ACCESS TO FINANCE, FINANCIAL INCLUSION AND POVERTY REDUCTION IN NEPAL

A Thesis

Submitted to Central Department of Economics,

Tribhuvan University, Kirtipur, Kathmandu

in the partial fulfillment of the requirements for the

Degree of

Master of Arts in Economics

Submitted by:

Sandu Subedi

Roll No. 89/077

Regd. No.: 7-2-927-203-2016

Central Department of Economics

Kirtipur, Kathmandu Nepal

Submitted to:

Central Department of Economics,

Faculty of Humanity and Social Sciences,

Tribhuvan University,

Kirtipur, Kathmandu, Nepal

March, 2025

DECLARATION

I, SANDU SUBEDI, declare that this thesis entitled "ACCESS TO FINANCE, FINANCIAL INCLUSION AND POVERTY REDUCTION IN NEPAL" submitted to Central Department of Economics is my own original work unless otherwise indicated or acknowledged in the thesis. The thesis does not contain materials which has been accepted or submitted for any other degree at the University or other institution. All sources of information have been specifically acknowledged by reference to the author(s) or institution(s).

Sandu Subedi
Roll No: 89/077
Regd. No: 7-2-927-203-2016
Central Department of Economics

LETTER OF RECOMMENDATION

The thesis entitled "ACCESS TO FINANCE, FINANCIAL INCLUSION AND POVERTY REDUCTION IN NEPAL," is submitted by Ms. SANDU SUBEDI under my supervision for partial fulfillment of the requirements for the degree of MASTER OF ARTS in ECONOMICS. I forward it with a recommendation for approval.

……..

Assistant Prof. Naveen Adhikari

Thesis Supervisor

Date: March, 2025

APPROVAL SHEET

We certify that this thesis entitled "ACCESS TO FINANCE, FINANCIAL INCLUSION AND POVERTY REDUCTION IN NEPAL" submitted by Ms. SANDU SUBEDI to the Central Department of Economics, Faculty of Humanities and Social Sciences, Tribhuvan University, in the partial fulfillment of the requirement for the MASTER OF ARTS in ECONOMICS has been found satisfactory in scope and quality. Therefore, we accept this thesis as a part of the said degree.

Thesis Committee

……

Prof. Dr. Ram Prasad Gyanwaly

Head of the Department

……

Associate Prof. Dr. Bashu Dev Dhungel

External Examiner

……..

Assistant Prof. Naveen Adhikari

Thesis Supervisor

Date: March, 2025

ACKNOWLEDGEMENTS

I would like to extend my heartfelt gratitude to the Head of the Department, Professor Dr. Ram Prasad Gyanwaly, for his invaluable guidance, profound insights, and unwavering support throughout the course of my research. I am also immensely thankful to Assistant Professor Mr. Naveen Adhikari for his continuous support, constructive feedback, and encouragement in drafting this thesis entitled "ACCESS TO FINANCE, FINANCIAL INCLUSION AND POVERTY REDUCTION IN NEPAL." His mentorship has been instrumental in shaping the direction of this study, and I am deeply grateful for his encouragement at every step.

I sincerely appreciate the generous financial support provided by Rastriya Banijya Bank, which played a crucial role in facilitating this research.

Additionally, I would like to express my sincere appreciation to my parents and friends for their constant love, support, and motivation, which provided me with the strength and determination to complete this research. A special thank you to my dear friends Bandana Ghimire, Jipi Kalu, Manoj Adhikari, Milan Maharjan, Sandhya Nepal, Sanju Yadav, Santosh Panthi, Subin KC and Sujan Bhattarai for their unwavering support and encouragement throughout this journey. Without their love and patience, achieving this milestone would not have been possible. Their belief in me kept me going, and I dedicate this thesis to them for standing by me every step of the way.

Sandu Subedi

Roll No: 89/077

Regd. No: 7-2-927-203-2016

Central Department of Economics

ABSTRACT

Despite Nepal's sluggish economic growth, the country has made remarkable progress in poverty reduction, with the national poverty rate declining from 42% in 1995/96 to 20.27% in 2022/23. Financial inclusion has played a significant role in this progress, as access to formal financial services has expanded, with account ownership rising from 26% in 2006 to 67.3% in 2021. Limited access to financial services including credits have been identified as one of causes of the poverty specially in the context of the missing and incomplete financial markets in developing countries. In Nepal too, despite the progress on both fronts,, limited understanding and evidence exist in examining the role of access to finance and financial inclusion in reducing poverty in Nepal. This study aims to examine the relationship between financial inclusion and poverty reduction in Nepal, focusing on its effect across different socio-economic groups and regions. Using data from the Nepal Living Standards Survey (NLSS-IV), this study employs Ordinary Least Squares (OLS) and logistic regression models to assess the influence of financial inclusion on household poverty. A Financial Inclusion Index (FII) is constructed using Principal Component Analysis (PCA) taking access, affordability, credit from formal sources and payment of insurance premium as key indicators. Findings reveal that households with access to banking and financial institutions are significantly less likely to be poor, with financial inclusion negatively associated with poverty levels. While formal credit access reduces poverty risks, reliance on informal credit exacerbates financial vulnerability. Socioeconomic disparities further influence poverty outcomes, with marginalized groups and geographically isolated regions facing higher poverty risks. The study underscores the need for targeted interventions to bridge financial access gaps, including expanding digital financial services, improving financial literacy, and strengthening inclusive credit mechanisms. Addressing these challenges is crucial for ensuring equitable financial access and achieving sustainable poverty alleviation in Nepal, aligning with Sustainable Development Goals (SDGs) 1 (No Poverty) and 8 (Decent Work and Economic Growth).

Keywords: Financial inclusion, financial access, poverty, principal component analysis, logistic regression

ABBREVIATIONS

BFI	Bank and Financial Institutions
EFA	Exploratory Factor Analysis
FII	Financial Inclusion Index
G2P	Government to Person
GMM	Generalized Method of Moments
GNI	Gross National Income
MPI	Multidimensional Poverty Index
NLSS	Nepal Living Standard Survey
NRB	Nepal Rastra Bank
NSO	Nepal Statistics Office
OLS	Ordinary Least Square
PCA	Principal Component Analysis
PPI	Poverty Probability Index
PSM	Propensity Score Matching
SDG	Sustainable Development Goals
SEM	Structural Equation Modeling
SLF	Sustainable Livelihoods Framework
TEM	Treatment Effects Model

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

This chapter outlines the background of the study, the statement of the problem, the research questions, and the objectives of the thesis. The latter part of this chapter highlights the significance of the study and outlines its limitations too followed by organization of the subsequent chapters of this thesis and a brief content therein.

1.1 Background of the Study

Economic development and social well-being are intricately linked to access to financial resources. In the modern era access to finance and financial inclusion has emerged as a cornerstone of global development, resonating as a vital strategy in addressing the multifaceted challenges of poverty (Singer et al., 2017). At its core, financial inclusion entails providing accessible, affordable, and equitable financial services to all segments of society, particularly the unbanked and underprivileged populations (Morgan et al., 2018). This concept aligns closely with the broader goals of inclusive growth, fostering an ecosystem where individuals and communities can actively participate in economic activities and secure sustainable livelihoods.

Globally, over 1.4 billion adults remain excluded from formal financial systems, with women, rural residents, and marginalized groups disproportionately affected (Demirgüç-Kunt et al., 2022). Such exclusion perpetuates cycles of poverty, restricting access to savings, credit, and insurance mechanisms essential for economic resilience and empowerment (Koku, 2015). Financial inclusion initiatives have thus become central to policy interventions worldwide, emphasizing the expansion of digital financial services, microfinance programs, and financial literacy campaigns (Atkinson & Messy, 2013).

Poverty alleviation and financial inclusion have long been central themes in global and regional development efforts (Koomson et al., 2020). The nexus between financial inclusion and poverty reduction is particularly profound. Access to financial services enables households to smooth consumption, invest in education and health, and engage in income-generating activities. Moreover, it enhances the resilience of vulnerable groups to economic shocks, thereby reducing their susceptibility to chronic poverty. Evidence from diverse contexts has demonstrated

that inclusive financial systems can catalyze entrepreneurship, foster gender equality, and contribute to achieving Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth) (United Nations Department of Economic and Social Affairs, 2023). Empirical studies have demonstrated that access to finance enables households to smooth consumption (Li et al., 2022), invest in education and health (Shao et al., 2023), and manage risks (Banna et al., 2022). Microfinance initiatives, mobile banking services, and other inclusive financial tools have shown promising results in bridging the financial gap for underprivileged populations (Burgess & Pande, 2005). However, the impact of financial inclusion on poverty alleviation is not automatic or uniform. It depends on a range of contextual factors, including the quality of financial services, the regulatory environment, and the socio-economic characteristics of the target population.

Poverty alleviation strategies have evolved with shifting economic paradigms. Post-World War II, development theories emphasized industrialization and capital-intensive growth, yet persistent rural poverty underscored the need for inclusive models (Rostow, 1991). By the 1970s, integrated rural development programs highlighted agriculture and small enterprises as key to poverty reduction (Chambers, 2014). During this period, microfinance emerged as a revolutionary concept, particularly in South Asia, with institutions such as Grameen Bank in Bangladesh pioneering group-based lending models (Yunus & Jolis, 2007). Countries in South Asia implemented diverse poverty alleviation programs, integrating financial inclusion as a core element. In India, for instance, the introduction of the Pradhan Mantri Jan Dhan Yojana (PMJDY) in 2014 aimed to provide every household with access to a basic bank account (Goverment of India, 2024). Similarly, Bangladesh leveraged its strong microfinance network to expand financial access to rural areas, significantly reducing poverty levels over the decades.

Financial inclusion gained prominence as a development priority, with the World Bank's Global Findex Database (2011) underscoring its role in achieving Sustainable Development Goals (Demirgüç-Kunt et al., 2022). Technological advancements, such as mobile banking, have further enhanced access to financial services for underbanked populations (Suri & Jack, 2016).

Despite these advancements, challenges remain. In many developing countries, including those in South Asia, financial exclusion persists among rural populations, women, and ethnic minorities. Structural barriers such as inadequate infrastructure, low financial literacy, and socio-cultural norms continue to hinder progress. Addressing these challenges requires a multifaceted approach, combining policy reforms, public-private partnerships, and community-driven initiatives.

Africa has also leveraged financial inclusion for poverty reduction (Bakari et al., 2019).. Innovations like Kenya's M-Pesa mobile money platform have improved savings, credit access, and resilience to economic shocks (Aryeetey, 2011). Ethiopia and Rwanda have supported smallholder farmers through microloans, boosting productivity, while Ghana has empowered women-led enterprises through inclusive finance (Cull et al., 2014). Despite progress, challenges such as financial illiteracy, gender disparities, and inadequate infrastructure persist in developing regions. Addressing these barriers requires policy reforms, public-private partnerships, and community-driven initiatives.

Nepal, with over 21% of its population living below the national poverty line and marked by significant disparities in income, education, and social access, underscores the critical importance of financial inclusion as a policy priority. In a context of persistent poverty and economic inequality, financial inclusion offers a transformative pathway for socio-economic advancement (World Bank Group, 2024). Nepal's unique economic and social disparities, particularly between urban and rural areas, highlight the challenges of fostering equitable development in low-income economies (Dhungana & Kumar, 2015). Despite notable progress in financial inclusion, large sections of the population—especially women, rural residents, and ethnic minorities—remain underserved by formal financial institutions (Karki et al., 2021; Shrestha & Adhikari, 2007). Recent decades have seen significant growth in Nepal's financial sector, with an expansion of financial institutions and technological innovations like mobile banking and digital payments (Nepal Rastra Bank, 2013). However, access to formal financial services remains uneven. Demand-side factors such as age, gender, occupation, ethnicity, and geographic location exacerbate these disparities, reflecting the multidimensional nature of financial inclusion. Rural populations, women, ethnic minorities, and marginalized communities face systemic barriers, including limited financial

literacy, infrastructural deficiencies, and socio-cultural constraints (Kabeer, 2021; Drucza, 2016).

Analyzing socio-economic factors such as education, land ownership, and ethnicity provides nuanced insights into Nepal's financial system. For example, young individuals and those in informal occupations often lack collateral or stable income, limiting their credit access. Ethnic and cultural diversity further complicate the financial landscape, as varying levels of literacy and trust influence participation.

Nepal's multidimensional poverty extends beyond income to deficits in education, health, and living standards (U. Wagle, 2005). Financial inclusion has the potential to address these dimensions by enabling households to invest in productive activities, access better services, and build resilience against economic shocks (Chibba, 2009; Koomson et al., 2020). For instance, access to microcredit can empower small-scale farmers to invest in modern agricultural practices, while savings accounts can provide a safety net for households during emergencies (Morduch, 1999). However, the effectiveness of these interventions depends on the extent to which they reach the most vulnerable populations and address their specific needs.

This thesis explores the critical relationship between access to finance, financial inclusion and poverty reduction in Nepal, focusing on the mechanisms through which financial access influences economic empowerment and societal transformation. By situating Nepal within the broader global context, this study seeks to contribute to the growing body of literature on inclusive finance and inform policy frameworks aimed at eradicating poverty.

1.2 Statement of the Problem

Despite the sluggish economic growth rate in Nepal, the country has experienced a progress in reducing poverty over the past few decades. The national poverty rate dropped from 42% in 1995/96 to 20.27% in 2022/23, showing substantial improvement (National Statistics Office, 2023). Urban poverty also declined, decreasing from 23% in 1995/96 to 18.34% in 2022/23, although it temporarily increased to 15.46% in 2010/11. Rural poverty steadily decreased from 42% to 24.66% during the same period. However, rural poverty remains higher than urban poverty, reflecting the persistent rural nature of poverty in Nepal (National Statistics

Office, 2023). Several factors such as remittance, improved access to public facilities and services, increased in educational and health attainments, among others, are attributed to such decline in poverty alleviation in Nepal (Adhikari & Shahi, 2020). One of such factors is improved access to financial services and products.

Indeed, the access to finance has improved over last two decades Nepal has made significant progress in financial inclusion, a critical driver of poverty reduction. The share of adults using formal financial services increased from 61% in 2014 to 90% in 2022, reflecting efforts to expand access to banking and microfinance institutions (World Bank Group, 2024). Account ownership rose from 26% in 2006 to 67.3% in 2021, aided by initiatives such as the "one person, one bank account" campaign and the mandatory use of accounts for receiving social security benefits (IFC, 2023).

Bank branches now cover 752 of 753 local levels, demonstrating improved geographic access. However, urban areas have benefitted disproportionately, with rural and mountainous regions still underserved. Similarly, savings behaviors have shifted, with 63% of adults saving in formal financial institutions by 2022, compared to 40% in 2014. Credit usage also expanded, with formal credit users rising from 18% in 2014 to 47% in 2022 (IFC, 2023). Government policies such as concessional loans for women and farmers, as well as priority lending programs, have contributed significantly to this growth.

Despite these achievements, challenges remain. Regional and gender disparities persist, with rural areas and women still underrepresented in financial service usage (Lwamba et al., 2022). One-third of deposit accounts are dormant, indicating the need for more active financial engagement (IFC, 2023). Financial exclusion is particularly pronounced among these groups, limiting their access to essential financial services such as savings, credit, insurance, and digital payment systems. This exclusion perpetuates cycles of poverty, restricting opportunities for income generation, economic security, and social mobility (Omar & Inaba, 2020). While financial inclusion is crucial for poverty alleviation, its impact on Nepal’s socio-economic disparities remains underexplored. Rural households struggle with limited access to formal financial services due to geographic isolation, poor infrastructure, and low financial literacy. Socio-economic barriers, including caste and ethnicity-based discrimination, further deepen financial inequality.

A primary challenge to financial inclusion in Nepal is the limited geographical reach of formal financial institutions (Demirgüç-Kunt & Klapper, 2012). While the banking sector has expanded in recent years, access to formal financial services remains unevenly distributed, with significant disparities between urban and rural areas (Demirgüç-Kunt & Klapper, 2012). Rural populations, particularly in remote mountainous regions, face substantial physical barriers to accessing bank branches and other financial service providers (Gautam & Andersen, 2016). This geographical inaccessibility limits the ability of many people to participate in the formal financial system, forcing them to rely on informal financial mechanisms, which often come with high costs and risks (Demirgüç-Kunt & Klapper, 2013). The lack of adequate infrastructure, including transportation networks and communication systems, further exacerbates this problem. The uneven distribution of financial institutions needs to be addressed through targeted interventions such as mobile banking and agent banking networks to reach the underserved rural populations (Demirgüç-Kunt & Klapper, 2012). Recent literatures such as Pandey et al.(2022) further suggest that liquidity risks, ineffective financial literacy, rural-urban disparities are the major challenges of financial inclusion which indeed disrupts the poverty reduction process in Nepal.

In this context, understanding the relationship between financial inclusion and poverty reduction in Nepal is critical. Specifically, there is a need to investigate how access to formal financial services impacts poverty levels across different socio-economic groups and regions. It is also essential to assess whether financial inclusion initiatives adequately address the diverse needs of women, ethnic minorities, and other disadvantaged groups. Without such insights, efforts to foster inclusive development and meet the targets of Sustainable Development Goal 1 (No Poverty) and Goal 8 (Decent Work and Economic Growth) in Nepal may fall short.

This study seeks to address these gaps by evaluating the effect of financial inclusion on poverty alleviation, focusing on how it intersects with gender, caste, ethnicity, and geographic disparities. By doing so, it aims to inform policies and programs designed to create a more equitable and inclusive financial system, ultimately contributing to sustainable poverty reduction in Nepal.

1.3 Research Questions

The research questions of the study are:

i. What is the state of access to finance, financial inclusion and poverty in Nepal?

ii. What is the relationship between access to finance, financial inclusion and poverty reduction in Nepal?

1.4 Research Objectives

The research objectives of the study are:

i. To analyze the state of access to finance, financial inclusion, and poverty in Nepal.

ii. To examine the role of access to finance and financial inclusion in poverty reduction in Nepal.

1.5 Significance of the Study

The significance of this study lies in its ability to provide evidence-based insights into the effectiveness of financial inclusion initiatives in reducing poverty, offering guidance for policymakers to design targeted interventions for vulnerable populations. By highlighting disparities in access to financial services across various socio-economic groups, the study contributes to addressing structural inequalities and fostering inclusive economic development in Nepal. Moreover, the findings support Nepal's progress toward achieving key Sustainable Development Goals, particularly SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth). Additionally, by examining the role of digital financial inclusion, the study informs strategies to enhance the accessibility and usability of financial technologies, ensuring greater participation in the formal financial system. Lastly, this research adds to the growing body of knowledge on the relationship between financial inclusion and poverty alleviation, with a specific focus on Nepal, thereby addressing a critical research gap in the field.

1.6 Limitations of the Study

Despite its contributions, this study has certain limitations. First, the primary focus of this study is on the demand side of financial access and inclusion, analyzing access

and usage of financial services without incorporating supply-side factors such as banking infrastructure, availability of Automatic Trailer Machines (ATMs), digital financing, and institutional constraints. A comprehensive assessment of financial inclusion would require examining both demand- and supply-side dynamics.

Second, while the study employs OLS and logistic regression models to analyze the relationship between financial inclusion and poverty, potential omitted variable bias remains a concern. Factors such as financial literacy, informal credit markets, and household decision-making dynamics, which may significantly influence financial inclusion and poverty outcomes, are not fully accounted for due to data constraints.

