



**Practices, Challenges and Opportunities of the Rural Resettlement Programme in
Improving the Livelihoods of Resettled Households: The Case of Nono District, West
Shoa Zone, Oromia Regional National State, Ethiopia**

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Abstract

Ethiopia has been implementing resettlement programs primarily in response to displacement caused by environmental factors. Some of these resettlement efforts have succeeded, while others have failed. This study aims to examine the practices, challenges, and opportunities of the rural resettlement program in enhancing the livelihoods of resettled households in the Nono district, West Shoa Zone. Mixed research methods were employed, with primary data collected from 129 household heads selected via simple random sampling from two purposefully chosen villages. Additional information was gathered through focus group discussions, key informant interviews, and personal observations. The data were analyzed using descriptive statistics and a multiple linear regression model with SPSS software. The findings indicate that the resettlement program has helped participants diversify their livelihood strategies beyond agriculture and engage in economic, social, political, and environmental activities. The major challenges faced by resettled households include economic, social, political, and environmental issues. Despite these challenges, there were efforts to improve the economic, political, social, and environmental opportunities for resettled households. The multiple linear regression models revealed that factors such as production methods, market access, farmland size, land productivity, access to credit, access to technologies, and education level significantly and positively influenced the income of rural resettles. Although there is variation in livelihood outcomes among households, most have experienced positive changes in their livelihoods.

Keywords

Challenges, Livelihoods, Opportunities, Practices, Resettlement

Introduction

Background of the Study

Ethiopia is experiencing an unprecedented population increase, making the country increasingly vulnerable to problems stemming from the imbalance between population growth and available resources. This rapid growth, especially in rural areas, has reduced land holdings, leading to landlessness and environmental degradation, which are considered causes of migration and resettlement (Dieci and Viezzoli, 1992). As a result, different Ethiopian regimes have initiated resettlement programs aimed at improving the lives of rural people affected by drought-induced famines. Resettlement can be either voluntary or forced. When people choose to resettle on their initiative, it is referred to as 'spontaneous resettlement.' Conversely, if resettlement is imposed by an external agent in a planned and controlled manner, it is known as 'planned resettlement' (Gebre, 2002).

The history of Ethiopia is closely linked to migration and resettlement processes for various reasons, with both self-initiated and government-sponsored resettlement beginning long ago. The first government-sponsored rural resettlement occurred during the imperial period. The second major rural resettlement, widely criticized by many authors, took place during the Derg regime. This resettlement was reported to have resulted in the deaths and displacement of thousands, marking a dark chapter in the country's settlement history (Bekele, 1986; Kassahun, 2000).

The current government initiated the third state-sponsored resettlement program, which took place from 2003 to 2006. The program aimed to relocate approximately 2.2 million people from drought-prone areas to regions with fertile soil and abundant rainfall (USAID, 2007). However, many critics have condemned the current rural resettlement program, accusing the government of failing to learn from past mistakes. The objective of the resettlement plan is to help people develop their social and economic potential, improve their incomes and living standards, and ensure they are not worse off than they would have been without resettlement (Assefa, 2005).

The implementation document of the resettlement program in the region outlines its foundational principles, which include voluntarism, the availability of underutilized land in receiving areas, the establishment of basic infrastructure, consultation with host communities, and thorough preparation. These principles aim to ensure sustainable food security and livelihoods for people relocated to new areas (FSCB, 2004; Ababa, 2006). Nono and Dano districts in the West Shoa Zone were identified as some of the most suitable locations to receive voluntary resettlers from eleven districts of the Oromiya National Regional State. Consequently, in 2003, a total of 2,226 households, comprising 14,899 people, were resettled in these two districts (Mulugeta & Woldesemait, 2011).

The study area is located in the Oromia Regional State, West Shoa Zone, specifically in the Nono district, where Jiru Gemechu and Halo Dinki are situated. In 2003, the Ethiopian Ministry of Agriculture and Rural Development (MoARD) selected this area for voluntary resettlement of farmers from overpopulated areas such as the Arsi and Hararge zones of the Oromiya region. In total, over 1,734 poverty-prone rural individuals were resettled in Nono between 2003 and 2004 (Nono District Food Security Disaster Prevention and Preparedness Office, 2022). The main objectives of this study were to assess the practices, challenges, and opportunities for improving the livelihoods of resettled rural households in the study area.

Statement of Research Problem

The relocation of people to new regions, driven by rapid economic growth, population pressure, and the depletion of natural resources, has become a significant development strategy worldwide (Rahmato, 2003). However, research by Brown et al. (2008), Cernea and McDowell (2000), Gizaw (2013), Hwang (2010), and Ohta and Gebre (2005) indicate that many of these efforts have not been successful.

Studies on the challenges and opportunities of voluntary resettlement schemes in Ethiopia indicate that resettles generally succeed in adapting to their new physical and social environments. They gain access to basic socio-economic facilities such as schools, potable water, health service centers, veterinary services, and reasonable farmland. Additionally, they can secure their subsistence food requirements, an improvement over their conditions in their birthplaces (Mulugeta & Woldesemait, 2011). However, Gizaw's (2013) research suggests that voluntary resettlement schemes are complex and should not be seen as a final solution. Wilmsen et al. (2011) also note that relocated households have limited opportunities to re-establish their livelihoods.

