

The Ageing Crisis Threatening Farming in Ethiopia: An Analysis of Youth Involvement in Agriculture



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ABSTRACT: This study examined youth labor force participation in agriculture and factors impeding effective participation in Ethiopia using the 2011-2018 data from the Living Standards Measurement Survey-Integrated Survey of Agriculture (LSMS-ISA). The analytical tools included both descriptive statistics and econometric analysis. Summary statistics show that the average age of the respondents was 47 years, thus they are not at an economically active age. This is an upward trend of 52 years in 2018 compared to 44 years in 2011. The ordinary least square (OLS) regression result indicated that for every 1 unit increase in the independent variable (time), there will be a 1.01 increase in the dependent variable (farm age). The result showed that the increase in time affected age of the farming positively and significantly. The evidence suggested farming population in Ethiopia is growing older and reduced involvement of youth (14.4%). The results also revealed low participation of youth in agriculture activities which increases youth unemployment. In turn, the total dependency ratio in the population equals 102.7. This high dependency ratio means that the 'dependents' in society are more reliant on a smaller number of working-aged people, which suggests that for every 1027 dependents, there are roughly 1000 working-age people providing them food through farming. The review result showed youth participation in Ethiopian agriculture is influenced by limited access to land, low attitude on agriculture (attitudinal problems), inadequate access to financial services, problems of rural life, and backwardness of agricultural tools. The study suggests that efforts to shape future work in Ethiopian agriculture should include among other things, access to land and provision of credit facilities. The study pointed out that the efforts to shape the future of agricultural work in Ethiopia should ensure the availability of land and credit.

KEYWORDS: Youth, Ageing, Dependency, Agriculture (Farming), Participation, Unemployment, Rural, Ethiopia.

1. INTRODUCTION

By 2050 it is estimated that, 68 percent of the world's population will be urban, with 6.7 billion urban dwellers [20]. The United Nations World Health Organization has predicted that "by 2030, 7 out of 10 people will live in cities" meaning that more young people than ever before are moving to cities and towns to find work, while fewer are employed in rural areas. Ethiopia's population is equivalent to 1.57% of the total world population. Ethiopia's population in 2022 was 123,379,924, an increase of 8.11% from 2019. In the same year, 23% of the population lives in cities, an increase of 2% from 2019. By 2050, this trend is expected to continue as the city's population doubles its current level.

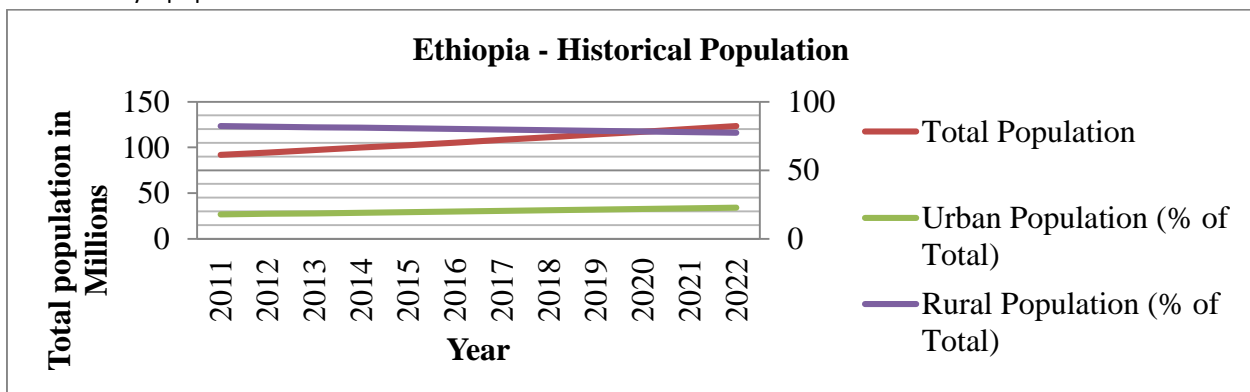


Figure 1: Historical population of Ethiopia

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In 2023, Ethiopia's life expectancy is 67.81 years, which is 1.65% higher than in 2020, and the birth rate in 2023 is 30.26 per 1000 people, which is 4.4% lower than in 2020. However, the unemployment rate for 2022 was 4.02%, an increase of 0.8% from 2019. Small-scale agriculture is the developing world's largest source of employment. Ethiopia's economy is dependent on agriculture, which accounts for 40 percent of the gross domestic product, 80 percent of exports and 75 percent of the country's workforce [22]. As Ethiopia continues its development, equipping the next working generation with basic literacy skills will be the basis for the country's goal of becoming one of the middle-income countries by 2025.