Additionally, the Nepal Living Standard Survey (NLSS) 2022/23 is primarily meant to estimate the poverty, therefore there are limits in availability of some of the variables especially on the frequency and intensity and magnitude of the uses of the financial services, restricting deeper exploration of causal mechanisms. Future research could benefit from financial services uses focused survey. Some of the concerns such as omitted variable biases and supply side effects could be also mitigated using longitudinal data or mixed-method approaches to provide a more nuanced understanding of financial inclusion's role in poverty alleviation.

1.7 Organization of the Study

The study is divided into five chapters. First chapter is about the background of the study. Second chapter covers the literature review where empirical evidence regarding financial access, financial inclusion and poverty status are discussed covering both global and Nepal specific studies. Chapter three deals with research and methodology. This chapter provides the conceptual framework used in the study followed by the empirical estimation strategy and data sources used in this study Similarly, chapter four consists of the results and discussions. The results from both logistics and OLS regression model are interpreted and a through discussion of these results are made. Chapter five describes conclusion and recommendations. Finally, References are attached at the end.

CHAPTER II

LITERATURE REVIEW

This chapter provides the review of the relevant literature relating to access to finance, financial inclusion and its role in poverty reduction. This section is divided into theoretical review and empirical review. The theoretical review outlines the conceptual framework surrounding financial inclusion and its potential impact on poverty alleviation. The empirical review summarizes and analyzes key findings from studies conducted in the Nepalese context and in international settings, exploring how access to finance influences poverty reduction. In the concluding section, the research gap persisting in this study is presented.

2.1 Theoretical Review

2.1.1 The Vulnerable Group Theory of Financial Inclusion

The vulnerable group theory of financial inclusion emphasizes the importance of targeting financial inclusion programs toward society's most economically disadvantaged groups, including the poor, women, youth, and the elderly. This theory posits that these groups are disproportionately affected by economic crises and financial exclusion. One proposed mechanism to enhance financial inclusion is through government-to-person (G2P) social cash transfers, which involve depositing funds directly into the formal accounts of vulnerable individuals. This approach not only encourages the excluded to join the formal financial sector but also promotes a sense of compensation for income inequalities, providing opportunities for economic advancement. The theory has notable strengths. It offers a focused approach to reducing financial exclusion by prioritizing vulnerable populations, which are easily identifiable based on demographic characteristics such as income, age, and gender. Additionally, targeting vulnerable groups can be more cost-effective than attempting financial inclusion for the entire population. However, it overlooks non-vulnerable individuals who remain excluded from the financial sector and risks reinforcing social inequalities by favoring certain groups over others. Furthermore, labeling women as a vulnerable group may unintentionally create gender biases. Despite these critiques, the theory provides a valuable framework for addressing financial exclusion among society's most disadvantaged segments (Ozili, 2020).

2.1.2 Dissatisfaction Theory

Hirschman (1970), introduced in his book *Exit, Voice, and Loyalty*, explores how individuals and groups respond to dissatisfaction with an organization, institution, or system. Hirschman identifies three potential responses: exit (leaving the organization or withdrawing participation), voice (expressing dissatisfaction and advocating for change), and loyalty (remaining committed despite grievances, often to support gradual reform). These responses depend on factors like personal stakes, alternatives available, and the likelihood of effecting change through expression. In the context of financial inclusion, Dissatisfaction Theory helps explain how underserved populations react when they face barriers to accessing financial services. For instance, individuals excluded from formal banking systems due to high costs, discrimination, or lack of infrastructure might "exit" by relying on informal financial systems such as moneylenders or community savings groups. Alternatively, they may use their "voice" by advocating for more inclusive policies, such as reduced account opening fees or improved digital infrastructure. Loyalty may manifest when individuals maintain relationships with existing financial institutions despite suboptimal services, possibly due to trust or limited alternatives. Understanding these responses is crucial for policymakers and stakeholders aiming to enhance financial inclusion, as addressing dissatisfaction can help reduce reliance on informal systems and promote broader participation in formal financial ecosystems.

2.1.3 Capability Approach

Sen (1999) provides a robust framework for understanding the relationship between financial inclusion and poverty reduction. This approach emphasizes the expansion of individuals' capabilities—their real freedoms and opportunities to lead lives they value. Rather than focusing solely on income or resource distribution, Sen highlights the importance of enabling individuals to achieve desirable functioning, such as education, health, and social participation. In the context of financial inclusion, the Capability Approach underscores how access to financial services—such as savings accounts, credit, insurance, and digital payment systems—can enhance individuals' capabilities. Financial inclusion helps poor households manage risks, smooth consumption, invest in education or entrepreneurship, and build assets, all of which expand their opportunities and freedoms. For example, a farmer with access to credit

can invest in better seeds or equipment, improving productivity and securing a livelihood, while insurance safeguards against adverse shocks like crop failure. When linked to poverty reduction, the Capability Approach shifts the focus from mere income generation to broader empowerment. Financial services can provide the means for people to participate in economic activities, improve their social standing, and gain control over their lives. By addressing structural barriers—such as gender disparities, lack of education, or geographical remoteness—financial inclusion contributes to reducing multidimensional poverty.

2.1.4 Poverty Trap Theory

Poverty Trap Theory, as articulated by Jeffrey Sachs in his book *The End of Poverty* (2005), explains how low-income countries and households can become stuck in a cycle of poverty that is difficult to escape without external assistance. Sachs argues that poverty traps occur when a lack of resources and investment leads to persistently low levels of income and productivity, which in turn prevent individuals or nations from achieving the capital accumulation necessary for sustainable growth. Key factors reinforcing poverty traps include inadequate infrastructure, poor health and education systems, limited access to credit, and environmental degradation.

According to Sachs (2006), financial inclusion is a crucial mechanism for breaking poverty traps because it provides individuals and communities with the tools and opportunities to invest in productive assets and human capital. Financial inclusion facilitates access to credit and savings, enabling poor households to invest in education, health, or small businesses, thereby increasing productivity and income levels while reducing reliance on subsistence-level activities. It also plays a crucial role in risk mitigation by providing financial services such as insurance and savings, which help households manage economic shocks, health emergencies, and crop failures, preventing further impoverishment. Additionally, financial inclusion ensures efficient resource allocation, directing funds to the most productive uses and allowing individuals and businesses to contribute to economic growth. Moreover, it fosters empowerment, particularly for marginalized groups such as women, by enhancing decision-making power and social inclusion, ultimately breaking down barriers that perpetuate poverty.

Sachs (2006) emphasizes that addressing poverty traps requires coordinated interventions, including financial inclusion, infrastructure investment, and health and education services. By integrating financial inclusion into poverty reduction strategies, policymakers can provide the necessary conditions for individuals and communities to move beyond subsistence and achieve sustainable development.

2.1.5 The Sustainable Livelihoods Framework

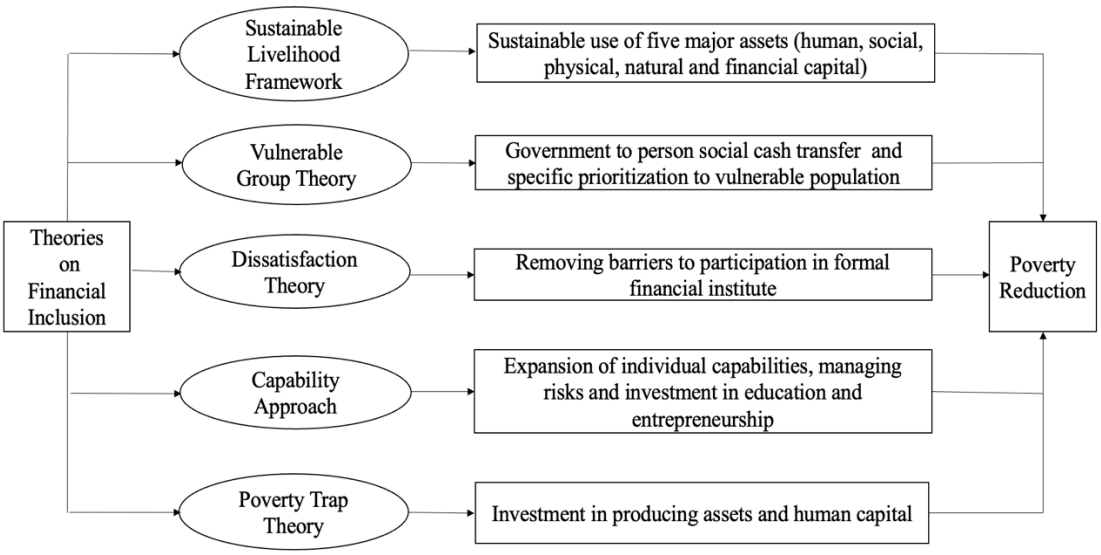
The Sustainable Livelihoods Framework (SLF), proposed by Chambers & Conway (1992), provides a comprehensive approach to understanding poverty. It defines a sustainable livelihood as one that can cope with and recover from shocks, maintain or enhance its assets, and provide opportunities for future generations while safeguarding natural resources. The framework emphasizes the importance of five key asset categories—human, social, physical, natural, and financial capital—and how these assets interact with external factors such as policies, institutions, and vulnerability contexts. These components shape the way individuals and households pursue sustainable livelihoods. Vulnerability contexts, such as shocks, trends, and seasonality, influence how people access and use their assets, while transforming structures and processes like policies and cultural norms determine access to resources and opportunities. In this context, individuals and households adopt diverse livelihood strategies aimed at improving income, food security, and asset building. The ultimate goals are to improve well-being, reduce vulnerability, and ensure the sustainable use of resources.

In the context of financial inclusion, the SLF highlights the role of financial capital as an essential asset for achieving sustainable livelihoods. Access to financial services—such as savings, credit, insurance, and remittances—allows individuals and households to accumulate and leverage assets, diversify income sources, and recover from shocks without depleting other resources. It also enables livelihood diversification and contributes to the empowerment of marginalized groups, allowing them to participate in economic activities and build social networks. Furthermore, the SLF emphasizes the importance of an enabling policy environment, where institutions and policies facilitate financial access, aligning with the goal of creating inclusive financial systems that support sustainable livelihoods (Chambers & Conway, 1992).

Figure 2.1 represents the theoretical review, outlining key theories and their implications for financial inclusion and poverty reduction. Each of these theories highlights different mechanisms through which financial inclusion contributes to economic empowerment and poverty reduction. The Sustainable Livelihood Framework emphasizes the optimal utilization of various assets, while the Vulnerable Group Theory focuses on targeted financial interventions for marginalized populations. Similarly, Dissatisfaction Theory underscores the need to eliminate barriers to formal financial institutions, whereas the Capability Approach emphasizes expanding individual capacities. Lastly, the Poverty Trap Theory highlights the significance of investment in asset-building and human capital development.

Figure 2.1

Thematic Representation of Financial Inclusion Theories



Source: Author's Illustration

2.2 Empirical Review

2.2.1 Global Context

Park and Mercado (2015) investigated the relationship between financial inclusion and socioeconomic outcomes, focusing on poverty and income inequality in developing Asia. By utilizing (Sarma, 2008) methodology, a novel financial inclusion indicator was constructed incorporating metrics such as ATM availability

and domestic credit. Data sources included the World Bank and Asian Development Bank, encompassing 177 countries, with a subset from developing Asia. Methodologically, regression models tested determinants of financial inclusion (e.g., per capita income, rule of law, education) and its impact on poverty and inequality. Findings highlighted a robust negative correlation between financial inclusion and poverty for both global and regional samples. However, income inequality exhibited no significant association with financial inclusion, suggesting that increased financial access benefited all income groups, diluting inequality-specific effects. Policy implications emphasized the importance of improving institutional quality, increasing per capita income, and fostering education, as these factors significantly enhanced financial inclusion. In developing Asia, targeted initiatives for expanding financial infrastructure in underserved regions were considered critical.

Shaikh (2017) explored the efficacy of micro equity finance as a viable alternative to traditional debt financing in alleviating poverty through the empowerment of microenterprises. The study emphasized the need for innovative financing solutions that could effectively address the multi-faceted financial needs of the poor, particularly in Muslim-majority countries where poverty rates were alarmingly high. To achieve this aim, the author employed a mathematical model to analyze agency costs, including adverse selection and moral hazard, associated with different financing modes. He involved a comparative analysis of equity finance versus interest-based debt finance, highlighting the limitations of the latter in meeting the diverse needs of micro entrepreneurs. The findings revealed that while debt financing imposed a burden of frequent repayments, equity financing offered greater flexibility and did not exacerbate the financial strain on borrowers. The study suggested that Islamic microfinance institutions (IMFIs) could enhance their outreach and effectiveness by adopting equity-based financing models, such as Musharakah and Mudarabah, which were currently underutilized. By addressing the high agency costs and improving financial inclusion, this approach could facilitate sustainable economic development in impoverished communities, ultimately aligning with the egalitarian vision of Islamic finance.

Williams et al. (2017) investigated the critical relationship between financial inclusion and economic development, particularly in Nigeria. The study aimed to assess how access to financial services could enhance economic growth and reduce

poverty levels among rural populations. Utilizing a quantitative methodology, the research extracted and analyzed data from various financial institutions and rural communities to evaluate the impact of financial inclusion initiatives. The findings revealed that increased access to financial services significantly correlated with improved economic conditions and reduced poverty rates, supporting the notion that financial inclusion was essential for sustainable development. The research highlighted successful case studies, such as the expansion of rural bank branches in India, which demonstrated tangible benefits in poverty alleviation. Based on these findings, the study recommended that policymakers prioritize the implementation of inclusive financial programs and enhance the regulatory framework to support the establishment of more accessible financial institutions in rural areas. This approach was expected to empower disadvantaged populations, ultimately fostering economic resilience and growth in developing economies.

Lal (2018) investigated the impact of financial inclusion through cooperative banks on poverty alleviation in the northern Indian states of Jammu & Kashmir, Himachal Pradesh, and Punjab. The research aimed to assess how beneficiaries from various socio-economic backgrounds experienced financial inclusion and its effects on poverty reduction. Utilizing both primary and secondary data, the study collected responses from 540 beneficiaries of cooperative banks, employing statistical tools such as exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM) to analyze the data. The findings revealed that financial inclusion significantly contributed to poverty alleviation, particularly among marginalized groups, including low-income individuals and those in rural areas. The study highlighted the necessity for cooperative banks to enhance financial education and simplify loan processes to better serve these communities. Recommendations included promoting microcredit initiatives and supporting rural entrepreneurship through financial assistance for self-employment projects. Overall, the research underscored the critical role of cooperative banks in fostering financial inclusion and suggested further exploration of the perceptions of other stakeholders involved in the financial inclusion drive.

Bakari et al. (2019) investigated the impact of financial inclusion on poverty reduction across 49 Sub-Saharan African countries from 1980 to 2017. The primary objective was to assess how various financial factors contributed to alleviating

poverty in a region characterized by significant economic challenges. Utilizing a static panel data model, the research analyzed key variables such as savings, credit to the private sector, access to ATMs, information technology, inflation, and government expenditure. The findings revealed that these factors significantly contributed to poverty reduction, accounting for reductions of 32.5%, 11.7%, 27.4%, 49.1%, 96.1%, and 25.2% respectively. Conversely, higher interest rates and economic growth were found to exacerbate poverty by 124% and 14.8%, respectively. The study concluded that financial inclusion was a critical strategy for poverty alleviation in Sub-Saharan Africa, recommending that regulatory bodies lower policy rates to enhance access for low-income earners to formal financial services. Additionally, the re-establishment of rural banking schemes and improved internet accessibility were suggested as essential measures to further promote financial inclusion and reduce poverty in the region. This research underscored the necessity for targeted policies that facilitated financial access for marginalized populations, thereby fostering sustainable economic growth and improving living standards across Sub-Saharan Africa.

Inoue (2019) investigated the role of financial inclusion and financial deepening in poverty reduction across Indian states and union territories from 1973 to 2004. Using dynamic panel Generalized Method of Moments (GMM) estimators, the study assessed the influence of public and private sector banks on poverty alleviation. The analysis employed indicators such as the number of bank branches, bank accounts, and credit relative to GDP to capture financial inclusion and depth. The findings demonstrated that financial inclusion and financial deepening via public sector banks had a statistically significant negative impact on the poverty ratio, suggesting these banks played a critical role in reducing poverty. In contrast, private sector banks showed weaker and statistically insignificant effects, likely due to their focus on urban areas and the limited reach of financial services to rural populations. Notably, the interaction between financial inclusion and financial deepening highlighted a synergistic effect in poverty reduction for public sector banks. Control variables, including GDP per capita, inflation, and trade openness, further reinforced the importance of economic stability in alleviating poverty. The study emphasized that public sector banks should expand their branch networks and adopt technologies like mobile banking to enhance access and usage, especially in remote areas.

Bakari et al. (2019) explored the nexus between financial inclusion and poverty reduction, focusing on Sub-Saharan Africa (SSA). Financial inclusion, defined as access to affordable financial services, was posited as a key driver for economic development and poverty alleviation. Utilizing household-level data from the Global Financial Inclusion Index (2011), the study employed the Treatment Effects Model (TEM) and Propensity Score Matching (PSM) to address issues of sample selection bias and endogeneity. The findings demonstrated that financial inclusion significantly reduced poverty, with financially included individuals experiencing higher welfare benefits compared to their excluded counterparts. Notably, gender disparities persisted, as women were less likely to access formal financial services, partly due to limited formal employment opportunities and domestic responsibilities. Age and education emerged as critical determinants, with older and more educated individuals being more likely to access financial services and escape poverty. The study recommended policies aimed at enhancing financial access for marginalized groups, particularly women and the unbanked. Financial institutions were urged to innovate low-fee accounts and localized financial products. Governments in SSA were advised to prioritize inclusive financial policies, leveraging partnerships with international organizations to design pro-poor financial initiatives.

Iqbal et al. (2020) aimed to investigate the relationship between banking services and poverty alleviation across 544 sub-districts in Bangladesh, focusing on the years 2010 and 2015. The study utilized a unique dataset that included various banking measures such as the number of bank branches, accounts, deposits, and credit, allowing for a comprehensive analysis of financial inclusion. The methodology employed involved a combination of statistical techniques to assess the impact of banking services on poverty levels, utilizing data from the Bangladesh Bank and the World Food Program. The authors analyzed regional variations in financial outreach and usage, providing insights into how banking services could influence economic outcomes at both individual and community levels. Findings indicated a positive correlation between banking services and poverty reduction, particularly highlighting the significance of deposit channels in enhancing financial stability and economic productivity. The study revealed that increased access to banking services contributed to higher income levels and improved labor productivity, thereby supporting the notion that financial inclusion was crucial for poverty alleviation. In

light of these findings, the authors recommended that policymakers prioritize enhancing access to banking services, particularly in underserved regions, and implement targeted financial programs to support low-income households.

Churchill and Marisetty (2020) investigated the impact of financial inclusion on poverty levels in India, utilizing a nationally representative dataset of approximately 45,000 households. The research aimed to explore whether increased access to financial services, such as banking, credit, and insurance, contributed to poverty alleviation. Employing a multidimensional approach, the authors measured financial inclusion through various indicators and analyzed its effects on three poverty measures: The Poverty Probability Index (PPI), household deprivation scores based on the multidimensional poverty index (MPI), and a binary poverty line variable. The methodology involved cross-sectional data analysis using the Financial Inclusion Insights survey from 2016/2017, which provided insights into household demographics and financial behaviors. The findings revealed a significant negative correlation between financial inclusion and poverty, indicating that improved access to financial services effectively reduced poverty levels across different measures. The authors recommended that policymakers prioritize initiatives aimed at enhancing financial inclusion to further combat poverty in India, emphasizing the need for sustained efforts in expanding access to financial products among underprivileged populations. This research contributed valuable empirical evidence to the ongoing discourse on finance's role in poverty alleviation.