Although some studies have explored the challenges and opportunities related to the livelihoods of rural resettled households in Ethiopia, research specifically focusing on the practices, challenges, and opportunities for improving the income of these households is scant. This is particularly true for the study area in question. According to the researcher's knowledge, no previous literature has addressed the practices, challenges, and opportunities for improving the income of resettled households in this area. While many studies have examined rural resettled households, they have often overlooked the income aspect, which are a significant issue and the root cause of many challenges faced by resettled households in the Nono district.

Objectives of the Study

General objective

- ✓ To assess the practices, challenges, and opportunities for improving the livelihoods of resettled rural households in the study area.

Specific objectives

- ✓ To explore the practices of rural resettlement programme in improving the livelihoods of resettled households in the study area.
- ✓ To investigate the challenges of rural resettlement programme in improving the livelihoods of resettled households in the study area.
- ✓ To examine the opportunities of the rural resettlement programme in improving the livelihoods of resettled households in the study area; and
- ✓ To analyze the determinants for income of rural resettled households in the study area.

Research Methodology

This chapter provides an overview of the research methodology used in this study. It includes a description of the study area and the methodologies employed, covering sampling procedures, data collection methods, and data analysis techniques, with justifications for each approach. The research aims to examine the practices, challenges, and opportunities of the rural resettlement program in improving the livelihoods of resettled households in the Nono district.

Description of the Study Area

The study was carried out in the Nono District, located in the West Shoa Zone of the Oromia National Regional State, Ethiopia. The West Shoa Zone is one of the 22 zones within the Oromia National Regional State, and Nono District is one of its 22 districts. Geographically, Nono District is situated between 37° 20' 0" E and 8° 40' 0" N, with altitudes ranging from 1126 to 2192 meters above sea level (Nono District Administrative Office, 2022).

Nono District is located approximately 101 km southwest of Ambo (the zonal capital) and 216 km southwest of Addis Ababa. It shares borders with the Jibat District to the north, the Jima Zone to the south, the Southern Peoples Regional State to the southeast, the Dano District to the west, and the Ameya District to the east within the Oromia region. Nono District comprises a total of 33 rural and 2 urban villages. The study site specifically includes Halo Dinki and Jiru Gemechu villages, located approximately 15 km and 12 km southeast of Silk-Amba town, the capital town of Nono District (Nono District Administrative Office, 2022).

The economy of Nono District is primarily agrarian, with agriculture playing a central role. The district's agricultural activities focus on the cultivation of cereal crops such as maize, teff, wheat, sorghum, barley, and field millet, as well as various pulses, including haricot beans, field peas, horse beans, and chickpeas. Additionally, horticultural crops, particularly vegetables, are significant income generators for the local population. Livestock production is also crucial, with cattle, sheep, goats, and poultry being commonly raised. Furthermore, honey production constitutes another important occupation for farmers in Nono District (Nono District Agricultural and Rural Development Office, 2021).

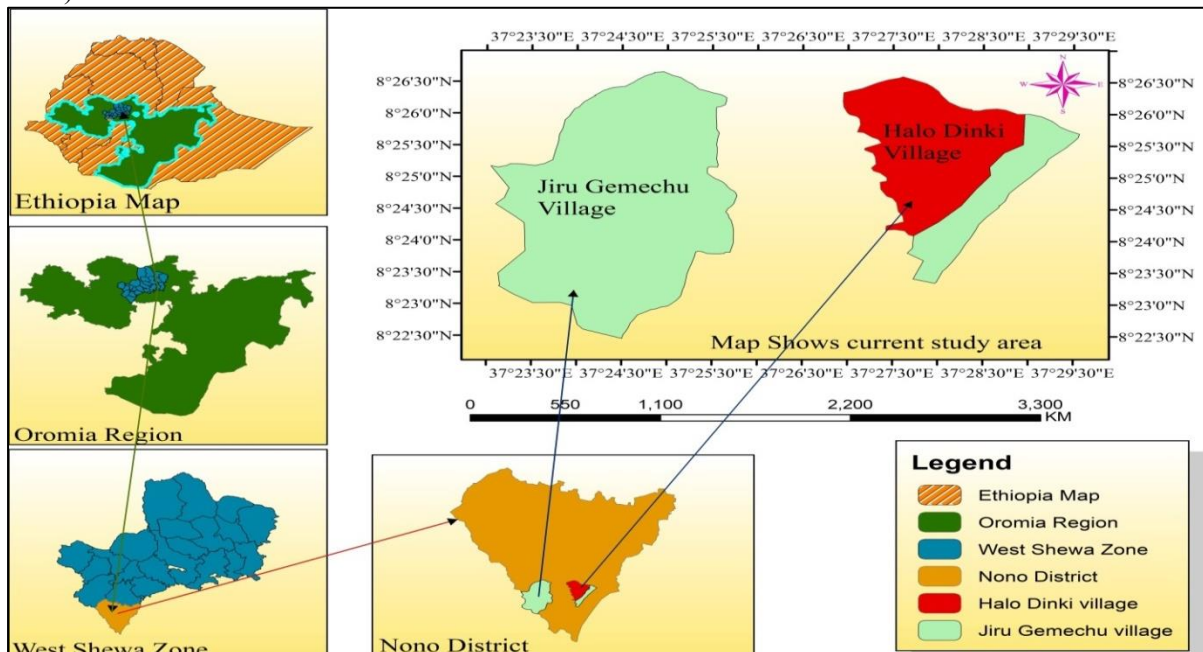


Figure 1: Map of Ethiopia showing study areas

(Source: Developed by GIS expert, 2022)

