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# **The farming question: Intergenerational linkages, gender and youth aspirations in rural Zambia**

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## **Abstract**

With agriculture considered key to generate jobs for Africa’s growing population, several studies have explored youth aspirations towards farming. While many factors explaining aspirations have been well studied, little is known about the actors shaping aspirations. We follow a unique “whole-family” approach, which builds on mixed-methods data from 348 parents and corresponding adolescents (boys and girls) in rural Zambia. The study finds that parents strongly shape youth aspirations – they are much more influential than siblings, peers, church, and media. Male youth are more likely to envision farming (full or part-time) than female youth. This reflects their parent's aspirations and is reinforced by the patriarchal system of land inheritance. Parent’s farm characteristics such as degree of mechanization are also associated with aspirations. We recommend a “whole-family” approach, which acknowledges the powerful role of parents, for policies and programs on rural youth, and a stronger focus on gender aspects.

## **Key Words**

Agriculture, Young People, Parents, Social Networks, Perfect farm, Mechanization

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## 1. Introduction

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Arguing that agriculture is key to provide the much-needed jobs for the millions of youth<sup>1</sup> entering Africa's job markets annually, governments across Africa are promoting “youth in agriculture” (IFAD, 2019; LaRue et al., 2021). As this approach hinges on the rural youth wanting to stay and farm, an emerging body of literature is exploring their aspirations (Chamberlin et al., 2021; LaRue et al., 2021; Mussa, 2020; Rietveld et al. 2020; Ripoll et al., 2018; Sumberg et al., 2017). This literature has focused on both the strengths and direction of aspirations and explored potential factors associated with youth aspirations – such as land access (Bezu & Holden, 2014), rural vibrancy (Chamberlin et al., 2021), or more generally the socioeconomic opportunity space (Leavy & Hossain, 2014; Leavy & Smith, 2010). Much less is known about the actors shaping youth aspirations, in particular, the role of parents. Moreover, studies have frequently portrayed youth as a homogenous group, neglecting gender aspects (Rietveld et al., 2020). Lastly, while studies have focused on whether farming is attractive, few studies have explored how attractive farming looks, for example, regarding the types of technologies used (Daum, 2019). This paper addresses these neglected aspects by using a unique “whole family” data collection approach in rural Zambia (as further explained below).

Aspirations are forward-looking goals that people are committed to expending their energy, time, and resources (Sherwood, 1989). As highlighted by LaRue et al. (2021), aspirations can be conceptualized as ambitions (“the strengths of a desire”) or as what people would like to do (Leavy & Smith, 2010). Aspirations depend on personal characteristics, culture, traditions, norms, social networks, and media, as well as the socioeconomic opportunity space (Gutman & Akerman, 2008; Leavy & Hossain, 2014; Leavy & Smith, 2010). Several studies have questioned youth's farming aspirations due to push factors such as lacking

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<sup>1</sup> Youth are often defined on age grounds such as 18-35 years by the government of Zambia and 15-24 years by the United Nations (IFAD, 2019). Many scholars have argued against the use of age-based definitions of “youth”. Perezniето et al. (2018, p. 11) have defined youth as “a time of transition - from school to work, dependence on autonomy, and sexual maturity”. In this study, we focus on adolescents from 12-18 years because this period is key for the formation of aspirations.

access to land and finance (Bezu & Holden, 2014; IFAD, 2019) and the perception of agriculture as a back-breaking, unrewarding job for the uneducated (Sumberg et al., 2017). Other studies found that youth have more nuanced views (Daum, 2019) and often want to farm as part of mixed livelihoods (LaRue et al., 2021; Rietveld et al., 2020) or to keep their options open (Huijsmans, 2021).

Inter-generational aspects related to the formation of aspirations have been neglected despite emerging qualitative evidence that parents inform youth aspirations (Huijsmans, 2021; Muwi, 2012). Studies from other fields show that parents often play a significant role in the formation of their children's career choices (Gutman & Akerman, 2008; Paloş & Drobot, 2010; Wiley et al. 2005). Empirical studies in low- and middle-income countries suggest that parents often oppose a farming career for their children (Lungkang, 2018; Verkaart et al., 2018; Yeboah et al., 2017). However, such studies have often portrayed farming as a “take-it-or-leave-it” option (e.g., Verkaart et al., 2018), neglecting the potential role of part-time farming and often only collected data from household heads. Moreover, little is known about whether the parent's views have any actual bearing on the aspirations of youth – or if other actors are more influential. In a study in Kenya, young people reported that the most influential actor category is their family, however, this category comprised parents, siblings, other family members, and relatives, and no gender differences were analyzed (LaRue et al., 2021).