Omar and Inaba (2020) investigated the relationship between financial inclusion, poverty, and income inequality in developing countries, utilizing a panel data approach from 2004 to 2016 across 116 nations. The research aimed to identify the key determinants of financial inclusion and assess its impact on poverty reduction and income inequality. A novel index of financial inclusion was constructed using various outreach indicators, revealing that factors such as per capita income, internet usage, age dependency ratio, inflation, and existing income inequality significantly influenced financial inclusion levels. The findings indicated that higher financial inclusion correlated with reduced poverty rates and income inequality, suggesting that access to formal financial services could enhance overall societal welfare. Furthermore, the study highlighted that the effectiveness of financial inclusion in mitigating poverty and inequality was contingent upon other macroeconomic

conditions, such as GDP growth and educational attainment. The authors recommended enhancing access to financial services for marginalized groups to maximize the benefits of financial inclusion in achieving sustainable economic development. This research contributed to existing literature by providing empirical evidence on the broader macroeconomic effects of financial inclusion in developing regions, emphasizing its potential role in fostering inclusive growth and reducing socio-economic disparities.

Ouechtati (2020) examined the relationship between financial inclusion, poverty, and income inequality in developing countries using dynamic panel data of 53 economies from 2004 to 2017. The research employed bias-corrected fixed effects, difference generalized method of moments (Diff-GMM), and system GMM (Sys-GMM) to address endogeneity issues. Financial inclusion was measured using proxies such as bank penetration rate, credit access, and savings. The findings revealed a significant negative impact of financial inclusion on poverty and income inequality. Specifically, credit availability and savings were strongly associated with poverty reduction, while a high bank penetration rate and access to credit significantly reduced income inequality. However, weak financial institutional structures limited the effectiveness of financial inclusion proxies like ATM density. Control variables, such as trade and inflation, also influenced poverty and inequality outcomes, suggesting the importance of stable macroeconomic policies. The paper recommended enhancing financial infrastructure, reforming banking systems, and promoting financial literacy, especially in marginalized areas, to maximize the benefits of financial inclusion. Innovative financial tools and inclusive trade policies were also proposed to support poverty alleviation and economic equality. This study contributed to the literature by demonstrating the robust relationship between financial inclusion and socioeconomic outcomes and highlighted the need for systemic reforms to amplify the positive effects of inclusive finance in developing countries.

Tran and Le (2021) investigated the impact of financial inclusion (FI) on poverty reduction across various poverty lines, emphasizing its significance in alleviating poverty and promoting sustainable development. The research employed a quantitative methodology, utilizing regression analysis on data from 29 European countries to assess the correlation between financial inclusion indices and poverty

rates. The findings revealed a strong negative relationship between FI and poverty, indicating that increased access to financial services significantly reduced poverty levels, particularly for those earning below USD 1.90 and USD 5.50 per day. The study highlighted that financial inclusion not only enhanced savings and investment but also mitigated the reliance on high-interest informal financial markets, thereby breaking the cycle of poverty. Additionally, it underscored the importance of financial education and the expansion of financial services in rural areas to further promote FI. The authors recommended that policymakers implement strategies to enhance access to financial products for low-income populations, address barriers to financial inclusion, and promote financial literacy to empower individuals in managing their finances effectively. This research contributed to the understanding of FI as a critical tool for poverty alleviation and called for targeted interventions to ensure that the benefits of financial services reached the most vulnerable segments of society.

Tsouli (2022) investigated the relationship between financial inclusion, poverty reduction, and income inequality across 122 countries classified into high, middle, and low-income groups. Using data from 2014-2019, the study constructed a comprehensive Financial Inclusion (FI) index based on three dimensions: penetration, availability, and usage of financial services. The Principal Component Analysis (PCA) method was employed for index creation and analysis. Findings revealed that financial inclusion significantly reduced poverty, particularly in countries with strong institutional frameworks and the rule of law. However, the relationship between financial inclusion and income inequality varied by income group. For high- and lower-middle-income countries, a significant negative relationship was observed, suggesting that better financial access reduced income disparities. Education and income distribution also emerged as pivotal factors influencing poverty reduction. Conversely, population density negatively impacted financial inclusion in some regions, highlighting the need for localized financial strategies. The study recommended enhancing financial inclusion through policies targeting underserved populations, such as improved access to microfinance in low-income countries. Strengthening institutional governance and promoting education were also emphasized to ensure inclusive financial systems. The study underscored

the critical role of tailored financial policies in alleviating poverty and income inequality across diverse economic contexts.

Tsouli (2022a) aimed to explore the relationship between financial inclusion, poverty reduction, and income inequality in European countries from 2004 to 2019. It sought to identify the determinants of financial inclusion and assess its impact on socioeconomic outcomes across 30 nations, utilizing a composite financial inclusion index constructed through principal component analysis (PCA). The methodology involved a quantitative analysis using panel data, employing fixed effects regression to evaluate how various factors influenced financial inclusion and its subsequent effects on poverty and inequality. Key variables included Gross National Income (GNI) per capita, population density, inflation rates, and the number of internet users. The study found that GNI per capita, population density, and internet accessibility positively correlated with financial inclusion, while age dependency negatively impacted it. Findings revealed that increased financial inclusion significantly correlated with lower poverty rates and reduced income inequality in the sampled countries. Specifically, education was highlighted as a critical factor in poverty alleviation. Interestingly, while financial inclusion generally supported poverty reduction, its interaction with higher income levels did not yield expected improvements in poverty rates. In conclusion, the study recommended that policymakers focus on enhancing financial access through digital services and tailored programs to address involuntary exclusion.

Saha and Qin (2023) investigated the relationship between financial inclusion and poverty alleviation across 156 countries from 2004 to 2019, aiming to understand how access to financial services impacted poverty levels, particularly in developing nations. Utilizing a dynamic two-stage system Generalized Method of Moments (GMM) and fixed-effect panel methods, the research constructed a composite financial inclusion index that captured various dimensions of access and usage of financial services. The findings revealed that financial inclusion significantly reduced extreme poverty, while its effect on moderate poverty was less substantial. Notably, the study emphasized the critical role of gender equality, indicating that enhancing women's access to financial services could amplify the poverty-reducing effects of financial inclusion. The research recommended that policymakers prioritize equitable access to financial services, particularly for marginalized groups,

to maximize the benefits of financial inclusion in combating poverty. By tailoring financial products to meet the specific needs of diverse populations, especially women, financial institutions could contribute more effectively to poverty alleviation efforts.

Tran (2023) investigated the impact of microfinancing, financial inclusion, and educational loans on poverty alleviation and income inequality in Vietnam from 1986 to 2020. The study addressed the existing contradictions in literature regarding the effectiveness of financial inclusion as a tool for reducing poverty and inequality, particularly in emerging economies. The methodology employed a Bayesian Auto-regressive Distributed Lags (BARDL) model to analyze panel data, allowing for a comprehensive examination of the relationships between financial services and socioeconomic outcomes. The findings indicated that microfinancing and educational loans significantly contributed to reducing poverty and enhancing income equality in Vietnam. Specifically, the study revealed that improved access to financial services correlated with lower poverty rates and a reduction in income disparity. In conclusion, the paper suggested that government institutions prioritize microfinancing and financial inclusion initiatives to empower marginalized communities, particularly in rural areas.

Duan et al. (2024) aimed to evaluate the impact of digital financial services on urban poverty in China, utilizing a multidimensional poverty measurement index to assess the poverty status of urban households. The study drew on data from the Digital Financial Inclusion Index (DFII) and the China Family Panel Studies (CFPS), covering the period from 2012 to 2020. The methodology integrated city-level digital finance data with household-level longitudinal data, resulting in a comprehensive dataset of 44,659 household-year observations. The findings revealed that digital financial development significantly benefited specific groups of urban poor, particularly the unemployed and migrants, by enhancing their access to financial resources and opportunities for economic participation. The analysis indicated that improvements in capital endowment through digital finance could break the vicious cycle of poverty, characterized by low capital accumulation and limited social participation. The study identified three dimensions of urban poverty: capital endowment, social participation, and quality of life, emphasizing the need for targeted interventions. In conclusion, the research recommended that

policymakers leverage digital finance to create tailored financial products and services that addressed the unique needs of vulnerable urban populations. By fostering an inclusive digital financial ecosystem, the government could enhance economic opportunities for the urban poor, ultimately contributing to poverty alleviation and sustainable development in urban areas.

2.2.2 Nepalese Context

Dhungana and Kumar (2015) explored the status and challenges of financial inclusion in Nepal, highlighting its uneven distribution across regions. Using secondary data from Nepal Rastra Bank and other sources, the study examined financial inclusion led by banks, financial institutions, and "D class" micro-finance institutions (MFIs). The findings revealed that 75% of Nepal's population lacked access to formal banking services, with significant disparities between regions. Sudur Paschim and Karnali Province showed minimal financial penetration due to geographical barriers and inadequate infrastructure. While central and urban regions had better access, MFIs primarily operated in district headquarters, limiting their outreach to remote areas.

The study emphasized the critical role of financial inclusion in fostering socio-economic development, particularly through microfinance. However, it identified structural challenges, such as the lack of basic financial infrastructure and reliance on informal lending systems. Recommendations included expanding MFI services to rural and hilly regions, developing robust financial policies, and strengthening regulatory frameworks. The government was urged to enhance infrastructure, promote inclusive growth, and incentivize financial institutions to serve marginalized populations. By addressing these gaps, financial inclusion could improve livelihoods, boost productive investments, and contribute to national economic growth.

Pant (2016) highlighted the challenges and priorities for promoting financial inclusion in Nepal, emphasizing its transformative potential for poverty reduction and economic development. The study adopted a descriptive and analytical methodology, utilizing secondary data from the Nepal Rastra Bank, international financial institutions, and national surveys. Despite efforts, financial inclusion in Nepal remained low, with a significant portion of the population still excluded from

formal financial systems due to barriers such as low financial literacy, inadequate infrastructure, and limited access to technology. Findings revealed that while financial institutions had expanded, their services were concentrated in urban and semi-urban areas, leaving rural and remote populations underserved. Initiatives such as branchless banking, mobile payments, and targeted financial literacy programs showed promise but required scaling to meet the needs of marginalized groups. Policy measures like the Financial Inclusion Roadmap (2017-2022) and the Monetary Policy of 2016/17 aimed to increase formal financial inclusion from 60% to 75% and reduce financial exclusion to 3% by 2022 through digital services, enhanced financial literacy, and support for microfinance institutions (MFIs). The study recommended prioritizing financial literacy, promoting digital financial services, redesigning business strategies, and implementing a National Financial Inclusion Strategy. Special emphasis was placed on leveraging MFIs to extend services to rural areas and addressing gaps in infrastructure and data availability. These measures were expected to broaden access to financial services, improve household welfare, and contribute to Nepal's sustainable economic growth.

Karki et al. (2021) examined the role of microfinance in alleviating poverty among marginalized populations in Nepal. The research aimed to evaluate how microfinance served as a financial intervention to support socio-economic transformation in rural communities. Utilizing secondary data from government and non-government reports, as well as existing empirical studies, the authors analyzed the effectiveness of microfinance institutions (MFIs) in providing collateral-free loans to low-income individuals. The findings indicated that microfinance significantly contributed to poverty reduction by empowering economically disadvantaged people through self-employment opportunities and enhancing their social capital. The authors highlighted that despite the progress made, challenges remained in reaching the most vulnerable populations effectively. They recommended that policymakers focus on developing tailored microfinance programs that addressed the specific needs of rural communities, thereby improving access to financial services and fostering economic stability. This study underscored the potential of microfinance as a critical tool for poverty alleviation in Nepal, advocating for continued support and innovation within the sector to maximize its impact on financially excluded individuals.

2.3 Research Gap

Nepal's persistent poverty is shaped by financial exclusion and socio-structural inequalities. While numerous studies globally have explored the relationship between financial inclusion and poverty alleviation, there is a lack of country-specific research focusing on Nepal's unique socio-economic and geographical context. Existing literatures like (Kumar & Jie, 2023; Saha & Qin, 2023; H. T. T. Tran & Le, 2021; Williams et al., 2017) predominantly emphasizes the role of financial inclusion in developed and emerging economies, with limited investigation into how access to financial services influences poverty in a developing nation like Nepal, characterized by rural predominance, diverse ethnic groups, and significant socio-economic disparities.

The relationship between financial inclusion and poverty reduction in Nepal's rural and marginalized communities remains underexplored, particularly given the limited access to formal financial services. Existing studies have not sufficiently analyzed the differential impact of financial inclusion on socio-economic groups such as women, ethnic minorities, and low-income households. While global research underscores the importance of financial literacy, education, and gender equality in enhancing financial inclusion's benefits, evidence from Nepal is scarce. Additionally, the effectiveness of financial inclusion initiatives in addressing poverty, particularly in alignment with Nepal's national development goals and the SDGs, remains inadequately studied. This research seeks to fill these gaps by examining the role of access to finance in poverty reduction, focusing on socio-economic disparities, financial services, and household characteristics. By offering policy-relevant insights, the study aims to establish financial inclusion as a viable tool for sustainable poverty alleviation in Nepal.

CHAPTER III

RESEARCH METHODOLOGY

This chapter provides a detailed overview of the research methodology, including the data sources, conceptual framework, models, and analytical tools employed in the study. It outlines the definitions of the variables used and discusses the application of Ordinary Least Squares (OLS) and logistic regression models to examine the research questions comprehensively.

3.1 Research Design

This study has followed a quantitative and qualitative research design employing cross-sectional data. A descriptive approach has been followed in examining the status of access to finance, financial inclusion and poverty in Nepal. This approach provides a progress in these indicators over the period of time. The proportion of the households availing the financial services as well poverty has been examined under this framework. The analytical design, on the other hand, has included the use of econometric techniques to examine the association between access to finance, financial inclusion, and poverty alleviation in Nepal. To this end, the study has used cross-sectional data, namely the Nepal Living Standard Survey (NLSS) 2022/23.

3.2 Conceptual Framework

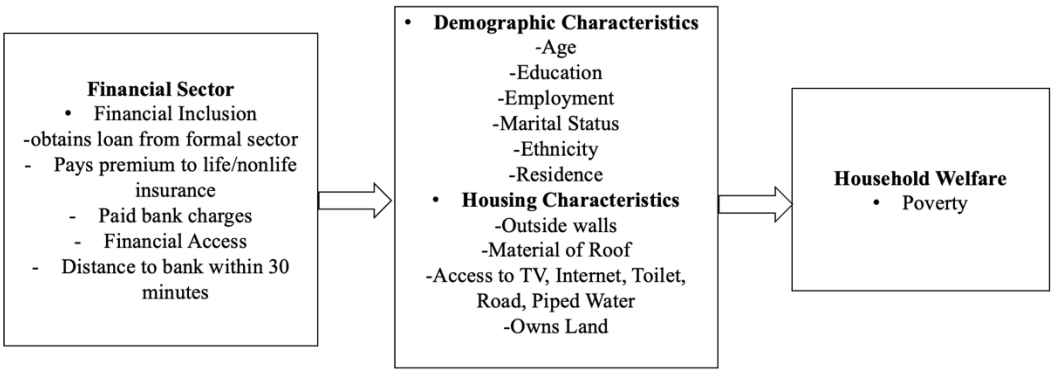
The conceptual framework of this study is centered on the relationship between access to finance, financial inclusion, and poverty reduction, with poverty serving as the dependent variable. Financial inclusion, as a key independent variable, is conceptualized as the availability, accessibility, and utilization of financial services. Access to finance, a critical dimension of financial inclusion, focuses on the extent to which individuals and communities can engage with formal financial institutions, encompassing both physical access (e.g., proximity to banks) and affordability of services. The model hypothesizes that greater access to finance and financial inclusion can directly reduce poverty by facilitating income generation, promoting asset accumulation, enhancing savings and investment, smoothing consumption, and reducing economic vulnerabilities. However, these effects are mediated by socio-demographic and infrastructural factors, such as education, employment, ethnicity, gender, and residence, which influence how financial services are utilized.

Additionally, household characteristics—including ownership of land, access to infrastructure (e.g., roads, piped water, sanitation, and digital connectivity)—play a crucial role in shaping economic outcomes.

This framework underscores the interconnectedness of financial systems, socio-economic structures, and household welfare, offering a structured lens to analyze the dynamics of poverty reduction in Nepal. It highlights the need for targeted financial policies and inclusive development strategies to bridge financial disparities and promote sustainable economic empowerment, particularly for marginalized and rural populations.

Figure 3.1

Conceptual Framework



Source: Author's illustration

3.3 Sources of Data

This study has used cross-sectional secondary data from the Nepal Living Standard Survey (NLSS) 2022/23. The primary source of data for this study has been the Fourth Nepal Living Standards Survey (NLSS-IV), conducted by the National Statistics Office (NSO) from July 2022 to June 2023. Supported by technical assistance from the World Bank, NLSS-IV has adopted internationally recognized methodologies for poverty estimation, ensuring accurate and reliable data. This survey has marked the first living standards assessment in Nepal since the restructuring of administrative boundaries under the 2015 Constitution.

The NLSS-IV has collected data from a representative sample of 9,600 households, covering a wide range of topics related to household welfare, including food and

non-food consumption and expenditures, which have formed the basis for poverty measurement. The survey has been designed to provide estimates at the national level and for 15 analytical domains, including urban-rural distinctions across seven provinces and a separate domain for Kathmandu Valley urban. The comprehensive nature of this data has made it instrumental in analyzing the interplay between financial inclusion, access to finance, and poverty in Nepal.

3.4 Empirical Strategy

The primary objective of the study is to examine the demand side state of the access to finance, financial inclusion and in Nepal with a specific focus on different socio-economic groups, such as rural population, women, and marginalized communities using effective econometric tools. Similarly, the secondary objective of the study is to examine the role of access to finance and financial inclusion, in poverty reduction in Nepal.

3.4.1 Access to Finance and Poverty Reduction

In line with the first objective, the empirical approach has employed Ordinary Least Squares (OLS) and logistic regression models to explore these relationships. The basic relationship between status of poverty (Yi) and the variable of interest Access to Finance (Vi) and set of the control covariates (Xi) is presented in Equation 1.

$$Y_i = \alpha + \beta X_i + \delta V_i + \varepsilon \ldots\ldots\ldots\ldots\ldots (1)$$

Here, For the outcome variable is poverty status (Yi) defined as a binary variable indicating whether the household is below the poverty line (1 = Poor, 0 = Non-Poor) is taken as an outcome variable. To measure the access to finance, two variables are namely households having bank account (at least one member has bank account) or any member has taken loan during the recall period as specified in the survey. The other covariates include the socio-economic status of the household as described in Table 3.1.

As the outcome variable is binary, the estimation strategy also include the estimation of the logistic model as specified in equation (2).

$$\log\left(\frac{P(Y_i=1)}{1-P(Y_i=1)}\right) = \alpha + \beta X_i + \delta V_i + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Here,

- P ($Y= 1$) is the probability of the outcome being 1.
- $\frac{P(Y_i=1)}{1-P(Y_i=1)}$ is the odds of $Y_i = 1$ (the "odds ratio")
- The left-hand side of the equation is the log-odds (logit function).
- α is the intercept.