Research Design

The research design employed in this study is a cross-sectional design, also known as a one-shot design. This design is suitable for studies aiming to assess the prevalence of a phenomenon or to understand a situation, problem, attitude, or issue by examining a cross-section of the population at a single point in time (Kothari, 2008). In the context of this research, the cross-sectional design is appropriate as it allows for the identification of practices, challenges, and opportunities related to the rural resettlement program in improving the livelihoods of resettled households within a specific timeframe.

Research Approach

The study utilized both qualitative and quantitative methods to thoroughly examine how the rural resettlement program in Nono District, West Shoa Zone, affects the livelihoods of resettled households. Qualitative techniques, including in-depth interviews and surveys, provided detailed, descriptive insights into the program's dynamics. Meanwhile, quantitative methods offered statistically reliable numerical data to objectively measure various factors and attitudes related to smallholder farmer engagement in watershed management. This combined approach aimed to gain a comprehensive understanding of the program's effectiveness and its impact on household welfare.

Sampling Methods and Procedures

The study utilized a combination of purposive and simple random sampling techniques to investigate the impact of the rural resettlement program on the livelihoods of resettled households in Nono District. The district and two rural resettlement villages were purposefully selected, and respondents were chosen randomly within these villages. Sample sizes were determined proportionally to village populations, and participants were systematically selected from prepared sample frames using Yamane's (1967) method. This approach aimed to provide a comprehensive assessment of the program's practices, challenges, and opportunities within the study area.

$$n = \frac{N}{1+Ne^2}$$

Whereas; n = sample size,
N = sample frame (population) and
e = precision at 8%

Accordingly, the total sample size for this research is calculated as follows:

$$\begin{aligned} &=743/1+ (743*0.0064) \\ &=743/5.7552 \\ &=129.10; \\ &\text{Approximately}=129 \end{aligned}$$

Sampling Procedure

The study utilized a three-stage (multi-stage) sampling technique to ensure a representative and accurate analysis. Initially, the district was purposefully selected based on the implementation of the rural resettlement program. Subsequently, two specific villages, Halo Dinki, and Jiru Gemechu, were chosen from among others involved in the program to capture diverse resettlement scenarios. Thirdly, respondents were selected proportionally to the sample size of each village from prepared sample frames using systematic sampling methods, ensuring the inclusion of household heads across various demographic and socioeconomic backgrounds. The survey aimed to gather data on socioeconomic conditions, perceptions of the program, opportunities, challenges, livelihood assets, strategies, and outcomes resulting from resettlement. The study involved a total sample size of 129 participants selected through simple random sampling, along with six focus group discussions (FGDs) comprising 42 respondents and 15 key informant interviews (KIIs) chosen purposefully.

Data Types and Sources

The study employed both qualitative and quantitative data types. Quantitative data was utilized to assess the practices, challenges, and opportunities of rural resettlement programs through questionnaires. Qualitative methods, such as focus group discussions (FGDs) and key informant interviews (KIIs), were employed to qualitatively explore the study's issues within the area. The research drew on both secondary and primary data sources. Secondary data included published and unpublished sources like earlier research, journal articles, reports, and legal documents (e.g., policies and proclamations). Primary data sources consisted of household surveys, FGDs, and KIIs.

Methods of Data Collection

Selecting appropriate methods, tools, and techniques for data collection is crucial for ensuring research validity and reliability. This study employed both primary and secondary data collection methods to gather comprehensive and triangulated information. Secondary data sources focused on a thorough literature review encompassing books, journals, reports, policies, and strategies related to resettlement and livelihoods. This literature provided foundational knowledge and theoretical insights for the research. Primary data collection utilized several tools, including:

Household Survey Questionnaires: Quantitative data on challenges, opportunities, interventions, and livelihood improvements were collected through structured questionnaires. These were developed in English and translated into Afan Oromo for clarity, administered by trained enumerators familiar with the study area. A pilot survey was conducted to ensure the clarity of the questionnaire.

Key Informant Interviews (KII): Semi-structured interviews were conducted with 15 key informants selected purposively from resettlers, village officials, and government officials. These interviews provided qualitative depth and triangulated findings from the quantitative data, exploring current practices, challenges, opportunities, and livelihood strategies.

Focus Group Discussions (FGD): FGDs were conducted with household heads, youths, agricultural experts, and village officials to further explore resettlement practices. Six FGDs, three at each resettlement site, engaged participants with diverse backgrounds to capture nuanced perspectives on resettled household livelihoods.