Gender aspects are highly relevant in the context of youth in agriculture (Rietveld et al., 2020). Gender represents a socio-cultural construct defining the roles, responsibilities, constraints, and opportunities of men and women - and boys and girls. There is strong evidence of gender disparities in Africa at the societal and household level. For example, women are more likely to farm on smaller and lower quality areas of land (Doss et al., 2018; Smale et al., 2019) and have more limited access to agricultural inputs and services (Quisumbing et al., 2014). Across 42 countries, IFAD (2019) reports that young women are half as likely to own land and twice as likely to be out of school and work, often because of early marriage and child-rearing responsibilities. Seeing and experiencing these gender

disparities can have direct bearings on the aspirations of adolescent boys and girls. Also, socially defined gender norms may shape aspirations towards farming (IFAD, 2019). Lastly, adults may have different aspirations and provide different levels of support for boys and girls, affecting their aspirations. Empirical studies suggest that male youth are more likely to aspire for a career in farming than their female peers (Elias et al., 2018; Rietveld et al., 2020). Gender disparities may also affect youth perception of a "perfect farm" (Daum, 2019). Understanding, gender differences regarding youth in agriculture is essential for well-grounded policy interventions promoting youth engagement in agriculture (Pereznieto et al., 2018).

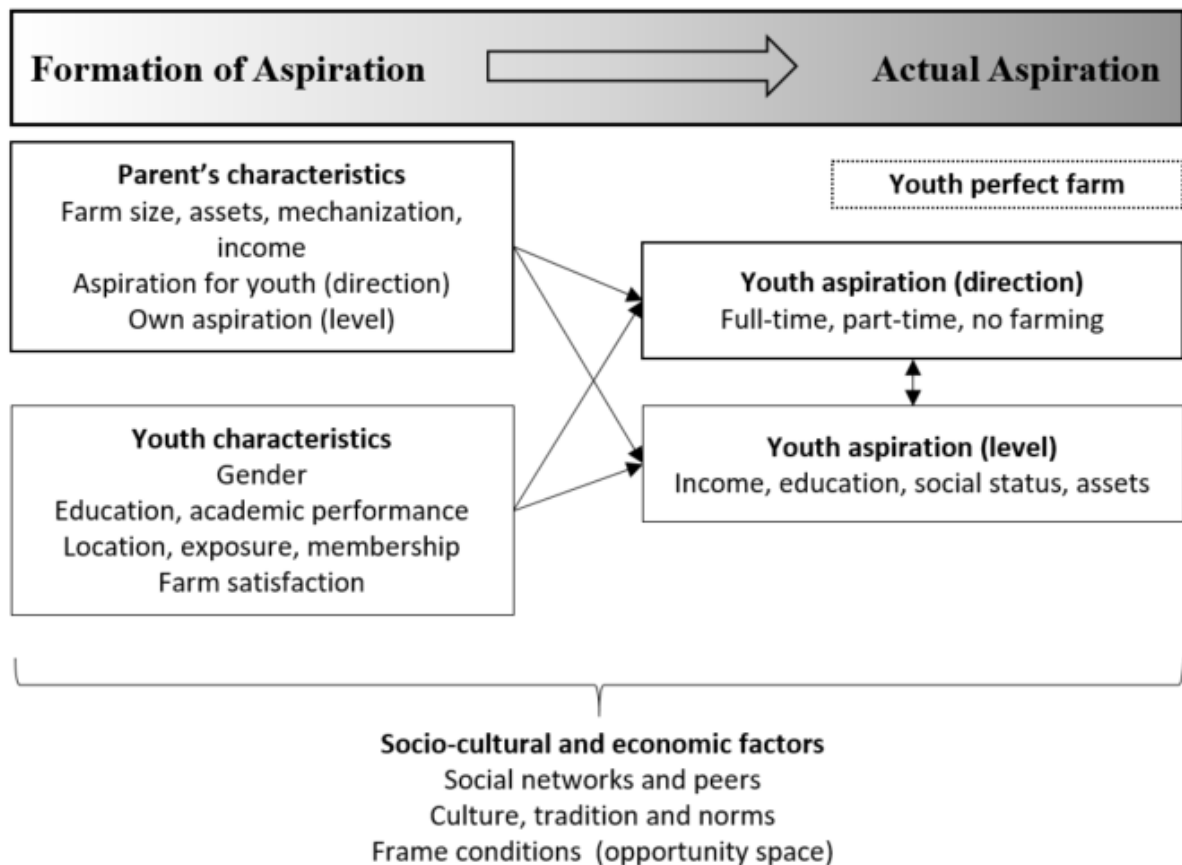
To explore the neglected generational and gender aspects related to the aspirations of rural youth, this study followed a unique "whole family" approach for empirical data collection in Zambia. As part of this multi-generational approach, we interviewed 348 household heads and spouses as well as sons and daughters from 87 rural households in the Eastern Province of Zambia. Data were collected using a mixed-methods approach, combining a quantitative survey and qualitative tools such as focus group discussions, which helped to reveal aspects such as traditions and social norms. The sampled households were located in communities with different proximities to urban areas. The paper addresses several objectives: 1) to examine the aspirations of boys and girls as well as the aspirations of parents for sons and daughters, 2) to explore to which extent parent's aspirations – as well as other factors and actors – shape youth aspirations, 3) to explore how the "perfect farm" looks for boys and girls.