V_i are the coefficients for the independent variables, indication the effect of each V on the log-odds of the outcome.

As per the objectives of the study, following outcome, variable of interest and set of control covariates are considered. The detailed definition of these variables are provided in Table 3.2

Financial inclusion, the primary explanatory variable, has been analyzed alongside demographic factors such as age, gender, education, income, and residence. To analyze financial inclusion, this study has constructed a Financial Inclusion Index using Principal Component Analysis (PCA). Covariates including household income, education, employment status, and regional disparities have been incorporated to provide a nuanced understanding of financial access, financial inclusion, and its relationship with poverty.

3.4.2 Financial Inclusion and Poverty Reduction

3.4.2.1 Construction of Financial Inclusion Index

To examine the role of access to finance and financial inclusion, in poverty reduction in Nepal, Financial inclusion index is calculated using Principal Component Analysis (PCA). PCA is a statistical technique used to reduce the dimensionality of a dataset while retaining most of its variance. It transforms a set of correlated variables into a new set of uncorrelated variables called principal components (PCs), which are linear combinations of the original variables (Jolliffe, 2002).

Since the variables used to construct the Financial Inclusion Index may have different scales, each variable is standardized as:

$$\text{Zij} = \frac{X_{ij} - \mu_j}{\sigma_j} \text{.....(3)}$$

where:

X_{ij} is the original value of the j-th variable for the i-th observation,

μ_j is the mean of the j-th variable,

σ_j is the standard deviation of the j-th variable,

Zij is the standardized value.

Afterwards, covariance matrix is computed. The covariance matrix of the standardized variables is given by:

$$S = \frac{1}{n} Z^T Z \text{.....(4)}$$

Where S is p x p covariance matrix, and p is the number of variables.

To obtain the principal components, we compute the eigenvalues and eigenvectors of the covariance matrix:

$$Se_k = \lambda_k e_k \text{ ..... (5)}$$

where:

- $\lambda_k$represents the variance explained by the k-th principal component,
- $e_k$is the eigenvector associated with λ_k.

The principal component scores for each observation are computed as:

$$PC_{ik} = Z_i e_k \text{ ..... (6)}$$

where $PC_{ik}$is the score of the k-th principal component for the i-th observation.

The proportion of variance explained (PVE) by each principal component is:

$$PVE_k = \frac{\lambda_k}{\sum_{j=1}^{p} \lambda_i} \text{ ..... (7)}$$

The number of retained components is determined using:

i. The Kaiser criterion (retain components with $\lambda_k > 1$).

ii. The Cumulative variance rule (retain components until cumulative PVE exceeds 70-80%).

iii. The Scree plot method.

Once the principal components are determined, the Financial Inclusion Index (FII) is computed as a weighted sum of selected principal component scores:

$FII_i = \sum_{k=1}^{m} \omega_k PC_{ik}$ .....(8)

where:

- m is the number of selected components,
- ω_k is the weight assigned to each component, often proportional to λ_k.

The variables used to measure the financial inclusion index are presented in Table 3.1

Table 3.1

Description of the variables used in constructing Financial Inclusion Index

Indicator	Nature	Definition
HH has bank account	Binary	1 if a member of the HH has a bank account
HH has taken loan from formal sources	Binary	1 if HH member has taken loan from formal source
HH has paid bank charges	Binary	1 if HH member has paid bank charges
HH has paid life insurance premium	Binary	1 if HH member has paid life insurance premium
HH has paid non-life insurance premium	Binary	1 if HH member has paid non-life insurance premium

3.4.2.2 Financial Inclusion and Poverty

With the derivation of the financial inclusion index as explained in 3.4.2, the empirical strategy adopted to examine the association between financial inclusion and poverty is similar to adopted in equation (1). The framework for the analysis includes:

$$Y_i = \alpha + \beta X_i + \delta FI_i + \varepsilon \text{ ..... (9)}$$

where the Yi is the poverty status of the household, FI is the financial inclusion index and Xi is the set of socio-economic covariates as defined in equation (1) and described in Table 3.2. Since the outcome variable is binary, a logistic regression is estimated specified as:

$$\log\left(\frac{P(Y_i=1)}{1-P(Y_i=1)}\right) = \alpha + \beta X_i + \delta FI_i + \varepsilon \ldots\ldots\ldots\ldots (10)$$

where the FI is the financial inclusion index, and all other variables are defined as above.

3.5 Operational Definition of the variables

3.5.1 Outcome Variable

For the purpose of this study, poverty status**,** a binary variable indicating whether the household is below the poverty line (1 = Poor, 0 = Non-Poor) is taken as an outcome variable. According to NSO, a household is currently poor (1) if its annual consumption expenditure is Rs 72,908 per person per year. The construction of the poverty variable is already provided in the data set.

3.5.2 Variables of Interest

For the first objective, access to bank and financial institution (BFI) has been taken as a predictor variable. Access to BFI includes having account on BFI by at least one member of the household at the time of interview. The variable loan measures whether any member of the household has taken loan during last 12 months preceding the survey or has any outstanding loan during the period of the interview. Similarly, for the second objective, Financial Inclusion Index (FII), a composite indicator capturing access to financial services such as credit from formal financial institutions, having account in BFI, payment of service charges and payment of life and non-life insurance premium is considered.

3.5.3 Control Variables

The details of the control variables used in the study are given below:

i. Access to Facilities: Availability of basic services like TV, internet, toilet, piped water, and paved road.

ii. Household Size: The total number of members in the household.

iii. Land Ownership: Whether the household owns agricultural or residential land.

iv. Demographic Factors: Includes characteristics such as the head of household's age, education level, ethnicity and gender.

v. Household characteristics: Main material of roof, outside walls.

The detail definition of the above variables are given in Table 3.2

Table 6.2

Operational definition of variables

Variables	Definition	Expected sign
Poverty Status	Binary variable 1= if the household head is poor otherwise zero	
Financial Inclusion Index	Binary variable 1 = if the household is financially inclusive	Negative
Access to Bank/Financial institutions	Binary variable 1 = if the household head has visited B/FI in last 12 months otherwise 0	Negative
Has taken loan from Bank/Financial Institutions	Binary Variable 1 = if the household head has taken loan from B/FI otherwise 0	Negative
Gender	Categorical Variable Male = 0 Female = 1	Positive /Negative
Age	Continuous variable Individual's age	Positive /Negative
Age Squared	Continuous variable Square of individual's age	Positive /Negative
Education	Binary variable Illiterate = 0 (base category) Literate = 1	Negative
Land Ownership	Binary Variable Has agricultural land/ residential land = 1 otherwise 0	Negative
Ethnicity	Categorical variable Hill Caste = 0 (base category) Madhesh/Terai Caste = 1 Mountain /Hill Janajati = 2 Terai Janajati = 3 Hill Dalit = 4 Madhesh/Terai Dalit = 5 Religion/Linguistic group = 6	Positive /Negative

	Others = 7	
Internet	Binary Variable 1= has access to internet facility otherwise zero as a base category	Negative
Cable TV	Binary variable 1 = owns TV otherwise zero as base category	Negative
Toilet	Binary variable 1 = has access to toilet otherwise zero as base category	Negative
Piped water	Binary variable 1 = has access to piped water otherwise zero as base category	Negative
Marital Status	Binary variable 1 = if the individual is married otherwise zero as base category	Positive /Negative
Main Material of outside walls	Mud bonded bricks = 0 (base category) Cement bonded bricks = 1 Wood = 2 Bamboo/leaves = 3 Unbaked bricks = 4 Galvanized iron sheets = 5 Others = 6	Positive /Negative
Main material of roof	Galvanized iron sheets = 0 (base category) Concrete/cement = 1 Straw/ thatch = 2 Tiles = 3 Stone/slate = 4 Mud/earth = 5 Other = 6	Positive /Negative
Provin	Categorical Variable Koshi = 1 Madhesh = 2 Bagmati = 3 (base category) Gandaki = 4 Lumbini = 5 Karnali = 6 Sudurpaschim = 7	Positive/Negative

CHAPTER IV

RESULTS AND DISCUSSION

This chapter presents the results derived from both descriptive and econometric analyses. The descriptive analysis includes measures of central tendency and dispersion to examine the characteristics of households in Nepal, along with various economic and socio-demographic factors. Graphs and figures are utilized to visually represent these features of the dataset. Additionally, the econometric analysis employs Ordinary Least Squares (OLS) and logistic regression to investigate the effect of financial inclusion on poverty reduction in Nepal. This provides a comprehensive understanding of the relationship between access to financial services and household well-being, highlighting the critical role of financial inclusion in addressing poverty.

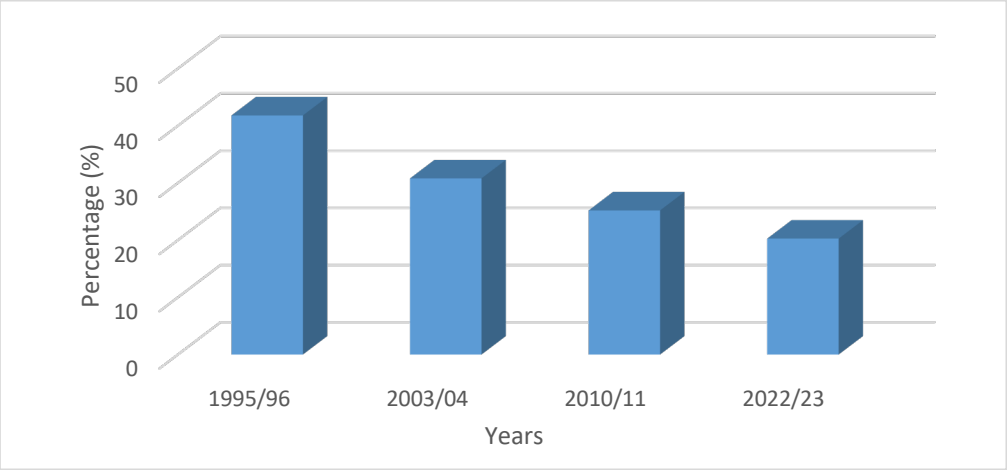
4.1 Status of Poverty in Nepal

The Nepal Living Standards Survey IV (NLSS IV) 2022-23 provides a detailed overview of poverty in Nepal. Over the past decades, Nepal has experienced a significant decline in poverty, with the poverty rate decreasing from 41.8% in 1995/96 to 30.8% in 2003/04, 25.2% in 2010/11, and 20.27% in 2022/23 based on the new poverty line. While poverty has notably declined over the past 12 years, from 25.2% in 2010/11 to 3.57% in 2022/23 using the old poverty line, the adoption of a revised poverty threshold for 2022/23 indicates that 20.27% of the population still lives below the poverty line as shown in figure 4.1.

Poverty in Nepal, as revealed by the Nepal Living Standards Survey IV (NLSS IV) 2022-23, presents a complex scenario shaped by regional disparities, household characteristics, and access to resources. The national poverty rate stands at 20.27%, with rural areas (24.66%) experiencing higher poverty than urban areas (18.34%). Significant provincial variations exist, with Sudurpaschim (34.16%) and Karnali (26.69%) provinces having the highest poverty rates, while Gandaki (11.88%) and Bagmati (12.59%) report the lowest. Kathmandu Valley, with its urban advantages, records the lowest poverty rate at 7.38%, reflecting stark urban-rural divides.

Figure 4.1

Poverty Rates from 1995/1996 to 2022/23 (%)



Source: Author's Illustration using NLSS, 2022/23

Household size and composition significantly influence poverty. Larger families and those with more children under six face higher poverty rates, reaching 36.77% for households with two children. Female-headed households show similar poverty rates to male-headed ones (20.28% vs. 20.27%) but experience deeper poverty gaps (4.60% vs. 4.48%). Education plays a critical role; households with uneducated heads have a poverty rate of 32.32%, compared to just 0.44% for those with tertiary education. Occupation also matters, with agricultural wage workers (37.81%) and manufacturing wage workers (28.12%) facing the highest poverty, while service-sector self-employed households (7.26%) fare better (National Statistics Office, 2023).

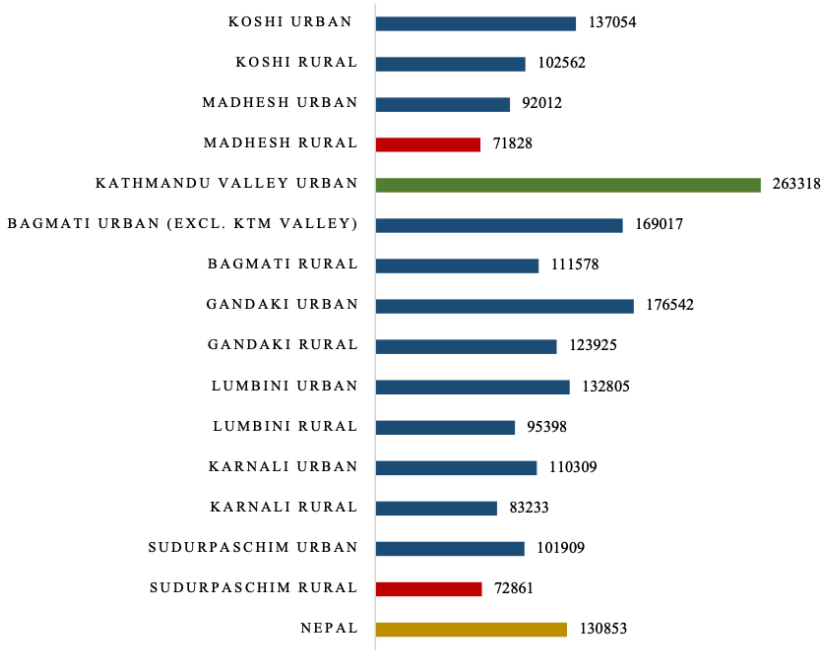
Land ownership is another determinant. Rural households without land face a 33.41% poverty rate, whereas those owning over two hectares have only a 9.91% rate. Urban landownership shows a less pronounced but similar trend. Access to facilities like schools, hospitals, and markets further exacerbates disparities; households over 30 minutes from these services experience poverty rates 1.5 times higher than those nearby.

Seasonal variations also affect poverty, with rates dropping to 17.56% during festive months (October-January) but rising to 22.50% in the rainy season (June-September). Despite progress—real per capita expenditure rose by 66% since 2011—inequality persists, with the richest quintile spending five times more than

the poorest in some regions. The new poverty line of NRs. 72,908 reflects improved living standards but underscores the need for targeted interventions to address persistent disparities (National Statistics Office, 2023).

Figure 4.2

Average Annual Per Capita Nominal Consumption Expenditures by Analytical Domain



Source: NLSS, 2022/23

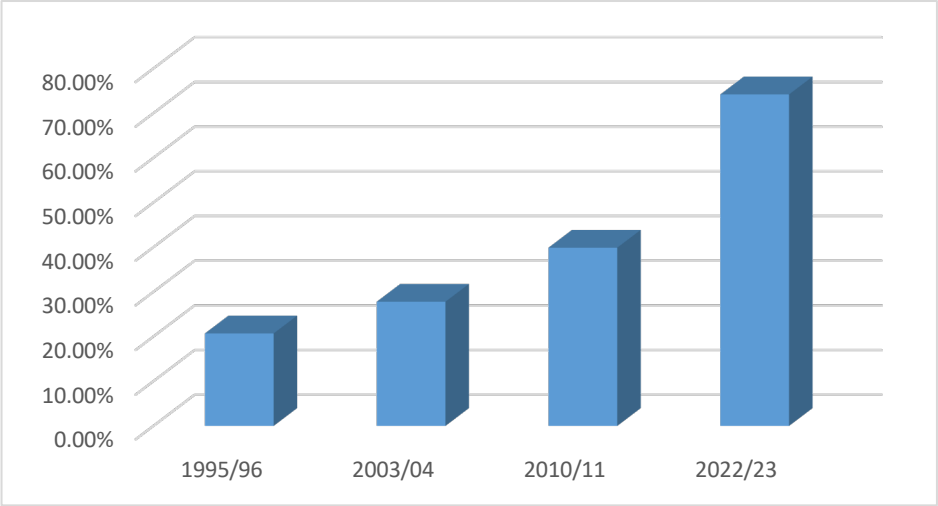
4.2 Status of access to Bank/Financial Institution

Figure 4.3, based on data from the Nepal Living Standards Survey (NLSS), illustrates a significant expansion in household access to banking facilities within a 30-minute reach between 1995/96 and 2022/23. In 1995/96, only 20.7% of households had such access, reflecting the limited reach of financial services during the early stages of Nepal's development. By 2003/04, this figure had increased modestly to 27.8%**,** indicating a gradual but insufficient improvement in financial inclusion efforts over the intervening years. A significant transformation is observed in the subsequent decade. By 2010/11, 39.9% of households could access a bank within 30 minutes, marking a substantial leap that reflects the growing prioritization of financial inclusion in development agendas. However, the most dramatic improvement occurred between 2010/11 and 2022/23, with access soaring to 74.2%**.**

This nearly twofold increase underscores the success of expanded banking infrastructure, digital financial services, and targeted policy interventions aimed at bringing financial services closer to underserved communities.

Figure 4.3

Household Access to Banking Facilities Within A 30-Min Reach Over the Years



Source: Author's Illustration using NLSS, 2022/23

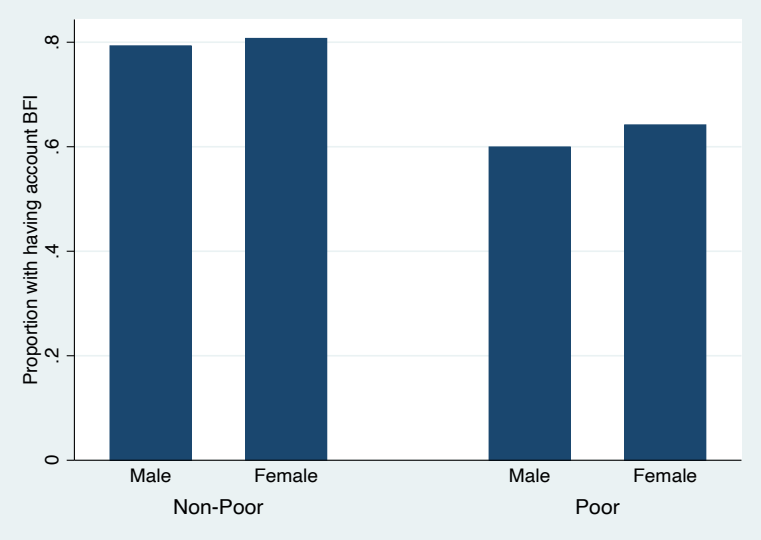
Comparing the data across the four waves, it is evident that the pace of improvement accelerated significantly after 2010/11. While the initial gains from 1995/96 to 2010/11 were steady but slow, the rapid expansion seen in the last decade suggests that modern initiatives—such as digital banking, mobile money, and microfinance—have played a transformative role. This trend highlights the effectiveness of recent policies and underscores the critical importance of continued investment in financial access to sustain this momentum.

4.3 Access to Bank and Financial Institutions by Gender

Access to bank and financial institutions plays a key role in helping individuals manage their finances and access banking services. Examining bank account ownership by gender and poverty status shows how financial access differs across groups. Figure 4.4 illustrates the proportion of individuals with a bank or financial institution (BFI) account, disaggregated by poverty status and gender. The findings indicate that non-poor individuals, both male and female, have significantly higher rates of account ownership, exceeding 80%.