Direct Personal Observation: The researcher employed direct observation to deepen understanding of the study area, focusing on livelihood generation processes, household assets, and livelihood strategies' nature and outcomes.

Method of Data Analysis

This study employed a mixed-methods approach to comprehensively analyze the practices, challenges, opportunities, and income determinants of rural resettlement programs in Nono District, West Shoa Zone, Ethiopia. Quantitative data gathered through household surveys and analyzed using descriptive statistics and multiple regression models in SPSS, assessed demographic characteristics, livelihood perceptions, and factors influencing household income. Qualitative data from focus group discussions, key informant interviews, and direct observations provided narrative insights into resettlement dynamics and supplemented quantitative findings through thematic analysis. The study's triangulation of methods aimed to validate results and offer a nuanced understanding of how variables such as land access, productivity, technology, education, and gender impact resettled household incomes.

Operational Definition and Variable Measurement

The study defined its variables clearly: the dependent variable, resettled household income, was measured as the income earned during the 2021–2022 period. Independent variables included X1 (method of production), X2 (access to credit), X3 (farmland size in hectares), X4 (land productivity), X5 (access to the market), X6 (access to technologies), X7 (education level in grade level), and X8 (sex of household head). These variables were categorized and measured using categorical or continuous units, aligning with expectations of their impact on household income as derived from existing literature and study hypotheses.

Results and Discussions

The study aimed to evaluate the practices, challenges, and opportunities aimed at enhancing the livelihoods of resettled rural households in the study area. Data collection involved structured and semi-structured questionnaires distributed to 129 respondents, achieving a 100% response rate. The quantitative analysis utilized descriptive and multiple regression statistics based on the collected household surveys. Qualitative insights were derived from focus group discussions, key informant interviews, and field observations, complementing the quantitative findings. The investigator interpreted and presented the data through tables to facilitate comprehensive understanding and analysis.

Demographic Characteristics of Respondents

The study involved 129 respondents from Halo Dinki and Jiru Gemechu villages in Nono district, analyzed by recruited enumerators. Demographically, the majority of respondents were male (91.5%), predominantly aged between 40 and 50 years (54.8%). Most respondents were married (90.7%), with primary education being the most common (30%). Socio-economically, households typically had

family sizes of 4-5 members (43.4%), and a significant proportion had family sizes of 6 and above (24.8%). These findings suggest that households in resettlement areas often face challenges supporting their families with available farmland alone, highlighting the importance of additional income-generating activities.

Table 1: Demographic Characteristics of Respondents

Characteristics	Category	Frequency	Percentage
Sex	Male	118	91.5
	Female	11	8.5
	Total	129	100
Age	18-28	10	7.8
	29-39	24	18.6
	40-50	85	54.8
	>51	4	2.6
	Total	129	100.0
Marital status	Married	117	90.7
	Divorced	5	3.9
	Female whose husband died	6	4.7
	Husband wife died	1	0.8
	Total	129	100
Educational level	Cannot read and write	16	12.4
	Can read and write	39	20.2
	Primary Education	40	30.0
	Secondary Education	28	21.7
	Total	129	100
Household head	Female head	11	8.5
	Male head	118	91.5
	Total	129	100
Family size	1	15	11.6
	2-3	25	19.4
	4-5	56	43.4
	6 and above	33	25.6
	Total	129	100

(Source: Field Survey data, 2022)

Socio-Economic Characteristics of the Respondents

The study found that the majority of respondents reported annual incomes between 100,000 and 130,000 (38%), followed by income brackets of less than 10,000–40,000, 40,000–70,000, 70,000–100,000, and 130,000 and above, each accounting for 17.1% (n = 22), 16.3% (n = 21), 16.3% (n = 21), and 12.4% (n = 16), respectively. This indicates a diverse range of income levels among resettled households, influenced largely by the types of crops grown, including cash crops like papaya and chat, as well as staple crops for consumption like maize, teff, and sorghum. Additionally, 69% (n = 89) of respondents identified as farmers, followed by self-employed individuals and laborers at 24.8% (n = 32) and 6.2% (n = 8), respectively. Most respondents (94.6%, n = 122) owned their own homes, while a small percentage rented accommodation, reflecting stable housing conditions among the surveyed households. These findings were corroborated by insights from key informant interviews, reinforcing the robustness of the survey data.

Table 2: Socio-Economic Characteristics of the Respondent

Characteristics	Category	Frequency	Percent
Annual income	Less than 10,000-40,000	22	17.1
	40,000-70,000	21	16.3
	70,000-100,000	21	16.3
	100,000-130,000	49	38.0
	Above 130,000	16	12.4
	Total	129	100.0

Occupation status	Laborer	8	6.2
	Farmer	89	69
	Self-employed	32	24.8
	Total	129	100
House condition	No	7	5.4
	Yes	122	94.6
	Total	129	100

(Source: Field Survey data, 2022)

Practices of Rural Resettlement Programme in Improving the Livelihood of Resettled Households

Resettled Households Integration in to Society and Participate Economic, Social, Political, and Environmental Activates

