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Navigating urbanization implications: effects of land expropriation on farmers' livelihoods in Addis Ababa, Ethiopia

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This paper investigates the effect of land expropriation on the livelihoods of farmers expropriated from the peripheries of Addis Ababa, Ethiopia. A mixed methods approach, including household surveys, key informant interviews, field visits, and document reviews, was employed. A sample of 349 expropriated farmer household heads from four purposively selected sub-cities was drawn using systematic random sampling. The findings reveal significant adverse effects of land expropriation on the livelihoods of expropriated farmers, such as income losses, unemployment, and reduced agricultural production, primarily due to a lack of transparency and consultation during the expropriation process, inadequate compensation, and insufficient resettlement support provided by the city administration. Consequently, the living conditions of most farmers deteriorated in the post-expropriation. To address these effects, the study recommends enhancing procedural clarity, ensuring meaningful participation and consultation with affected farmers, and providing comprehensive resettlement support, including access to housing, employment opportunities, credit, and social services, to help affected farmers transition to new livelihoods.

KEYWORDS

expropriation, valuation, compensation, livelihoods, Addis Ababa, Ethiopia

1 Introduction

Land expropriation refers to the acquisition of land by the government and its agencies, often without the consent of the landowners (FAO, 2009, p. 5; Lindsay, 2012, p. 1). This can harm farmers who primarily rely on the land for their livelihoods. The global landscape is undergoing a profound transformation characterized by rapid urbanization. By 2000, half of the world's population resided in cities and towns, and by 2030, it is estimated that two-thirds of the global population will have become urbanized (Bocquier, 2005; Buettner, 2015). This urbanization trend is particularly pronounced in developing countries, encompassing regions such as Latin America, Asia, and Africa. With Latin America experiencing a 1.7% urbanization rate, Asia 2.3%, and Africa averaging a 3.5% rate of urbanization. These regions will bear the brunt of this high urbanization rate these days and even in the future (Bocquier, 2005; Bocquier and Mukandila, 2011; Kundu and Pandey, 2020).

This rapid urbanization has increased the demand for land, specifically from the surrounding rural and peri-urban areas (Mbiba, 2017a). Subsequently, this urbanization path

often leads to the expropriation of agricultural land from peri-urban farmers (Che and Zhang, 2017; Xie, 2019). This expropriation, aimed at the conversion of peri-urban rural lands for urban use, resulted in far-reaching consequences on the livelihoods of farmers such as losses of income, land tenure, shelter, production, employment, and various socioeconomic and psychological effects (Zheng, 2017; Worku, 2020; Wu et al., 2021).

Empirical studies highlighted the African city's experience of rapid urbanization contributing to their expansion into peri-urban areas (Chirisa, 2008; Mbiba, 2017a; Yamashita, 2017). This trend of rapid urbanization has caused rapid expansion into the peripheral areas. These expansions into urban peripheries caused land expropriation from peri-urban farmers to acquire and supply land for the growing demand has become a common practice of peri-urban areas of most African cities (Naab et al., 2013; Mbiba, 2017b). This trend entails that compulsory land expropriation is marked by inadequate, inequitable, and untimely compensation payments (Ogedengbe, 2007; Akujuru and Ruddock, 2015; Parker, 2019). For instance in Nigeria, despite the government compensating original landowners for crops, economic trees, and structures, the compensation is often insufficient and is plagued by significant delays, leading to inflationary losses due to devaluation (Nuhu, 2008; Mendie et al., 2010; Gironde et al., 2015). Similar experiences are common in Rwanda, where land expropriation for public purposes is recognized as a means to secure land for governmental development programs, with compensation based on the market value approach (Powell, 2021). Tanzania also witnesses widespread land expropriation for public use, even if actual practices frequently diverge from legal standards related to resident participation and fair compensation based on market values (Mousseau and Mittal, 2011; Makupa, 2020). While in Niger, land expropriation in the urban periphery violates the principles of equivalence, uniformity, and fairness, with government bodies serving as final arbiters and ignoring claimants' opinions. Such a rigid process is aggravated by delays in compensation payments, escalating the overall contentious issue of land expropriation (Akujuru and Ruddock, 2013; Odudu and Iruobe, 2017).

Ethiopia is one of the African countries experiencing rapid urbanization and a growing demand for urban land. But, the country employs expropriation as a primary land acquisition strategy to meet the needs of urban centers (Ambaye, 2015a, p. 12; Alemu, 2016, p. 15; Mezgebo and Porter, 2020; Gemedo et al., 2023). This has led to the expropriation of peri-urban agricultural land for urban development projects (Adam, 2014; Harris, 2015; Ige et al., 2016; Gebremichael, 2017). Indeed, different legal and policy frameworks in Ethiopia allow the government to expropriate land for public purpose developments and the process of expropriation to be preceded by an advance payment of compensation (FDRE Constitution, 1995, Article 40(8); Proclamation No 455/2005). According to the 1995 Constitution Article 40/8, proclamation no 455/2005, and the new Proclamation no.1161/2019, stated that expropriations should be for a public purpose and must be preceded by an advanced and commensurate compensation payment to the affected land use right holders. However, in reality, the practice deviates from the intended public purposes, and the compensation is not always adequate to sustain the livelihoods of farmers to their pre-expropriation conditions (Ambaye, 2009; FAO, 2009; Yirsaw Alemu, 2013; Workineh, 2017).

This study is framed by the theories and concepts the sustainable livelihood framework, and the indemnity and takers gain theories of expropriation. As highlighted by Barańska (2017) and Kabanga and Mooya 2022, the indemnity and takers gain theories serve as contrasting perspectives that aid in understanding compensation for expropriation.

The indemnity theory also called the fair compensation theory, serves as a guiding framework for understanding the effects of land expropriation on the livelihoods of farmers. Guided by the principle of just compensation, indemnity theory states that governments should be forced to pay just compensation when they exercise eminent domain to take private land use rights for public development schemes that meet public purposes. The land use rights holders affected by the expropriation should be compensated with the full market value of their lost assets (Admasu et al., 2019; Kabanga and Mooya 2022).

