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Impact Of Microfinance Institutions On Farmers' Livelihoods In Kadugli Locality, South Kordofan State, Sudan

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ABSTRACT:

This study examines the role of institutional and microfinance in improving farmers' livelihoods and socio-economic conditions in Kadugli. The study is motivated by the persistent challenges of low capital accumulation, weak financial systems, and limited access to formal financing, which constrain economic development and perpetuate poverty. A mixed-method approach was adopted, utilizing both primary and secondary data. Primary data were collected through a structured questionnaire using simple random sampling in Kadugli locality. Descriptive and inferential statistical techniques, including frequency analysis and paired sample t-tests, were applied using SPSS to evaluate the impact of financing. The findings revealed that the majority of the respondents were economically active (77.3%), and most experienced an improvement in their standard of living (88.6%), indicating the positive impact of financial interventions. However, access to extension services remains very limited (11.4%), highlighting a critical gap in complementary support systems. Additionally, most beneficiaries (86.3%) achieved their funding objectives, reflecting the effectiveness of financing programs. The results of the paired samples t-test demonstrate a statistically significant positive impact of microfinance on income sources, particularly agriculture and livestock, household expenditure (education, water, and social services), savings, and asset ownership. However, some indicators, such as formal savings and certain income sources, showed limited or no significant change.

The study concluded that while institutional financing plays a vital role in enhancing livelihoods and promoting economic development, its effectiveness can be further strengthened by integrating financial services with extension support, capacity building, and improved program design.

Keywords: microfinance institutions, farmers' livelihoods, kadugli locality South Kordofan State

INTRODUCTION

Developing countries are generally characterized by a low level of capital per capita. This situation results from the limited rate of capital accumulation, which is mainly due to the low level of national savings in these countries. Low savings rates limit the ability to accumulate capital required for investment, which is essential for the process of economic development. Consequently, many developing countries experience what is commonly referred to as the vicious circle of poverty, where low income leads to low savings, which in turn limits investment and economic growth. In many developing countries, financial systems are often weak, rigid, or poorly developed. Such systems fail to effectively contribute to improving the living standards of the population or to promoting rural development. A well-functioning financial system should support economic development by encouraging rural industries, improving agricultural productivity, and facilitating access to credit for productive activities. Furthermore, sources of financing

in developing countries are often informal and unregulated, such as individual moneylenders, merchants, and intermediaries. These financing sources are usually not aligned with national development strategies, particularly those aimed at developing the agricultural sector.

Sudan is one of the countries whose economy largely depends on agricultural production. Therefore, the government has consistently paid significant attention to developing the agricultural sector. This attention is reflected in the provision of necessary financial resources and the direction of a considerable portion of banking resources toward agricultural financing, as agriculture is considered one of the priority sectors for economic development. In addition, considerable attention has been directed toward vulnerable groups in Sudan. Over time, various strategies have been designed to improve income levels and reduce poverty. These strategies include macroeconomic policies, financial and credit policies, and social development programs. At the macroeconomic level, national development strategies have clearly emphasized supporting low-income groups and providing the necessary financial resources to assist them. At the financial policy level, the government has coordinated with the Central Bank of Sudan to strengthen government banks and establish specialized financial institutions that support development financing. Examples include the Savings and Social Development Bank, the Agricultural Bank of Sudan, and other institutions dedicated to financing productive families and small-scale economic activities. Moreover, since the early 1990s, the Central Bank of Sudan has adopted financing policies that allocate a specific percentage of bank financing to low-income groups. These groups include productive families, small-scale farmers, craftsmen, and small entrepreneurs. The allocation initially started at 5% of total financing ceilings and gradually increased to 7%, then 10%, and eventually reached 12% after 2007, a policy that continues to be implemented today.

Institutional financing has been widely recognized as a fundamental driver of economic development in developing countries, particularly through its role in supporting private sector growth and expanding market opportunities. According to Walled (2021), international financial institutions such as the International Finance Corporation (IFC) contribute to development by combining financial resources, technical expertise, and global experience, while emphasizing measurable development outcomes. This approach highlights the growing importance of result-oriented financing strategies in achieving inclusive economic growth. The increasing significance of finance is closely associated with globalization and the rapid transformation of international economic relations. As noted by Faiza (2015), globalization has reshaped financial systems and strengthened cross-border transactions, making finance a central element in modern economies. In this context, Mohammed (2016) argues that financing is essential for enabling investment and fostering economic and human development, especially in developing countries where domestic savings are insufficient to support capital accumulation.