The study assessed the integration of resettled households into society and their participation in economic, social, political, and environmental activities. Regarding societal integration, 54.3% (n = 70) of respondents agreed that resettled households are well integrated, with 16.3% (n = 21) strongly disagreeing, 15.5% (n = 20) neutral, and 14% (n = 18) disagreeing. Focus group discussions (FGDs) and key informant interviews (KIIs) highlighted that resettled households faced minimal conflict and were welcomed and supported by the host community from their arrival, even forming local institutions and establishing social ties. In terms of participation in various activities, 50.5% (n = 65) of respondents agreed that resettled households actively engage, while 24.8% (n = 32), 16.3% (n = 21), and 8.5% (n = 11) expressed strong disagreement, disagreement, and neutrality, respectively. The study underscores the positive social integration and active participation of resettled households in broader community activities, reflecting strengthened social capital and community support similar to previous research on community-based approaches to enhancing livelihoods (Gizaw, 2013; Beal & Schulte, 2006; Assefa, 2005).

Table 3: Resettled Households Integration in to Society and Participate Economic, Social, Political, and Environmental Activates

		Category	Frequency	Percent
Resettled households integrated in to society		strongly disagree	21	16.3
		Disagree	18	14.0
		Neutral	20	15.5
		Agree	70	54.3
		Total	129	100.0
Participate resettled households in economic, social ,political, and environmental activates		Strongly disagree	32	24.8
		Disagree	21	16.3
		Neutral	11	8.5
		Agree	65	50.4
		Total	129	100.0

(Source: Survey data, 2022)

Resettled Households Support given by Government for Implementing the Rural Resettlement Programme

According to the survey, 72.9% (n = 94) of respondents acknowledged that resettled households received government support, while 27.1% (n = 35) did not respond. This indicates a significant majority affirming government support for the resettlement program. Insights from focus group discussions (FGDs) and key informant interviews (KIIs) underscored the critical role of government support in facilitating tasks and enhancing the quality of life for settlers. Government prioritization of infrastructure development was highlighted as essential, given the challenges for private entities or individuals to provide such infrastructure. Overall, the study aligns with previous research indicating that government support aims to foster social and economic development among resettled communities, aiming to improve livelihoods and standards of living (Assefa, 2005).

Table 4: Resettled Households Supported by Government for Implementing the Rural Resettlement Programme

Resettled supported by government	Frequency	Percent
No	35	27.1
Yes	94	72.9
Total	129	100.0

(Source: Survey data, 2022)

Result obtained from Programme Activities

Based on survey results and insights from focus group discussions (FGDs), the study found that 45% (n = 58) of respondents reported improvements in social interconnection, household income, and access to infrastructure resulting from the resettlement program. Additionally, 20.9% (n = 27) indicated improvements in social interconnection and household income, while 13.2% (n = 17) noted specific enhancements in access to infrastructure. FGDs confirmed these findings, underscoring that resettled households generally experienced improvements in social connections, income levels, and infrastructure access. This is consistent with previous research highlighting that resettlement initiatives aim to enhance social and economic capabilities, thereby elevating living standards (Assefa, 2005).

Table 5: Result obtained from Programme Activities

Result of programme activities	Frequency	Percent
Improve social interconnection	27	20.9
Improve income	27	20.9
Improve access to infrastructure	17	13.2
All	58	45.0
Total	129	100.0

(Source: Field Survey data, 2022)

Diversified Livelihood Strategies that are used by the Resettlers to Reduce Shocks

According to survey data, 48.4% (n = 62) of respondents engaged in cattle fattening, participation in work-for-food programs, and beekeeping as part of their livelihood strategies, followed by 20.9% (n = 27) participating in work-for-food programs, 14.0% (n = 18) in cattle fattening, 13.2% (n = 17) in beekeeping, and 3.9% (n = 5) in handicrafts. Discussions in focus group discussions (FGDs) and key informant interviews (KIIs) highlighted that these diversified livelihood strategies such as cattle fattening, work-for-food programs, beekeeping, and handicrafts are employed by resettlers to mitigate economic shocks. Research indicates that diversifying livelihood strategies play a crucial role in improving resilience against poverty and climate change impacts (Asfaw et al., 2017). This finding aligns with previous studies emphasizing that diversified livelihoods enhance household incomes, food security, and resilience to environmental stresses (Chambers and Conway, 1991; Alogo LS, 2015; Bezu et al., 2012; Kassa, 2019).

Table 6: Diversified Livelihood Strategies that are used by the Resettlers to Reduce Shock.

Diversified Livelihood Strategies	Frequency	Percent
Fattening Cattle	18	14.0
Participating in the program of work for food	27	20.9
Handcrafts	5	3.9
Bee keeping	17	13.2
Fattening cattle, Participating in the program of work for food and bee keeping	62	48.1
Total	129	100.0

(Source: Field Survey data, 2022)

Activities Implemented by the Programme

According to the survey, 39.5% (n = 51) of respondents indicated that the rural resettlement program encompassed activities such as house building for resettled families, infrastructure construction, providing food and materials, and rebuilding the economic and social networks of resettled communities. Additionally, 21.7% (n = 28) mentioned specifically rebuilding economic and social networks, while 10.9% (n = 14) highlighted infrastructure construction, and another 10.1% (n = 13) each noted providing food and materials and sharing land for resettlement. Only 7.8% (n = 10) mentioned house building for resettled families. Discussions in focus group discussions (FGDs) and key informant interviews (KIIs) underscored that the rural resettlement program not only allocates land for cultivation and provides essential resources like food and materials but also supports infrastructure development and the rebuilding of social and economic networks for resettled communities. This aligns with previous research emphasizing that such resettlement initiatives aim to enhance the socio-economic potential of resettled populations, improving their livelihoods and overall standards of living (Assefa, 2005).