It stresses that governments should adequately compensate for the economic losses that the farmers suffered due to the expropriation to restore their previous livelihoods or resort to alternative livelihood options. Moreover, the government should also mitigate the disruptions that could occur to farmers' livelihoods. The compensation should minimize financial instability by allowing the farmers to shift to alternative job opportunities. The theory also emphasizes the importance of ensuring social justice during the process of land expropriation. Land-lost farmers should not be adversely affected by the losses to their land. Maintaining fairness and equity at times of substantial losses to their livelihoods (Mugisha, 2015; Admasu et al., 2019; Kabanga and Mooya 2022).

While, Taker's Gain Theory suggests a different perspective, emphasizing the advantage the government gets from land expropriation. It argues that, at the time of expropriation, the compensation that the government pays should not necessarily be at the full market value of the lost properties by the farmers; rather, it should be proportional to the government's benefit from the land expropriation. It claims that farmers who lost their land use rights should be compensated based on the government's net benefits to minimize wastage in public resource utilization. For this purpose, compensation should be aligned with the actual gain the government derives from the expropriated land to allocate resources more effectively (Barańska, 2017; Kabanga and Mooya 2022).

It recognizes the need for governments to balance economic development with farmers' livelihoods. It states that excessive compensation could hinder public projects and infrastructure development, which could negatively affect overall economic activities. By linking compensation to the government's improvement, this approach incentivizes strategic land use planning, which can influence how farmers perceive the change. This, in turn, encourages farmers to participate in the process by understanding the benefits that can come from public development projects.

Furthermore, the sustainable livelihood theory holds significance in shaping this study, asserting that the livelihood of inhabitants should be considered across various dimensions. Compensation for expropriation, according to this theory, should encompass diverse losses experienced by landholders, including economic, social, environmental, and psychological aspects (Kabra, 2016; Li et al., 2018; Nkansah-Dwamena, 2021).

Moreover, a comprehensive review of prior studies was undertaken to enhance comprehension and identification of the

study problem, focusing on global land expropriation issues from legal perspectives. For instance (Ambaye, 2015b, p. 58) studied land rights and expropriation in Ethiopia. He assessed the gap between the law and the practice in Ethiopia. Similarly, Abdo (2015) identified the gaps in the expropriation laws in Ethiopia and suggested the need to reform the expropriation law. Whereas Alemu (2016) studied the practices of expropriation, valuation, and compensation in the Amhara national regional state. Based on his findings Alemu suggested a detailed and comprehensive study to be undertaken on the socio-economic effects of land expropriation on the livelihoods of land-lost households in Ethiopia. This indicates that there is a gap in understanding the effects of land expropriation on the livelihoods of affected households. Thus, the previous studies have not fully addressed the scope and perspectives required for investigating the socio-economic effects of land expropriation in Ethiopia particularly in Addis Ababa.

Filling these identified gaps requires a more comprehensive understanding of the effects of land expropriation on the livelihoods of farmers in the expansion areas of Addis Ababa. Based on insights from prior studies, this study endeavors to fill this gap by investigating the practices of land expropriation and its socio-economic effects on the livelihoods of land-lost farmers in Addis Ababa, Ethiopia. Therefore, this study aims to examine the effects of land expropriation on the livelihoods of land-lost farmers in four purposively selected sub-cities in Addis Ababa where much of the city's expansion takes place. The findings of the study provide valuable contributions to the existing literature and offer insights for policymakers, urban administrators, planners, and other stakeholders. This comprehensive understanding will improve the decision-making processes, reform strategies, and policies that improve the implementation of expropriation measures, property valuation for compensation, and resettlement planning. Ultimately, the study aims to minimize losses for farmers affected by government land expropriation measures in Addis Ababa, Ethiopia.

1.1 The legal frameworks of land expropriation in Ethiopia

Currently, Ethiopia is in a state of rapid urbanization related to its fast population growth and rural–urban migration. It is also in a swift socio-economic development which attracted local and foreign investments. Because of this, the demand for land has been growing alarmingly. However, municipalities are incapable of providing land for the growing demand, especially in cities like Addis Ababa (Ozlu et al., 2015).

“In Ethiopia Land is the common property of the state and the people, and, hence, is not subject to sale, exchange, or mortgage” (FDRE Constitution, 1995, Article 40/8). Similarly, the constitution stated that “rural farmers and pastoralists are guaranteed a plot of land free of charge.” Whereas “urban residents can secure land use rights through ground lease terms.” This indicates that Rural farmers' right to the land is a kind of usufructuary right, which simply gives peasants possessory or holding rights, including the rights to use and enjoy, rent, donate, and inherit the land (Ambaye, 2012; Zerga, 2016).

Whereas in urban areas, residents can obtain land on a year-based lease term depending on the purpose for which the land is required

and such right may be freely transferable. To secure such rights, the Constitution prohibits eviction of landholders without just cause and prior payment of commensurate compensation. But as specified in the constitution article 40(3), without prejudice to the right to private property use rights, the government can expropriate private property use rights for public interest subject to payment in advance of compensation commensurate to the value of the property (FDRE Constitution, 1995).

Expropriation, as a means of land acquisition for public purposes, has been a commonly used concept of law since the ancient times of Greece and Rome. It has also been usually applied in practice in Europe and America. In Ethiopia, expropriation was introduced, at least in law, during the era of Menelik II (Ambaye, 2013). Expropriation is mainly understood as the inherent power of the state over its territory under which all owners of property including land exercise their property rights subject to this power of the state called “eminent domain” (Reynolds, 2010; Ambaye, 2013).

Based on the constitutional requirements the Federal government has also designed the Expropriation of Land Holdings for Public Purposes and Payment of Compensation Proclamation No. 455 in 2005 and Regulation No. 135 in 2007 to guide regions and city administrations in implementing land expropriation and compensation fairly and ensuring tenure security. This proclamation is revised and replaced by the new Proclamation No. 1161/2019 with major modifications even if it is not practically implemented during this study.

This law gave the regional states, and the two city administrations, i.e., Addis Ababa and Dire Dawa city administrations, the power to enact directives to better implement the proclamation and the regulation. Based on this, Addis Ababa city administration has enacted directive number 19/2015 which is in use during this study. The respondents of this study were also entertained as per this directive.

The practice indicated that there is an inadequacy of compensation in Ethiopia. It has been observed that the biggest source of the inadequacy of compensation is the outdated rates used during the valuation of compensation and the methods used to determine compensation. Nowadays magazines are putting the compensation issue in their headlines. The case is especially severe when rural lands are expropriated for urban expansion. The surrounding farmers of Addis Ababa have been complaining to different authorities about the inadequacy of compensation and resettlement support given by the city administration during expropriation (GebreEgziabher, 2014; Amera and Habtamu, 2021).

