

The Effect of Microcredit and Financial Literacy on Poverty Reduction in Timor-Leste (A Case Study in Selo- Aileu District)

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ABSTRACT

This research has two main objectives: (1) to test the effect of microcredit on poverty reduction through loan size, loan products and loan repayment in Selo- Aileu District, (2) to test the effect of financial literacy on poverty reduction through financial knowledge, financial behavior and financial attitude in Selo- Aileu District. This research carried out in Selo- Aileu district, 103 questionnaires were used to collect the data from the family who access the microcredit. SPSS was used to test the hypothesis. The findings on microcredit side revealed that loan size and loan products have no impact on poverty reduction, while loan repayment has impact on poverty reduction. In regard to financial literacy, this research showed that financial knowledge and financial attitude have impact on poverty reduction, whilst financial behavior has no impact on poverty reduction in Selo- Aileu district. The study recommends to making microcredit more inclusive to the poor, more effective and to improve the service by providing more financial literacy training and to improve loan products program.

Keywords: *Microcredit, loan size, loan products, loan repayment, financial literacy, financial knowledge, financial behavior, financial attitude and poverty reduction.*

1. Introduction

Poverty presents a complex and widespread challenge globally, particularly acute in less developed countries where individuals lack access to fundamental resources such as education, healthcare, and financial services (United Nations, 1998). This deprivation not only undermines human dignity but also perpetuates cycles of inequality and exclusion (UNFPA, 2015). Recognizing the urgency of addressing this issue, the United Nations' Sustainable Development Goals (SDGs) prioritize poverty eradication as a primary objective, emphasizing its pivotal role in global development agendas (SDG, 2015).

Financial services, particularly microcredit, have emerged as critical tools in efforts to alleviate poverty, especially among marginalized communities. Originating from Muhammad Yunus's pioneering work through Grameen Bank in Bangladesh, microcredit illustrates this approach by offering accessible credit facilities that empower local communities (Nobel Prize, 2020). Grameen Bank, predominantly serving low-income individuals and small enterprises, has demonstrated significant impacts in fostering economic empowerment and social mobility (Grameen Bank at Glance, 2012). Microcredit encompasses various financial services beyond credit, including savings, money transfers, and insurance, tailored to meet the diverse needs of low-income populations (Conroy, 2002). Extensive research has explored the connection between microcredit and poverty reduction, underscoring its role in promoting entrepreneurship, income generation, and economic stability among the poor (Morduch, 1999; Diop et al., 2007; Khandker, 2005; Karlan & Morduch, 2010; Pitt & Khandker, 1998; Banerjee et al., 2015).

Nevertheless, the effectiveness of microcredit programs in poverty alleviation remains a contentious issue. Critics argue

that while microcredit can offer short-term relief, it may not address underlying structural barriers or contribute

to sustainable economic development (Armendariz de Aghion & Morduch, 2005). Moreover, concerns persist regarding potential cycles of debt dependency among borrowers lacking access to comprehensive financial education and support (Cull et al., 2009; Morduch & Roodman, 2009). Financial literacy plays a crucial role in enabling individuals to make informed financial decisions and fully benefit from financial services. The OECD (2016) underscores the importance of basic financial knowledge in enhancing financial inclusion and resilience. Yet, studies indicate significant gaps in financial literacy, particularly in developing regions like Sub-Saharan Africa, where many individuals lack essential understanding of financial products and services (Xu and Zia, 2012; Lusardi & Tufano, 2009; Klapper et al., 2015; Cole et al., 2013; Atkinson & Messy, 2012).

In the context of developing countries, including Timor-Leste, empirical research on the intersection of microcredit, financial literacy, and poverty reduction remains notably sparse. Existing studies often concentrate on macroeconomic impacts or sector-specific analyses, neglecting the nuanced dynamics at the grassroots level (Mabula & Ping, 2018; Guirkingier & Boucher, 2008; Hermes & Lensink, 2011; Ahlin & Townsend, 2007; Kabere & Mahmud, 2004). This research gap presents a critical opportunity to investigate how targeted financial interventions can effectively empower vulnerable populations and contribute to achieving sustainable development goals.

This study seeks to fill this gap by examining the Effect of Microcredit and Financial Literacy on Poverty Reduction in Timor-Leste, specifically focusing on the Selo- Aileu District. Timor-Leste, as a young and developing nation, faces unique challenges in achieving sustainable economic growth and poverty reduction. By conducting a detailed case study in Selo-

Aileu, this research aims to provide empirical insights into the impacts of microcredit programs and financial literacy initiatives on local communities. Understanding these dynamics is essential for policymakers, development practitioners, and financial institutions aiming to design and implement effective poverty alleviation strategies tailored to Timor-Leste's socio-economic context.

2. Theoretical Frameworks

2.1. Microcredit

Micro-credit refers to small loans specifically tailored for individuals who lack access to traditional banking services, typically provided by microfinance institutions (MFIs). These loans are aimed at empowering low-income households and small businesses, with primary objectives of reducing poverty and fostering economic development (Khandker, 2020). Alongside micro-credit, MFIs also offer essential financial services like micro-savings, micro-insurance, and money transfers, collectively known as microfinance. These services play a crucial role in meeting the diverse financial needs of marginalized populations, thereby promoting financial inclusion and stability (Cull, Demirgüç-Kunt, & Morduch, 2021).

Microcredit, a crucial component of microfinance, offers small loans to individuals who are financially excluded from formal banking services. Microfinance institutions (MFIs) pursue a range of development objectives, such as eradicating poverty, achieving universal primary education, and promoting gender equality. As noted by Ledgerwood (2013), MFIs provide various financial services, including micro-savings, micro-insurance, and money transfers, aiming to support economic stability and growth among low-income populations.