Table 7: Activities Implemented by the Programme

Activities implemented by the programme	Frequency	Percent
House building for resettled	10	7.8
Infrastructure construction	14	10.9
Providing foods and others materials for resettled	13	10.1
Sharing land for resettled	13	10.1
Rebuilding their Economic and Social network of the resettled	28	21.7
All	51	39.5
Total	129	100.0

(Source: Field Survey data, 2022)

Challenges of Rural Resettlement Programme in Improving the Livelihoods of Resettled Households in the Study Area

The survey highlighted key economic challenges in implementing the rural resettlement program: financial constraints, livelihood insecurity, shelter issues, and unemployment. Specifically, 57.4% (n = 74) noted financial constraints, 20.2% (n = 26) cited unemployment, 11.6% (n = 15) mentioned livelihood insecurity, and 10.9% (n = 14) identified shelter problems. Politically, 76% (n = 98) felt there was inadequate political will to support resettled households, with 24% (n = 31) mentioning social acceptance issues. Socially, 76% (n = 98) faced challenges integrating into local social activities, while 24% (n = 31) lacked adequate social support. Environmental challenges, noted by 58.1% (n = 75), included distance from essential services and adverse working conditions, while 5.4% (n = 7) highlighted infrastructure gaps. Focus groups, interviews, and surveys underscored difficulties in accessing healthcare, credit, agricultural technologies, and markets. These findings reflect the diverse challenges facing resettled communities, consistent with prior research on the impacts of resettlement programs in Ethiopia.

Table 8: Challenges of Rural Resettlement Programme

Challenges	Category	Frequency	Percent
Economic challenges	Financial constraint	74	57.4
	Problem of shelter	14	10.9
	Livelihood Insecurity	15	11.6
	Unemployment	26	20.2
	Total	129	100.0
Political challenges	Lack of acceptance	31	24.0
	Absence of good political will for resettlers	98	76.0
	Total	129	100.0
Social challenges	In adequate support for resettled households	98	76.0
	Challenges in social life (participate in Idier, Wedding, and Holyday)	31	24.0
	Total	129	100.0
Environmental challenges	Unfavorable Environmental for their working condition	36	27.9
	The distance from their service deliveries (health, school.....)	75	58.1
	Lack of infrastructure (road, health service)	7	5.4
	Others	11	8.5
	Total	129	100.0

(Source: Field Survey data, 2022)

Current Challenges of the Resettlement Sites

Current challenges facing resettled households include diseases like malaria and Trypanosomiasis, poor health services, adverse weather conditions, a lack of clean drinking water, and conflicts with neighboring communities. According to the survey, 48% (n = 63) of respondents highlighted diseases such as malaria and Trypanosomiasis, 21.7% (n = 28) mentioned inadequate health services, 16.3% (n = 21) cited issues with weather conditions, 7% (n = 9) reported conflicts with neighboring villagers, and 6.2% (n = 8) identified problems with clean drinking water.

Focus group discussions, key informant interviews, and household surveys underscored these challenges, particularly emphasizing diseases like malaria and Trypanosomiasis, inadequate health services, and adverse weather conditions as significant issues. This aligns with previous research

indicating that resettlement sites, like those in Metekel, face challenges related to environmental changes and diseases, impacting the well-being of resettled communities (Gebre, 2004; Rahmato, 2003b).

Table 9: Current challenges of the resettlement sites

Current challenges of the resettlement sites	Frequency	Percent
Diseases like malaria, trypanosomiasis and etc.	63	48.8
Poor health service	28	21.7
Problem of weather condition	21	16.3
Problem of clean drinking water	8	6.2
Conflicts b/n the re-settlers and the neighboring village people	9	7.0
Total	129	100.0

(Source: Field Survey data, 2022)

Opportunities of Rural Resettlement Programme in Improving the Livelihoods of Resettled Households in the Study Area

There are significant economic, political, social, and environmental opportunities associated with implementing rural resettlement programs.

Economically, respondents indicated various opportunities such as obtaining government budgets (47.3%), receiving adequate budgetary support and engaging experienced staff (17.8%), accessing funds from NGOs (17.8%), and securing loans from micro-enterprises (17.1%). These opportunities are seen as crucial for the successful implementation of resettlement programs, though some respondents noted they were not fully satisfied with economic opportunities.

Politically, 61.2% of respondents highlighted the convenience of political support across all levels for these programs, and 38.8% noted the presence of a rural resettlement policy as a supportive factor. Socially, opportunities include positive attitudes towards resettlement programs (55.8%) and the presence of disaster and risk management offices (29.5%), which are perceived as beneficial for community acceptance and support. Environmentally, 62.8% of respondent’s recognized favorable conditions for implementing resettlement programs, including environmental suitability and vegetative cover (28.7% and 8.5%, respectively).