Figure 4.4

BFI Account Ownership by Gender and Poverty Status



Source: Author's Illustration using NLSS, 2022/23

In contrast, the poor population exhibits much lower levels of financial inclusion, with both men and women having considerably lower proportions of BFI account ownership. While there is no substantial gender disparity in access within either poverty group, the stark contrast between the non-poor and poor highlights the critical role of economic status in financial inclusion.

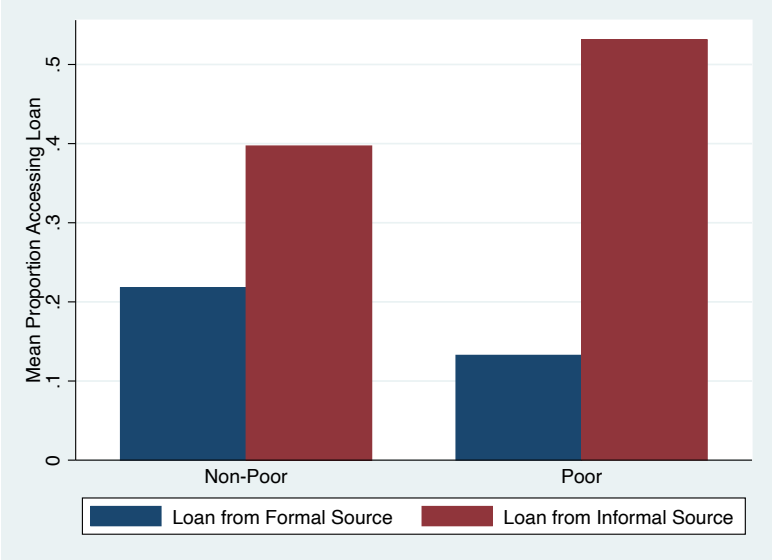
4.4 Access to Loan Sources by Poverty Status

Figure 4.5 illustrates the differences in access to formal and informal loan sources between poor and non-poor individuals. Formal source comprises of Bank and Financial Institutions, Cooperatives, NGOs and EPF. Similarly, informal source comprises of moneylenders, friends/relatives, shopkeepers and others.

Among the non-poor, reliance on formal sources is higher than among the poor, reflecting greater financial inclusion. However, informal sources still play a significant role for the non-poor. In contrast, the poor exhibit a much higher dependency on informal borrowing, suggesting barriers to accessing formal financial institutions due to factors such as lack of collateral, financial literacy, or institutional exclusion.

Figure 4.5

Distribution of Loan Sources by Poverty Status



Source: Author's Illustration using NLSS, 2022/23

4.5 Status of Financial Inclusion by Poverty

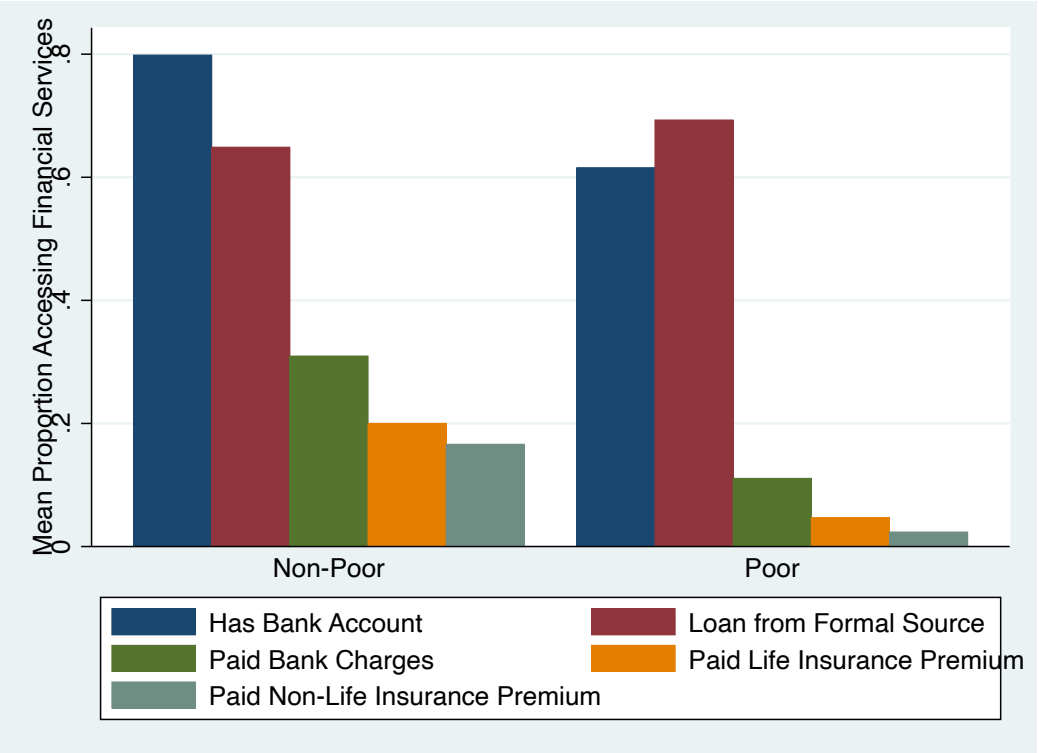
Figure 4.6 illustrates the disparities in financial inclusion between poor and non-poor individuals in Nepal. Bank account ownership is significantly higher among the non-poor, indicating better access to formal financial services.

The disparities in financial inclusion between poor and non-poor individuals in Nepal, as illustrated in Figure 4.6, highlight significant economic inequalities. Bank account ownership is notably higher among the non-poor, reflecting their greater access to formal financial services, while the poor face barriers such as documentation requirements, lack of financial literacy, and distrust in formal institutions. Both groups access loans, but the poor are more reliant on borrowing, often for immediate needs like medical emergencies or food shortages rather than productive investments, trapping them in cycles of debt. Additionally, the non-poor are more likely to pay bank charges, indicating active engagement with formal banking, whereas the poor avoid these costs due to financial constraints, pushing them toward informal and often exploitative lenders. Insurance coverage—both life and non-life—is also significantly lower among the poor, leaving them vulnerable to financial shocks from health crises or natural disasters. These gaps stem from structural barriers like limited physical access to banks, digital illiteracy, and policy

shortcomings in designing inclusive financial products. Addressing these challenges requires expanding digital finance, simplifying account-opening processes, and promoting affordable microinsurance to reduce the financial exclusion that perpetuates poverty.

Figure 4.6

Financial Inclusion by Poverty Status



Source: Author's Illustration using NLSS, 2022/23

4.6 Empirical Analysis

In this study, we employed Ordinary Least Squares (OLS) and logistic regression techniques to assess the effect of financial inclusion on poverty reduction in Nepal. The analysis incorporated covariates such as age, household size, land ownership, education, place of residence by province, ethnicity, and other household characteristics. Marginal effects were utilized to interpret the changes in the probability of poverty status. These methods provided a comprehensive understanding of the role of financial access in addressing poverty and enhancing household well-being.

Table 4.1

Summary Statistics of Household's Demographic and Socio-Cultural Characteristics

Variables	Obs	Mean	Std. Dev.	Min	Max
Poor	9600	.182	.386	0	1
Has account in BFI	9600	.765	.424	0	1
Has taken loan	9600	.657	.475	0	1
Loan from formal source	9600	.202	.402	0	1
Loan from informal source	9600	.421	.494	0	1
BFI is nearby	9600	.664	.472	0	1
Paid life ins premium	9600	.172	.378	0	1
Paid nonlife premium	9600	.14	.347	0	1
Age	9600	45.427	14.964	12	94
Age squared	9600	2287.503	1460.129	144	8836
Gender	9600	.38	.485	0	1
Married	9600	.845	.362	0	1
Household size	9600	3.969	1.95	1	21
Literate	9600	.698	.459	0	1
Employed	9600	.269	.444	0	1
Owns TV	9600	.265	.441	0	1
Access to internet	9600	.339	.473	0	1
Access to toilet	9600	.949	.22	0	1
Access to Pipe	9600	.491	.5	0	1
Access to paved road	9600	.94	.237	0	1
Owns land	9600	.702	.457	0	1
Ethnicity	.	.	.	.	.
Hill Caste	9600	.346	.476	0	1
Madhesh/Tarai Caste	9600	.117	.322	0	1
Mountain/Hill Janajati	9600	.271	.445	0	1
Tarai Janajati	9600	.087	.282	0	1
Hill Dalit	9600	.112	.315	0	1
Madhesh/Tarai Dalit	9600	.036	.187	0	1
Religions/Linguistic group	9600	.029	.168	0	1
Others & Not stated	9600	.001	.035	0	1
Walls	.	.	.	.	.
Mud Bonded bricks	9600	.345	.475	0	1
Cement Bonded Bricks	9600	.491	.5	0	1
Wood	9600	.037	.188	0	1
Bamboo/Leaves	9600	.104	.305	0	1
Others	9600	.024	.152	0	1

Roof	.	.	.	.	.
Galvanized Iron Sheets	9600	.44	.496	0	1
Concrete/Cement	9600	.338	.473	0	1
Straw	9600	.035	.183	0	1
Tiles	9600	.083	.276	0	1
Stones	9600	.09	.286	0	1
Mud/Earth	9600	.011	.105	0	1
Others	9600	.003	.053	0	1
Provinces	.	.	.	.	.
Koshi	9600	.147	.355	0	1
Madhesh	9600	.145	.352	0	1
Bagmati	9600	.211	.408	0	1
Gandaki	9600	.125	.331	0	1
Lumbini	9600	.147	.355	0	1
Karnali	9600	.105	.307	0	1
Sudurpaschim	9600	.119	.324	0	1

Source: Author's calculation using NLSS, 2022/23

The dataset consists of 9,600 observations, capturing various indicators related to financial inclusion, poverty, demographic characteristics, and household attributes. The poverty variable (poor) has a mean of 0.182, indicating that approximately 18.2% of the sample population is classified as poor. Access to financial services is captured through variables like BFI access (76.5%), BFI near (66.4%), and loan accessibility (65.7%), showing a relatively high level of financial inclusion. However, reliance on informal sources (42.1%) for loans remains substantial compared to formal sources (20.2%), suggesting gaps in formal financial access.

Demographic factors include age, which has a mean of 45.4 years with a standard deviation of 14.96, and household size, which averages 3.97 members but ranges from 1 to 21 members. The dataset also records educational attainment, with 69.8% classified as literate, and employment status, with 26.9% reported as employed.

Infrastructure access variables indicate that 94.9% of households have access to toilets, 49.1% have piped water, and 94% have access to a paved road, demonstrating varying levels of basic infrastructure availability. In terms of asset ownership, 26.5% own a TV, 33.9% have internet access, and 70.2% own land.

Ethnic distribution reveals that Hill Caste (34.6%) and Mountain/Hill Janajati (27.1%) are the dominant groups, while Madhesh/Tarai Dalits (3.6%) form a smaller proportion. Housing characteristics indicate that 49.1% of homes have cement-

bonded brick walls, and 44% have galvanized iron roofs, reflecting diverse living conditions.

Lastly, the provincial distribution is relatively balanced, with Bagmati (21.1%) having the highest proportion of respondents. These statistics provide critical insights into financial inclusion, poverty, and socioeconomic conditions in Nepal.

4.6.1 Association Between Having Access to BFI and Poverty

Table 4.2 presents three models analyzing the relationship between access to finance and poverty. First column reports result from an OLS regression, while second column and third column show marginal effects from logistic regressions, with third column including a gender interaction term.

Across all three models, access to banks and financial institutions consistently reduces poverty. In first column, the OLS coefficient is -0.079 ($p < 0.01$), meaning households with financial access are 7.9 percentage points less likely to be poor. The marginal effect in second column is -0.063 ($p < 0.01$), suggesting that financial access reduces the probability of being poor by 6.3 percentage points. In third column, after including the gender interaction, the effect remains strong (-0.061, $p < 0.01$).

Table 4.2

Association Between Having Access to BFI and Poverty

VARIABLES	OLS	Logit with marginal effects	Logit with interaction variable
	Poor	Poor	Poor
Has account in BFI	-0.0710***	-0.0512***	-0.4392***
	(0.0099)	(0.0076)	(0.0862)
Age	-0.0011***	-0.0011***	-0.0098***
	(0.0003)	(0.0003)	(0.0027)
Gender	0.0116	0.0122	0.1452
	(0.0084)	(0.0083)	(0.1168)
Married	0.0182*	0.0137	0.1227
	(0.0101)	(0.0108)	(0.0973)
Household size	0.0449***	0.0390***	0.3506***
	(0.0022)	(0.0018)	(0.0177)
Literate	-0.0646***	-0.0533***	-0.4788***
	(0.0102)	(0.0083)	(0.0753)

Employed	0.0005	-0.0021	-0.0191
	(0.0083)	(0.0082)	(0.0733)
Access to toilet	-0.1509***	-0.0752***	-0.6765***
	(0.0226)	(0.0129)	(0.1169)
Access to piped water	-0.0497***	-0.0523***	-0.4696***
	(0.0085)	(0.0082)	(0.0738)
Access to TV	-0.0817***	-0.1130***	-1.0151***
	(0.0070)	(0.0112)	(0.1012)
Access to Internet	-0.0878***	-0.1344***	-1.2068***
	(0.0074)	(0.0118)	(0.1072)
Access to paved road	-0.0780***	-0.0630***	-0.5653***
	(0.0174)	(0.0123)	(0.1109)
Owns land	-0.0431***	-0.0451***	-0.4048***
	(0.0081)	(0.0088)	(0.0796)
Madhesh/Terai Caste	0.0304*	0.0441***	0.4032***
	(0.0161)	(0.0164)	(0.1448)
Mountain/Hill Janajati	0.0201**	0.0293***	0.2756***
	(0.0085)	(0.0102)	(0.0955)
Terai Janajati	0.0137	0.0300**	0.2810**
	(0.0151)	(0.0140)	(0.1282)
Hill Dalit	0.0544***	0.0534***	0.4814***
	(0.0137)	(0.0118)	(0.1027)
Terai Dalit	0.1288***	0.1057***	0.8824***
	(0.0281)	(0.0247)	(0.1872)
Religion/Linguistic Group	0.0079	0.0261	0.2467
	(0.0263)	(0.0233)	(0.2119)
Others and not stated	0.0563	0.1156	0.9515
	(0.0913)	(0.1112)	(0.7930)
Cement bonded bricks/stones	-0.0753***	-0.0619***	-0.5650***
	(0.0113)	(0.0109)	(0.0997)
Wood	-0.0182	-0.0144	-0.1195
	(0.0238)	(0.0188)	(0.1594)
Bamboo/Leaves	0.0209	0.0118	0.0952
	(0.0187)	(0.0159)	(0.1263)
Others	-0.0320	-0.0221	-0.1861
	(0.0265)	(0.0214)	(0.1858)
Concrete/Cement	-0.0412***	-0.0773***	-0.7695***
	(0.0093)	(0.0106)	(0.1150)
Straw/Thatch	0.0942***	0.0547***	0.4227***
	(0.0258)	(0.0197)	(0.1426)
Tiles	0.0085	0.0002	0.0015
	(0.0182)	(0.0147)	(0.1232)
Stone/Slate	0.0454***	0.0263*	0.2108**
	(0.0170)	(0.0137)	(0.1069)
Mud/Earth	0.1401***	0.0815**	0.6091**

	(0.0461)	(0.0349)	(0.2377)
Others	0.0615	0.0176	0.1448
	(0.0830)	(0.0592)	(0.4675)
Koshi	-0.0792***	-0.0887***	-0.7828***
	(0.0118)	(0.0137)	(0.1243)
Madhesh	-0.1550***	-0.1356***	-1.3385***
	(0.0172)	(0.0152)	(0.1638)
Gandaki	-0.0500***	-0.0699***	-0.5977***
	(0.0111)	(0.0156)	(0.1379)
Lumbini	-0.0003	-0.0049	-0.0385
	(0.0121)	(0.0153)	(0.1191)
Karnali	-0.0665***	-0.0661***	-0.5607***
	(0.0149)	(0.0152)	(0.1313)
Sudurpaschim	0.0362**	0.0114	0.0856
	(0.0151)	(0.0171)	(0.1306)
Gender*acc			-0.0540
			(0.1341)
Constant	0.5181***		0.4481*
	(0.0362)		(0.2652)
Observations	9,600	9,600	9,600
R-squared	0.2153		

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation using NLSS, 2022/23

Household size significantly increases poverty risk across all models: 0.028 ($p < 0.01$) in Column (1), 0.025 ($p < 0.01$) in Column (2), and 0.026 ($p < 0.01$) in Column (3). Age has a consistent negative effect, but the impact is small (-0.002, $p < 0.01$). Ethnic disparities remain significant across all models. Madhesi/Tarai Dalit (0.091, $p < 0.01$) and Hill Dalit (0.080, $p < 0.01$) households are more likely to be poor. Regional effects remain stable, with Koshi Pradesh and Madhesh Pradesh experiencing lower poverty rates across all models. Access to toilet, piped water, television, and land ownership consistently reduces poverty across all models, with coefficients ranging from -0.032 to -0.067 ($p < 0.01$). The interaction term (gender*access to bank) is negative (-0.015) but insignificant, suggesting financial inclusion's effect on poverty does not significantly differ by gender. The results highlight that household size is a significant predictor of poverty risk, with larger households being more likely to experience poverty across all models, which emphasizes the need for targeted poverty alleviation strategies. Ethnic disparities

and regional effects further underscore the importance of addressing social and geographic inequalities to reduce poverty, while access to basic services like sanitation and water has a consistently positive impact on improving poverty outcomes.

4.6.2 Association Between Access to Loan and Poverty

Table 4.3 presents the results from two regression models—an OLS model and a logistic regression model—analyzing the determinants of poverty. Below is a comparison of the variables across both models. The coefficient for loan is negative in both models (OLS: -0.002, Logit: -0.061), indicating that access to loans is associated with lower poverty, but the effect is weak in both cases.