Historically, the evolution of financial systems is linked to the expansion of international trade and the emergence of global markets during the industrial revolution. Mohammed (2010) explains that the growth of production led to the development of financial institutions, banking systems, and capital mobility, which collectively contributed to the integration of global economies.

From a conceptual perspective, finance refers to the management and allocation of financial resources among individuals, firms, and governments. Its primary function is to ensure the efficient utilization of resources for both consumption and investment purposes. The literature emphasizes that financial decision-making involves allocating income between present consumption and future investment while selecting optimal investment alternatives.

Agricultural finance represents a specialized area within rural finance, focusing on funding agricultural production, processing, and marketing activities. Calvin highlights that agricultural finance plays a crucial role in addressing capital constraints faced by farmers, improving productivity, and enhancing income levels. Its effectiveness depends on proper risk assessment, value chain analysis, and the design of financial products tailored to agricultural conditions. Furthermore, agricultural finance contributes significantly to rural development and food security by increasing production efficiency and supporting farmers' livelihoods.

In the context of Sudan, the Agricultural Bank of Sudan has been a key institution in providing agricultural financing since its establishment in 1957. Ibrahim (2021) notes that the bank has evolved into a comprehensive financial institution that supports agricultural development, enhances production, and contributes to gross domestic product growth. The bank provides a wide range of services, including financing for crop production, livestock, agricultural inputs, storage, and agro-industrial investments, as well as technical support and training.

At the regional level, particularly in South Kordofan State, the bank has expanded its operations to support both small and large-scale farmers through cash and in-kind financing. These services include funding for agricultural inputs, livestock production, irrigation systems, and rural enterprises. The literature indicates that such institutional support is essential for strengthening agricultural productivity and promoting rural development.

Agricultural finance is derived from multiple sources, including inheritance, savings, and borrowing from formal and informal institutions such as commercial banks, cooperatives, and moneylenders. Agricultural loans are typically classified into short-term, medium-term, and long-term loans based on their duration, as well as into investment, production, and consumption loans based on their purpose. Each type plays a distinct role in supporting agricultural activities and improving farm productivity.

Despite its importance, the agricultural sector in Sudan faces significant challenges that hinder its performance. These challenges include natural risks such as climate variability and pests, technical constraints related to weak agricultural services and limited use of modern inputs, and economic challenges such as limited access to finance, price volatility, and inadequate infrastructure. Additionally, social risks, including conflicts and insecurity, further exacerbate the vulnerability of the sector.

Overall, the literature underscores the critical role of institutional and agricultural financing in promoting economic development, enhancing agricultural productivity, and improving livelihoods in developing countries. However, addressing the structural challenges facing the agricultural sector remains essential to maximizing the impact of financing on sustainable development outcomes.

STUDY AREA AND RESEARCH METHODOLOGY

Study Area

The kadugli region is located in the state of south Kordofan which represents the capital located between longitudes 19.40° and 20.45° east and latitudes 29.41° and 37.42° north, 4220 people and rainfall rates range from 350 to 850 mm. per year.

Of the region consists of lands and plains that are imagined by some high and semi –mountainous mountain ranges, with types of soils such as red and brown soils, which fall in their characteristics from sandy and clay soils to dark black clays, which are non-cracked and poorly efficient to retain water.

The Nuba group is the largest ethnic group in the region and they live in the mountains and represent 61% of the total population of the locality, followed by the Baggara representing 18% of the total population, some of them are still migratory in addition to other groups of non-Arab origins, the Fallata, the Bargo and the Nile Kabulis (Bakery, 2002). The region is characterized by the features of dry areas and the most important characteristics are the following:

1-insufficient annual rain

2-irregularity and fluctuation of rain during the year the rains in the region start in mid-May in the south of the region to mid-June in the northern part and the rainy season ranges from 100 to 111 days the rainy season ends at the end of October.

The citizens of the region depend primarily on agriculture with 70% of the population practicing different types of agriculture.