Focus group discussions and key informant interviews further reinforced these findings, emphasizing the importance of institutional support such as extension services and credit availability. These opportunities are critical in enhancing the livelihoods of resettled households, aligning with previous studies that emphasize the importance of access to essential services and institutional support for successful resettlement initiatives (Cernea, 2000; Abbute, 2004; Bisrat, 2011).

Table 10: Opportunities of Rural Resettlement Programme

Opportunities	Category	Frequency	Percent
Economic opportunities	Get loan from micro Enterprise	22	17.1
	Get Fund from NGO	23	17.8
	Getting government budget	61	47.3
	adequate budgetary support and experienced staff	23	17.8
	Total	129	100.0
Political opportunities	Convenience of the political system	79	61.2
	presence of rural resettlement policy	50	38.8
	Total	129	100.0
Social opportunities	Positive attitudes people for implementing the rural resettlement programme	72	55.8
	Presences of distater and risk management office	38	29.5
	All	19	14.7
	Total	129	100.0
Environmental opportunities	Favorable natural condition	37	28.7
	Favorable Environments	81	62.8
	Vegetative cover	11	8.5
	Total	129	100.0

(Source: Field survey data, 2022)

Determinants of Income of Rural Resettled Household in the Study Area

The study investigates the factors influencing income among rural resettled households through multiple linear regression analysis, guided by several core assumptions. It assesses correlations between variables using Pearson’s correlation coefficient, delineating relationships ranging from weak to strong effects based on predefined thresholds. Annual income is scrutinized as the dependent variable, strongly correlating with means of production and moderately with access to credit, land productivity, market access, technological access, education level, and respondents' gender. Employing descriptive and explanatory methodologies, the research leverages Pearson’s correlation to effectively clarify these associations, drawing on methodological insights from Field (2009) and Gupta & Sahu (2012) to ensure rigorous analysis of income determinants in resettled rural communities.

Table 11: Correlation between Independent Variables and Income of Resettled Households

S.No			Means of product ion	Access to credit	Farm land size	Land producti on	Access to market	Access to technologies	Educatio n level	Sex of respondents	Annual income
1	Means of production	Pearson Correlation Sig. (2-tailed)	1								
2	Access to credit	Pearson Correlation Sig. (2-tailed)	.380**	1							
3	Farm land size	Pearson Correlation Sig. (2-tailed)	-.050	.024	1						
4	Land production	Pearson Correlation Sig. (2-tailed)	.253**	.247**	.162	1					
5	Access to market	Pearson Correlation Sig. (2-tailed)	.256**	.345**	.139	.507**	1				
6	Access to technologies	Pearson Correlation Sig. (2-tailed)	.489**	.348**	.144	.489**	.521**	1			
7	Education level	Pearson Correlation Sig. (2-tailed)	.357**	.205*	.114	.160	.169	.462**	1		
8	Sex of respondents	Pearson Correlation Sig. (2-tailed)	.156	.090	-.083	.148	.048	.057	.035	1	
9	Annual income	Pearson Correlation Sig. (2-tailed)	.586**	.495**	.196*	.570**	.580**	.852**	.505**	.100	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

(Source: Survey Data Model Output, 2022)

Multicollinearity Test

In assessing multicollinearity among the independent variables in the regression model, this study utilized two key metrics: the variance inflation factor (VIF) and the tolerance value. According to Field (2009), if the tolerance value exceeds 0.1 and the VIF value remains below 10, it indicates no significant multicollinearity issues. Similarly, for dummy variables, the study employed the contingency coefficient (CC), where values below 0.75 denote weak associations and values above indicate stronger associations (Gujarati, 2003). In this analysis, all variables exhibited VIFs below 10

and tolerance statistics above 0.1, affirming that multicollinearity is not a concern among the predictors in the regression model.

Table 12: Collinearity Statistics of the Predictors

Model(Constant)	Collinearity Statistics	
	Tolerance	VIF
Method of production	.696	1.436
Access to credit	.784	1.275
Farm land size	.947	1.056
Land fertility	.667	1.498
Access to market	.620	1.613
Access to technologies	.640	1.352
Education level	.746	1.340
Sex	.948	1.055

(Source: Survey Data Model Output, 2022)

Multiple Regression Analysis

The study employed multiple regression analysis to explore how various independent variables impact the annual income of rural resettled households. As outlined by Field (2005), this statistical method reveals how changes in multiple predictors influence a single outcome. The analysis included variables such as respondents' gender, educational attainment, farmland size, market accessibility, credit availability, production methods, land productivity, and access to technologies. Results showed a strong predictive relationship, with an R-value of 0.868, indicating significant predictability of the dependent variable. The R-squared value of 0.754 demonstrated that 75.4% of the income variance is explained by these factors. Moreover, the adjusted R-squared value of 0.749 indicated minimal adjustment, suggesting the model effectively generalizes to the population, with only a marginal 0.5% decrease in explained variance compared to the sample data.