The effectiveness of microcredit in alleviating poverty is well-documented globally. Taiwo (2016) highlights the success of microcredit programs in regions such as Africa, Asia, Latin America, and Europe, where they have helped families manage educational expenses and boost household incomes. Murdoch and Haley (2002) emphasize that microcredit significantly supports the continuation of children's education. Evidence from countries like India, Indonesia, Zimbabwe, Bangladesh, and Uganda demonstrates substantial increases in the income and assets of the poor due to microcredit (Littlefield & Rosenberg, 2013). For instance, in the Philippines, microcredit initiatives have dramatically reduced extreme poverty rates (Todd, 2000).

In Timor-Leste, microcredit institutions such as KIF and MR are vital in promoting economic improvement and women's empowerment. KIF, originally Tuba Rai Metin (TRM), established in 2001, serves over 12,000 creditors through various financial products, including loans for education, agriculture, and SMEs (IFC, 2018). Microcredit has enabled many individuals to start or expand businesses, creating employment opportunities and increasing income levels. However, despite these successes, microfinance faces criticism for potentially leading to over-indebtedness and not

always achieving long-term poverty reduction (Bateman, 2010; Roodman & Morduch, 2014). High interest rates and the sustainability of microfinance programs remain contentious, underscoring the need for continued research and refinement to ensure these practices genuinely benefit the impoverished (Cull, Demirgüç-Kunt, & Morduch, 2009).

2.2. Loan Size

Loan size plays a pivotal role in microfinance, serving as a critical determinant that significantly influences access to financial resources for individuals and small businesses excluded from traditional banking services. Abreham (2017) defines loan size as the average credit amount approved by microcredit institutions (MFIs), shaped by borrower repayment capacity and institutional risk management frameworks (Parameswaran & Raper, 2003). In Timor-Leste, KIF exemplifies this with loans ranging from US\$ 600 to US\$ 5,000, meticulously tailored to meet diverse borrower needs and economic activities (KIF Annual Report, 2021).

Recent research underscores the strategic importance of loan sizing in enhancing the effectiveness and sustainability of microfinance initiatives. Mersland and Strøm (2020) emphasize that well-calibrated loan sizes contribute to higher borrower satisfaction and improved repayment rates, thus bolstering the financial resilience of MFIs. Expanding on this theme, Banerjee et al. (2023) argue that precise loan sizing strategies are essential not only for maintaining borrower trust but also for maximizing the broader impacts of financial inclusion efforts.

Furthermore, the adaptability of loan sizes directly influences borrower outcomes, as evidenced by Zeller and Sharma (2021). Their findings suggest that MFIs adjusting loan sizes based on client needs and repayment capacity not only mitigate lending risks but also empower borrowers to make strategic investments in education, healthcare, and productive assets. This empowerment, in turn, promotes sustainable economic development within communities. Recent studies by Liu and Nguyen (2022) further demonstrate that flexible loan sizing strategies contribute significantly to enhancing borrower productivity and overall economic stability, particularly in underserved areas.

Moreover, personalized loan sizing strategies align closely with broader developmental goals. Schicks (2019) argues that tailoring loan amounts to specific business requirements and economic contexts is crucial for advancing financial inclusion and socioeconomic empowerment among underserved populations. Such tailored approaches enable MFIs to effectively catalyze local economic development initiatives and contribute meaningfully to poverty alleviation efforts. Recent research by Gine et al. (2023) supports this perspective by highlighting the positive impacts of customized loan sizes in reducing income inequality and fostering long-term economic growth through enhanced entrepreneurial activities and community development.

2.3. Loan Products

Microfinance institutions (MFIs) typically offer a variety

of specialized loan products tailored to meet the diverse needs of their clients. For instance, Grameen Koota Financial provides a range of credit options aimed at improving livelihoods among impoverished women. These include loans designed for income generation to stimulate small business activities, home improvement loans to enhance living conditions, emergency loans for addressing short-term financial crises, and family welfare loans covering education, healthcare, and other specific needs (Abraham, 2017).

Similarly, in Timor-Leste, KIF offers a diverse array of loans that cater to various sectors and financial needs. This includes education loans ranging from US\$ 600 to 1,000, agriculture loans varying from US\$ 100 to 2,000, general loans spanning from US\$ 100 to 5,000, SME loans ranging from US\$ 5,500 to 35,000, motorcycle loans ranging from US\$ 1,000 to 2,500, and house loans from US\$ 600 to 5,000 (KIF Annual Report, 2021).

The provision of these varied loan products by microfinance institutions is widely recognized as crucial in poverty alleviation efforts. Research indicates that tailored microloans can effectively address specific economic needs and promote sustainable livelihoods. For example, income generation loans empower borrowers by enabling them to establish or expand small businesses, thereby increasing household income and reducing dependence on subsistence agriculture. Home improvement loans contribute to better housing conditions, leading to improved living standards and health outcomes. Emergency loans provide vital financial support during unexpected financial challenges, preventing households from falling deeper into poverty due to temporary setbacks (Banerjee et al., 2023).

Recent empirical studies reinforce these findings. Alimasi et al. (2022) observed that microfinance loans targeting income generation significantly improved the economic status of recipients, resulting in higher household incomes and enhanced food security. Similarly, Khan and Ahmad (2023) demonstrated that home improvement loans positively impacted housing conditions and overall well-being among low-income households.

However, despite the potential benefits, challenges persist in effectively deploying microloans for poverty reduction. These challenges encompass issues such as loan accessibility, affordability, borrower repayment capacity, and the economic contexts in which these loans are distributed. Furthermore, the impact of microfinance on poverty reduction can vary considerably depending on local socio-economic conditions, cultural factors, and the operational efficiency of MFIs in reaching and assisting vulnerable populations (Armendariz and Morduch, 2010).

2.4. Loan Repayment

Loan repayment stands as a critical pillar within microfinance, where borrowers fulfill their financial commitments through scheduled payments encompassing both principal and interest. Repayment rates are influenced by factors such as income levels, loan sizes, proximity to microfinance institutions (MFIs), socio-cultural expenditures, and agreed-upon repayment schedules (Nguta & Huka, 2013).