## **2. Conceptual framework**

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Figure 1 illustrates various factors that can influence the formation of and actual aspirations of youth, focusing on parents and youth characteristics. As noted above, aspirations can be conceptualized with a focus on how much (level) and what people want to achieve (direction). In this framework, we do not categorize farming as a "take-it-or-leave-it" option, which is a shortcoming of many studies on youths in agriculture (LaRue et al., 2021) but

distinguish between full-time, part-time, and no-farming-based livelihoods. All of these aspects will be examined using econometric tools (see also Table 2). Additional socio-cultural and economic factors that may influence the formation and actual aspirations of the youth (e.g., culture, tradition, and norms) will be examined with the help of qualitative tools (see section 3.2.).



**Figure 1. Conceptual Framework**

Parents' characteristics include their farm and household characteristics such as farm size, assets, degree of mechanization, and income. These aspects can determine how young people experience farming (e.g., as lucrative or burdensome). Moreover, they may influence the youth's opportunities and challenges when deciding to pursue farming. Land, for example, is typically inherited. In many low and middle-income countries, the patriarchal system of inheritance favors sons, which may discourage adolescent girls from aspiring to farm (IFAD, 2019; Quisumbing et al., 2014; Rietveld et al., 2020). Additional parental characteristics addressed are their aspirations. According to Jungen (2008), parents' aspiration level can have a great impact on the career aspirations of their children. Their

bearing may be explicit or implicit and can be exerted in the form of work ethics, family values, and gender stereotyping, among others (Jungen, 2008). In addition, the parents' aspirational direction for their children may matter. Parents' aspirations can play out in the form of inspiration, consultation, trust, and support – or pressure and coercion (Paloş & Drobot, 2010; Wiley et al., 2005). Parent's aspirations for their children may depend on the socio-economic condition of the family as well as broader economic and socio-cultural factors.