Land expropriation in Addis Ababa follows a structured process, starting from either the land development and management agency or other recognized higher government organs like the city council. Private individuals cannot propose plans due to the lease-based urban land system. Exclusive to government institutions, such as the roads authority and urban renewal agencies authority to propose plans for land expropriation. The implementing agency must provide data on the proposed land and its location to the land development and management agency a year before the project's inauguration, as per Proclamation No 455/2005. These provisions are actively implemented, to ensure a transparent and systematic approach to land expropriation in the city within a defined legal framework.

2 Materials and methods

2.1 The study area

This study is conducted in Addis Ababa which is the socio-economic and political center of Ethiopia. Addis Ababa is located at 9°1'48"N latitude and 38°44'24"E longitude with a total area of 540 square kilometers. It also serves as the headquarters of the African Union, the United Nations Economic Commission for Africa (UNECA), and numerous other continental and international organizations (Wubneh, 2013).

The population in the city is growing very fast like many African cities and it is also projected to double within 10–15 years (Central Statistical Agency, 2013). Economically, the city is considered the engine of the country's economic, social, and political activities. These days the city is growing very rapidly contributing about 50% of the country's national GDP alone (Central Statistical Agency, 2013).

The city has three layers of government structure, the city administration, sub-cities, and Woredas. It is classified into 11 sub-cities which are the second administrative layers just below the city administration. In terms of areal coverage, Bole was the largest sub-city followed by Akaki-Kality and Yeka. While "Addis-ketema" is the smallest followed by Lideta and Arada Sub-cities. The sub-cities are also subdivided into woredas, which are the smallest administrative units in the city. There are about 116 woredas in the city administration. The number of woredas fluctuates based on their size (Central Statistical Agency, 2013). For this study, four sub-cities (namely Yeka, Bole, Akaki-Kality, and Nifas-Silk Lafto) were selected purposively since much of the city's expansion takes place in these sub-cities and most of the expropriated farmers are also from these sub-cities. Figure 1 is a Map of the study area, which shows the four sub-cities that are purposively selected for this study.

2.2 Research approach and methods

This study employed a mixed research approach and survey research strategy to analyze the implication of land expropriation on expropriated farmer households' livelihoods in four purposively selected sub-cities of Addis Ababa, Ethiopia. The mixed research approach helps to gather diverse data types from various sources to mutually reinforce one another and enhance the overall reliability of both the research data and subsequent findings (Kothari, 2004; Creswell and Clark, 2017; Sardana et al., 2023).

2.3 Samples and sampling techniques

The purpose of the study is to examine the effects of land expropriation on the livelihoods of expropriated farmer households in Addis Ababa, Ethiopia. The study began by purposively selecting four sub-cities situated in the expansion districts of Addis Ababa, namely Yeka, Bole, Akaki-Kality, and Nifas Silk Lafto. These areas were selected due to their significant expropriation activities affecting a substantial number of farmers. Subsequently, specific samples were selected from each of these sub-cities. In Yeka, samples were selected from Woredas 12 and 13, while in Bole, from Woredas 10, 11, and 12. Similarly, in Akaki-Kality, samples were drawn from Woredas 9 and

10. In Nifas Silk Lafto, samples were taken from Lebu 01 and Jemo 01 Woredas. The selection process ensured proportional representation from each sub-city, enabling a comprehensive analysis of the effect of land expropriation across different areas of Addis Ababa's expansion areas (Table 1). Subsequently, as per the data obtained from the city's farmers' rehabilitation and urban agriculture project office (FRUAPO) in 2020 indicated, there are a total of 5,891 expropriated farmer households in the four selected sub-cities which are taken as the target population for this study (Table 1). Table 1 indicates the number of expropriated farmers and the proportional samples selected for the study.

Then, using Kothari's (2004) sample size calculation formula with a confidence level of 95%, a probability error of 5%, and an estimated proportion of the population, 362 household heads were proportionally selected using systematic random sampling from the four sub-cities. Finally, 349 completed survey questionnaires were collected and used for this analysis.

2.4 Data sources and methods of data collection

Both primary and secondary data sources were used to gather data for this study. The Primary data was collected from the sample expropriated farmer households, key informants, and FGD participants using survey questionnaires, interviews, FGDs, and field visits. To supplement and validate the primary data, secondary data sources were also used to collect data from both published and unpublished sources such as reports from the city's farmers' rehabilitation and urban agriculture project office (FRUAPO), city, sub-city, and woreda level land development and management offices, review of legal documents like the FDRE constitution, proclamations, and regulations.

Two Focus Group Discussions (FGDs) were conducted, involving eight expropriated farmers participants from elders, women, and youths. The purposive sampling technique was employed to identify participants who are relocated and get them through contacts at the Bole and Nifas-Silk Sub-cities. Purposive sampling is a chain-referral method within a respondent population, where individuals refer potential study informants whom they know until information saturation is achieved. This method assists researchers in reaching study respondents which is challenging to get them directly (Kothari, 2004; Worku, 2020). A checklist was used during the FGDs to gather qualitative data, providing detailed insights and cross-checking the information attained through the survey.

On the other hand, 16 key informant interview participants were also selected purposively. They were nominated based on their knowledge of the issue, understanding of the process and practice of land expropriation, and their exposure to the effect of land expropriation. Purposive sampling is a deliberate non-probability sampling method used to select specific key and knowledgeable respondents aligned with the stated research objectives (Kothari, 2004; Singh and Masuku, 2014). The key informant interviews (KIIs) were conducted to collect insights on policy and legal aspects, the implementation of land expropriation, and the socio-economic effects on farmers. The interview sessions took place from March 7 to 18, 2021, in offices and hotels, selected locations based on their preference and convenience.

