cautious stance, tightening access to credit by raising interest rates and requiring inaccessible collateral, such as land titles. By disrupting financing cycles, these restrictions paralyze the continuity of agricultural activities. Caught in this trap, smallholder farmers have no choice but to liquidate their productive assets—livestock or equipment—or to mortgage their land to repay their debts. This vicious cycle permanently undermines their resilience, depriving them of the means necessary to sustain future production.

3.2.2. Loan Repayment Strategies in the Event of Poor Yields

In the Couffo Department, crop failures due to adverse weather conditions (droughts, floods) place farmers in a financial bind. To meet their obligations despite poor yields, they employ coping strategies that impact the household's socioeconomic stability. Table 6 highlights the various strategies adopted by borrowers in the event of poor yields or insufficient harvests.

Table 6: Strategies adopted by borrowers to repay loans in the event of poor yields or insufficient harvests

Strategies	Proportion
Credit remains unpaid	1.0%
Sale of goods for reimbursement	81.0%
New loan to repay the old one	6.2%
Negotiation of a new timetable	21.4%
Waiting for the next harvest to repay	3.3%
Other	5.2%

Data source: Field survey work, July 2025

An analysis of Table 6 shows that, in order to meet their financial obligations, producers in the Couffo department employ survival strategies that reveal the precarious nature of their situation. In fact, 81% of the farmers surveyed are sacrificing their personal assets—particularly livestock or household goods—to preserve their financial standing, even though this jeopardizes their future productive capacity. In addition, many are turning to non-agricultural activities such as food processing, small-scale retail, or motorcycle taxi services to generate the necessary cash flow. While 21.4% of borrowers benefit from a repayment schedule renegotiation, a minority find themselves trapped in a dangerous cycle of over-indebtedness by taking out new loans to pay off previous ones. In contrast, women leverage their economic versatility and the solidarity within their groups to ensure more prudent debt management.

3.2.3. Level of Awareness Among MFIs Regarding Measures to Mitigate the Effects of Climate Change

MFIs' awareness is primarily driven by the need to protect their loan portfolios. They view climate change not as an environmental priority, but as a financial threat. Loan officers are aware that climate change is a major cause of loan defaults. Figure 4 shows MFIs' level of awareness regarding measures to mitigate the effects of climate change.

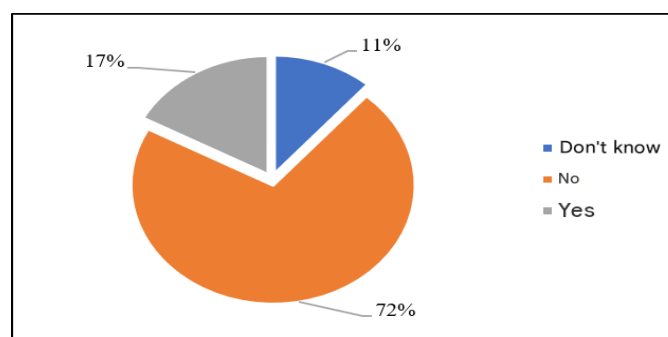


Figure 4: Level of awareness among MFIs regarding climate change mitigation measures

Source: Survey data, July 2025

An examination of Figure 4 reveals a low level of integration of climate issues into the services provided by microfinance institutions (MFIs). In fact, 17% of agricultural loan recipients report having been educated by their MFIs on measures to mitigate the effects of climate change, while 72% state that they have not received such education. Furthermore, 11% of respondents report not knowing whether such actions are being taken. This situation reflects a significant lack of commitment on the part of MFIs to addressing environmental issues in their support for agricultural producers. Among the borrowers who reported having received such awareness-raising, the measures highlighted by the MFIs primarily concern the promotion of sustainable farming techniques and practices (86%), followed by the distribution of appropriate agricultural production tools (61%). Furthermore, 50% of the MFIs surveyed guide their beneficiaries toward the specific use of certain types of fertilizers, while the use of pesticides is addressed in only

25% of cases. Post-harvest conservation techniques are mentioned in 44% of cases. When MFIs engage in awareness-raising efforts, the focus is on the sustainability of agricultural practices. However, the small proportion of MFIs involved in these initiatives highlights the lack of a systematic approach to integrating climate issues into agricultural financing policies. MFIs are increasingly encouraging crop diversification to ensure that at least part of the loan is repaid. They prioritize loans for processing (gari, palm oil) because they know these activities are less vulnerable to direct climate risks than raw production. Awareness-raising efforts focus on phasing out late-maturing varieties in favor of 70-day corn, in order to reduce the duration of exposure for the loaned capital. In the event of delayed rains affecting the maize crop, farmers use weekly profits from vegetable farming or the sale of gari (processed cassava) to make their monthly payments. The default rate becomes less dependent on seasonal peaks. Cash flows become more regular, facilitating the MFI's collection efforts.