RESEARCH METHODOLOGY

Data collection:

This study adopts a comprehensive research methodology that integrates both primary and secondary data sources. Primary data were collected through a carefully designed structured questionnaire, employing a simple random sampling technique, with the aim of analyzing and evaluating the role of institutional financing in improving farmers' income and livelihoods. In addition, the study draws on secondary data obtained from reliable academic sources, including peer-reviewed books, scientific journals, official reports, online resources, and relevant previous studies, thereby strengthening the theoretical and analytical framework of the research. With regard to data analysis, the study utilizes descriptive statistical methods, particularly frequency tables, to present the data in a systematic and interpretable manner. Furthermore, inferential statistical techniques were applied to examine differences and relationships among the study variables. All statistical analyses were conducted using the Statistical Package for Social Sciences (SPSS), ensuring a high level of accuracy and reliability of the findings. Kadugli locality was selected as the study area based on several objective considerations, including the availability of vast arable land and favorable climatic conditions, particularly rainfall patterns that support the cultivation of various cash crops. Moreover, financial institutions—most notably the Agricultural Bank of Sudan—play a crucial role in providing financial support to farmers, which contributes significantly to enhancing agricultural productivity, alleviating poverty, and improving overall living standards in the region.

Analytical techniques:

The study used the frequency tables by displaying the summary of the data in a form that is easy to use in the statistical analysis, the Latin square design was also used to measure whether there are significant differences between the variables using the statistical package for social sciences.

RESULTS AND DISCUSSION

The demographic analysis of the respondents indicates that the vast majority were male, accounting for 85.2%, while females represented only 14.8%, reflecting a predominance of males in economic and public activities within the study community. Regarding age, most respondents were aged 40–49 years (47.7%), followed by those aged 30–39 years (34.1%), while respondents aged 50–59 and 60 years and above each represented 12.5%. This concentration within economically active age groups suggests that most respondents possess practical experience and the capacity to engage in productive activities and manage economic ventures. Older age groups are likely less involved in labor-intensive activities, while younger groups may still be acquiring practical experience and skills.