Table 4.3

Association between Access to Loan and Poverty

VARIABLES	OLS poor	Logit with marginal effects poor
Has taken loan	-0.0102	-0.0098
	(0.0076)	(0.0077)
Age	-0.0130***	-0.0129***
	(0.0015)	(0.0013)
Age_squared	0.0001***	0.0001***
	(0.0000)	(0.0000)
Gender	0.0088	0.0083
	(0.0084)	(0.0082)
Married	0.0378***	0.0310***
	(0.0106)	(0.0110)
Household size	0.0466***	0.0412***
	(0.0022)	(0.0019)
Literate	-0.0768***	-0.0664***
	(0.0102)	(0.0084)
Employed	0.0095	0.0069
	(0.0084)	(0.0082)
Access to toilet	-0.1591***	-0.0795***
	(0.0225)	(0.0128)
Access to piped water	-0.0503***	-0.0522***
	(0.0085)	(0.0081)
Access to TV	-0.0828***	-0.1155***
	(0.0070)	(0.0112)
Access to Internet	-0.0939***	-0.1403***
	(0.0074)	(0.0118)
Access to paved road	-0.0826***	-0.0675***

	(0.0175)	(0.0123)
Owns land	-0.0348***	-0.0388***
	(0.0082)	(0.0089)
Madhesh/Terai Caste	0.0332**	0.0457***
	(0.0161)	(0.0164)
Mountain/Hill Janajati	0.0233***	0.0320***
	(0.0085)	(0.0101)
Terai Janajati	0.0172	0.0348**
	(0.0151)	(0.0141)
Hill Dalit	0.0549***	0.0532***
	(0.0137)	(0.0118)
Terai Dalit	0.1317***	0.1068***
	(0.0279)	(0.0244)
Religion/Linguistic Group	0.0128	0.0291
	(0.0261)	(0.0234)
Others and not stated	0.0776	0.1428
	(0.0860)	(0.1055)
Cement bonded bricks/stones	-0.0763***	-0.0635***
	(0.0113)	(0.0109)
Wood	-0.0246	-0.0205
	(0.0238)	(0.0185)
Bamboo/Leaves	0.0217	0.0111
	(0.0186)	(0.0160)
Others	-0.0299	-0.0224
	(0.0266)	(0.0215)
Concrete/Cement	-0.0457***	-0.0799***
	(0.0093)	(0.0106)
Straw/Thatch	0.1004***	0.0608***
	(0.0258)	(0.0199)
Tiles	0.0087	0.0014
	(0.0182)	(0.0147)
Stone/Slate	0.0483***	0.0280**
	(0.0169)	(0.0137)
Mud/Earth	0.1311***	0.0701**
	(0.0455)	(0.0336)
Others	0.0654	0.0099
	(0.0832)	(0.0607)
Koshi	-0.0754***	-0.0851***
	(0.0118)	(0.0141)
Madhesh	-0.1664***	-0.1430***
	(0.0172)	(0.0150)
Gandaki	-0.0573***	-0.0763***
	(0.0111)	(0.0155)
Lumbini	-0.0061	-0.0093
	(0.0122)	(0.0154)

Karnali	-0.0763***	-0.0731***
	(0.0149)	(0.0150)
Sudurpaschim	0.0257*	0.0024
	(0.0151)	(0.0170)
Constant	0.7304***	
	(0.0447)	
Observations	9,600	9,600
R-squared	0.2160	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation using NLSS, 2022/23

Age has a negative effect in both models (OLS: -0.003, Logit: -0.099), meaning that older individuals are less likely to be poor. However, age squared is positive (OLS: 0.00004, Logit: 0.001), suggesting a nonlinear relationship where the reduction in poverty slows down with age. Being married is positively associated with poverty (OLS: 0.011, Logit: 0.323), indicating that married individuals have a higher likelihood of being poor, though the effect is stronger in the logistic model. Household size is a significant predictor of poverty in both models (OLS: 0.033, Logit: 0.861), meaning that larger households are more likely to experience poverty, with a much stronger effect in the logistic model.

Education has a strong negative effect (OLS: -0.032, Logit: -1.095), confirming that higher education reduces the probability of poverty. The effect is more pronounced in the logistic model. Access to basic amenities reduces poverty in both models. Toilet (OLS: -0.066, Logit: -2.185), piped water (OLS: -0.012, Logit: -0.369), TV (OLS: -0.083, Logit: -3.217), internet (OLS: -0.073, Logit: -2.732), and paved road (OLS: -0.044, Logit: -1.468) all show significant negative effects, with stronger associations in the logistic model.

The findings reveal ethnic disparities in poverty levels. Compared to the Hill Caste group, Madhesh/Tarai Caste (0.0332, $p < 0.05$; 0.0457, $p < 0.01$), Mountain/Hill Janajati (0.0233, $p < 0.01$; 0.0320, $p < 0.01$), and Tarai Janajati (0.0172, $p > 0.05$; 0.0348, $p < 0.05$) are less likely to be poor. Hill Dalits show the strongest negative association (0.1317, $p < 0.01$; 0.1068, $p < 0.01$), suggesting better financial inclusion. However, Madhesh/Tarai Dalits (0.0128, $p > 0.05$; 0.0291, $p > 0.05$) and

Religious/Linguistic groups (0.0776, $p > 0.05$; 0.1428, $p > 0.05$) show no significant difference, emphasizing ethnic variations in financial inclusion. These patterns suggest that structural and historical inequalities persist, influencing economic well-being.

The findings indicate that key factors such as education, household size, and access to basic amenities have a significant impact on poverty, with the logistic model showing stronger associations, particularly for infrastructure and household characteristics. This highlights the importance of addressing educational disparities and improving access to essential services in poverty reduction strategies, while also considering the complexities of ethnic and regional variations in financial inclusion.

Overall, both models highlight similar relationships, but the logistic model suggests a stronger effect of key determinants like education, infrastructure, and household size on poverty.

4.6.3 Access to Formal and Informal Financial Sources and Its Association with Poverty

Table 4.4 presents the results of four regression models examining the relationship between financial sources, demographic characteristics, and poverty. First and second column use Ordinary Least Squares (OLS) regression, while third and fourth column employ logistic regression. First and third model assess the effect of formal financial sources, whereas second and fourth model focus on informal sources.

Table 4.4

Access to Formal and Informal Financial Sources and Its Association with Poverty

VARIABLES	OLS Poor	OLS Poor	Logit Poor	Logit Poor
Loan from formal source	-0.0358***		-0.0418***	
	(0.0082)		(0.0099)	
Loan from informal source		0.0168**		0.0167**
		(0.0075)		(0.0070)
Age	-0.0127***	-0.0133***	-0.0127***	-0.0132***
	(0.0015)	(0.0015)	(0.0013)	(0.0013)
Age_squared	0.0001***	0.0001***	0.0001***	0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Gender	0.0091	0.0083	0.0092	0.0082

	(0.0084)	(0.0084)	(0.0082)	(0.0082)
Married	0.0380***	0.0353***	0.0306***	0.0288***
	(0.0106)	(0.0106)	(0.0110)	(0.0110)
Household size	0.0468***	0.0461***	0.0414***	0.0407***
	(0.0022)	(0.0022)	(0.0019)	(0.0019)
Literate	-0.0747***	-0.0761***	-0.0637***	-0.0656***
	(0.0102)	(0.0102)	(0.0084)	(0.0084)
Employed	0.0090	0.0100	0.0064	0.0074
	(0.0084)	(0.0084)	(0.0082)	(0.0082)
Access to toilet	-0.1593***	-0.1588***	-0.0796***	-0.0792***
	(0.0225)	(0.0225)	(0.0128)	(0.0128)
Access to piped water	-0.0496***	-0.0499***	-0.0518***	-0.0518***
	(0.0085)	(0.0085)	(0.0081)	(0.0081)
Access to TV	-0.0810***	-0.0816***	-0.1130***	-0.1138***
	(0.0070)	(0.0070)	(0.0112)	(0.0112)
Access to Internet	-0.0922***	-0.0928***	-0.1391***	-0.1398***
	(0.0074)	(0.0074)	(0.0118)	(0.0118)
Access to paved road	-0.0826***	-0.0817***	-0.0670***	-0.0662***
	(0.0175)	(0.0176)	(0.0122)	(0.0123)
Owns land	-0.0343***	-0.0359***	-0.0386***	-0.0398***
	(0.0082)	(0.0082)	(0.0089)	(0.0089)
Madhesh/Terai Caste	0.0348**	0.0348**	0.0484***	0.0484***
	(0.0161)	(0.0161)	(0.0164)	(0.0164)
Mountain/Hill Janajati	0.0228***	0.0237***	0.0317***	0.0320***
	(0.0085)	(0.0085)	(0.0101)	(0.0101)
Terai Janajati	0.0204	0.0202	0.0396***	0.0382***
	(0.0151)	(0.0151)	(0.0142)	(0.0142)
Hill Dalit	0.0547***	0.0523***	0.0529***	0.0509***
	(0.0137)	(0.0137)	(0.0117)	(0.0117)
Terai Dalit	0.1312***	0.1321***	0.1063***	0.1082***
	(0.0280)	(0.0280)	(0.0244)	(0.0245)
Religion/Linguistic Group	0.0130	0.0151	0.0297	0.0318
	(0.0260)	(0.0261)	(0.0233)	(0.0235)
Others and not stated	0.0719	0.0797	0.1338	0.1412
	(0.0858)	(0.0840)	(0.1039)	(0.1042)
Cement bonded bricks/stones	-0.0749***	-0.0758***	-0.0619***	-0.0628***
	(0.0113)	(0.0113)	(0.0109)	(0.0109)
Wood	-0.0233	-0.0239	-0.0188	-0.0197
	(0.0238)	(0.0238)	(0.0185)	(0.0185)
Bamboo/Leaves	0.0218	0.0212	0.0096	0.0107
	(0.0186)	(0.0186)	(0.0158)	(0.0159)

Others	-0.0298	-0.0301	-0.0235	-0.0223
	(0.0266)	(0.0266)	(0.0215)	(0.0216)
Concrete/Cement	-0.0441***	-0.0438***	-0.0791***	-0.0781***
	(0.0093)	(0.0093)	(0.0106)	(0.0106)
Straw/Thatch	0.0992***	0.0991***	0.0598***	0.0591***
	(0.0259)	(0.0258)	(0.0198)	(0.0197)
Tiles	0.0094	0.0092	0.0024	0.0021
	(0.0182)	(0.0182)	(0.0147)	(0.0147)
Stone/Slate	0.0467***	0.0485***	0.0260*	0.0285**
	(0.0168)	(0.0169)	(0.0136)	(0.0137)
Mud/Earth	0.1291***	0.1339***	0.0675**	0.0739**
	(0.0456)	(0.0455)	(0.0334)	(0.0340)
Others	0.0626	0.0680	0.0065	0.0136
	(0.0834)	(0.0836)	(0.0603)	(0.0612)
Koshi	-0.0736***	-0.0772***	-0.0826***	-0.0864***
	(0.0118)	(0.0118)	(0.0141)	(0.0141)
Madhesh	-0.1656***	-0.1707***	-0.1421***	-0.1473***
	(0.0171)	(0.0172)	(0.0149)	(0.0149)
Gandaki	-0.0574***	-0.0590***	-0.0761***	-0.0777***
	(0.0111)	(0.0112)	(0.0155)	(0.0156)
Lumbini	-0.0054	-0.0089	-0.0088	-0.0122
	(0.0122)	(0.0122)	(0.0153)	(0.0154)
Karnali	-0.0763***	-0.0790***	-0.0735***	-0.0762***
	(0.0148)	(0.0148)	(0.0150)	(0.0150)
Sudurpaschim	0.0274*	0.0248	0.0042	0.0017
	(0.0151)	(0.0151)	(0.0170)	(0.0170)
Constant	0.7181***	0.7252***		
	(0.0448)	(0.0447)		
Observations	9,600	9,600	9,600	9,600
R-squared	0.2172	0.2163		

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation using NLSS, 2022/23

The results indicate that loan from formal financial sources significantly reduces poverty (β=−0.0358, p<0.01 β = -0.0358, p<0.01 in OLS; β=−0.0418, p<0.01β = -0.0418, p<0.01 in logit), suggesting that formal credit contribute to economic stability. Conversely, informal financial sources are associated with higher poverty levels (β=0.0168, p<0.05 β = 0.0168, p<0.05 in OLS; β=0.0167, p<0.05β = 0.0167,

p<0.05 in logit), implying that reliance on informal credit does not alleviate poverty and may even exacerbate financial vulnerability.

Among demographic factors, age negatively correlates with poverty (β=−0.0127, p<0.01β = -0.0127, p<0.01), while its squared term is positive (β=0.0001, p<0.01β = 0.0001, p<0.01), indicating a nonlinear relationship where poverty decreases with age but stabilizes or increases later in life. Education significantly reduces poverty (β=−0.0747, p<0.01β = -0.0747, p<0.01 in OLS; β=−0.0637, p<0.01β = -0.0637, p<0.01 in logit), reinforcing the role of human capital in economic well-being. Household size is positively associated with poverty (β=0.0468, p<0.01β = 0.0468, p<0.01), reflecting increased economic burdens. Marital status also increases the likelihood of poverty (β=0.0380, p<0.01β = 0.0380, p<0.01).

Access to infrastructure and assets**,** such as toilet (β=−0.1593, p<0.01 β = -0.1593, p<0.01), piped water (β=−0.0496, p<0.01β = -0.0496, p<0.01), television (β=−0.0810, p<0.01β = -0.0810, p<0.01), and the internet (β=−0.0922, p<0.01 β = -0.0922, p<0.01), is consistently linked to lower poverty levels. Ethnic and regional disparities are evident, with some ethnic groups, particularly Hill Dalits (β=0.1312, p<0.01 β = 0.1312, p<0.01), facing higher poverty risks. Regional variations also reveal significant differences, with Madhesh Provinces and Karnali Province exhibiting lower poverty levels.

Overall, the findings suggest that formal financial access plays a crucial role in poverty reduction, while informal sources may not provide adequate economic security.

4.6.4 Assessing Financial Inclusion Index through Principal Component Analysis

This study employs Principal Component Analysis (PCA) to construct a Financial Inclusion Index (FII), which captures multiple dimensions of financial access and utilization in Nepal. PCA, a statistical technique, is utilized to reduce the complexity of multiple financial inclusion variables while preserving the most significant variance in the data. The FII is developed using key financial indicators such as bank account ownership, proximity to financial institutions, and engagement with formal financial services, which are combined into a single, comprehensive measure.

Additionally, a scatter plot is used to visually examine the relationship between financial inclusion and poverty, helping to identify patterns and trends in the data.

By summarizing various financial inclusion indicators into one index, the study facilitates a comprehensive analysis of disparities in financial access across different demographic groups. The FII offers a structured tool to assess how financial inclusion impacts poverty reduction and guides interventions aimed at improving access to financial services. This method enhances the ability to evaluate the effectiveness of financial inclusion policies and contributes to the broader discourse on economic development. Ultimately, the study provides a data-driven approach to understanding the role of financial inclusion in addressing poverty in Nepal.

Table 4.5 and 4.6 illustrate the Principal Component Analysis (PCA) results derived from a sample of 9,600 observations. In the analysis, six principal components (PCs) were extracted, each representing distinct dimensions of financial inclusion. The first principal component (Comp1) stands out with the highest eigenvalue of 1.768, which is greater than 1, making it the most significant component for further analysis. Eigenvalues greater than 1 are typically considered meaningful because they explain a substantial portion of the variance in the dataset. Comp1 accounts for 29.5% of the total variance, indicating that it captures the most important aspects of financial inclusion.

Table 4.5

Computing Financial Inclusion Index (FII) through Principal Component Analysis

Principal components/correlation — Number of obs = 9,600

Number of comp. = 6

Trace = 6

Rotation: (unrotated = principal) — Rho = 1.0000

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	1.768	0.836	0.295	0.295
Comp2	0.932	0.039	0.155	0.450
Comp3	0.892	0.027	0.149	0.599
Comp4	0.865	0.056	0.144	0.743
Comp5	0.809	0.075	0.135	0.878
Comp6	0.734	.	0.122	1.000

Table 4.6

Principal Components (Eigen vectors)

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
Has account in BFI	0.415	-0.400	0.526	-0.260	-0.217	0.526	0
BFI is near	0.363	-0.608	-0.185	0.568	0.351	-0.139	0
Loan from formal source	0.341	0.601	0.463	0.553	0.044	0.015	0
Has paid Bank charges	0.487	-0.013	0.116	-0.346	-0.207	-0.766	0
Has paid life insurance premium	0.420	0.286	-0.265	-0.409	0.673	0.225	0
Has paid non-life insurance premium	0.407	0.165	-0.625	0.132	-0.576	0.257	0

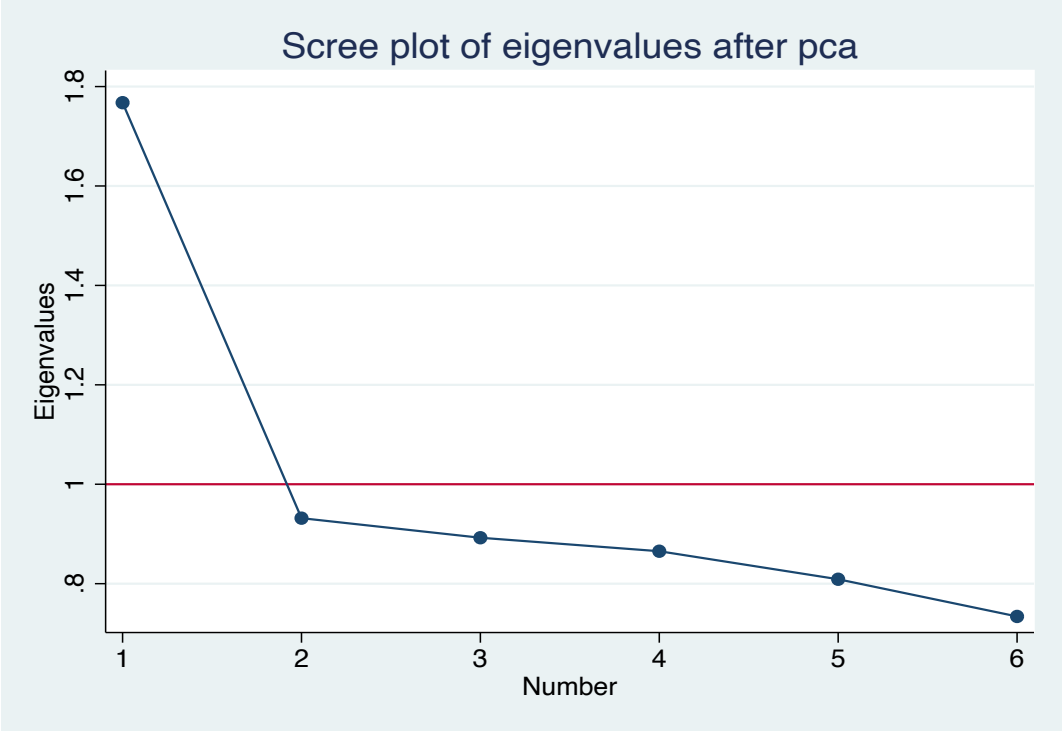
Source: Author's Illustration using NLSS, 2022/23

The second principal component (Comp2) has an eigenvalue of 0.932, explaining 15.5% of the variance, while the third component (Comp3) accounts for 14.9% with an eigenvalue of 0.892. Collectively, the first three components explain nearly 60% of the variance, emphasizing their collective importance in the financial inclusion framework. The factor loadings on each principal component provide further insights into the indicators of financial inclusion. Comp1, which explains the most variance, shows high loadings for factors such as having an account in a banking or financial institution (0.415), paying bank charges (0.487), and paying life insurance premiums (0.420), suggesting that these variables are crucial in defining financial inclusion. Comp2, on the other hand, has significant loadings for proximity to a financial institution (-0.608) and obtaining loans from formal sources (0.601), indicating that access to financial institutions and credit plays a critical role in financial inclusion, though in a different manner from Comp1.

To visualize the relationship between financial inclusion and poverty, a scatter plot diagram has been created. The scatter plot reveals a clear negative trend, demonstrating that as financial inclusion increases, poverty levels tend to decrease.

Figure 4.7

Scree Plot of Eigen Values after PCA



Source: Author's Illustration using NLSS, 2022/23

This visual representation strengthens the argument that enhanced access to financial services contributes significantly to poverty alleviation. The PCA results and the scatter plot together underscore the central role of financial inclusion in improving socio-economic outcomes, particularly in reducing poverty in Nepal. This analytical approach provides a more nuanced understanding of financial inclusion's impact, offering valuable insights for policy formulation and intervention strategies aimed at addressing financial exclusion.

4.6.5 Association Between Financial Inclusion Index (FII) and Poverty Status

Table 4.7 presents the regression and logistic models that examines the relationship between financial inclusion and poverty while controlling for various socioeconomic factors. The results indicate that financial inclusion, measured by the financial inclusion index (FII), has a significant negative association with poverty.