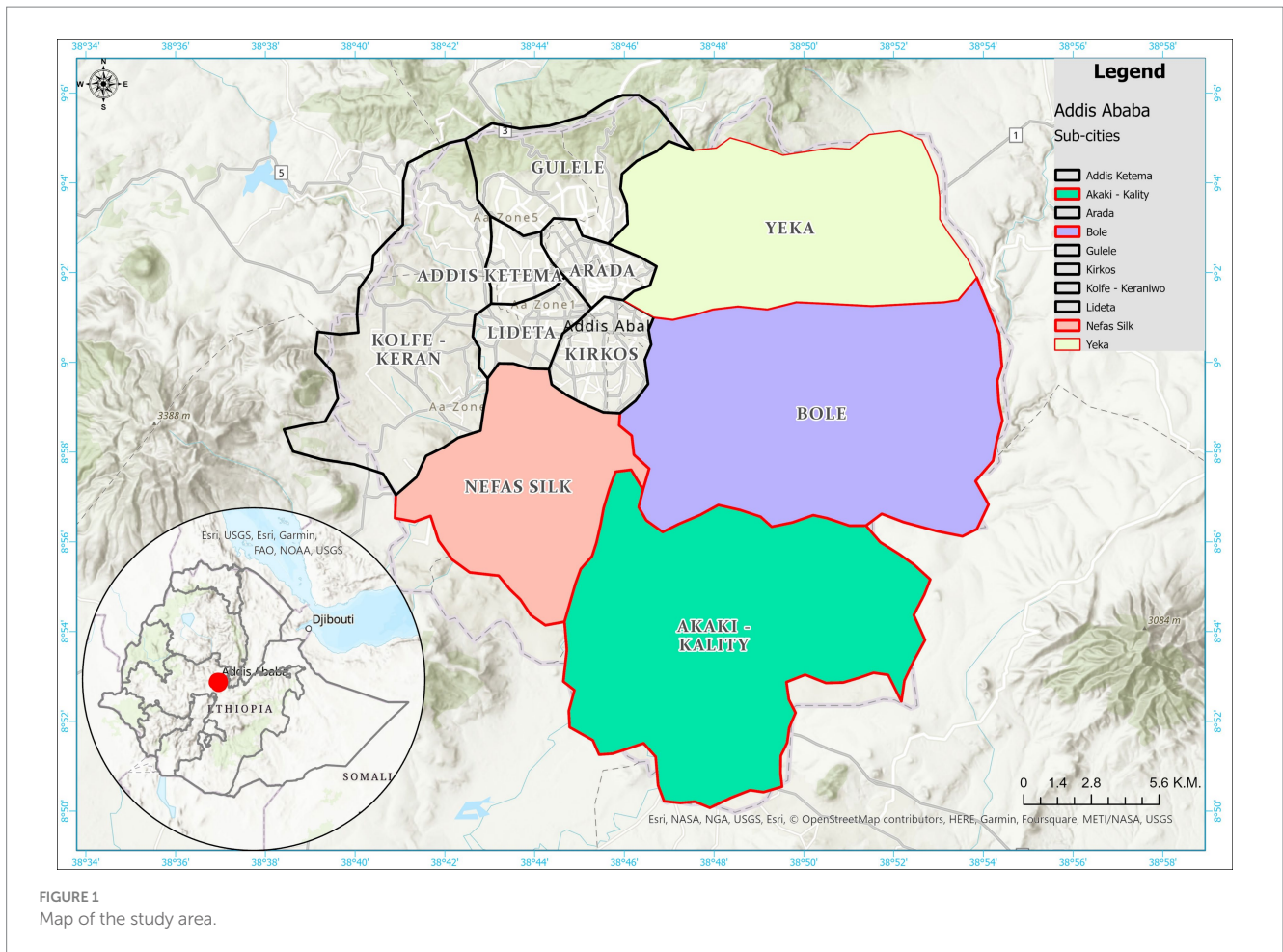


FIGURE 1 Map of the study area.

TABLE 1 The number of expropriates farmer HHDs by sub-city.

S/N°	Sub-cities	Target Population	Samples
1	Yeke	838	52
2	Bole	2,089	128
3	Akaki-Kality	1,410	87
4	Nifas-Silk Lafto	1,554	95
	Total	5,891	362

Source: Addis Ababa City Administration (FRUAP0) (2020).

Moreover, the study also used time series Global Land Cover and Land Use Change (GLAD) datasets for the city. This land use and landcover change data was taken from Potapov et al. (2022) and is available at: (<https://doi.org/10.3389/frsen.2022.856903>). This data was used to see the land use land cover change in the city from 2000 to 2020. The land use land cover change was analyzed using GIS mainly to see the rapid conversion of agricultural land use into built-up areas in the expansion areas of the city.

2.5 Methods of data analysis

Quantitative data obtained from the survey was analyzed through descriptive statistics using SPSS version 24. This analytical approach

allowed for the examination of key parameters and trends within the dataset. Meanwhile, qualitative data derived from key informant interviews (KIIs) and Focus Group Discussions (FGDs) were analyzed using qualitative analysis techniques, enabling a deeper exploration of themes, perspectives, and narratives. These qualitative insights were then integrated with the quantitative findings to provide a comprehensive understanding of the research topic through triangulation. The primary data collected was supplemented by secondary information gathered from various sources, enriching the analysis and interpretation of the findings. Additionally, the spatio-temporal changes in land use and land cover were assessed using Geographic Information Systems (GIS), leveraging time series data from the Global Land Cover and Land Use Change (GLAD) datasets for the city. The results of the analysis were synthesized and presented using statistical tables, graphs, and spatial visualizations, facilitating a clear and informative representation of the study results.

3 Results and discussion

3.1 Background of the expropriated farmer respondents

The study's demographic analysis revealed that a substantial majority of respondents were male, constituting 67% of the sample, while female-headed households accounted for approximately 33%. In terms of age

distribution, the findings indicated that the majority (57.3%) of respondents fell within the 30–60 age range, signifying an economically active and energetic segment of the population. Conversely, 42% of respondents were aged above 60, indicating a less economically active group less likely to engage in the competitive urban employment market. Consequently, this group requires direct support from the city administration, such as monthly allowances to cover basic needs and house rent.

Moreover, the study found that over 80% of the expropriated farmer respondents were from married households, while singles, divorced, and widowed families collectively represented less than 20%. This demographic characteristic of the respondents indicates the need for tailored support measures to address the diverse needs of affected households, particularly those led by individuals in less economically active age brackets.