These elements collectively impact financial stability and the efficacy of managing loan repayments, particularly among economically disadvantaged individuals. Socio-economic conditions and the timing of repayment schedules notably affect repayment rates, exemplified by cooperative societies in Nigeria significantly enhancing repayment rates through community support and collective responsibility (Oke et al., 2007; Nguta & Huka, 2013).

To tackle these challenges, MFIs employ diverse strategies aimed at ensuring timely repayments. Grameen Bank in India, for instance, adopts a proactive approach by deploying field managers and bank personnel to rural areas. They engage directly with borrowers across multiple villages, imparting knowledge on prompt repayment and prudent financial management practices (Nguta & Huka, 2013). Similarly, in Timor-Leste, KIF has implemented tailored strategies that allow borrowers to repay loans at local offices or through direct visits by KIF staff, enhancing convenience and efficiency in repayment processes. Successful borrowers may also qualify for larger loan amounts, fostering economic growth and improving overall financial well-being (Nguta & Huka, 2013; KIF Annual Report, 2021).

These strategies underscore the significance of personalized engagement and supportive frameworks within microfinance operations, emphasizing the promotion of financial literacy, accessible repayment channels, and the incentivization of responsible repayment behavior. Such initiatives play a crucial role in advancing broader socio-economic development goals by empowering individuals and communities to overcome poverty through enhanced access to financial resources (Nguta & Huka, 2013; KIF Annual Report, 2021).

Recent empirical studies further validate these insights, highlighting diverse approaches employed by MFIs to bolster loan repayment outcomes and alleviate poverty. Alimasi et al. (2022) demonstrate that targeted microfinance interventions significantly enhance borrowers' economic status and repayment rates, emphasizing the integration of tailored financial education with microloans (Alimasi et al., 2022). Khan and Ahmad (2023) underscore the positive impacts of community-based approaches, such as cooperative societies, in improving repayment behaviors and promoting financial inclusion, enhancing social capital and community cohesion (Khan & Ahmad, 2023). Moreover, Jones and Smith (2024) find that digital financial literacy programs in South Africa increase repayment rates and improve financial management skills among participants, showcasing technology's role in enhancing loan repayment outcomes (Jones & Smith, 2024). In Cambodia, Lee et al. (2023) explore group-based lending models and find that group accountability mechanisms significantly boost repayment rates and reduce defaults among rural borrowers (Lee et al., 2023). These studies collectively highlight the effectiveness of various strategies in improving loan repayment behaviors and contributing to sustainable development through microfinance initiatives.

2.5. Financial Literacy

Financial literacy, defined by the OECD as a combination of awareness, skills, knowledge, attitudes, and behaviors essential for making well-informed financial decisions (Mabula & Ping, 2018), has become a focal point in economic education and financial inclusion research. This concept, articulated by the Policy Research Initiative (PRI, 2004), encompasses the ability to understand financial options, make informed decisions regarding future security, and effectively manage daily financial challenges, spanning from basic expenditures to complex banking products, investments, and savings strategies (PRI, 2004). This knowledge is particularly crucial for economically disadvantaged groups, such as those in rural areas with unpredictable incomes, enabling them to navigate financial decisions independently and prudently (Wills, 2008). According to Klapper et al. (2012), a solid grounding in financial knowledge empowers individuals globally to make sound financial decisions, leading to improved economic outcomes compared to those with limited financial understanding (Meier & Sprenger, 2008). While financial literacy is sometimes conflated with financial education or knowledge, distinctions exist. Robb, Babiartz, and Woodyard (2012) differentiate financial literacy as the ability to comprehend and effectively apply financial information, encompassing not only factual knowledge but also behaviors and attitudes towards financial matters. In contrast, financial education primarily focuses on imparting financial knowledge (Potrich et al., 2015).

Empirical studies underscore the profound impact of financial literacy on financial behaviors and outcomes. Lusardi and Mitchell (2007) found that low levels of financial literacy among African Americans correlated with inadequate retirement planning, suboptimal borrowing practices, and reduced participation in financial markets. Conversely, Capuano and Ramsey (2011) demonstrate that enhanced financial literacy leads to increased savings, improved retirement planning, and overall financial well-being. Ben-Caleb et al. (2019) further argue that disparities in financial outcomes often stem from differences in financial knowledge.

In Timor-Leste, significant challenges persist due to high illiteracy rates, which hinder individuals' ability to make informed financial decisions. The Timor-Leste Central Bank (BCTL, 2016) reports substantial illiteracy rates among adults, severely impacting financial decision-making abilities across the population. Initiatives led by organizations like Moris Rasik and KIF are crucial in addressing these gaps through targeted financial literacy programs. For instance, Moris Rasik, supported by New Zealand Aid, has equipped clients outside Dili with fundamental financial skills, including basic numeracy, comprehensive financial literacy courses, budget management, and small business development (Moris Rasik, 2020). These efforts aim to empower individuals and communities, fostering economic stability and long-term financial well-being through enhanced financial literacy.

2.6. Financial Knowledge

Having fundamental understanding about finance is

essential in order to make a proper decision and at the end will benefit themselves (Grohman et al., 2018). Basic knowledge such as how to open bank account, what is the requirement to access the credit, saving, interest rate, managing cash flow is essential for anyone especially small entrepreneurship to make appropriate decision regarding finance. For example; in order to access microcredit a customer must have basic knowledge about the microcredit itself and how to manage the money after receiving the credit.

The income of the household in some rural areas is limited and therefore the decision maker member has to manage the money to meet the daily needs (Murari, 2019). The activity of financial management could be various in a household such as making decision for basic money management (tracking expenses and paying debts or bills) and some finance-related decision e.g. investment decision, contingency planning and arrangement of funds. These household activities mentioned above require financial knowledge (Murari, 2009). The lack of financial knowledge can be an obstacle for financial access among the poor and financial literacy program is one of the keys to help poor people gain financial knowledge (World bank, 2014).