In the OLS model, the coefficient for FII is -0.0642 ($p<0.01$), while in the logistic model, it is -0.0741 ($p<0.01$), demonstrating that higher financial inclusion reduces the likelihood of being poor.

Table 4.7

Association between Financial Inclusion Index (FII) and Poverty Status

VARIABLES	OLS Poor	Logit with marginal effect Poor
FII	-0.0642***	-0.0741***
	(0.0039)	(0.0046)
Age	-0.0112***	-0.0114***
	(0.0014)	(0.0012)
Age squared	0.0001***	0.0001***
	(0.0000)	(0.0000)
Gender	0.0111	0.0153*
	(0.0083)	(0.0081)
Married	0.0373***	0.0269**
	(0.0105)	(0.0107)
Household size	0.0488***	0.0429***
	(0.0022)	(0.0018)
Literate	-0.0576***	-0.0437***
	(0.0102)	(0.0084)
Employed	0.0122	0.0057
	(0.0083)	(0.0082)
Access to TV	-0.0659***	-0.0922***
	(0.0069)	(0.0109)
Access to Internet	-0.0571***	-0.1017***
	(0.0076)	(0.0117)
Access to toilet	-0.1477***	-0.0656***
	(0.0223)	(0.0125)
Access to piped water	-0.0450***	-0.0470***
	(0.0084)	(0.0081)
Access to paved road	-0.0715***	-0.0497***
	(0.0171)	(0.0121)
Owns land	-0.0373***	-0.0449***
	(0.0081)	(0.0087)
Madhesh/Terai Caste	0.0324**	0.0563***
	(0.0159)	(0.0164)

Mountain/Hill Janajati	0.0112	0.0205**
	(0.0085)	(0.0100)
Terai Janajati	0.0231	0.0543***
	(0.0149)	(0.0144)
Hill Dalit	0.0463***	0.0487***
	(0.0135)	(0.0114)
Terai Dalit	0.1245***	0.1056***
	(0.0277)	(0.0236)
Religion/Linguistic Group	0.0027	0.0302
	(0.0258)	(0.0223)
Others and not stated	0.0454	0.1065
	(0.0885)	(0.0994)
Cement bonded bricks/stones	-0.0575***	-0.0411***
	(0.0112)	(0.0107)
Wood	-0.0101	-0.0003
	(0.0236)	(0.0182)
Bamboo/Leaves	0.0365**	0.0247
	(0.0184)	(0.0154)
Others	-0.0186	-0.0069
	(0.0264)	(0.0214)
Concrete/Cement	-0.0308***	-0.0690***
	(0.0092)	(0.0108)
Straw/Thatch	0.0892***	0.0438**
	(0.0256)	(0.0187)
Tiles	0.0133	0.0052
	(0.0180)	(0.0143)
Stone/Slate	0.0380**	0.0147
	(0.0167)	(0.0130)
Mud/Earth	0.1362***	0.0749**
	(0.0444)	(0.0323)
Others	0.0556	0.0012
	(0.0838)	(0.0572)
Koshi	-0.0773***	-0.0796***
	(0.0117)	(0.0135)
Madhesh	-0.1663***	-0.1322***
	(0.0170)	(0.0146)

Gandaki	-0.0626***	-0.0697***
	(0.0111)	(0.0151)
Lumbini	0.0030	0.0083
	(0.0120)	(0.0153)
Karnali	-0.0799***	-0.0654***
	(0.0147)	(0.0148)
Sudurpaschim	0.0352**	0.0246
	(0.0149)	(0.0170)
Constant	0.6041***	
	(0.0446)	
Observations	9,600	9,600
R-squared	0.2342	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation using NLSS, 2022/23

Age has a negative coefficient (-0.0112, p<0.01), suggesting that as individuals grow older, their probability of being poor decreases. However, the squared term of age is positive (0.0001, p<0.01), indicating a nonlinear relationship where the reduction in poverty slows with age. Marital status (0.0373, p<0.01) is positively associated with poverty, suggesting that married individuals or households face higher economic burdens. Household size also has a strong positive effect on poverty (0.0488, p<0.01), reinforcing the idea that larger households are more financially constrained.

Education plays a significant role in poverty reduction, with its coefficient at -0.0576 (p<0.01), highlighting that higher education levels improve economic outcomes. Access to infrastructure and assets, such as television (-0.0659, p<0.01) and the internet (-0.0571, p<0.01), further reduces poverty by enhancing access to information and employment opportunities. Sanitation and clean water access also contribute to poverty alleviation, as seen in the negative coefficients for toilet (-0.1477, p<0.01) and piped water (-0.0450, p<0.01).

Regional disparities exist, with significant poverty reduction observed in Madhesh Pradesh (-0.1663, p<0.01) and Karnali Pradesh (-0.0799, p<0.01), while Sudurpashchim Pradesh shows a slight increase in poverty (0.0352, p<0.05). These

findings emphasize the importance of financial inclusion and basic infrastructure in poverty reduction efforts.

The significant negative relationship between age and poverty, alongside the positive squared term, justifies the consideration of a nonlinear effect, where older individuals initially benefit from poverty reduction, but the impact diminishes over time. Additionally, the positive association between marital status and household size with poverty, coupled with the strong influence of education and access to infrastructure, underscores the complex interplay of socio-economic factors in shaping poverty outcomes.

4.7 Discussion

Nepal's persistent poverty stems from intertwined financial exclusion and socio-structural inequalities. In this regard, the findings of this study underscore the critical role of financial inclusion, access to finance and socio-structural factors in shaping poverty dynamics in Nepal, a country grappling with persistent economic inequality and uneven development. The analysis reveals that access to formal banking and financial institutions (BFIs) consistently reduces the likelihood of household poverty across all models, aligning with global evidence that financial inclusion empowers households to manage risks (Churchill & Marisetty, 2020b; Dogan et al., 2022), invest in sustainable livelihoods (Mahato & Jha, 2023), and accumulate assets (Célerier & Matray, 2019; Fomum & Jesse, 2017). In Nepal, where nearly 20.27% of the population still lives below the poverty line and rural-urban disparities remain stark, expanding BFI access—particularly in underserved regions—could serve as a catalyst for poverty alleviation. The Government of Nepal has made strides in promoting financial inclusion through initiatives such as the expansion of branchless banking, mobile banking, and microfinance services. However, despite these efforts, significant barriers remain (Tan, 2024), including geographic inaccessibility, financial illiteracy, and deeply embedded socio-cultural norms that restrict financial participation, particularly among marginalized groups.

Households in Nepal exhibit considerable diversity in their financial behaviors, largely influenced by factors such as caste/ethnicity, education, geographic location, and household composition. Formal financial access is relatively higher in urban areas, where banking infrastructure and digital financial services are more

developed. Conversely, rural households—particularly those in geographically remote provinces like Karnali and Sudurpashchim—continue to face systemic challenges in accessing formal financial institutions. Limited road connectivity, sparse banking networks, and lower levels of financial awareness contribute to these disparities, reinforcing poverty traps in these regions.

A closer examination of the role of credit access in poverty reduction from this study reveals a paradox. While formal credit access demonstrates modest poverty-reducing effects (Fonseca et al., 2024), informal borrowing—such as loans from moneylenders, relatives, or community-based lending groups—correlates with higher poverty risks (Manzilati & Prestianawati, 2021; Possner et al., 2021). This trend is particularly evident in rural Nepal, where informal lending practices remain dominant due to limited penetration of formal financial institutions (Kondratjeva, 2021). Households that rely on informal credit often face exorbitant interest rates, unfavorable repayment conditions, and a lack of consumer protection, ultimately exacerbating their financial vulnerability (Chipunza & Fanta, 2023). For many low-income households, taking loans is not necessarily a pathway to investment and growth but rather a coping mechanism for financial shocks, such as medical emergencies, crop failures, or unforeseen expenditures (Bharadwaj et al., 2019; Elder et al., 1994). These evidence suggest that while access to credit is essential, the nature and terms of credit significantly influence its effectiveness in poverty reduction. Without adequate financial literacy and protections against predatory lending, loans—especially those acquired informally—can deepen financial distress rather than alleviate it.

This study further aligns with the findings of various studies (Atteraya et al., 2017; U. R. Wagle, 2017) and show that the disparities in poverty outcomes across ethnic groups further reflect Nepal's entrenched socio-economic hierarchies. Marginalized communities, such as the Hill Dalits and Madhesi/Tarai Dalits, experience significantly higher poverty risks compared to dominant caste groups. Despite constitutional and legal reforms aimed at reducing caste-based discrimination, structural inequalities persist (Bishwakarma, 2017; Dahal et al., 2022; Sapkota et al., 2021), manifesting in unequal access to education, employment, and financial services. These communities often reside in areas with limited banking infrastructure, further restricting their ability to access financial resources. Even

when financial services are available, social stigma and institutional biases may limit their utilization. In contrast, relatively privileged groups—such as Hill Brahmins/Chhetris and Newars—exhibit lower poverty rates, benefiting from generational wealth accumulation, better education, and greater access to formal financial networks.

Regional disparities in poverty rates further compound socio-economic inequalities. Provinces such as Koshi and Madhesh exhibit comparatively lower poverty rates, likely due to better economic opportunities, infrastructure, and agricultural productivity. The Tarai region, with its fertile plains and cross-border trade opportunities (Hayashi et al., 2023), offers better economic prospects for households engaged in agriculture and business. Meanwhile, remote provinces like Karnali and Sudurpashchim face compounded vulnerabilities stemming from geographic isolation, harsh climatic conditions, and weaker economic integration. Households in these regions not only struggle with limited financial access but also face higher exposure to climate-induced risks, such as landslides, floods, and droughts, which disrupt livelihoods and further entrench poverty.

Household demographics also play a crucial role in shaping poverty outcomes. Larger household sizes, a common feature in Nepal's predominantly agrarian society, increase poverty risks due to the strain on limited resources (Gao et al., 2022). Households with a high number of dependents—especially those with young children or elderly members—experience greater economic pressure, as income-generating capacity often remains constrained. In contrast, smaller households or those with multiple working members have a lower likelihood of experiencing poverty, highlighting the importance of labor force participation in economic security. Education emerges as one of the most significant poverty-reducing factor, underscoring the need for targeted interventions to improve educational access and quality, particularly for marginalized communities and girls as highlighted by the studies such as Liu et al. (2021) and Hofmarcher (2021). Higher levels of education not only enhance employment prospects but also enable individuals to make informed financial decisions, thereby improving financial resilience.

The role of basic household facilities in poverty alleviation cannot be overlooked. Access to basic amenities—such as sanitation facilities, piped water, electricity, and internet connectivity—significantly enhances household well-being and economic

opportunities (Abubakar, 2017; Zhang et al., 2019). Households with reliable access to these services are more likely to engage in productive activities, access digital financial services, and participate in broader economic networks. For instance, internet connectivity has become increasingly vital in facilitating financial transactions, enabling households to access mobile banking, digital payments, and remittance services. However, the provincial division in infrastructure availability throughout the country remains stark, with many households still lagging in terms of access to essential services, further exacerbating economic disparities.

A particularly intriguing finding of this study is the gender-neutral effect of financial access on poverty reduction, which challenges conventional assumptions about women's financial exclusion in Nepal as found by Aziz et al. (2022). While the interaction between gender and BFI access was statistically insignificant, qualitative realities suggest that women may still face underlying barriers in fully leveraging financial services (Arora, 2020; Saluja et al., 2023). Cultural norms restricting women's mobility, limited asset ownership, and gendered labor market segmentation often constrain their financial agency. While financial inclusion policies have increasingly targeted women—through initiatives like group-based microfinance programs and priority lending for women entrepreneurs—challenges such as limited financial literacy and restricted decision-making power within households continue to hinder their economic empowerment.

Overall, the findings highlight the multifaceted nature of financial inclusion and poverty dynamics in Nepal. While expanding formal financial access holds promise as a poverty-reducing tool, its effectiveness is contingent on addressing systemic barriers such as financial illiteracy, geographic inaccessibility, and socio-economic inequalities. Credit access, particularly from informal sources, remains a double-edged sword—offering temporary financial relief while potentially exacerbating long-term poverty. The persistent ethnic, regional, and household-level disparities underscore the need for targeted policy interventions that go beyond financial access alone.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Main Findings

Poverty alleviation and financial inclusion have been central themes in global development efforts, particularly in the context of emerging economies. Financial inclusion—the availability and accessibility of financial services to all individuals, especially marginalized and low-income groups—has been recognized as a crucial driver of economic empowerment and poverty reduction. Access to financial services enables households to manage financial risks, invest in education and health, and engage in productive economic activities. Despite progress in financial inclusion, many developing economies, including Nepal, continue to face structural barriers that limit access to formal banking services, particularly among rural and marginalized populations. Limited financial literacy, inadequate infrastructure, and reliance on informal credit markets exacerbate economic vulnerabilities, preventing households from fully leveraging financial services for poverty reduction. Understanding the dynamics of financial inclusion and its effect on poverty is essential for designing policies that promote inclusive economic growth.

This study examines the relationship between access to finance, financial inclusion, and poverty alleviation in Nepal using data from the Nepal Living Standards Survey (NLSS-IV) and robust econometric methods such as Ordinary Least Squares (OLS) and logistic regression. The findings reveal that access to formal banking and financial institutions (BFIs) consistently reduces the likelihood of household poverty. Across all models, households with access to BFIs were 6.3 to 7.9 percentage points less likely to be poor. This aligns with global evidence that formal financial access enables households to manage risks, invest in livelihoods, and accumulate assets, fostering economic resilience.

However, the study also reveals a paradox in credit access. While formal credit exhibits modest poverty-reducing effects (coefficient of -0.0358, $p<0.01$ in OLS), informal credit is associated with higher poverty risks (coefficient of 0.0168, $p<0.05$ in OLS). Informal borrowing, often characterized by high interest rates and unfavorable terms, exacerbates financial vulnerability, particularly in provinces like Karnali and Sudurpaschim, where formal financial penetration remains low. This

underscores the dual nature of credit access: formal credit can empower households, whereas informal credit often deepens financial distress.

Socio-structural inequalities further shape poverty outcomes. Marginalized communities, such as Hill Dalits (coefficient of 0.0544, $p<0.01$ in OLS) and Madhesi/Tarai Dalits (coefficient of 0.1288, $p<0.01$ in OLS), face significantly higher poverty risks. Regional disparities compound these inequalities, with provinces like Karnali (coefficient of -0.0665, $p<0.01$ in OLS) and Sudurpashchim (coefficient of 0.0362, $p<0.05$ in OLS) experiencing higher poverty rates due to geographic isolation, limited access to education and employment, weak financial services, and lower economic integration. In contrast, provinces such as Koshi (coefficient of -0.0792, $p<0.01$ in OLS) and Madhesh (coefficient of -0.1550, $p<0.01$ in OLS), with better infrastructure and economic opportunities, exhibit lower poverty rates. These findings highlight the need for targeted interventions to address the systemic barriers faced by marginalized groups and regions.

Household characteristics also play a crucial role in poverty dynamics. Larger household sizes (coefficient of 0.0449, $p<0.01$ in OLS) increase poverty risks, while education (coefficient of -0.0646, $p<0.01$ in OLS) and access to basic amenities—such as sanitation (coefficient of -0.1509, $p<0.01$ in OLS), piped water (coefficient of -0.0497, $p<0.01$ in OLS), and internet connectivity (coefficient of -0.0878, $p<0.01$ in OLS)—significantly reduce poverty.

The Financial Inclusion Index (FII), constructed using Principal Component Analysis (PCA), shows a strong negative association with poverty. Higher financial inclusion, as measured by the FII, is linked to lower poverty levels (coefficient of -0.0642, $p<0.01$ in OLS), reinforcing the importance of expanding access to formal financial services and infrastructure. The study also finds that the poverty-reducing effects of financial inclusion are gender-neutral, with no significant difference in outcomes between men and women (interaction term coefficient of -0.0540, $p>0.05$). However, qualitative barriers—such as limited financial literacy, restricted mobility, and gendered labor market segmentation—may still constrain women's ability to fully leverage financial services.

In conclusion, this study highlights the transformative potential of financial inclusion in reducing poverty in Nepal. However, realizing this potential requires

addressing systemic barriers that perpetuate socio-economic inequalities. By expanding access to formal financial services, improving infrastructure, and implementing targeted interventions for marginalized groups, Nepal can make significant strides toward poverty alleviation and inclusive economic development.

5.2 Conclusion

Access to financial services is fundamental to economic empowerment and poverty reduction. In Nepal, where poverty remains a persistent challenge despite economic progress, financial inclusion has emerged as a critical tool for fostering economic security and social mobility. While formal financial services have expanded significantly over the years, large sections of the population, particularly rural communities, women, and marginalized groups, continue to rely on informal credit mechanisms. These informal financial networks, including moneylenders, community-based savings groups, and family borrowing, remain integral to household financial management, yet they often operate at high costs and with limited consumer protections.

This study examined the association between access to finance and poverty in Nepal, focusing on the extent to which financial inclusion influences poverty alleviation. The findings highlight that while formal financial services have expanded, access remains uneven. Socio-economic factors such as education, land ownership, ethnicity, and geographic disparities shape financial inclusion outcomes, often reinforcing pre-existing inequalities. The reliance on informal credit sources underscores the gaps in formal financial service delivery, revealing a disconnect between financial policies and the lived realities of low-income households.

A comprehensive approach to financial inclusion must recognize both formal and informal financial systems, addressing structural barriers such as financial illiteracy, geographic remoteness, and socio-cultural constraints. Strengthening financial literacy, expanding digital financial services, and fostering inclusive banking policies are essential to bridging these gaps. Moreover, integrating informal credit mechanisms into formal financial frameworks through community-driven microfinance initiatives and cooperative banking can enhance accessibility and affordability.

By situating Nepal within the broader global discourse on financial inclusion, this research contributes to understanding the complex interplay between financial access and poverty. The findings reinforce the need for policy interventions that go beyond mere access to financial institutions and instead focus on inclusive, context-specific strategies that empower vulnerable populations. Sustainable poverty reduction in Nepal requires a financial ecosystem that is not only accessible but also equitable, ensuring that all segments of society can participate in and benefit from economic growth.

5.3 Recommendations

Financial inclusion plays a pivotal role in poverty alleviation by providing individuals and households with access to essential financial services, enabling economic stability and growth. However, structural barriers such as geographic disparities, limited financial literacy, and reliance on informal credit continue to hinder equitable access to financial resources, particularly among marginalized communities. Addressing these challenges requires targeted interventions, regulatory reforms, and strategic investments in infrastructure and education. The following recommendations aim to enhance financial inclusion ensuring that financial services are accessible, affordable, and effective in reducing poverty in Nepal.

i. Improve financial literacy through education and community programs.
ii. Develop inclusive and affordable credit mechanisms for low-income households.
iii. Targeted credit programs could address benefit the poor.
iv. Promote formal savings and micro-insurance schemes for financial resilience.
v. Implement targeted interventions for marginalized communities to enhance access to finance.

5.4 Scope for Further Research

This study, based on cross-sectional data from the Nepal Living Standards Survey (NLSS IV), provides valuable insights into the relationship between financial inclusion and poverty. However, further research is needed to examine the long-term

effects of financial inclusion. Longitudinal studies could assess whether financial access leads to sustained poverty reduction or short-term improvements. Additionally, while this study incorporates the informal credit sector, future research could explore the evolving dynamics between formal and informal financial services, particularly in light of digital financial expansion. Investigating the effect of fintech innovations, such as mobile banking and digital credit, on financial inclusion in rural and marginalized communities would offer further insights.