The youth characteristics studied in this paper include gender, education and academic performance, location, exposure, group membership, and farm satisfaction. The importance of gender has already been elaborated on. Education and academic performance are significant for aspiration development because of their role in expanding the opportunity space (Anyidoho et al., 2012; Bezu & Holden, 2014). Studies suggest that young people with more education stand a better chance of securing jobs in the formal sector (Bessant, 2018; Leavy & Hossain, 2014). Moreover, young people may view farming as an unattractive occupation for school drop-outs (Tadele & Gella, 2012). Remoteness may support farm-based aspirations as youths in remote areas have fewer non-farming job opportunities, which may also be more burdensome and less rewarding, and because rural areas have been associated with close communal ties that make young people favor the status quo (Daum, 2019; Leavy & Smith, 2010). However, remoteness may be a discouraging element as remote areas often suffer from a lack of infrastructure and services such as good roads, markets, schools, hospitals. Aspirations are also affected by what young people “know or can imagine” (Bajema et al., 2002, p.62) and qualitative studies have established a link between exposure to media, urban areas, and livelihood aspirations (Bernard et al., 2014; Leavy & Smith, 2010). Social groups can serve as a platform for encouraging young people into agriculture - as such groups often provide teaching on innovative farming methods (FAO et al., 2015) - or a platform where youth are exposed to alternative livelihoods. Lastly, farm satisfaction may shape youth aspirations as many rural children help on the parent's farm (Anyidoho et al., 2012; Huijsmans et al., 2021; Lungkang,



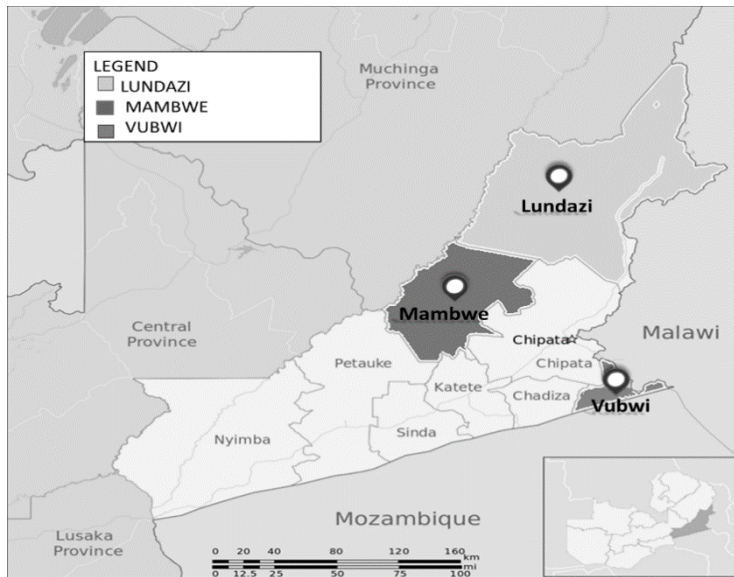
2018). In many poor households, parents employ children as readily available cheap labor (Huijsmans et al., 2021). Farm satisfaction is interrelated with household characteristics such as the use of hired labor and mechanization (Huijsmans et al., 2021) and may differ depending on the typical tasks of boys and girls.

### **3. Study Site, Sampling, and Methods**

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#### **3.1. Study Site**

This study focuses on the Eastern Province of Zambia, which is one of the largest smallholder agricultural regions where agriculture is the primary source of livelihood for most of the rural population. 57% of the farmers cultivate less than 2 hectares of land, mostly growing maize, groundnuts, soybeans, and cotton. Farmers obtain an average maize yield of 1.7 tons (IAPRI, 2019). Most households depend fully on manual labor except for land preparation, with 67% using animal draught power, and 2% using tractors (IAPRI, 2019). For maize, which is an important food and cash crop, 40% of the farmers use improved seeds, 73% use fertilizer, and 13% use herbicides (IAPRI, 2019). Across Zambia, 87% of all households own chicken – on average 12 – and 33% own cattle (IAPRI, 2019). Besides agriculture, 60% of the households have a business, mostly retailing/vending, charcoal production, and local beer brewing (IAPRI, 2019). 78% of the households earn less than 1.25 USD per day (IAPRI, 2015). Zambia ranks 113 from 117 countries according to the Global Hunger Index (von Grebmer et al. 2019).