Model Summary

The model summary indicates the overall predictability of the regression model. With an adjusted R-squared value of 0.749, the model explains approximately 74.9% of the variability in the dependent variable, which is the income of resettled households. This variance is accounted for by independent variables including the sex of respondents, education level, farmland size, access to markets, access to credit, means of production, land production, and access to technologies. The remaining 25.1% of the income variation among resettled households may be influenced by factors not included in the model's dimensions.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.868 ^a	.754	.749	.40237

(Source: Survey Data Model Output, 2022)

ANOVA Test

The ANOVA table indicates that the model fits well. This is evidenced by the mean square of the regression (19.279) being significantly greater than the mean square of the residual (0.244). The F-statistic value of 79.044 with a corresponding p-value of 0.000 (which is less than the significance level of 0.05) further confirms the model's good fit. Thus, based on these statistical indicators, the model demonstrates strong fitness in explaining the relationship between the dependent variable and the independent variables.

Table 14: Anova test

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	154.235	8	19.279	79.044	.000 ^b
1	Residual	29.269	120	.244		
	Total	183.504	128			

(Source: Survey Data Model Output, 202)

The Regression Coefficient

In this study, the focus is on identifying the most influential independent variable in predicting the dependent variable. This can be assessed through the examination of beta coefficients, which indicate the strength of each predictor's influence on the criterion (dependent variable).

Table 15: Coefficients of Multiple Linear Regression Analysis.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	Beta	Std. Error	Beta		
(Constant)	.443	.188		-2.358	.020
Method of production	.467	.110	.191	4.255	.000***
Access to credit	.390	.108	.152	3.606	.000***
Farm land size	.130	.060	.083	2.152	.033**
Land fertility	.438	.143	.141	3.071	.003***
Access to market	.284	.139	.097	2.039	.044**
Access to technologies	.424	.126	.575	4.288	.000***
Education level	.137	.047	.123	2.904	.004***
Sex	.024	.160	.006	.153	.879

Illustrious: *** Significant at 1%, **Significant at 5% and * significant at 10% respectively

Source: Survey Data Model Output, 2022

As indicated in the above table:

- Due to VIF<5, independent variables were moderately correlated to each other.
- With a tolerance > 0.10, there was a signal for the existence of multi-collinearity in the model.
- However, the model has no serious multi-collinearity.
- As indicated in this table (probabilities > 0.05), the data had no normality problem.

Hypothesis Testing and Interpretation of Results

The method of production (traditional vs. modern) significantly impacts the income of resettled households, with modern methods increasing income by 46.7% compared to traditional methods ($p = 0.00$). This finding aligns with prior studies emphasizing the productivity benefits of modern agricultural practices (Tefera, 2009). Access to credit also shows a positive relationship, increasing household income by 39% ($p = 0.00$), consistent with studies noting its role in enhancing agricultural input access and productivity (Filmon, 2009; Mpawenimana, 2005). Farmland size positively affects income, with larger plots increasing income by 13% ($p = 0.033$), supported by findings indicating that greater land holdings contribute to higher incomes (Asayehegn et al., 2011). Land productivity significantly boosts income by 43.8% ($p = 0.003$), underscoring the importance of fertile land and agricultural inputs in income generation, as noted in local discussions (FGDs, KIIs). Access to markets increases income by 28.4% ($p = 0.044$), reflecting the economic benefits of proximity to markets and reduced transportation costs (Tizazu, Ayele, & Ogata, 2018). Access to agricultural technologies enhances income by 42.4% ($p = 0.000$), highlighting the productivity gains associated with technological adoption (Ibrahim et al., 2012). Education level also positively influences income, with each level of education increasing income by 13.7% ($p = 0.004$), demonstrating the value of education in improving livelihood strategies among resettled households.

Summary, Conclusions and Recommendations

Summary

This study aimed to assess practices, challenges, and opportunities for improving the livelihoods of resettled rural households in Nono district, Oromia Regional State. Through a mixed-methods approach involving 129 respondents, data was collected via interviews and surveys. Socio-demographic analysis revealed a predominantly male, married, and farming-oriented population. The study addressed four main questions regarding rural resettlement programs and their impacts on income determinants.

Conclusions

The study found that resettled households are generally integrated into society and supported by governmental initiatives. Challenges identified include economic, social, political, and environmental factors, with economic and social challenges being the most significant. Opportunities exist in economic support, positive political frameworks, and social cohesion efforts. Income determinants such as production methods, market access, land size, productivity, credit access, technology, and education positively influence household income.

Recommendations

Based on the findings, recommendations include:

- ✓ Establish effective coordination mechanisms among federal, regional, and local agencies.
- ✓ Improve infrastructure and social facilities to support livelihoods effectively.

- ✓ Implement rural development measures like afforestation and ecological conservation.
- ✓ Provide vocational training and agricultural technologies to enhance skills and productivity.
- ✓ Foster community integration and conflict prevention through regular dialogues.
- ✓ Encourage diversification of livelihood strategies, focusing on profitable activities.
- ✓ Promote self-reliance and reduce dependency on government support among resettlers.

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