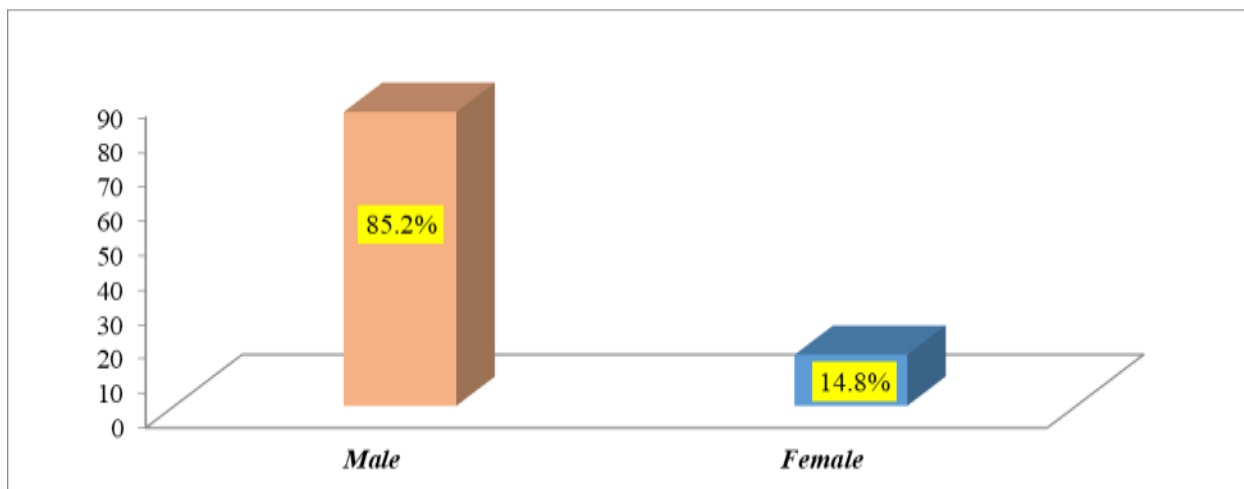


Figure (1): Frequency distribution according to gender

Source: Field survey, 2025

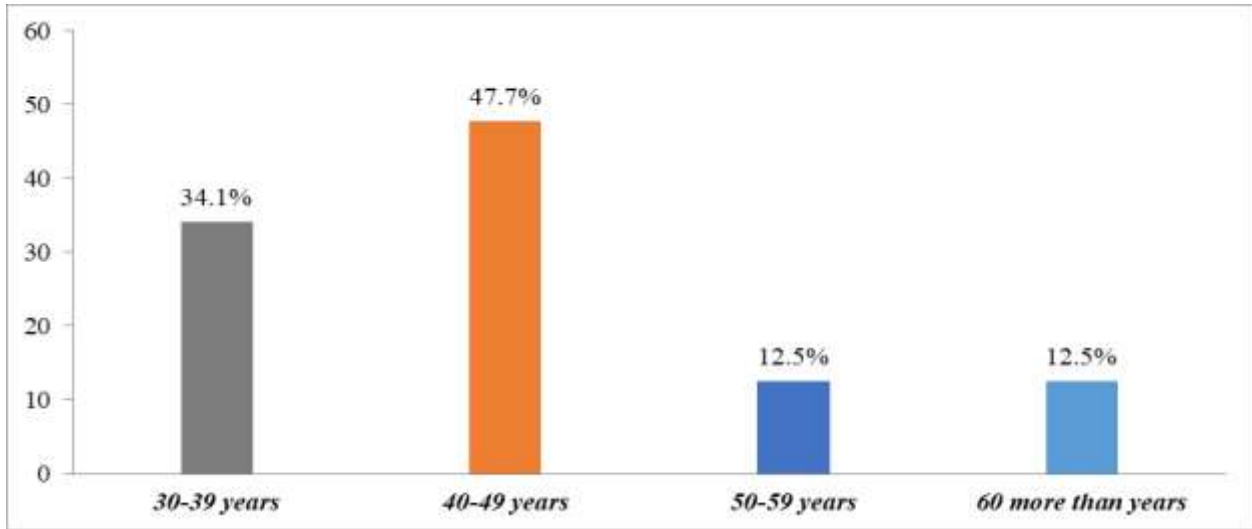


Figure (2): Frequency distribution according to age
 Source: Field survey, 2025

n terms of marital status, 80.7% of respondents were married, 11.4% were single, and 8.8% were widowed. This distribution implies that most of the population has family responsibilities that may influence economic decisions and participation in development programs or financial services. The high proportion of married respondents indicates household stability and potential reliance on family labor in agriculture or small businesses, while the smaller proportion of singles and widowed respondents may face different socio-economic challenges, such as limited family support or reduced access to resources.

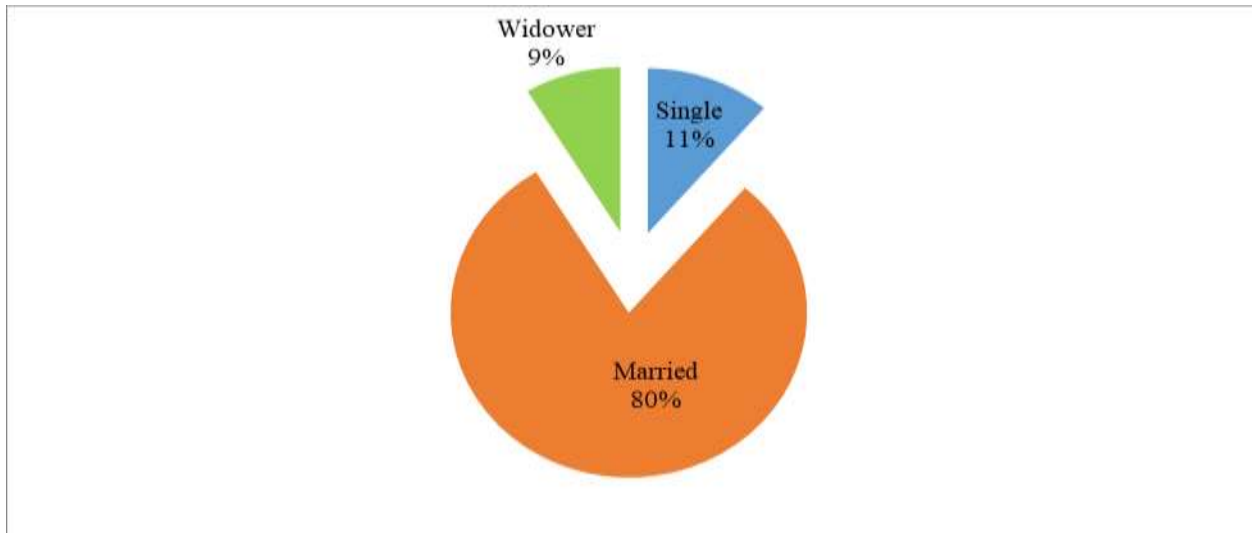


Figure (3): Frequency distribution according to marital status
 Source: Field survey, 2025

Regarding educational level, the largest proportion of respondents had secondary education (38.5%), followed by equal percentages of illiterate and primary-educated respondents (19.3% each), 13.6% had intermediate education, and only 9.2% had university education. This variation in education suggests differences in the ability to access, understand, and effectively utilize development programs or financial services. The relatively low percentage of university-educated respondents may limit the adoption of innovative economic practices and participation in advanced productive activities.