2.2.4. Trends in Agricultural Loan Delinquencies Following Awareness-Raising

Farmers who have participated in awareness-raising programs learn to allocate their income. They understand that a loan is a productive debt and not a windfall. Figure 5 presents the technical services' assessment of trends in agricultural loan delinquencies over the past twenty (20) years.

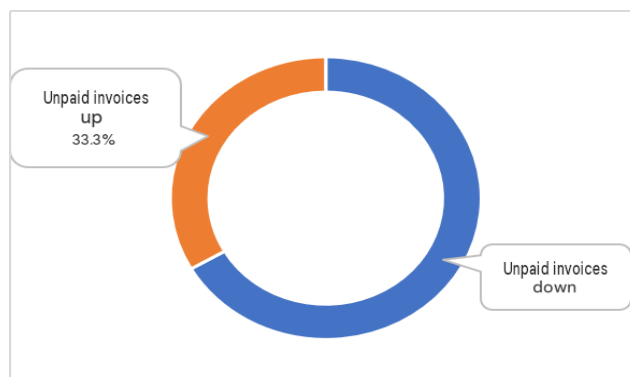


Figure 5: Technical departments' assessment of trends in delinquent agricultural loans over the past twenty (20) years

Source: Survey data, July 2025

An analysis of Figure 5 shows that 66.7% of technical services believe that delinquent agricultural loans have decreased over the past twenty years, reflecting an overall improvement in repayment and better loan management by producers. However, 33.3% believe that delinquencies are on the rise, indicating persistent challenges linked in particular to climate variability, insufficient crop yields, and poor product sales. The trend is viewed as positive, but with pockets of vulnerability that call for more robust risk mitigation mechanisms. The trend in delinquencies primarily reflects the instability of agricultural yields, which are heavily influenced by climate risks and market fluctuations. However, the implementation of mechanisms such as the FNDA guarantee has provided relief to producers, thereby reducing the

direct burden of repayment and limiting the risk of delinquencies. Furthermore, producers are gradually becoming more aware of the importance of repayment in maintaining their future access to credit. Following the awareness-raising phases on climate risks and financial education, three stages of development are generally observed: the shock phase, the transition phase, and the stabilization phase. Before awareness-raising, high delinquency rates (often > 15%) are due to total dependence on the rainy season and poor cash flow management after harvest. The immediate post-awareness phase leads to a decline in delinquencies to a moderate level (7% to 10%). Farmers begin to set aside a portion of their income from value-added agriculture (vegetable farming, processing) to meet their payment obligations. Outstanding payments remain below 5% for groups that have adopted short-cycle seeds and supplemental irrigation in low-lying areas. Awareness-raising acts as a lever for financial stability by encouraging diversification of income sources and prudent management of crop risks, thereby strengthening the cohesion of solidarity-based groups. However, this educational approach reaches its limits when faced with major structural constraints. Extreme weather events, insufficient protective measures such as index-based insurance, and rising input costs remain insurmountable obstacles. In a crisis situation, the need to ensure family survival naturally takes precedence over repayment obligations, underscoring that awareness-raising cannot replace a genuine agricultural resilience policy.

4. Discussion

In the Couffo Department, the financial landscape is based on the complementary nature of three distinct sectors: formal, semiformal, and informal. Microfinance institutions (MFIs) dominate the formal sector, divided among mutual savings-and-credit cooperatives, direct lending organizations, and association-based support projects. The market is highly concentrated, with three major players (PEBCo-BETHESDA, PADME, and CLCAM) accounting for more than 93% of reported agricultural loans. At the same time, the semi-formal sector revolves around Professional Agricultural Organizations (OPAs), which use joint guarantees to promote the inclusion of smallholder farmers who lack collateral. The informal sector, although less regulated, remains indispensable due to its flexibility and speed, despite often high costs and repayments that are sometimes made in kind. Access to credit remains generally subject to rigorous screening, as formal banks and MFIs require complex applications and collateral. To overcome these constraints, producers rely on community solidarity, which is essential for providing the financial guarantees required by MFIs. Government programs, such as “Alafia Microcredit,” specifically target vulnerable populations with more lenient terms. Loan types range from simple short-term seasonal loans to more structured equipment financing. Interest rates, ranging from 1% to 16%, reflect a wide variety of calculation methods, ranging from favorable sliding-scale rates to fixed or linear formulas. Each institution applies strict application review procedures through credit committees to limit defaults. Ultimately, this financial framework offers diverse options, although actual access to resources remains uneven depending on producers’ ability to form groups. There is thus a constant need to diversify these services to better respond to the climatic uncertainties that make farmers vulnerable. The sustainability of agricultural financing in Couffo depends on the ability of stakeholders to balance prudential