Out of Ethiopia's 105 million population, 40 percent of Ethiopia's population is under the age of 15, and 30 percent is in the 15-29 age range [2]. This age group is highly dependent on their family for their basic needs but their families are too poor to meet their basic needs. Most of Ethiopia's youth do not complete their primary education or continue their secondary education, which is less than 30% of secondary education participation.

In both rural and urban areas, many young people, especially young women, are unemployed or working in the informal sector. Most of the youth live in rural areas, where livelihood opportunities are increasingly limited.

Youth unemployment and underemployment are severe problems in Ethiopia. According to the United Nations, 6.3% of the total labor force age (15-24) were unemployed in 2022, and it is often more severe in rural areas than in cities. Not only has this, increasing evidence indicated that in the future young rural men and women are uninterested in farming.

Rural aging has a major impact on the rural workforce, agricultural production, land tenure, social organization within communities, and socioeconomic development [5]. If the working age population is more productive, it means they are producing more in the same hours or days. In turn, the extra output they produce can be used to help the dependents among the population. Generally, engaging youth in agriculture has been a prominent topic in recent times and development agendas have also been raised. Because the dissatisfaction of young people with agriculture is become a worldwide concern. Therefore, the study has analyzed the seriousness of the problem and identified options for policy makers in the sector.

3.1. Definition of Youth

There is no uniform definition of youth in contemporary academic research. The European Union Young Farmers Survey limited the respondents to 35 years of age [24]. In other studies of rural youth, this group has been defined as individuals between the ages of 18 and 40 [16, 14]. In medical studies, youth are usually defined as individuals between the ages of 10 and 24 [13].

Some countries and organizations define 'youth' as 35 or 40 years of age in their national legislation. For example, the World Health Organization (WHO) defines youth as people between the ages of 20 and 24, while the United Nations (UN) defines youth as those between the ages of 15 and 24 [21]. Similarly, different age ranges have been used in defining youth in other countries. For instance, Ethiopia's Social Security and Development Policy (15-24), Uganda (12-30), Mauritius (14-29), South Africa (14-28), India (15-35), Nigeria (18-35), and Djibouti (16-30) for defining youth.

Taking into account the age ranges given from the directions listed above and the actual situation in the country, the Ethiopian National Youth Policy defines youth as those between 15-29 in order to use the potential and competence of the youth for the purpose of building a democratic system and development [12].

Therefore, in this study, considering Ethiopia's national youth policy rural youth are defined as the people aged between 15 and 29 years of age who have registered as permanent rural residents.

2. OBJECTIVES

The main objective of this study was to analyze youth participation in agriculture and the factors hindering effective participation. Specifically,

- To analyze the growing age of farming and the level of participation of youth in farming
- To analyze the dependency ratio of the ageing farmers
- To review the factors hindering effective youth participation in agricultural sectors

3. METHODOLOGY

3.1. Data

The study used secondary data from the World Bank's Living Standard Measurement Survey-Integrated Survey on Agriculture (LSMS-ISA). A multi-stage stratified sample design was used for the Panel Survey (2011-2018). The data comprises of 3,403, 3,317, 3,265 and 3,115 valid responses of rural households for 2011, 2013, 2015 and 2018 respectively in rural Ethiopia where agriculture is predominant.

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3.2. Data Analysis

Both descriptive statistics and econometric analysis were used. Descriptive statistics such as mean, ratio and percentage were used to quantify and analyze data. Descriptive statistical analysis was used to analyze the rural youth's agricultural participation. The dependency ratio measures the number of dependents aged zero to 14 and over 65, out of the total population aged 15 to 64.