The study also observed the educational background of the respondents, revealing significant disparities in educational attainment. A notable proportion (36.9%) of respondents had completed secondary education or below, indicating a limited level of formal education. Additionally, 36.4% of respondents were categorized as illiterate, having received no formal education, while 9.5% possessed basic literacy skills, capable of reading and writing. Surprisingly, only 17.1% of respondents held certificates, diplomas, or degrees, suggesting a minority with higher levels of education. This educational profile validates the prevalence of a low-educated demographic among the sample of expropriated farmers. Therefore, their limited educational attainment hindered their ability to secure employment opportunities in the city after the expropriation, thereby impeding their capacity to generate income and adapt to the demands of urban life. Addressing the educational needs of these individuals is essential to assist their transition to alternative livelihoods and enhance their socio-economic restoration in the face of land expropriation.

The urban job market presents tough challenges for uneducated and unskilled expropriated farmers, limiting their prospects of finding new employment opportunities. Their lack of formal education and specialized skills limits their access to various industries and sectors that require specific qualifications as previous studies by Mteki et al. (2017) and Xie (2019) concluded. Without the necessary educational credentials and professional networks, which are crucial for job referrals in urban areas, such individuals encounter significant difficulties in securing employment. Studies by Srivastava (2018) and Xie (2019) have highlighted how the skills possessed by expropriated farmers often do not align with the demands of available job opportunities in urban areas. Consequently, they face considerable difficulty in competing in the labor market, particularly against job seekers with higher levels of education and skills. This mismatch between the skills of expropriated farmers and the requirements of urban jobs implies a significant barrier to their employability. Furthermore, the studies of Tetteh (2011), and Tuan (2021a,b), also confirmed that expropriated farmers confront intense competition from more qualified candidates, and further complicating their job search efforts exacerbating their socioeconomic challenges in the aftermath of land expropriation.

3.2 Socio-economic effects of the land expropriation

Land expropriation in urban peripheral areas in the name of public purposes significantly affected farmers, leading them to

profound social and economic losses (Cernea, 2004; Kasa et al., 2011). The dislocation resulting from land expropriation transcends into an immediate loss of income for farmers who are highly dependent on their agricultural activities. The insecurity of land tenure rights disrupts their long-established livelihoods and obstructs long-term investments and sustainable assets. Housing and shelter losses arise as forced relocation often leads to inadequate living conditions. Socially, urban peripheral farmers get fragmentation and destroy essential social support networks. Psychologically, the stress and uncertainty associated with land expropriation can affect health stability. Inadequate compensation and resettlement support worsen the economic difficulties faced by expropriated farmers.

As the city expands into peri-urban areas through a series of expropriations, including incorporation into the master plan, and reallocation through lease contracts, farmers in these areas face constant fear of eviction. The process of expropriation has led to the dislocation of a considerable number of farmers, causing disruptions in urban peripheral communities (Adu-Gyamfi, 2012; Harris, 2015).

Concerns about the fairness of expropriation arise from the lack of mechanisms to convert land rights from rural to urban during urbanization. Interviews and discussions reveal that farmers dislocated by expropriation are compensated inadequately a situation criticized for being heavy-handed and biased against farmers (Ozlu et al., 2015).

“... The amount of compensation paid to the farmers and the lease price that the government uses to transfer the land to developers are quite different. The compensation paid for us is 82 birr per square meter but the government is leasing a square meter of land for thousands and hundreds of thousands of birrs. If the land is owned by the state and the people as stated in the constitution jointly, the government has to share the lease value with the displaced landholder or at least has to improve the compensation rate as per the market situation to compensate us fairly.” (A KI farmer who lost his land by expropriation, May 8, 2020).

For instance, compensation payments by Addis Ababa city administration on average is 190 ETB/m², compared to the informal market value, which ranges from 1,200,000 to 1,800,000 ETB/m². This huge difference between government compensation and informal market land value, as well as delays during compensation payment, forced the farmers to sell their farmland in the informal market without legal consent ahead of expropriation at lot compensation (Ozlu et al., 2015).

The focus group participants raised that the inadequacy of compensation and rehabilitation support for displaced farmers caused a serious survival problem for us. Our attention is not on the government act of expropriation, our focus is on the amount of compensation and resettlement support provided by the city administration. Since the compensation paid to us is very low and not enough to restore our livelihoods even to our previous situations.

The socio-economic effects of the land expropriation on the livelihoods of land-lost farmers in peri-urban expansion areas of Addis Ababa are broadly discussed as follows;

3.2.1 Loss of income

The loss of income stands out as a prominent socio-economic repercussion following land expropriation, particularly affecting peri-urban farmers. This significant adverse effect underscores the

TABLE 2 Change in income of respondents after expropriation.

Income	Before expropriation		After expropriation		Change (%)
	N	%	N	%	
<20,000	19	5.4	98	28.1	+22.7
21,000–30,000	196	56.2	93	26.6	–29.6
31,000–40,000	132	37.8	109	32.9	–4.9
>40,000	2	0.6	49	14	+13.4

Source: Own survey (2021).

TABLE 3 Change in employment of respondents after expropriation.

Emp. status	Before expropriation		After expropriation		
	N	%	Emp. status	N	%
Only agriculture	185	53	Unemployed	115	33
Agriculture and related	162	46.4	Employed	86	24.6
Unemployed	2	0.6	Temporary jobs	148	42.4

Source: Own survey (2021).

profound economic upheaval experienced by these communities upon the expropriation of their land.

The finding indicated that Table 2, a significant portion (45.5%) of the expropriated farmers’ income decreased after the expropriation implying the adverse economic consequences that expropriation has on a considerable number of land lost farmers. Before expropriation, the annual income for the majority (56.2%) of the respondents ranges between 21,000 and 30,000 EBR. While 37.8% earn, an annual income ranging from 31,000 to 40,000 EBR. It was only 5.4% of the respondents earned less than 20,000 EBR. Respondents with an annual income of more than 40,000 EBR before the expropriation was only 0.6%. Table 2 indicates the change in income of respondents after the expropriation.

Before expropriation, it was only 19 (5.4%) of the respondents who earn less than 20,000 EBR annually. But, after expropriation, the proportion increased by 22.7% to 98 (28.1%). This implies declining chances of generating income after the loss of their land and related assets by expropriation. Similarly, the proportion of farmers who earn 21,000–30,000 EBR before the expropriation has declined by 29.6% from 196 (56.2%) to 93 (26.6%). While those who earn 31,000–40,000 EBR also decreased by 4.9% from 132 (37.8%) to 109 (32.9%). Fortunately, the number of farmers who earn more than 40,000 EBR has shown an increase of 13.4% from 2 (0.6%) to 49 (14%).