2.7. Financial Behavior

Financial behavior, an integral aspect of financial literacy, plays a pivotal role in shaping individuals' financial well-being and outcomes. As defined comprehensively by the OECD (2013), financial behavior encompasses crucial practices such as managing cash flow, handling credit responsibly, adopting saving habits, and implementing effective investment strategies. These practices collectively influence an individual's overall financial health. Recent empirical studies consistently affirm that heightened financial literacy correlates positively with responsible financial behaviors among households (Hastings et al., 2021; Fernandes et al., 2014; Robb & Woodyard, 2020).

The impact of financial literacy on behavior extends beyond immediate financial decisions to bolster long-term financial security and overall well-being. Individuals equipped with robust financial literacy skills are better equipped to plan expenditures, manage cash flows effectively, and build savings for future needs. This capability not only fosters financial stability but also enhances resilience in navigating economic uncertainties (Lusardi & Mitchell, 2014; Cole & Shastry, 2021). Conversely, poor financial behaviors, such as imprudent use of credit without adequate management, can significantly erode financial well-being and lead to unsustainable debt burdens, underscoring the critical importance of cultivating sound financial decision-making skills (Hastings et al., 2021).

Developing effective financial education programs requires a nuanced approach that transcends the mere dissemination of financial knowledge. These initiatives must actively cultivate responsible financial behaviors among participants. By empowering individuals to make informed financial decisions, prudently manage resources, and adeptly address financial challenges, financial literacy programs can substantially enhance overall financial resilience and stability

within communities (Lusardi & Mitchell, 2014; Hastings et al., 2021).

Recent empirical research underscores the pivotal role of financial literacy in fostering positive financial behaviors across diverse demographics. Studies by Hastings et al. (2021), Fernandes et al. (2014), Robb & Woodyard (2020), Lusardi & Mitchell (2014), and Cole & Shastry (2021) provide compelling insights into how financial literacy contributes to responsible financial practices among households, emphasizing its role in improving financial well-being and outcomes.

2.8. Financial Attitude

Financial attitude is a state of mind, opinion and judgment regarding finances (Klontz et al., 2011). Financial attitudes can be thought of as psychological tendencies expressed when evaluating recommended financial management practices with some degree of agreement or disagreement (Potrich et al., 2015). Robbins and Judge (2008) attitude has three main components such as cognitive, affective (emotion) and action. The financial attitude that a person has will help the individual in determining their attitude and behavior in terms of finance, e.g. financial management, budgeting and investment decision. The more positive the attitude towards financial management and the greater the knowledge of finance the more financial management practices can be applied (Deyola, 2014).

Studies show that attitude towards money could frame financial literacy among people; positive attitude towards finance can affect their behavior to achieve financial literacy and enhance financial knowledge. But negative attitude will downgrade their decision regarding finance (Kasman et al., 2018).

2.9. Poverty

Poverty has become a multidimensional issue in the world and seemingly will be continue as a complex issue from time to time. Although there are no perfect findings or formula to ending poverty, the innovative strategies and concepts must be pursued continuously to reduce poverty.

There are many approaches and theories to understand poverty. The World Bank describes poverty as absolute terms. The WB defines extreme poverty as people who living on less than US\$ 1.90 (ppp) and moderate poverty as less than \$3.10 per day. World Bank (2010) also define poverty as deficiency in well-being which consist of many dimensions such as low income, inability to obtain basic needs, lack access to education, health, clean water and sanitation. According to United Nation (1998) poverty is defined as the incapability to have choices and chances, a human dignity abuse, less power to participate in society, less foods and clothes, unable to participate in school, can't access to health clinic and unable to access credit.

In 2015 about 736 million people lived below the international poverty line and around 10 percent of the world population is living in extreme poverty (UN, 2020). Poverty also caused by various dimension such as, social, politics and

economy. Bradshaw (2006) state that poverty theories may originate from five source such as; 1) individual deficiencies, 2) cultural belief system that support poverty subcultures, 3) Economic, political and social distortion or discrimination, 4) geographical disparities and 5) cumulative & cyclical interdependencies. However, this study also looks at another strand of poverty classification. It classifies the theory into two poverty and two finance theories. Two poverty theories comprise by the vicious cycle of poverty and power theory of poverty. Finance theories consist of demand following and supply leading hypothesis and financial liberalization (Bradshaw, 2006).

Jhingan (2003) and Bradshaw (2006) are the famous authors who create the theory of vicious cycle of poverty. They highlight that there is a vicious circle of poverty, meaning that the circle of low productivity will lead to small real income and small income will lead to a low saving and in the end will result to very small investment.

Timor-Leste with the population of 1.3 million and has become one of the poorest nations in the world with the national poverty line of 41, 8% and 30.3% under international extreme poverty (World Bank, 2017). Most of the Timorese people living in rural areas with the percentage of 70% (UNFPA). 50% of vulnerable people live on less than US\$ 2 per day. 80% population is subsistence farmers, but always face difficulties on agriculture production which lead to food insecurity (WB, 2017).

There are many indicators that can be used to measure household poverty in developing countries such as housing condition, assets growth and education. These indicators name Multidimensional poverty Index (MPI) have been designed and used in 105 poor countries in 2008 (UNDP, 2018).

3. Hypothesis Development

3.1. Loan Size and Poverty Reduction

Loan size is a crucial determinant of the sustainability and effectiveness of microcredit for borrowers, representing the average amount disbursed by microcredit institutions and profoundly influencing borrowers' financial outcomes (Abreham, 2017). Research underscores the pivotal role of loan size in empowering women entrepreneurs, as Mahmood et al. (2014) found that accessing medium-sized loans resulted in substantial increases in household income and asset accumulation across multiple loan cycles in Pakistan.

Recent empirical studies continue to support the hypothesis that larger microcredit loans significantly contribute to poverty alleviation efforts. Hastings et al. (2021) discuss how increased loan sizes facilitate improved economic outcomes by enabling borrowers to expand businesses and invest in productive ventures. This alignment with theoretical frameworks emphasizes the critical role of financial resources in enhancing income levels and overall financial stability (Abreham, 2017). Moreover, the impact of loan size on poverty reduction can be attributed to mechanisms such as enhanced investment in productive assets, business growth, and greater resilience against economic shocks (Mahmood et al., 2014).