Moreover, a deeper analysis of structural barriers—such as financial literacy, socio-cultural constraints, and regulatory challenges could enhance policy recommendations. Expanding research in these areas would strengthen efforts toward inclusive financial development and poverty alleviation in Nepal.

REFERENCES

Abubakar, I. R. (2017). Access to Sanitation Facilities among Nigerian Households: Determinants and Sustainability Implications. *Sustainability*, *9*(4), Article 4. https://doi.org/10.3390/su9040547

Adhikari, N., & Shahi, P. R. (2020). Estimating Households' Vulnerability to Poverty from an Idiosyncratic Shock: Evidence from Nepal. *Economic Journal of Nepal*, *43*(3–4), 17–35.

Arora, R. U. (2020). Digital Financial Services to Women: Access and Constraints. In *Gender Bias and Digital Financial Services in South Asia* (pp. 51–72). Emerald Publishing Limited. https://doi.org/10.1108/978-1-83867-855-520201004

Aryeetey, E. (2011). *Informal Finance for Private Sector Development in Sub-Saharan Africa*. *7*(1).

Atkinson, A., & Messy, F.-A. (2013). *Promoting financial inclusion through financial education*. *34*. https://doi.org/10.1787/5k3xz6m88smp-en

Atteraya, M. S., Murugan, V., & Pandey, S. (2017). Intersection of Caste/Ethnic Affiliation and Poverty Among Married Women in Intimate Partner Violence: The Case of Nepal. *Global Social Welfare*, *4*(2), 81–90.

https://doi.org/10.1007/s40609-016-0056-2

Aziz, F., Sheikh, S. M., & Shah, I. H. (2022). Financial inclusion for women empowerment in South Asian countries. *Journal of Financial Regulation and Compliance*, *30*(4), 489–502. https://doi.org/10.1108/JFRC-11-2021-0092

Bakari, I. H., Donga, M., Idi, A., Hedima, J. E., Wilson, K., Babayo, H., & Ibrahim, Y. (2019). An examination of the Impact of Financial Inclusion on Poverty Reduction: An Empirical Evidence from Sub-Saharan Africa. *International Journal of Scientific and Research Publications (IJSRP)*, *9*(1), p8532. https://doi.org/10.29322/IJSRP.9.01.2019.p8532

Banna, H., Mia, M. A., Nourani, M., & Yarovaya, L. (2022). Fintech-based Financial Inclusion and Risk-taking of Microfinance Institutions (MFIs): Evidence from Sub-Saharan Africa. *Finance Research Letters*, *45*, 102149. https://doi.org/10.1016/j.frl.2021.102149

Bharadwaj, P., Jack, W., & Suri, T. (2019). *Fintech and Household Resilience to Shocks: Evidence from Digital Loans in Kenya* (Working Paper 25604). National Bureau of Economic Research. https://doi.org/10.3386/w25604

Bishwakarma, M. (2017). Democratic politics in Nepal: Dalit political inequality and representation. *Asian Journal of Comparative Politics*, *2*(3), 261–272. https://doi.org/10.1177/2057891116660633

Burgess, R., & Pande, R. (2005). Do Rural Banks Matter? Evidence from the Indian Social Banking Experiment. *American Economic Review*, *95*(3), 780–795. https://doi.org/10.1257/0002828054201242

Célerier, C., & Matray, A. (2019). Bank-branch supply, financial inclusion, and wealth accumulation. *The Review of Financial Studies*, *32*(12), 4767–4809.

Chambers, R. (2014). *Rural Development: Putting the last first*. Routledge. https://doi.org/10.4324/9781315835815

Chambers, R., & Conway, G. (1992). *Sustainable rural livelihoods: Practical concepts for the 21st century*. https://opendocs.ids.ac.uk/articles/report/Sustainable_rural_livelihoods_practical_concepts_for_the_21st_century/26473510

Chibba, M. (2009). Financial Inclusion, Poverty Reduction and the Millennium Development Goals. *The European Journal of Development Research*, *21*(2), 213–230. https://doi.org/10.1057/ejdr.2008.17

Chipunza, K. J., & Fanta, A. B. (2023). Quality financial inclusion and financial vulnerability. *International Journal of Consumer Studies*, *47*(2), 784–800. https://doi.org/10.1111/ijcs.12871

Churchill, S. A., & Marisetty, V. B. (2020). Financial inclusion and poverty: A tale of forty-five thousand households. *Applied Economics*, *52*(16), 1777–1788. https://doi.org/10.1080/00036846.2019.1678732

Cull, Robert, Ehrbeck, T., & Holle, N. (2014). *Financial Inclusion and Development: Recent Impact Evidence* (Focus Note 92). World Bank. www.cgap.org

Dahal, P., Joshi, S. K., & Swahnberg, K. (2022). A qualitative study on gender inequality and gender-based violence in Nepal. *BMC Public Health*, *22*(1), 2005. https://doi.org/10.1186/s12889-022-14389-x

Demirgüç-Kunt, A., & Klapper, L. (2013). Measuring Financial Inclusion: Explaining Variation in Use of Financial Services across and within Countries. *Brookings Papers on Economic Activity*, *2013*(1), 279–340.

Demirgüç-Kunt, A., & Klapper, L. F. (2012). Measuring financial inclusion: The global findex database. *World Bank Policy Research Working Paper*, *6025*.

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). *The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*. The World Bank. https://doi.org/10.1596/978-1-4648-1897-4

Dhungana, B. R., & Kumar, P. (2015). The Status of Financial Inclusion in Nepal. *Pacific Business Review International*, *7*(8).

Dogan, E., Madaleno, M., & Taskin, D. (2022). Financial inclusion and poverty: Evidence from Turkish household survey data. *Applied Economics*, *54*(19), 2135–2147. https://doi.org/10.1080/00036846.2021.1985076

Duan, Z., Yuan, F., & Tian, Z. (2024). Evaluating the effects of digital finance on urban poverty. *Socio-Economic Planning Sciences*, *96*, 102099.

https://doi.org/10.1016/j.seps.2024.102099

Elder, G. H., Robertson, E. B., & Ardelt, M. (1994). Families Under Economic Pressure. In *Families in Troubled Times*. Routledge.

Fomum, T. A., & Jesse, A. M. (2017). Exploring the relationship between financial inclusion and assets accumulation in South Africa. *International Journal of Social Economics*, *44*(12), 2157–2172. https://doi.org/10.1108/IJSE-10-2016-0294

Fonseca, S., Moreira, A., & Mota, J. (2024). Factors Influencing Sustainable Poverty Reduction: A Systematic Review of the Literature with a Microfinance Perspective. *Journal of Risk and Financial Management*, *17*(7), Article 7. https://doi.org/10.3390/jrfm17070309

Gao, Q., Zhai, F., & Wang, Y. (2022). Welfare Participation Reduced Severe Child Multidimensional Poverty in Rural China: Better Targeting Can Lead to Greater Poverty Reduction. *Child Indicators Research*, *15*(3), 913–932. https://doi.org/10.1007/s12187-021-09885-2

Gautam, Y., & Andersen, P. (2016). Rural livelihood diversification and household well-being: Insights from Humla, Nepal. *Journal of Rural Studies*, *44*, 239–249. https://doi.org/10.1016/j.jrurstud.2016.02.001

Goverment of India. (2024). *Pradhan Mantri Jan Dhan Yojana: A Decade of Transformative Financial Inclusion* (RU-472). Press Information Bureau. https://static.pib.gov.in/WriteReadData/specificdocs/documents/2024/aug/doc2024828381301.pdf

Hayashi, T., Kumagai, S., Das, S. B., Khadka, M. S., Isono, I., Keola, S., Tsubota, K., & Hayakawa, K. (2023). Analysis of the Economic Impact of Improved Connectivity in Nepal. *Journal of Asian Economic Integration*, *5*(2), 145–166. https://doi.org/10.1177/26316846231182178

Hirschman, A. O. (1970). *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*. Harvard University Press.

Hofmarcher, T. (2021). The effect of education on poverty: A European perspective. *Economics of Education Review*, *83*, 102124. https://doi.org/10.1016/j.econedurev.2021.102124

Hosmer Jr, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied logistic regression*. John Wiley & Sons.

IFC. (2023). *Nepal Financial Inclusion Report 2023* [Text/HTML]. IFC. https://www.ifc.org/en/insights-reports/2023/nepal-financial-inclusion-report-2023

Inoue, T. (2019). Financial inclusion and poverty reduction in India. *Journal of Financial Economic Policy*, *11*(1), 21–33. https://doi.org/10.1108/JFEP-01-2018-0012

Iqbal, K., Roy, P. K., & Alam, S. (2020). The impact of banking services on poverty: Evidence from sub-district level for Bangladesh. *Journal of Asian Economics*, *66*, 101154. https://doi.org/10.1016/j.asieco.2019.101154

Jolliffe, I. T. (2002). *Principal component analysis for special types of data*. Springer.

Kabeer, N. (2021). Gender Equality, Inclusive Growth, and Labour Markets. In *Women's Economic Empowerment*. Routledge.

Karki, K. K., Dhungana, N., & Budhathoki, B. B. (2021). Breaking the Wall of Poverty: Microfinance as Social and Economic Safety Net for Financially Excluded People in Nepal. *Molung Educational Frontier*, *11*, 26–53.

https://doi.org/10.3126/mef.v11i0.37835

Koku, P. S. (2015). Financial exclusion of the poor: A literature review. *International Journal of Bank Marketing*, *33*(5), 654–668. https://doi.org/10.1108/IJBM-09-2014-0134

Kondratjeva, O. (2021). Borrowing channels, purposes, and household investment and consumption: Evidence from Nepal. *Journal of Consumer Affairs*, *55*(4), 1591–1613. https://doi.org/10.1111/joca.12355

Koomson, I., Villano, R. A., & Hadley, D. (2020). Effect of Financial Inclusion on Poverty and Vulnerability to Poverty: Evidence Using a Multidimensional Measure of Financial Inclusion. *Social Indicators Research*, *149*(2), 613–639. https://doi.org/10.1007/s11205-019-02263-0

Kumar, S. S., & Jie, Q. (2023). Exploring the role of financial inclusion in poverty reduction: An empirical study. *World Development Sustainability*, *3*, 100103. https://doi.org/10.1016/j.wds.2023.100103

Lal, T. (2018). Impact of financial inclusion on poverty alleviation through cooperative banks. *International Journal of Social Economics*, *45*(5), 808–828. https://doi.org/10.1108/IJSE-05-2017-0194

Li, Y., Long, H., & Ouyang, J. (2022). Digital Financial Inclusion, Spatial Spillover, and Household Consumption: Evidence from China. *Complexity*, *2022*(1), 8240806. https://doi.org/10.1155/2022/8240806

Liu, F., Li, L., Zhang, Y., Ngo, Q.-T., & Iqbal, W. (2021). Role of education in poverty reduction: macroeconomic and social determinants form developing economies. *Environmental Science and Pollution Research*, *28*(44), 63163–63177. https://doi.org/10.1007/s11356-021-15252-z

Lwamba, E., Shisler, S., Ridlehoover, W., Kupfer, M., Tshabalala, N., Nduku, P., Langer, L., Grant, S., Sonnenfeld, A., Anda, D., Eyers, J., & Snilstveit, B. (2022). Strengthening women's empowerment and gender equality in fragile contexts towards peaceful and inclusive societies: A systematic review and meta-analysis. *Campbell Systematic Reviews*, *18*(1), e1214.

https://doi.org/10.1002/cl2.1214

Mahato, J., & Jha, M. K. (2023). Does financial inclusion promote sustainable livelihood development? Mediating effect of microentrepreneurship. *Journal of Financial Economic Policy*, *15*(4/5), 485–499.

Manzilati, A., & Prestianawati, S. A. (2021). Informal financing or debt traps: Are the UN sustainable development goals being met in emerging economies? *Review of International Business and Strategy*, *32*(1), 132–145.

https://doi.org/10.1108/RIBS-01-2021-0011

Morduch, J. (1999). The Microfinance Promise. *Journal of Economic Literature*, *37*(4), 1569–1614. https://doi.org/10.1257/jel.37.4.1569

Morgan, P. J., Zhang, Y., & Kydyrbayev, D. (2018). *Overview of Financial Inclusion, Regulation, Financial Literacy, and Education in Central Asia and South Caucasus*.

National Statistics Office. (2023). *Nepal Living Standards Survey IV (2022/23)*. Government of Nepal. https://data.nsonepal.gov.np/dataset/b6c3c19b-4b15-44bf-8653-1571e76dad14/resource/e2d52301-1c25-498b-8732-4326c62a2372/download/nlss-iv.pdf

Nepal Rastra Bank. (2013). *Financial Sector Development Strategy for Inclusive Growth* (49 Th SEACEN Governors' Conference, High-Level Seminar and 33 Rd Meeting of the SEACEN Board of Governors). Nepal Rastra Bank.

Omar, M. A., & Inaba, K. (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. *Journal of Economic Structures*, *9*(1), 37. https://doi.org/10.1186/s40008-020-00214-4

Ouechtati, I. (2020). The Contribution of Financial Inclusion in Reducing Poverty and Income Inequality in Developing Countries. *Asian Economic and Financial Review*, *10*(9), 1051–1061.

https://doi.org/10.18488/journal.aefr.2020.109.1051.1061

Ozili, P. K. (2020). *Theories of financial inclusion*.

Pandey, A., Adhikari, P. K., & Shrestha, Z. (2022). Financial Reforms and Financial Development in Nepal: A Review. *Economic Review of Nepal*, *5*(1), Article 1. https://doi.org/10.3126/ern.v5i1.66037

Pant, B. (2016). Promoting Financial Inclusion in Nepal: Policy Assessment and Priorities. *NRB Working Paper No. 34*.

Park, C.-Y., & Mercado, R. J. (2015). Financial Inclusion, Poverty, and Income Inequality in Developing Asia. *SSRN Electronic Journal*.

https://doi.org/10.2139/ssrn.2558936

Possner, A., Bruns, S., & Musshoff, O. (2021). A Cambodian smallholder farmer's choice between microfinance institutes and informal commercial moneylenders: The role of risk attitude. *Agricultural Finance Review*, *82*(1), 183–204. https://doi.org/10.1108/AFR-07-2020-0105

Rostow, W. W. (1991). *The Stages of Economic Growth: A Non-Communist Manifesto* (3rd ed.). Cambridge University Press.

https://doi.org/10.1017/CBO9780511625824

Sachs, J. D. (2006). *The end of poverty: Economic possibilities for our time*. Penguin Publishing Group. https://books.google.com.np/books?id=pqla8IiF5dYC

Saha, S. K., & Qin, J. (2023). Financial inclusion and poverty alleviation: An empirical examination. *Economic Change and Restructuring*, *56*(1), 409–440. https://doi.org/10.1007/s10644-022-09428-x

Saluja, O. B., Singh, P., & Kumar, H. (2023). Barriers and interventions on the way to empower women through financial inclusion: A 2 decades systematic review (2000–2020). *Humanities and Social Sciences Communications*, *10*(1), 1–14. https://doi.org/10.1057/s41599-023-01640-y

Sapkota, V. P., Bhusal, U. P., & Acharya, K. (2021). Trends in national and subnational wealth related inequalities in use of maternal health care services in Nepal: An analysis using demographic and health surveys (2001–2016). *BMC Public Health*, *21*(1), 8. https://doi.org/10.1186/s12889-020-10066-z

Sarma, M. (2008). Index of Financial Inclusion. *Indian Council for Research on International Economic Relations*, *Working Paper No. 215*.

Sen, A. (1999). *Development as freedom*. Alfred Knopf / Alfred Knopf. http://www.amazon.com/Development-as-Freedom-Amartya-Sen/dp/0385720270/ref=sr_1_1?s=books&ie=UTF8&qid=1310743622&sr=1-1

Shaikh, S. A. (2017). Poverty alleviation through financing microenterprises with equity finance. *Journal of Islamic Accounting and Business Research*, *8*(1), 87–99. https://doi.org/10.1108/JIABR-07-2013-0022

Shao, J., Wu, D., & Jin, C. (2023). How do financial inclusion and education increase resource efficiency? *Resources Policy*, *85*, 104005.

https://doi.org/10.1016/j.resourpol.2023.104005

Shrestha, B., & Adhikari, N. (2007). Poor People's Access to Formal Financial Services. *Economic Journal of Nepal*, *30*(2), 85–97.

Singer, D., Demirguc-Kunt, A., Klapper, L., & Singer, D. (2017). *Financial Inclusion and Inclusive Growth: A Review of Recent Empirical Evidence*. World Bank, Washington, DC. https://doi.org/10.1596/1813-9450-8040

Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. *Science (New York, N.Y.)*, *354*(6317), 1288–1292.

https://doi.org/10.1126/science.aah5309

Tan, A. (2024). *Bridging the Gap: Transforming Financial Inclusion in Nepal through Fintech Innovation and Sustainability* (SSRN Scholarly Paper 5033847). Social Science Research Network. https://doi.org/10.2139/ssrn.5033847

Tran, H. T. T., & Le, H. T. T. (2021). The Impact of Financial Inclusion on Poverty Reduction. *Asian Journal of Law and Economics*, *12*(1), 95–119.

https://doi.org/10.1515/ajle-2020-0055

Tran, T. K. (2023). Does Microfinancing, Financial Inclusion, and Educational Loans Alleviate Poverty and Inequality: Evidence from Vietnam. *Technological and Economic Development of Economy*, *29*(6), 1687–1707.

https://doi.org/10.3846/tede.2023.20348

Tsouli, D. (2022a). Financial Inclusion, Poverty, and Income Inequality: Evidence from European Countries. *Ekonomika*, *101*(1), 37–61.

https://doi.org/10.15388/Ekon.2022.101.1.3

Tsouli, D. (2022b). Financial Inclusion, Poverty, and Income Inequality: Evidence from High, Middle, and Low-income Countries. *Scientific Annals of Economics and Business*, *69*(1), 69–98. https://doi.org/10.47743/saeb-2022-0005

United Nations Department of Economic and Social Affairs. (2023). *The Sustainable Development Goals Report 2023: Special Edition*. United Nations.

https://doi.org/10.18356/9789210024914

Wagle, U. (2005). Multidimensional Poverty Measurement with Economic Well-being, Capability, and Social Inclusion: A Case from Kathmandu, Nepal. *Journal of Human Development*, *6*(3), 301–328.

https://doi.org/10.1080/14649880500287621

Wagle, U. R. (2017). The Caste/Ethnic Bases of Poverty Dynamics: A Longitudinal Analysis of Chronic and Structural Poverty in Nepal. *The Journal of Development Studies*, *53*(9), 1430–1451.

https://doi.org/10.1080/00220388.2016.1224850

Williams, H. T., Adegoke, A. J., & Dare, A. (2017). Role of Financial Inclusion in Economic Growth and Poverty Reduction in a Developing Economy. *Social Sciences*, *7*(5).

World Bank Group. (2024). *Nepal Development Update*.] International Bank for Reconstruction and Development / The World Bank.

Yunus, M., & Jolis, A. (2007). *Banker to the poor: Micro-lending and the battle against world poverty*. PublicAffairs.

Zhang, B., Lai, K., Wang, B., & Wang, Z. (2019). From intention to action: How do personal attitudes, facilities accessibility, and government stimulus matter for household waste sorting? *Journal of Environmental Management*, *233*, 447–458. https://doi.org/10.1016/j.jenvman.2018.12.059