The decrease in income for the majority of respondents, particularly those in the middle-income group, indicates the economic losses and disruptions faced by the expropriated farmers in the post-expropriation period. The contributing factors to the income changes include the loss of land and assets, changes in livelihood opportunities, the inadequacy of compensation, and the overall impact of the expropriation on local economies and

livelihoods. Thus, the finding indicates the complex and diverse effects of land expropriation on the income of expropriated farmers, implying the need for comprehensive resettlement supports and mitigation strategies to address the socio-economic losses that happened because of land expropriation.

During a focus group discussion conducted in the “Bole Arabssa” area, participant farmers expressed the profound negative effect of land expropriation on their income. Participants unanimously mentioned the significant decline in their earnings following the expropriation of their land. Before the expropriation, agriculture, and related activities served as the primary source of income for the majority of the farmers. However, with the loss of their agricultural land, their main source of livelihood was stripped away, resulting in a complete loss of income. This loss has left farmers grappling with the economic effects of land expropriation, highlighting the critical need for effective measures to address the financial hardships faced by affected communities.

Similarly, previous studies conducted by Le and Nguyen (2020) in Vietnam, Pham Thi et al. (2021), and Nikièma (2013) indicated consistent patterns of income change among land-expropriated farmers in peri-urban regions of developing countries. Moreover, studies by Ige et al. (2016), Oduro (2010), and Otubu (2012) in Ghana and Nigeria revealed similar trends of income decline experienced by households subjected to land expropriation. These findings show the widespread and lasting challenges faced by affected communities in sustaining their livelihoods in post-land expropriation periods, suggesting the importance of planned interventions to mitigate economic hardships and support sustainable livelihoods in these contexts.

3.2.2 Loss of employment

As illustrated in Table 3 the majority of the respondents, 99% were fully engaged in agriculture and agriculture-related activities before the expropriation. But, it was only 1% who had no job before expropriation. Following the land expropriation, there is a notable shift in the employment status of the respondents. A significant number of farmers became unemployed after the expropriation, while others engaged in temporary jobs. This implies that the expropriation affected farmers’ ability to maintain their livelihoods through traditional agricultural activities as before.

However, after the land expropriation and resettlement, there was a paramount shift/change in the farmers’ employment. The proportion of unemployed farmers increased by 33%. While 42.4% shifted into temporary jobs that generate very low income. Whereas, 24.6% of the respondents who have better education status become permanently employed and earn better income than their previous situation. The decrease in the number of respondents engaged solely in agriculture after expropriation suggests a shift in employment patterns among the affected farmers. The increase in the unemployment rate post-expropriation indicates potential challenges faced by the displaced farmers in finding alternative sources of income. The rise in temporary jobs could be attributed to various factors such as government-sponsored employment programs, seasonal agricultural work, or informal labor opportunities.

Due to the expropriation, a farmer who was formerly engaged in agriculture explained that;

“... when I completely lost my land, I lost my employment too. Subsequently, I taught myself to work as a daily laborer, driven by the need to secure any available work that provides income to sustain my family. But still, it is insufficient to meet even the basic needs of my family. What worsens the challenge to me is that I have no formal education and any skill, which hinders me from competing for employment opportunities in the new urban setting that emerged post-expropriation” (Interviewed on March 10, 2021, in Nifas Silk Lafto Sub-city, Addis Ababa).

The findings of Xie (2019) and Tuan (2021b) in Vietnam and Tagliarino et al. (2018) in Nigeria also reinforce this finding stressing the implication of land expropriation on the employment of agricultural-dependent peri-urban farmers.

The findings of Xie (2019) and Tuan (2021a,b) in Vietnam, along with Tagliarino et al. (2018) in Nigeria, indicated the significant implications of land expropriation on the employment prospects of agricultural-dependent peri-urban farmers. These studies showed the widespread nature of the challenges faced by farmers in peri-urban areas affected by land expropriation, regardless of geographical location or socio-economic context. Specifically, they underlined the adverse effects of land expropriation on farmers' ability to sustain their livelihoods through agricultural activities, as their land and associated assets are compulsorily expropriated. This disturbance to agricultural employment not only weakens the economic stability of affected farmers but also exacerbates existing vulnerabilities, perpetuating cycles of poverty and socio-economic marginalization. By drawing parallels between findings from different regions, these studies highlight the need for context-specific interventions that address the employment-related challenges ascending from land expropriation, thereby promoting comprehensive and sustainable development consequences for affected communities.

3.2.3 Loss of land and food self-insufficiency

Land expropriation can also cause food self-insufficiency when farmers who lose their land become dependent on food aid or imports. This can lead to food insecurity and malnutrition, especially in regions where food production is already limited. Similarly, a study by the Tuan (2021a,b), and Pham Thi et al. (2021) confirmed that land expropriation can also lead to the loss of traditional agricultural knowledge and practices, which can affect the long-term sustainability of food production. Mabe et al. (2019) also found that land expropriation affects production, as farmers who lose their land may not have access to the necessary resources and inputs to produce crops or raise livestock. This can lead to a decrease in agricultural productivity and food production.

In an interview on March 8, 2021, an expropriated farmer shared with me the condition of his life before and after the expropriation of his land as follows;

“... In the past, I was actively engaged in the cultivation of crops, raising of animals, and cultivation of fruits and vegetables, a livelihood that generates a substantial income. However, due to the expropriation, my once-thriving source of sustenance has been taken away. The effect has been severe, now I am struggling to provide even necessities for my family and am unable to generate any income. The loss of my productive land has pushed me into a state of food insufficiency, creating a shocking contrast to the comfort that

once I enjoyed. Currently, I rely solely on a monthly allowance provided by the government for survival. Unfortunately, this allowance falls significantly short of covering the essential expenses for my family, dropping me into a critical state of poverty.”

This personal narrative indicates the devastating effect that the land expropriation brought on an individual's livelihood and the challenging circumstances faced by those who struggle with the post-expropriation. The decrease in agricultural land use in comparison to the rapidly growing built-up areas in the city is illustrated in Figure 2 below briefly.

As illustrated in Figure 2, the land use land cover of the city completely changed in the past 20 years from 2000 to 2020. The built-up area is increasing significantly while the agricultural land is decreasing continuously indicating land use conversion, particularly from agriculture into residential and commercial uses through expropriation from farmers in the peripheral areas of the city which is affecting the farmers' livelihoods. Table 4 also details the land use change mainly from agricultural to the built-up area of the city from 2000 to 2020.