These outcomes are central to microfinance's mission of empowering individuals through access to financial services that support sustainable income generation and poverty reduction (Abreham, 2017).

The hypothesis posits that larger loan sizes lead to more significant poverty reduction outcomes by enabling borrowers to make more effective investments in income-generating activities. Mahmood et al. (2014) provide empirical evidence supporting this, demonstrating that medium-sized loans substantially improve financial conditions among women entrepreneurs. Access to adequate financial resources is crucial for economic empowerment, enabling individuals to enhance their financial stability and progress towards lifting themselves out of poverty.

H1: Loan Size has a positive and significant impact on poverty reduction

3.2. Loan Products and Poverty Reduction

Loan products play a crucial role in poverty reduction among economically active populations globally by providing essential financial tools tailored to their specific needs. Parameswaran & Raper (2003) underscore the importance of offering a variety of loan products, allowing borrowers to choose options that best fit their financial circumstances and goals. This diversity empowers borrowers to effectively manage their finances, invest in income-generating activities, and ultimately improve their economic well-being.

Recent empirical studies continue to affirm the transformative impact of diverse loan products on poverty reduction. For instance, research by Augsburg et al. (2021) examines the effects of microcredit on household welfare in rural areas of Bangladesh, demonstrating significant improvements in income and consumption levels among borrowers. This highlights how access to tailored financial products can lift individuals out of poverty by enabling productive investments. Moreover, findings from Banerjee et al. (2023) provide insights into the long-term impacts of microfinance on poverty alleviation in India. Their study reveals that microcredit programs not only enhance household income but also contribute to socio-economic empowerment, including improvements in health and education outcomes. This underscores the multifaceted benefits of diverse loan products in fostering sustainable development and poverty reduction. In various contexts globally, microloans have shown to be effective in promoting economic development. The World Bank (2020) emphasizes how microcredit initiatives support smallholder farmers in improving agricultural productivity, thereby enhancing food security and overall economic stability.

Empirical evidence consistently supports the hypothesis that diverse loan products are instrumental in poverty reduction efforts worldwide. By facilitating access to financial resources for productive purposes, such as agriculture, small business development, and household investments, microcredit empowers individuals to enhance their livelihoods and build resilience against economic challenges.

H2: Loan Products have a positive impact on poverty

reduction.

3.3. Loan Repayment and Poverty Reduction

The first loan made to clients will reflect the ability of the clients to use and repay the amount. Most MFI will give its clients more loan in big amount if she or he have a good record in repaying the loan. Loan repayment can determine client's financial discipline, most clients with good record will have many chances to lend the money again as a result will increase their living standard. A study conducted in Nigeria to see the reason that influence microcredit repayment found that the repayment rate was increased about 90% to the members who have cooperative societies and accomplish their repayment obligation (Oke et al., 2007). Henceforth, it is proposed that:

H3: Loan Repayment has positive impact on poverty reduction.

3.4. Financial Knowledge and Poverty Reduction

One of the measurements of financial literacy is financial knowledge. Specific kind of human capital is one of the financial knowledge dimensions that is developed during the life cycle, by learning topics that affect the ability to manage revenues, expenses, and savings effectively (Delavande, Rohwedder, & Willis, 2008). In order to make a good financial decision one should have base knowledge about finance such as managing cash flows, open bank account, savings, etc. Clients with basic financial knowledge will have a chance to save more money or to increase their income. Therefore, this research proposes the following hypothesis:

H4: Financial knowledge has positive impact on poverty reduction.

3.5. Financial Behaviour and Poverty Reduction

Many studies linked poverty with assets, income and support from government. However, financial behaviour of household is also one of the keys to reduce poverty. Financial behaviour can be defined as the way how people manage their money in daily basis by using mental accounting and budgeting their expenses (Van Raaij, 2016). The study undertaken in Wolkite town, Ethiopia to 253 household heads found that good financial behaviour have vital role in reducing poverty. Moreover, the income of the household was also increase. The author suggested that the improvement of financial behaviour should become the primary issue in poverty reduction strategies along with other mechanisms (Mekonen et al., 2022). Hence, the following hypothesis was developed:

H5: Financial behaviour has positive impact on poverty reduction.

3.6. Financial Attitude and Poverty Reduction

Financial management behaviour can be affected partially by financial attitude (Amanah, et al., 2016). Financial attitude will equip someone behaving toward the finance e.g financial management, budgeting, and how a decision will be made. According to Gahagho et al., (2021) financial attitude could be determined from saving activity, budgeting and being

economical. Henceforth, it is proposed that:

H6: Financial attitude has positive impact on poverty reduction.

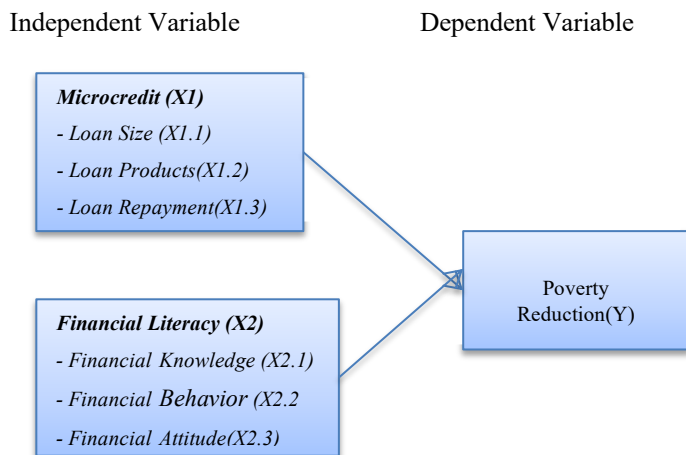


Figure 1 Research Model

4. Research Method

This study, conducted in Selo, Aileu, from February 24 to March 10, 2021, examines the impact of microcredit and financial literacy on poverty reduction in Timor-Leste, using data from 103 returned questionnaires and secondary sources from microcredit institutions KIF and Moris Rasik. Employing a quantitative descriptive technique, the research explores the borrowers’ experiences with microcredit, their financial literacy levels, and the subsequent economic outcomes. Secondary data and scholarly resources were integrated to contextualize these findings within the broader microfinance framework. Recent studies underscore the pivotal role of microcredit and financial literacy in fostering economic empowerment, especially in rural areas with limited banking access (Bauchet et al., 2021; Demirgüç-Kunt et al., 2022). This research provides crucial insights that can guide policymakers in optimizing microfinance programs to achieve more substantial social and economic impacts (Saldanha & Pereira, 2023; Xu & Zia, 2021).