**Figure 2: Map of the Study Sites**

### **3.2. Methods and Sampling**

This study employed both quantitative and qualitative methods. To select respondents for the quantitative questionnaire, we used a multi-stage sampling technique. First, we randomly sampled three districts (Lundazi, Mambwe, and Vubwi) from the nine districts of the Eastern Province (see Table 1 and Figure 2). Second, we randomly selected agricultural camps – administrative units used by the extension service - in each district based on "remoteness". For this, all camps were categorized as urban, peri-urban, and rural, based on characteristics such as distance to markets, roads, hospitals, banks, and district centers, and one camp representing each of these categories was randomly selected: Mapala, Masumba, and Sekani, representing urban, peri-urban, and very remote study areas, respectively. In each of the camps, comprehensive lists of farm households were obtained from the local agricultural extension officers. The register was used to randomly select 30 households in each camp, excluding polygamous households to avoid complex and confounding family structures. Another condition was that households have both daughters and sons aged 12-18 years. In each of the selected households, the household heads, spouses, and boys and girls were interviewed with the help of local enumerators, ensuring that only female assistants conducted interviews with female respondents. All household members were interviewed separately to ensure the free expression of their opinions. Overall, 87 households agreed to participate in the study, leading to a total of 348

respondents (see Table 1). The questionnaires were administered during June and August 2019.

District	Households	Men	Women	Boys	Girls	Total
Lundazi	27	27	27	27	27	108
Mambwe	30	30	30	30	30	120
Vubwi	30	30	30	30	30	120
<b>Total</b>	87	87	87	87	87	348

**Table 1. Distribution of the sample size**

The questionnaire was complemented with qualitative methods to elicit information on issues that cannot easily be captured using quantitative methods. In each of the selected agricultural camps, five FGDs were conducted: 1) with household heads, 2) with spouses, 3) with boys (12-18 years), 4) with girls (12-18 years), and 5) young men and women aged 16-25 years who were just starting to build their own families to allow for a broad spectrum of views on youth in agriculture. Each FGD consisted of 6-9 randomly selected participants with different social-economic backgrounds regarding wealth, status, and education. A total of 15 FGDs were conducted.

### **3.3. Data collection and analysis**

#### **3.3.1 Aspiration Index**

We explore both the direction and the strengths of aspirations. For the latter, an aspiration index was used that rates ambitions regarding income, education, social status, and assets (Bernard & Taffesse, 2014; LaRue et al., 2021). Male and female youth were asked questions (1) and (3) to determine their aspirations and adults were asked questions (2) and (3) to ascertain their aspirations while growing up:

1. On a scale of 0-10, which level of income (education, social status, and assets) would you like to achieve ten years from now?
2. On a scale of 0-10, which level of income (education, social status, and assets) did you want to achieve when you were 20 years old?
3. Which of the dimensions are most important for you? Here are 20 beans. Please distribute all 20 beans across the four dimensions according to their importance.

We then used the standardized method to compile an aggregated aspiration index as developed by Bernard & Taffesse (2014). The index was constructed by normalizing the desired level of the various dimensions by subtracting the average level for individuals in the whole sample and dividing the difference by the individual's standard deviation across the entire sample. The outcome was multiplied by the weight that individuals assigned to the various aspects of aspirations (see question 3). The aggregated aspiration index was produced by summing up the weighted average of the four normalized outcomes. The aspiration index is written as:

$$A_i = \sum m \left( \frac{a_i^m - \mu^m}{\sigma^m} \right) * W_i^m$$

Where:

$a_i^m$ : individual i's response to question one (youth) and two (adult) above concerning dimension m (income, education, social status, or assets).

$\mu^m$ : sample mean for responses to questions (1) and (2) - the youth and adult's aspired outcomes for dimension m.

$\sigma^m$ : standard deviation for responses to questions (1) and (2) - the youth and adult's aspired outcomes for dimension m.

$W_i^m$ : weight that individual i assigned to the corresponding dimension when answering the question (3).

### **3.3.2. Youth exposure index**

To assess youth exposure beyond the social network, we constructed an index based on answers to four questions:

- 1) *"How often do you listen to the radio?"*
- 2) *"How often do you use the internet?"*
- 3) *"How often do you watch television?"*
- 4) *"In the last year, how often have you gone to the province capital?"*

Every question requires a response and a score was assigned: a) never (1), at least once a year (2), at least once a month (3), at least once a week (4), every day (5). Hence, the

maximum overall score was 20 points (4 questions \* 5 points), and the minimum score 4 points (4 questions \* 1 point). Higher scores reflect higher levels of exposure.