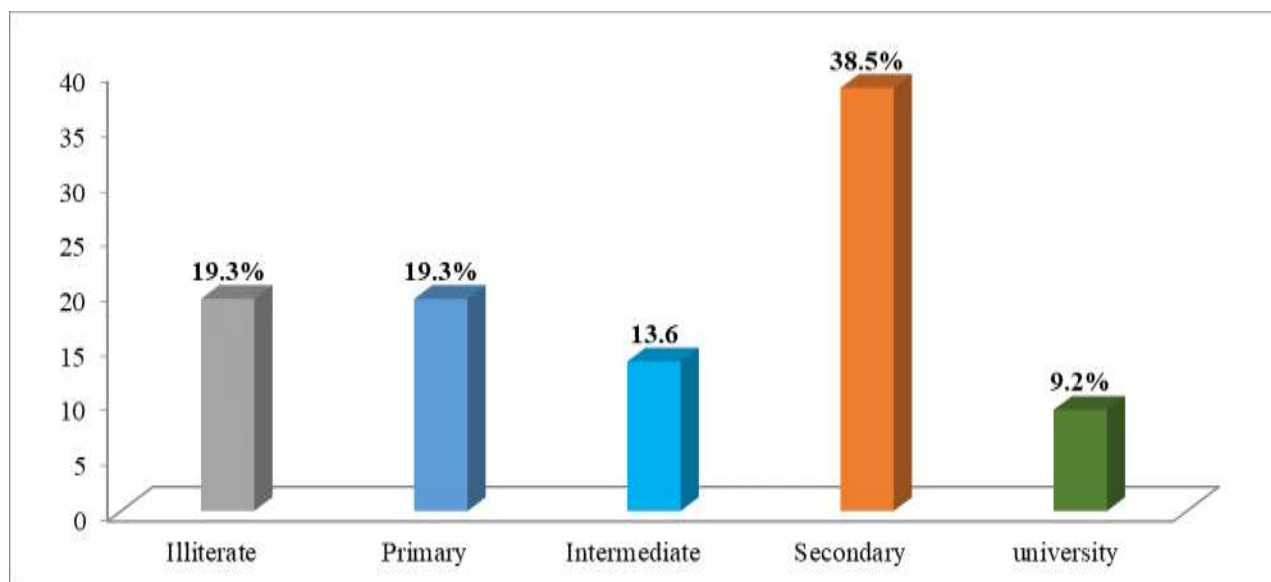


Figure (4): Frequency distribution according to educational level

Source: Field survey, 2025

Concerning occupation, the majority of respondents were engaged in agriculture (84.1%), followed by self-employed individuals (8.0%), employees (6.8%), and casual laborers (1.1%). This distribution highlights the dominant role of agriculture as the main source of livelihood and the limited diversification of income sources in the study area, reflecting dependence on farming to meet household needs, while opportunities in business or formal employment remain minimal.