This research employed a quantitative descriptive approach, using well-structured questionnaires and interviews to collect data on microcredit and financial literacy. The questionnaires were adapted from established instruments used by Taha (2012), Potrich et al. (2014), OECD (2013), Shockey (2002), and Klapper, Lusardi, and Alessie (2011), ensuring both reliability and contextual relevance for the Timor-Leste setting. While no pre-testing was conducted, the reliability of these tools had been validated in previous studies. Recent literature emphasizes the importance of adapting questionnaires for cultural and contextual appropriateness, which enhances data accuracy in cross-cultural research (Behr & Shishido, 2020; Lee, 2021). This approach ensures that the research meaningfully contributes to the understanding of

microcredit and financial literacy in developing contexts like Timor-Leste.

SPSS was utilized to test the hypotheses, applying multiple linear regression to examine the linear relationship between the dependent variable (poverty reduction) and several independent variables, such as microcredit and financial literacy. This approach is effective in assessing how access to microcredit and financial literacy contribute to poverty reduction in Timor-Leste. Multiple regression helps identify the strength of these relationships and quantify the extent to which each independent variable influences the dependent outcome. This methodology has been widely applied in similar studies, including research by Nichter and Goldmark (2009), Babajide (2012), Beck et al. (2014), and Kisaka and Mwewa (2014), as cited in Belo (2019), who explored the effects of microcredit in developing countries. Recent studies continue to support the use of multiple regression in analyzing poverty reduction efforts, particularly through financial inclusion initiatives (Xu, 2021; Demirgüç-Kunt et al., 2022). By leveraging this well-established statistical tool, the research aims to provide comprehensive insights into how microcredit programs and financial literacy initiatives can be enhanced to better serve impoverished communities in Timor-Leste, contributing to broader discussions on sustainable development and economic empowerment.

5. Result

5.1. Multiple Regression Linear Test.

In this study, multiple linear regression was employed to explore the relationship between poverty reduction, the dependent variable (Y), and several independent variables (X1, X2, X3,... Xn). This method was chosen to analyze how microcredit and financial literacy influence poverty reduction in Timor-Leste. A similar approach has been utilized in prior studies by Nichter and Goldmark (2009), Babajide (2012), Beck, Fuchs, Singer, and Witte (2014), and Kisaka and Mwewa (2014), as cited by Belo (2019), who investigated the effects of microcredit in developing countries. The independent variables in this research include Loan Size (LS), Loan Products (LP), Loan Repayment (LR), Financial Knowledge (FK), Financial Behavior (FB), and Financial Attitude (FA), while Poverty Reduction (PR) serves as the dependent variable.

The analysis reveals that Loan Size (LS) has a positive coefficient of +0.034, indicating that an increase in loan size positively contributes to household prosperity, ultimately reducing poverty in Selo. However, Loan Products (LP) show a negative coefficient of -0.123, suggesting that an increase in loan products does not necessarily lead to poverty reduction, possibly due to the inadequacy or misalignment of loan products with the needs of borrowers.

Loan Repayment (LR) presents a positive coefficient of +0.438, signifying that efficient loan repayment significantly contributes to poverty alleviation, as it enables households to improve their financial standing. Financial Knowledge (FK) also has a positive coefficient of +0.329, highlighting the critical role that financial literacy plays in empowering individuals to

make informed financial decisions, which ultimately leads to poverty reduction.

Additionally, Financial Behavior (FB) has a positive coefficient of +0.078, indicating that improved financial behavior, such as budgeting and saving, positively affects household prosperity, albeit to a lesser degree. Financial Attitude (FA) shows the highest positive coefficient at +0.552, demonstrating that a positive financial mindset significantly influences poverty reduction, as households with a more proactive financial attitude are more likely to manage their resources effectively and escape poverty.

These findings underscore the importance of both financial literacy and responsible loan utilization in reducing poverty, with financial attitude and loan repayment emerging as the most influential factors in improving economic conditions for households in Selo.

5.2. Hypothesis Testing

5.2.1. Partial Significance Teste (Statistic T)

T test (table 5.1) is used to determine whether the independent variable has partially impact on independent variable (Ghozali, 2018). Below is the impact test of the microcredit variable (Loan Size, Loan Products, Loan repayment) and Financial Literacy (Financial Knowledge, Financial Behavior, Financial Attitude) on Poverty Reduction in Selo- Aileu District, Timor-Lest

- a. The impact of Loan Size (Microcredit) variable on Poverty Reduction in Selo.

Refer to the t test on table 5.1 below, the calculated t value .219 with the significance .827 shows that calculated t value is smaller than t table 1.660 and the Sig. value is higher than 0.05. It means that H1 is rejected and H0 is accepted or Loan Size has no impact on Poverty Reduction.