The formula for the dependency ratio is:

$$\text{Child Dependency Ratio} = \frac{\text{Total number of people aged between 0 and 14}}{\text{Total number of people between 15 and 64}} \times 100$$

$$\text{Aged Dependency Ratio} = \frac{\text{Total number of people aged over 65}}{\text{Total number of people aged between 15 and 64}} \times 100$$

The total dependency ratio can be calculated by adding the child dependency ratio to the elderly dependency ratio. So those under 15 were added to those over 65.

For econometric analysis Ordinary Least Square (OLS) model was used to analyze the growing age of farming. The formula for is:

$$Y_i = \beta_1 + \beta_2 X_i + u_i$$

Where,

Y_i = is the response (dependent) variable: age of farmers,

X_i = is the predictor (independent) variable: year,

β_2 = is the estimated slope, and

β_1 = is the estimated intercept

u_i = is residual (error) term

4. RESULT AND DISCUSSION

4.1 Descriptive Analysis of the growing age of farming and the level of participation of youth in farming

The descriptive analysis of the socio-economic characteristics of the respondents is presented in Table 1. According to the results, the average age of household head respondents was 47 years between 2011 and 2018, thus they are not at an economically active age. This is an upward trend of 52 years, compared to 44 years in 2011. Majority of the respondents (75.02%) were male which indicates that agricultural production is dominated by men and the average household size was 5.5 people.

Table 1. Definition and description of variables

Variables	Definition	Years				All
		2011	2013	2015	2018	
Percentage						
Sex	Sex of the household head (Female)	23.8	24.7	25.1	26.5	25
Youth	Youth participation in agriculture	18.5	13.0	8.9	17.3	14.4
Average (mean)						
Age	The age of the household head in years	44.5	46.2	47.9	51.6	47.5
Household size	Total household size (number)	5.0	5.6	6.2	5.0	5.5

As shown in the table 2 below, Linear regression result indicated that for every 1 unit increase in the independent variable (time), there will be a 1.01 increase in the dependent variable (age of farming). The result showed that the increase in time affected age of the farming positively and significantly. The evidence suggests farming population in Ethiopia is growing older and reduced involvement of youth in agricultural activities which may worsen youth unemployment.

Table 2. Results of OLS regression

Age	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
year	1.012895	.050228	20.17	0.000	.9144405 1.111349
_cons	-1992.688	101.1678	-19.70	0.000	-2190.991 -1794.384

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Youth participation in Agriculture

Using a descriptive approach, the study provides insight into the extent of participation of youth (15-29 years old) in agriculture. Accordingly, 14.4% of Ethiopian youth are involved in agricultural production, which is very low.

4.2. To analyze the dependency ratio of the ageing farmers

Based on a nationally representative sample considered for rural Ethiopia at the national and regional levels, the target groups of the study were 71,603 people in 13,100 randomly selected households.

Table 3. Age of farming population

Year	between 0 and 14	between 15 and 64	Over 65	Total Population
2011	6,226	10,062	616	16,904
2013	8,992	9,035	691	18,718
2015	11,053	8,483	743	20,279
2018	7,180	7,991	531	15,702
Total Population	33,451	35,571	2,581	71,603

The survey area had a population of 35,571 people aged between 15 and 64, with a further 33,451 aged under 15. The child dependency ratio is then calculated by dividing those under 15 (33,451), by those of working age (35,571). Therefore, the child dependency ratio for Ethiopia = $33,451 / 35,571 \times 100 = 95.4$. Similarly, the population over 65 is 2,581. Therefore, the aged dependency ratio for Ethiopia = $2,581 / 35,571 \times 100 = 7.3$. In turn, the total dependency ratio equals 95.4 (child dependency ratio) + 7.3 (aged dependency ratio) = 102.7 . This high dependency ratio suggests that the 'dependents' in the community are more dependent on the least working-age people, which suggests that for every 1027 dependents there are about 1000 working-age people providing them with farm food.

4.3. To review the factors hindering effective youth participation in agricultural sectors

Considering the potential of the agricultural sector to serve as a source of livelihood opportunities for the rural youth, a critical assessment was conducted to evaluate the factors that hinder the effective participation of the youth in the agricultural sector. Accordingly, five major challenges have been identified in studies conducted in Ethiopia. Limited access to land, low attitude on agriculture, inadequate access to financial services, problems of rural life, and backwardness of agricultural tools are the key challenges for youth involvement and advancement in agriculture sector.