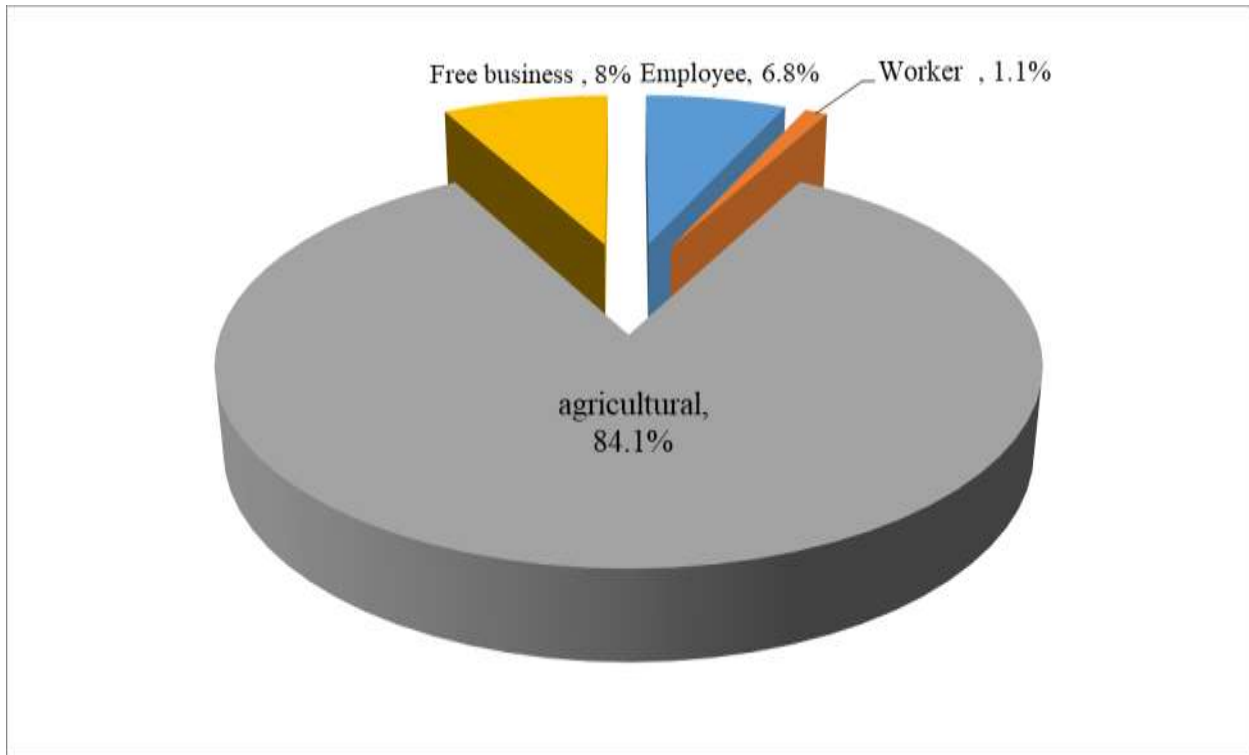


Figure (5): Frequency distribution according to occupation

Source: Field survey, 2025

The analysis of respondents' economic engagement reveals that a significant majority (77.3%) were involved in economic activities, while a smaller proportion (22.7%) weren't engaged in any form of income-generating activities. This indicates a relatively high level of economic participation among beneficiaries, which is essential for enhancing the effective utilization of financial support. Active engagement in economic activities increases the likelihood of improving income levels and sustaining livelihoods. However, the presence of a non-participating minority suggests the need for targeted interventions, such as training and capacity-building programs, to integrate these individuals into productive sectors (Table 1).

Regarding the standard of living, the findings show that most respondents (88.6%) experienced an improvement, while only (11.4%) reported no change. This reflects the positive impact of financial interventions on beneficiaries' welfare and economic conditions. The improvement in living standards indicates that access to finance contributes significantly to poverty reduction and livelihood enhancement. Nevertheless, the small percentage of respondents who did not experience improvement highlights the existence of structural or individual constraints, such as limited resources or inefficiencies in resource utilization.

In contrast, access to extension services appears to be significantly limited, as (88.6%) of respondents reported not receiving such services, compared to only (11.4%) who had received. This finding underscores a critical gap in the support system accompanying financial programs. Extension services are vital for improving agricultural productivity, promoting efficient resource use, and enhancing managerial skills. The lack of such services may limit the overall effectiveness of financing programs, suggesting the need for integrated approaches that combine financial support with technical assistance.

Furthermore, the results indicated that a large majority of respondents (86.3%) achieved their funding objectives, while (13.6%) didn't. This suggests that financial support programs were generally effective in meeting beneficiaries' goals and supporting their economic activities. However, the minority who failed

to achieve their objectives may face challenges such as inadequate funding, poor planning, or external constraints. This highlights the importance of strengthening monitoring and evaluation mechanisms, as well as improving the design and implementation of funding programs to ensure more inclusive outcomes.

Table (1):involvement of Respondents in economic activates

involvement	Frequency	Percent %
Yes	68	77.3
no	20	22.7
Total	88	100.0

Source: Field survey, 2025

Table (2): Improvement of respondent's stander of living after finance

item	Frequency	Percent %
Yes	78	88.6
no	10	11.4
Total	88	100.0

Source: Field survey, 2025

Table (3): Whether the respondents Receive extension service

item	Frequency	Percent %
Yes	10	11.4
no	78	88.6
Total	88	100.0

Source: Field survey, 2025

Table (4): Whether the respondents achieve their goal of funding

item	Frequency	Percent %
Yes	76	86.3
no	12	13.6
Total	88	100.0

Source: Field survey, 2025

Effects of Microfinance on Household Socio-Economic Indicators:

Paired samples t-test results indicated that microfinance funding had a positive and statistically significant impact on households' productive activities, savings, asset ownership, and socio-economic indicators.