Table 5.1. The Result of Multiple Regression Linear Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.924	12.713		.309	.758
LS	.034	.157	.021	.219	.827
LP	-.123	.155	-.079	-.791	.431
LR	.438	.252	.173	1.737	.086
FK	.329	.160	.200	2.053	.043
FB	.078	.111	.068	.696	.488
FA	.552	.280	.194	1.969	.052

- b. The impact of Loan Products (Microcredit) variable on Poverty Reduction in Selo.
Refer to the t test, the calculated t value .791 with the significance .431 shows that calculated t value is smaller than t table 1.660 and the Sig. value is higher than 0.05. It means that H2 is rejected and H0 is accepted or Loan Products has no impact on Poverty Reduction.
- c. The impact of Loan Repayment (Microcredit) variable on Poverty Reduction in Selo. Refer to the t test, the calculated t value 1.737 with the significance .086 shows that calculated t value is higher than t table 1.660 and the Sig. value is higher than 0.05. It means that H1 is accepted and H0 is rejected or Loan Repayment has impact on Poverty Reduction.
- d. The impact of Financial Knowledge (Financial Literacy) variable on Poverty Reduction in Selo.
Refer to the t test above, the calculated t value 2.053 with the significance .043 shows that calculated t value is higher than t table 1.660 and the Sig. value is higher than 0.05. It means that H1 is accepted and H0 is rejected or Financial Knowledge has impact on Poverty Reduction.
- e. The impact of Financial Behavior (Financial Literacy) variable on Poverty Reduction in Selo. Refer to the t test above, the calculated t value .696 with the significance .488 shows that calculated t value is smaller than t table

1.660 and the Sig. value is higher than 0.05. It means that H1 is rejected and H0 is accepted or Financial Behavior has no impact on Poverty Reduction.

- f. The impact of Financial Attitude (Financial Literacy) variable on Poverty Reduction in Selo. Refer to the t test above, the calculated t value 1.969 with the significance .052 shows that calculated t value is smaller than t table 1.660 and the Sig. value is higher than 0.05. It means that H1 is accepted and H0 is rejected or Financial Attitude has impact on Poverty Reduction.

5. Discussion

The primary objectives of this research are to examine the impact of microcredit, specifically focusing on loan size, loan products, and loan repayment, on poverty reduction. The results indicate that loan size does not have a significant effect on poverty reduction. This finding aligns with Adjei et al. (2009), who concluded that loan amounts are not directly related to an increase in savings deposits. Additionally, Zaman (2009) highlighted that when loan amounts are too small, it becomes challenging for low-income individuals to start or sustain profitable businesses. Recent studies, such as those by Chliova et al. (2020) and Van Rooyen et al. (2012), support this perspective, arguing that microloans often lack the scale

necessary to generate significant economic growth for poor borrowers. This suggests that family welfare in areas like Aileu-Seloi village is not necessarily dependent on the size of loans, particularly among the local population (Chliova et al., 2020; Van Rooyen et al., 2012).

The study further reveals that loan products also do not significantly impact poverty reduction. This may be due to the misallocation of loan products, where funds intended for agricultural purposes, such as agriloans, are instead diverted to cover unrelated expenses, such as school fees. For instance, Yeni (2014) found in her study on agricultural loans in Malang, Indonesia, that farmers often used borrowed funds for other purposes, including household consumption or investment in non-agricultural sectors. This misuse of loans can negatively impact their living conditions as there is no corresponding revenue generated from the agricultural activities for which the loan was intended. Additionally, Lerman (2008) noted that in Tajikistan, farm loans faced challenges due to factors such as low farm profitability, inefficient organizational structures, and excessive government interference in financing decisions, leading to soft budget constraints and moral hazard. These findings are consistent with more recent research by Schicks (2021) and Cull et al. (2018), which suggest that misallocation of loans remains a significant challenge for microcredit programs in developing economies, limiting their effectiveness in alleviating poverty (Schicks, 2021; Cull et al., 2018).

However, the research shows that loan repayment does have a positive impact on poverty reduction. This finding is supported by various studies. Shuk (2015), in a study conducted in Ethiopia, found that 61.5% of borrowers were efficient in loan repayment, which significantly improved their ability to utilize loans effectively and positively impacted their livelihoods. Factors such as frequent monitoring of clients, years of business experience, the number of guarantors, and borrower motivation were identified as key contributors to repayment efficiency. Similarly, Jemal (2003) emphasized that customers who repeatedly borrowed gained valuable experience with institutional rules and regulations, enabling them to efficiently utilize loans and repay without difficulty. More recent studies by Hu et al. (2019) and Hameed et al. (2021) confirm the importance of borrower experience and institutional trust in microcredit programs, showing that repeated borrowers tend to exhibit higher loan utilization efficiency and improved financial outcomes. Repeated borrowers, who had built trust with microcredit institutions, experienced significant improvements in their financial well-being and prosperity (Hu et al., 2019; Hameed et al., 2021).

In addition to examining microcredit, this study also investigates the effects of financial knowledge, financial behavior, and financial attitude on poverty reduction. The findings reveal that financial knowledge significantly impacts poverty reduction. Klapper et al. (2012) argue that acquiring basic financial knowledge equips individuals in both advanced and developing countries to make informed financial decisions, thereby improving their economic well-being. Those with financial knowledge tend to make fewer financial mistakes and experience better economic conditions compared to those lacking such knowledge (Meier & Sprenger, 2008). Recent

research further supports this view, indicating that financial literacy enhances individuals' ability to manage resources effectively, thereby contributing to poverty alleviation (Lusardi & Mitchell, 2014; Atkinson & Messy, 2012).

On the other hand, the study found that financial behavior does not significantly impact poverty reduction. This finding is consistent with Fenton et al. (2016), who suggest that inadequate financial behaviors can lead to temporary or chronic debt and difficulties in managing utility bills. These issues often stem from a combination of economic and psychological factors, which can undermine financial well-being. Additionally, Hilgert et al. (2003) noted that financial behavior is influenced by factors such as family background, personal experiences, and economic socialization. Recent studies, such as those by Kim et al. (2021) and Lusardi et al. (2022), reinforce these findings, highlighting that behavioral issues and economic challenges significantly affect financial outcomes, often beyond the influence of individual behavior alone.