The change in Addis Ababa's land use over the past two decades, as shown in Figure 2 and detailed in Table 4 above, is considerable. In 2000, the city's built-up area covered 23370.8 hectares, constituting 44.92% of the total land area. By 2020, this figure had increased to 36521.1 hectares, representing an overwhelming 70.19% of the total land area. The subsequent change from 2000 to 2020 indicated a notable increase of 13150.3 hectares, accounting for 25.27% of the total change.

On the other hand, in 2000, agricultural land covered 17075.5 hectares, containing 32.82% of Addis Ababa's total land area. However, by 2020, it had declined to 8793.42 hectares, occupying just 16.90% of the city's land. This substantial reduction of 8282.08 hectares, amounting to 15.92% of the total change, shows a significant change of agricultural land to other land uses particularly built-up areas (Table 4).

This shift is an indication of deliberate urban development strategies employed by the city administration, involving land expropriation to facilitate many development projects such as low-cost housing initiatives, industrial parks, and infrastructure expansion. The prioritization of urban expansion over agricultural land utilization underscores the city's evolving socio-economic priorities and the challenges posed by rapid urbanization. This trend of urban growth in the city has caused a critical socio-economic crisis on land lost farmers in the surrounding related to land expropriation measures.

3.2.4 Livelihood change, disruptions and dissatisfaction

As studies showed one of According to FAO (2009) and Worku (2020), land expropriation often precipitates a significant change in the livelihoods of affected farmers, which can manifest either positively or negatively depending on various factors such as their pre-existing socio-economic conditions and the availability of post-expropriation job opportunities. The findings of this study reflect this complexity, with a notable proportion (40.7%) of expropriated farmers reporting a worsening of their livelihoods following land expropriation. Additionally, 29.8% of respondents indicated that their livelihood conditions remained unchanged compared to pre-expropriation circumstances. Conversely, 29.5% of farmers

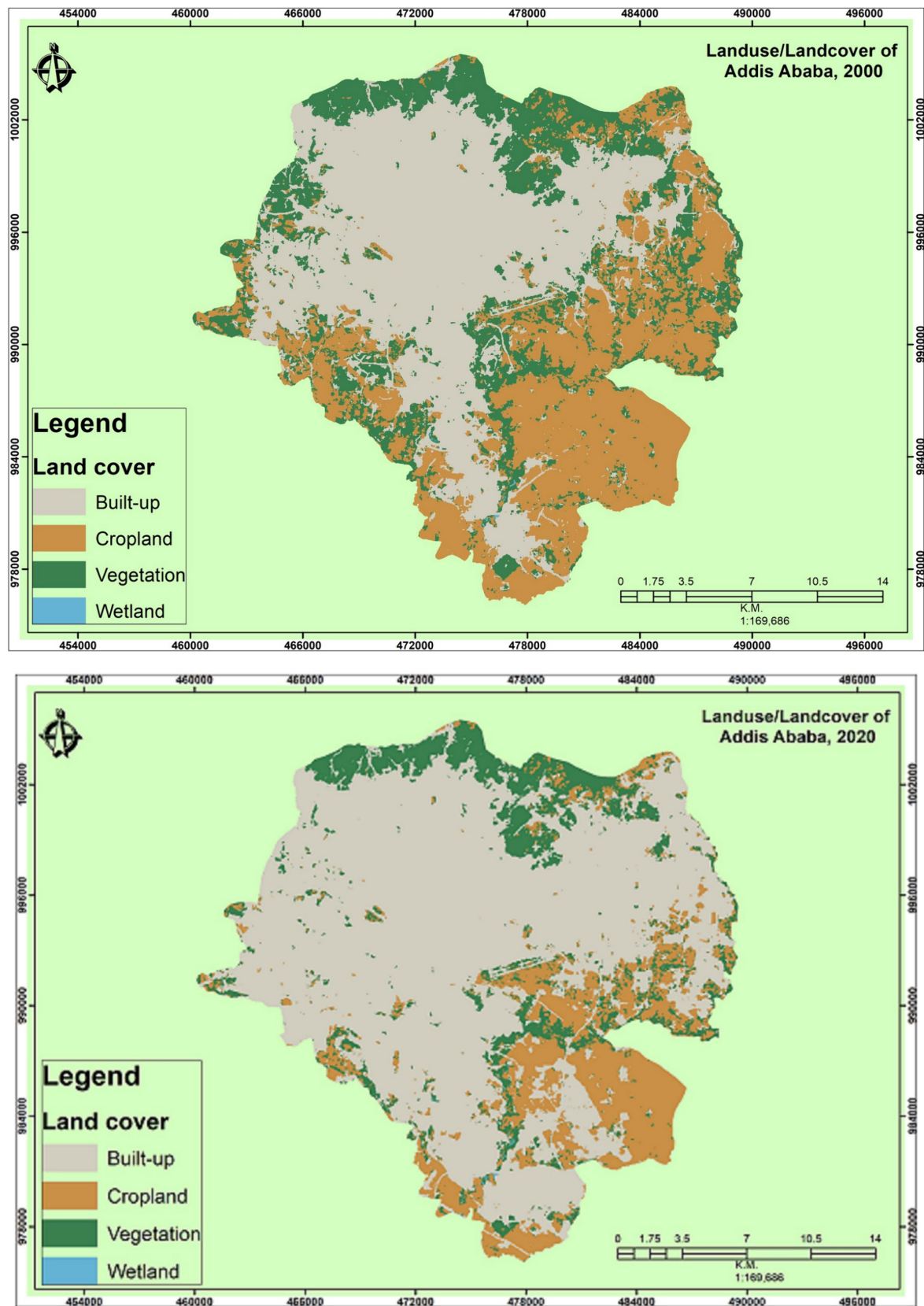


FIGURE 2
Agricultural land use change in Addis Ababa (2000–2020).

TABLE 4 The land use change of Addis Ababa (2000–2020).

LULC types	2000		2020		Change 2000–2020	
	(ha)	%	(ha)	%	ha	%
Built-up	23,370.8	44.92	36,521.1	70.19	13,150.30	25.27
Agriculture	17,075.5	32.82	8,793.42	16.90	−8,282.08	−15.92

TABLE 5 Change in livelihood and satisfaction of respondents.