### **3.3.3. Social networks**

To study the actors influencing the youth, we developed a simple participatory visual tool. Respondents received 50 beans and a large, printed grid with squares representing different actors such as father, mother, brother, sister, relatives, friends, media, church, youth associations, school, NGOs, and extension (agricultural ministry). Respondents were allowed to add additional squares representing other actors. Respondents distributed the 50 beans across the squares according to how much the different actors affect their aspirations. The values assigned can be expressed as percentages. For example, assuming a respondent placed 20 beans on the father, 15 on the mother, and 15 on the brother, this can be expressed as a 40% importance to the father, 30% to the mother, 30% to the brother. Respondents were also asked about the direction of influence (if the respective actors encourage or discourage them to pursue farming).

### **3.3.4. “Perfect farm”**

A similar approach was adopted to understand the respondents' “perfect farm”. Here, participants were asked to distribute 50 beans across various farm features such as access to market, tractor, animal draught power, ICT, environmental friendliness, access to extension service, input use, agro-forestry, social aspects, livestock, horticulture, access to water, fish, and land that we identified based on preliminary focus group discussions. Again, the respondents had the opportunity to choose additional items besides the listed items.

### **3.3.5. Data analysis**

The study used multinomial logistic regressions to explore factors correlated with the livelihood aspirations of boys and girls in agriculture (full-time, part-time, or non-farming). Multinomial econometric regressions were used because of their ability to assess the factors associated with the probability of belonging to a specific categorical group (Peng et

al., 2002; Peng and Nichols, 2003). Table 2 provides an overview of all variables used as part of the multinomial logistic regressions conducted.

<b>Variables name</b>	<b>Variables description</b>
<b>Outcome variables</b>	
Full-time farming	Youth envision becoming full-time farmers
Part-time farming	Youth envision becoming part-time farmers
<b>Explanatory variables</b>	
<i>Youth' characteristics</i>	
Education	Highest grade completed
Academic performance	Self-estimated rank in class during the last term in school
Farm satisfaction	Satisfaction on a scale from 0-10, where 10 is the highest level
Exposure	Youth exposure index (see section 3.3.2)
Aspiration level	Youth aspiration index (see section 3.3.1)
Land inheritance	Estimated share of farmland in ha to be inherited from parents
Location	Degree of remoteness (urban, peri-urban, and rural)
Desired location	Desired place of future residence (rural, urban, foreign)
Group membership	Membership in a social group (1=yes; 0=no)
<i>Parents' characteristics</i>	
Household farm size	Farmland owned in ha
Assets	Number of assets owned from list of ten assets: (i) tractor or two-wheeled tractor, (ii) set of animals and equipment for animal draught power, (iii) car/van/truck, (iv) trailer, (v) motorcycle, (vi) bicycle, (vii) television, (viii) radio, (ix) mobile phone, and (x) refrigerator
Farm income	Share of farm income of total household income
Crop income	Share of crop income of total farm income
Aspiration for sons/girls	Full-time farming, part-time farming, no farming
Aspiration level	Aspiration index (see the index, section 3.3.1)
Power Source	Main source of farm power: own manual labor, animal traction, or hired labor (none of the selected households accessed tractors)

**Table 2. Description of the variables used in regression analysis.**

### **3.4. Sample characteristics**

Table 3 provides an overview of the sample characteristics of the 87 households, showing answers from heads and spouses – as well as the arithmetic means. In the subsequent analysis, we will use the arithmetic means between the two answers. Households own on average 5 hectares of land. 86% of the household income comes from farming, of which 73% is from crop farming. The households own few assets.

Variable	Head (N=87)		Spouse (N=87)		Average (N=87)		Mann-Whitney
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	P-Value
<i>Individual-level</i>							
Age (years)	49	7.60	44	7.24	47	7.94	0.000
Education (grade)	6 <sup>th</sup>	2.88	4 <sup>th</sup>	2.64	5 <sup>th</sup>	3.01	0.000
<i>Household-level</i>							
Household size	-	-	-	-	9	1.76	-
Farm size (ha)	5	3.9	5	3.8	5	3.83	0.866
Income shares (%) ...							
... from farm	87	22.7	85	25.3	86	24.03	0.766
... from crops	72	26.7	74	24.1	73	25.41	0.723
... from livestock	16	18.7	15	18.6	15	18.57	0.784
... from off-farm	10	19.7	13	24.4	12	22.15	0.853
... from wage/salary	2	8.8	1	7.7	1	8.26	0.416
Assets (#)	-	-	-	-	3	1.64	-
Aspiration index	8.71	23.88	4.29	25.59	6.50	24.78	0.448

**Table 3: Descriptive statistics of households**

Notes: Arithmetic means are rounded.