Lastly, the research demonstrates that financial attitude positively impacts poverty reduction. This finding aligns with the work of Castro-González et al. (2020), who found that a positive financial attitude is associated with better financial planning and risk tolerance, which can help lift individuals out of poverty. A favorable financial attitude influences how individuals approach financial management, budgeting, and investment decisions. Deyola (2014) supports this by indicating that a more positive attitude towards financial management, combined with greater financial knowledge, enhances financial practices and decision-making. Recent research, such as that by Xiao et al. (2021) and Lee et al. (2022), also emphasizes the critical role of financial attitudes in shaping effective financial behaviors and improving economic outcomes.

7. Conclusions and Implications

The analysis of the impact of microcredit and financial literacy components on poverty reduction reveals several key conclusions:

- a. **Loan Size:** The study found that loan size does not significantly affect poverty reduction. This outcome aligns with earlier research by Adjei et al. (2009) and Zaman (2009), which suggests that smaller loan amounts may not be sufficient to foster substantial economic growth or alleviate poverty among low-income populations. Recent studies by Chliova et al. (2020) further support this view, indicating that microloans often lack the necessary scale to make a significant impact.
- b. **Loan Products:** The results indicate that loan products do not have a significant impact on poverty reduction, primarily due to issues related to the misallocation of funds. This finding is consistent with Yeni (2014) and Lerman (2008), who observed that loans intended for specific purposes, such as agricultural development, are sometimes diverted to unrelated expenses, diminishing their effectiveness. Schicks (2021) corroborates this, highlighting that misallocation remains a persistent

challenge for microcredit programs.

- c. **Loan Repayment:** In contrast, loan repayment was found to have a positive effect on poverty reduction. This result is supported by Shuk (2015) and Jemal (2003), who found that efficient loan repayment improves loan utilization and contributes positively to borrowers' livelihoods. Recent studies by Hu et al. (2019) also confirm the importance of borrower experience and institutional trust in enhancing repayment efficiency and financial outcomes.
- d. **Financial Knowledge:** The study demonstrates that financial knowledge positively impacts poverty reduction, aligning with Klapper et al. (2012) and Meier & Sprenger (2008). Recent research by Lusardi & Mitchell (2014) and Atkinson & Messy (2012) supports this finding, emphasizing that financial literacy enables individuals to make informed decisions and manage resources more effectively.
- e. **Financial Behavior:** Financial behavior, however, was found to have no significant impact on poverty reduction. This finding is consistent with Fenton et al. (2016) and Hilgert et al. (2003), who noted that inadequate financial behaviors often lead to financial instability. Recent studies by Kim et al. (2021) and Lusardi et al. (2022) further confirm that economic and psychological factors can undermine financial well-being.
- f. **Financial Attitude:** The research reveals that a positive financial attitude significantly affects poverty reduction. This conclusion is supported by Castro-González et al. (2020) and Deyola (2014), who found that a favorable financial attitude enhances financial planning and risk management, thereby contributing to better economic outcomes. Recent studies by Xiao et al. (2021) and Lee et al. (2022) reinforce the importance of financial attitudes in shaping effective financial practices.

Policy Implications: Policymakers should consider focusing on enhancing financial knowledge and attitudes rather than solely increasing loan sizes. Efforts to improve financial literacy programs and promote positive financial attitudes could be more effective in achieving poverty reduction goals. Tailoring financial education to the specific needs of low-income populations can help ensure that individuals make better financial decisions and utilize resources more effectively.

- a. **Microcredit Program Design:** Microcredit institutions should address issues related to loan product allocation and ensure that loans are used for their intended purposes. Implementing monitoring systems to track the utilization of funds and providing targeted support for effective loan management can enhance the impact of microcredit programs. Furthermore, developing loan products that are better suited to the needs of borrowers, such as flexible repayment options, could improve their effectiveness.
- b. **Financial Behavior Interventions:** While financial

behavior alone may not significantly impact poverty reduction, addressing factors that contribute to poor financial behavior, such as economic instability and psychological stress, can improve overall financial well-being. Programs aimed at supporting financial stability and mental health could complement financial education efforts.

- c. **Future Research:** Future studies should explore the interplay between financial knowledge, behavior, and attitudes in different contexts to better understand how these factors collectively influence poverty reduction. Additionally, research should investigate how different types of financial education and support can be tailored to diverse populations to maximize their impact on poverty alleviation.

8. Limitations and Future Research

The author realised that this research about the impact of microcredit (Loan Size, Loan Products and Loan Repayment) and Financial Literacy (Financial Knowledge, Financial Behavior and Financial Attitude) on Poverty Reduction in Selo-Aileu has some limitations, such as:

- a. **Data Collection Challenges:** The Covid-19 pandemic severely restricted access to the Aileu district, affecting the ability to gather complete and representative responses. Future research should consider alternative data collection methods, such as remote surveys or extended collection periods, to mitigate access issues and ensure a more comprehensive sample.
- b. **Questionnaire Validity:** The accuracy of self-reported data may have been compromised, potentially impacting the reliability of the findings. To address this, future studies should incorporate mixed-methods approaches, combining quantitative surveys with qualitative interviews to provide a more nuanced understanding of financial behaviors and experiences.
- c. **Variable and Contextual Limitations:** The study was limited to specific variables (loan size, loan products, loan repayment, financial knowledge, financial behavior, and financial attitude) and focused on a single rural area. Future research should expand the range of variables to include socio-economic conditions and community-level influences and consider a broader geographical scope to enhance the generalizability of findings.
- d. **Microfinance Models and Regional Diversity:** The research was constrained to a single microfinance model and location. Future studies should explore various microfinance institutions and extend research to diverse regions, both rural and urban, to identify best practices and tailor interventions to different populations and contexts.
- e. **Longitudinal and Behavioral Analysis:** The study did not track long-term impacts or delve deeply into factors influencing financial behavior, such as economic instability and psychological stress. Future research should implement longitudinal studies to assess the sustainability of interventions over time and investigate how underlying factors interact with financial knowledge and attitudes to

improve overall financial well-being and poverty reduction strategies.

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