4.3.1. Limited access to land

In Ethiopia, the land is allocated to farmers by the government. Even if they want to be farmers, getting land at a young age is a growing problem for rural youth [6, 8, 11, 15, 18-19]. Many smallholders cannot acquire additional land except through resettlement and migration or by registering as commercial farmers (Headey et al., 2014). Almost all the arable land is owned by farmers during the Derg era (1975), except for the youth who get a small farm from their parents as a gift or inheritance. This was repeatedly subdivided until 1991, which reduced the area of farmland [3], making it difficult to plow even with ox-powered. Based on this background, the state farm land given to the farmer is more than 30-45 years old and the current owner is too old with an average age of 48-50 years.

4.3.2. Low attitude on agriculture

A large number of youths consider agriculture as a sign of poverty and backwardness [17]. Moreover, because of the negative attitude of family and society towards agriculture, informal work in urban areas is preferred by people with low wages. Families are always at the forefront when it comes to career options for the youth, and it is unfortunate that most parents themselves hesitate to let their children choose agriculture as their career choice. In Ethiopia, education opportunities have increased significantly, but not enough job opportunities have been created for newly educated job seekers. For instance, when the young graduates consider agriculture as a career option, they have a sense of inferiority and the society makes them believe that they cannot overcome it once they fail. Moreover, the emerging fields of youth studies help us to understand the exclusion of young people from agricultural work. From childhood they are being pressured and programmed to become a doctor or an engineer or some other stable job. For instance, out of 186,428 students from 44 public universities who participated in the final exit examination in July 2023, only 2.9 percent of them studied agriculture, indicating the lasting neglect of small-scale agriculture, rural life and rural infrastructure.

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4.3.3. Inadequate access to financial services

Access to finance was the highest challenge for the participation of youth in rural areas of Ethiopia due to high interest rates, short repayment periods and collateral required to obtain a loan [4, 17-18, 22-23]. Financial institutions often evict farmers because they don't think agriculture is a viable business or that land is a sufficient source of collateral. This adds to the perception that agriculture is not an attractive enterprise for young people.

4.3.4. Problems of Rural Life

The youth migrate to the city because of the lack of development in the rural areas [18]. Rural areas can be beautiful and relaxing, but they threaten important challenges. This difficult rural area's inability to attract and retain young people is due to a number of factors, including the lack of quality health coverage, good schools, public transportation, humanitarian services, electricity, clean and safe drinking water, the Internet (modern information and communications technologies), all-weather roads and other social facilities. The lack of such services and infrastructure for the youth living in rural areas makes agriculture and rural life unattractive.

4.3.5. Backwardness of agricultural tools

The current farming is very traditional and less productive compared to the farmer's efforts [1, 8]. After being exposed to education, youth do not show interest in becoming farmers or working in agriculture which requires hard labor. Therefore, it is difficult to attract youth to such physically exhaustive and labor intensive nature of the agriculture sector.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

Agriculture is the backbone of Ethiopia's economy, accounting for 46% or more of the country's gross domestic product (GDP) and representing a major source of youth employment. Despite positive results, agriculture remains unattractive to young people. Limited availability of land, low attitude towards agriculture, inadequate financial services, problems of rural life and backwardness of agricultural tools have led to generational loss of interest in agriculture, many young people see it as an unstable livelihood and instead move to urban centers for opportunities and agricultural pursuits. As a result, production efforts are still left in the hands of older farmers who make up the majority of the population in agriculture. Despite its challenges, agriculture still remains the biggest platform for job creation. Indeed, as the population increases and agricultural productivity declines, an integrated response to increasing youth participation in the agricultural sector plays a key role in ensuring food security more than ever.

5.2. Recommendations

In order to increase the participation of the youth in agriculture, the following infrastructure and regulatory interventions need to be carried out.

- Existing policies should be reviewed through an inclusive process with youth to ensure that they respond to the needs of youth, particularly in the provision of land and credit facilities.
- Agriculture should be studied as a specific subject at all levels. And, changing the current mindset of the people will change the mindset of the youth so that they feel successful in agriculture as a career.
- Innovative programs designed to improve the recruitment strategies for the agricultural system in rural areas are essential.
- The current farming practices should be changed and modernized.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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