Table 4 shows the sample characteristics of the selected boys and girls. Boys owned double the farmland area (0.13 ha) compared to girls (0.06 ha) and reported earning three times as much (\$6 per week) from on-farm and off-farm activities as compared to girls (\$2 per week). Boys estimated to inherit a much larger percentage of the parent's farmland than girls (22% as compared to 3%). Boys reported to be more exposed to media and urban areas.

Variable	Boys (N=87)		Girls (N=87)		Mann-Whitney
	Mean	Std. Dev	Mean	Std. Dev	P-value
Age (years)	16	2.07	15	2.01	0.001
Education (grade)	6	2.37	6	1.99	0.107
School satisfaction*	9	2.81	9	2.60	0.484
Academic performance (rank)	9 <sup>th</sup>	0.13	13 <sup>th</sup>	0.17	0.359
Farmland owned (ha)	0.13	0.36	0.06	0.32	0.030
Share land to be inherited (%)	22	27.63	3	8.37	0.000
Weekly income (\$)	6	1.75	2	3.00	0.000
Exposure index	8.44	2.44	7.41	2.83	0.007
Aspiration index	15.44	20.23	10.27	24.20	0.352

**Table 4: Descriptive statistics of adolescent boys and girls**

Notes: \*School satisfaction based on scales from 0-10 where 10 was the highest level of satisfaction.

Table 5 provides insights into the self-reported time-use of boys and girls during an average week in the farm season (reflecting the respective farm season). In terms of farm work, boys and girls have similar workloads (days/week) except during land preparation season when boys work 5 days per week and girls 2 days per week. The complementary qualitative evidence suggests that boys and girls work a similar amount of hours as well. Both boys and girls do domestic chores but girls spend significantly more days per week and hours

per day on such activities. On average, boys reported being more satisfied with farming activities than girls, while girls reported higher satisfaction with domestic chores; however, social norms may prime this perception.

	Boys (N=87)		Girls (N=87)		Mann-Whitney
	Mean	Std. Dev	Mean	Std. Dev	P-value
<i>Agricultural activities</i>					
Land preparation (d/wk)	5	2.12	2	2.54	0.000
Planting (d/wk)	3	2.04	4	1.95	0.134
Weeding (d/wk)	4	2.04	4	2.10	0.304
Harvesting (d/wk)	3	2.03	3	2.09	0.380
Processing (d/wk)	3	2.04	4	2.17	0.516
Farm satisfaction*	8	2.04	6	2.49	0.000
<i>Domestic activities</i>					
Cooking (d/wk)	1	1.27	4	2.26	0.000
Cleaning (d/wk)	1	1.62	5	1.87	0.000
Washing (d/wk)	2	1.30	3	1.89	0.000
Child/old/sick care (d/wk)	0	1.10	3	2.90	0.000
Fetching water (d/wk)	3	2.45	6	1.71	0.000
Collecting firewood (d/wk)	1	0.93	1	1.23	0.207
Overall domestic chores (h/d)	2	1.08	3	1.15	0.000
Domestic chores satisfaction*	5	2.85	8	1.85	0.000