constraints with farmers' need for resilience. These findings corroborate those of B. Formoso (2018, p. 17) and G. B. Voukeng (2016, p. 11), who demonstrated that microfinance institutions specialize in financing small-scale economic activities. They play a social role by targeting a large number of people excluded from the traditional financial system—including poor households, agricultural enterprises, and mutual aid associations—by offering them tailored financial services. The decline in yields due to climate-related constraints affects loan repayments at the farm level. The delinquency rate among MFIs in the CEMAC region was around 30 percent. MFIs had accumulated so many delinquent loans that their operating costs rose as a result of substantial provisions for bad debts and collection fees. Ultimately, they found themselves financially strangled.

To cope with climate uncertainties and poor yields, 81% of producers in the Couffo department sacrifice their personal assets to meet their financial obligations. This survival strategy preserves their reputation, although it permanently compromises their future production capacity. At the same time, a minority of borrowers are trapped in a dangerous cycle of over-indebtedness by taking out new loans to pay off previous ones. At the same time, a minority of borrowers find themselves trapped in a dangerous cycle of excessive debt by taking out new loans to pay off previous ones. Faced with these risks, microfinance institutions (MFIs) still do little to address climate-related issues, with only 17% of beneficiaries having received specific awareness training. When such education is provided, it encourages multiple sources of income, agri-food processing, and the adoption of short-cycle crop varieties to secure income. These measures promote better financial planning, enabling farmers to stabilize their loan repayments despite seasonal fluctuations. Technical data also confirm that 66.7% of institutions have seen a decline in delinquencies over the past two decades thanks to more rigorous management. This positive trend remains fragile, however, given the scale of extreme weather events and rising input costs. In times of major crisis, the need to ensure family survival naturally takes precedence over repayment obligations, limiting the effectiveness of the advice received. This reality underscores that awareness-raising alone cannot be a solution and requires the urgent implementation of more robust protection mechanisms, such as crop insurance. This finding is consistent with those of Y. J. P. Tohinlo (2016, p. 6) and PARM (2019, p. 10), who stated that repayment capacity refers to the borrower's total funds, taking into account the borrower's cash flows and payment habits. It is determined by the expected profit from the loan's valuation, and the decision to borrow is made under the assumption of maximizing this expected profit given the anticipated price of the output. According to IFAD (2021, p. 3), the ability to repay a loan is much more a matter of willingness than of repayment capacity. A borrower may lack the willingness to pay even if they have the ability to repay the loan. Arithmetic factors alone do not guarantee loan repayment. Indeed, a client may have the ability to meet their obligations over a specific period, but for various reasons, they may encounter difficulties and become unable to repay their loan.

Conclusion

At the conclusion of this study, it is important to note that the agricultural financing system in the Couffo department is based on complementarity among the formal, semi-formal, and informal

sectors, although the market remains heavily concentrated around three major institutions. While MFIs dominate with their structured offerings, the semi-formal sector—through the OPAs—and the informal sector remain essential for meeting producers' needs for flexibility. Access to formal credit, however, remains difficult due to collateral requirements, which joint guarantees within farmer groups aim to address. Faced with climate uncertainties, farmers sacrifice their assets to pay off their debts, thereby risking their future productive capacity. Although a minority becomes trapped in a cycle of excessive debt, raising awareness about diversifying income sources promotes greater stability in loan repayments. Technical data indicate a decline in unpaid debts over the past two decades, thanks to more rigorous management and adapted products such as short-cycle crop varieties. However, this improvement remains fragile in the face of recurring extreme weather events and rising input costs. Institutions still do not sufficiently integrate environmental concerns into their policies, limiting the impact of the technical support provided. In times of major crisis, the need to ensure family survival naturally takes precedence over financial obligations, rendering the advice received insufficient. It is therefore urgent to implement robust protection mechanisms, such as crop insurance, to ensure the long-term resilience of farmers.

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