- **Income Sources:** Agricultural (295 → 495, $p = 0.000$) and livestock income (4.45 → 18.8, $p = 0.03$) increased significantly, while commercial income showed marginal improvement (9.32 → 16.5, $p = 0.05$). Industrial income and wages remained largely unchanged.
- **Healthcare Expenditure:** Total medical spending (6.86 → 7.98, $p = 0.04$) and female healthcare costs (3.23 → 3.82, $p = 0.03$) increased significantly, though doctor visits and male healthcare expenditure showed no significant change.
- **Household Development:** Education (31.8 → 70.6, $p = 0.001$), access to clean water (6.23 → 7.73, $p = 0.05$), and social services (10.3 → 14.7, $p = 0.01$) all improved significantly.
- **Savings:** Significant increases were observed in agricultural savings (233.4 → 397.8, $p = 0.004$) and animal savings (5.68 → 11.36, $p = 0.03$), while savings through formal mechanisms remained stable.
- **Asset and Livestock Ownership:** Ownership of cars, tractors, houses, and shops increased significantly, whereas overall livestock ownership showed mixed results. Specifically, goat ownership increased significantly (1.25 → 2.75, $p = 0.006$), while cow ownership didn't (table 5).

Table (5): Paired Samples Statistics Source of Income

	Variable	Mean Before	Mean After	SD Before	SD After	T	Sig. (2-tailed)
Income	Agriculture	295	495	166	297	1.14	0.000*
	Commerce	9.32	16.5	32.5	58.6	0.58	0.05
	Industrial	10.2	9.66	56.9	45.4	-0.12	0.91
	Livestock	4.45	18.8	29.1	116	0.72	0.03*
	Employee	0.27	0.6	1.8	3.98	0.45	0.08
Healthcare Expenditure	No of Doctor Interviews	7.30	7.55	3.40	3.41	0.41	0.68
	Total Cost	6.86	7.98	3.83	5.00	1.32	0.04*
	Male Cost	3.52	3.61	2.05	2.10	0.37	0.71
	Female Cost	3.23	3.82	2.34	2.94	1.58	0.03*
Household Expenditure	Education	31.8	70.6	19.1	39.8	3.41	0.001*
	Water	6.23	7.73	2.47	3.07	1.92	0.05*
	Social	10.3	14.7	3.63	4.72	2.67	0.01*
Household Savings	Agricultural Savings	233.4	397.8	125.3	230.8	2.94	0.004*
	Animal Savings	5.68	11.36	53.3	106.6	2.11	0.03*
	Mechanisms Savings	170	165	1020	779	-0.41	0.68
Asset Ownership	Cars	0.07	0.34	0.25	0.60	2.18	0.03*
	Tractors	0.08	0.38	0.27	0.59	2.41	0.02*
	House	0.22	1.07	0.49	0.69	3.76	0.001*
	Shop	0.06	0.25	0.23	0.59	2.05	0.04*
	Animals	2.43	3.30	15.80	21.60	1.32	0.19
Livestock Ownership	Goats	1.25	2.75	0.00	0.00	2.85	0.006*
	Cows	1.25	1.55	11.70	14.50	0.94	0.35

* Significant at 0.05 level.

CONCLUSION AND RECOMMENDATIONS

Conclusion:

The study concluded that institutional and microfinance play a vital role in improving farmers' livelihoods and enhancing economic activity in Kadugli locality, South Kordofan State. The results showed that the majority of financing beneficiaries were economically active most experienced and have good improvement in their standard of living and a large proportion has achieved their financing objectives. The paired samples t-test indicated a positive and statistically significant impact of financing on income sources, particularly in agriculture and livestock, as well as improvements in household expenditures on education, water, and social services, increases in savings, and asset ownership. Despite these positive outcomes, the study revealed very limited access to agricultural extension services highlighting the need to integrate technical support and training with financing to maximize its benefits.

Recommendations:

The study recommend that, institutional financing can be strengthened and effective through improved program design, capacity building, and the integration of financial services with technical and extension support to ensure sustainable development and greater welfare for beneficiaries in the agricultural sector.

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