Attributes	Categories	Frequency	Percent
Livelihood change	Improved	103	29.5
	Worsened	142	40.7
	Unchanged	104	29.8
Livelihood satisfaction	VS and satisfied	80	23
	Neutral/somewhat	121	34.7
	Dissatisfied and VD	148	42.3

Source: Own survey (2021).

observed an improvement in their livelihoods post-expropriation, particularly those with higher levels of education and knowledge who experienced increased income due to enhanced employment opportunities and personal businesses.

The disruption caused by land expropriation extends beyond mere economic implications, profoundly impacting the livelihoods of farmers who predominantly rely on agriculture for sustenance. As agricultural-dependent communities, these farmers experienced severe disturbance as their homes, cropland, and other sources of income were forcibly taken away. The subsequent dislocation and loss of income sources often drove affected farmers into poverty, exacerbating their already precarious situation. Consequently, land expropriation emerges as a fundamental factor in destabilizing the socio-economic fabric of the farming communities, necessitating comprehensive support mechanisms to alleviate the adverse effects and facilitate sustainable livelihood transitions.

Studies conducted by [Oduro \(2010\)](#), [Feldman and Geisler \(2013\)](#), and [Le and Nguyen \(2020\)](#) have consistently highlighted the detrimental impact of land expropriation on poverty rates in various countries, including Ethiopia, Mozambique, and Zimbabwe. These findings underline the broader socio-economic implications of land expropriation beyond immediate dislocation and loss of assets, with poverty emerging as a significant consequence affecting affected communities.

The effects of land expropriation on the livelihoods and satisfaction of expropriated farmers are presented in [Table 5](#), which delineates changes in their livelihoods and subsequent satisfaction levels post-expropriation. The table provides insights into the nuanced experiences of farmers following land expropriation, indicating the diverse ways in which their livelihoods have been affected by the process. By examining indicators such as livelihood change and satisfaction, the table offers a comprehensive understanding of the multifaceted impacts of land expropriation on affected individuals, thereby informing targeted interventions and policy responses aimed

at mitigating adverse effects and promoting sustainable livelihood outcomes.

[Table 5](#) illustrates the changes in the livelihoods and satisfaction levels of respondents following the land expropriation process. A significant portion, representing 40.7%, reported a worsening of their livelihoods due to the loss of land and associated assets. Conversely, 29.5% noted an improvement, primarily attributed to new opportunities in employment, small-scale business activities, and improvements in access to services and facilities such as health, education, transportation, bank, electricity, and water. Nearly 30% of the respondents indicated no significant change in their livelihood situation in the post-expropriation.

In terms of satisfaction with their current livelihood, only 23% expressed contentment, while the majority, i.e., 42.3% reported dissatisfaction. The remaining 34.7% opted for a neutral stance or showed uncertainty toward their post-expropriation livelihood situation.

The focus group discussions provided valuable insights into the underlying factors contributing to the respondent farmers' dissatisfaction with the compensation process. The discrepancy between the assessed market land value and the compensation amount the government pays, coupled with delays in payment and a lack of transparency as well as active participation in the valuation process, emerged as the key sources of frustration for expropriated farmers. These findings highlight the importance of addressing these gaps to ensure a fair and equitable compensation payment that supports farmers in transitioning to alternative livelihoods effectively.

3.2.5 Loss of landholding right and displacement

The effect of land expropriation on rural and peri-urban farmers extends beyond mere economic losses, significantly affecting their shelter, landholding rights, and overall socio-economic well-being. The group discussions revealed that farmers experienced dislocation and loss of property rights due to the expropriation, leading to serious litigations and disputes with the administration. These challenges were aggravated by the inadequacy of compensation payment and a lack of consultation or consent from the affected farmers.

Empirical studies by [Patel and Mandhyan \(2014\)](#) and [Shaw and Saharan \(2019\)](#) corroborate these findings, highlighting the negative repercussions of land expropriation, including displacement, loss of livelihoods, and destruction of social networks. Additionally, limited compensation and restricted access to resources contribute to increased poverty among affected communities, highlighting the need for careful consideration of the effects of the expropriation policies and adequate support for affected individuals.

The study demonstrates that land expropriation in peri-urban areas significantly changes the socio-economic landscape for farmers, leaving them landless, jobless, and socially disintegrated. The compensation provided by the city administration, while intended to mitigate the losses, is often insufficient to restore livelihoods to pre-expropriation levels or improve overall conditions. Consequently, many farmers express dissatisfaction with the compensation received and their post-expropriation living conditions. Particularly, older farmers find themselves in precarious situations, requiring direct government support in the form of allowances and subsidies to sustain their livelihoods. Younger farmers demand the government to create jobs and other

opportunities that assist them in securing their economic futures. Overall, the effects of land expropriation highlight the complex and multifaceted challenges faced by affected communities, necessitating comprehensive policy interventions to address their needs and ensure equitable outcomes.

4 Conclusion

The study examined the significant socio-economic effects of land expropriation for urban development projects on farmer's livelihoods in selected expansion areas in four sub-cities of Addis Ababa, Ethiopia. Extensive use of expropriation as a land acquisition mechanism by the city administration to meet the increasing demand for land for development projects has led to the loss of land, employment opportunities, crop production, and overall livelihoods among affected farmers.

Moreover, the process of expropriation was challenged by a lack of transparency, inadequate consultation with affected communities, and insufficient compensation mechanisms. To address these issues, it is recommended to enhance transparency and consultation, improve compensation mechanisms, strengthen legal frameworks, support alternative livelihoods, and promote sustainable development practices.

By implementing these recommendations, policymakers and stakeholders can mitigate the adverse effects of land expropriation and promote more inclusive and sustainable development. However, this study's limitation lies in its focus only on the four selected areas in Addis Ababa. Thus, it lacks a comparative analysis of practices in different cities in Ethiopia. Future studies should go deeper into exploring alternatives to land expropriation for urban development, to minimize its adverse effects.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

Ethical review and approval was not required for this study on human participants in accordance with the local legislation and

institutional requirements. Written informed consent from the participants was not required to participate in this study in accordance with the national legislation and the institutional requirements. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

YA: Conceptualization, Writing – original draft, Writing – review & editing, Supervision. BA: Conceptualization, Supervision, Writing – review & editing, Writing – original draft, Methodology, Validation.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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