**Table 5: Time-use activities in days per week of boys and girls**

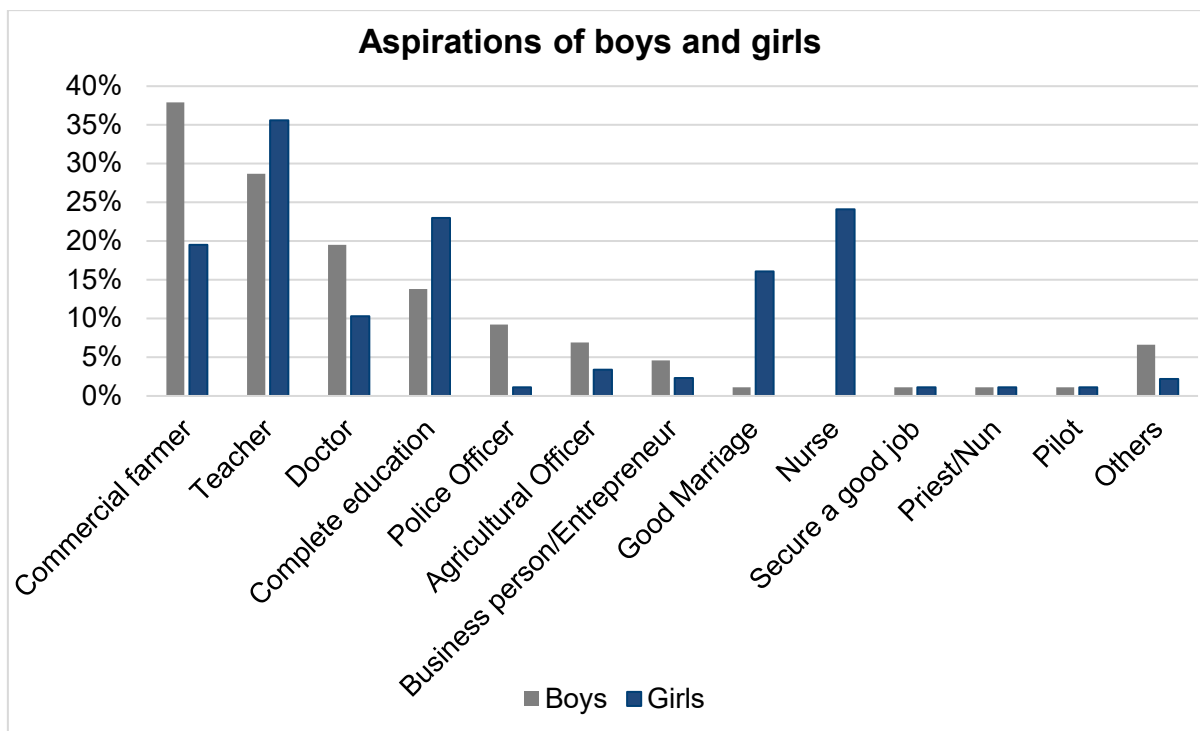
**Notes:** Time use for agricultural activities refers to the respective farming step (e.g., time spent on harvesting refers to a typical week during harvesting). \*Satisfaction was asked using scales from 0-10, where 10 was the highest level of satisfaction. Arithmetic means are rounded.

## 4. Results

### 4.1. What are the aspirations of adolescent boys and girls?

In a first step, we asked the youth about their aspirations in an open question to avoid framing effects. Figure 3 indicates that more young men (38%) desire to farm than young women (20%). Young females (36%) considered becoming a teacher to be a more desirable career than young males (29%). Girls more often envisioned themselves becoming nurses (24%), while boys (20%) saw themselves becoming doctors more often. For many girls, aspirations were not only occupational but also educational and marital. 16% of the girls aspired to a "good marriage" and 23% to "complete education".





**Figure 3: Aspirations of adolescent boys and girls**

When asked specifically about farming and allowing respondents to choose between full-time farming, part-time farming, and no farming, more boys (40%) desired full-time farming careers than girls (26%) (see Table 6). Also, more boys (45%) aspired to participate in farming on a part-time basis than girls (35%). In contrast, more girls (39%) were not aspiring to engage in agricultural livelihoods as compared to boys (15%).

	Boys (N=87)	Girls (N=87)
<b>Full-time farming</b>	40%	26%
<b>Part-time farming</b>	45%	35%
<b>No farming</b>	15%	39%

**Table 6: Distribution of the aspirations of youth in agriculture**

One reason for the girl's disinterest in agricultural livelihood was the physical demand of farming, as the following quote shows:

*"Most of the farm operations are done manually and such old-fashioned practices can be very stressful for females who still have to do some household chores after returning from the farm."* (Female FGD participant, 15 years, Lundazi)

Female youth who considered part-time farming explained their rationale with income diversification and to raise funds to realize their aspiration of securing jobs in the formal sector:

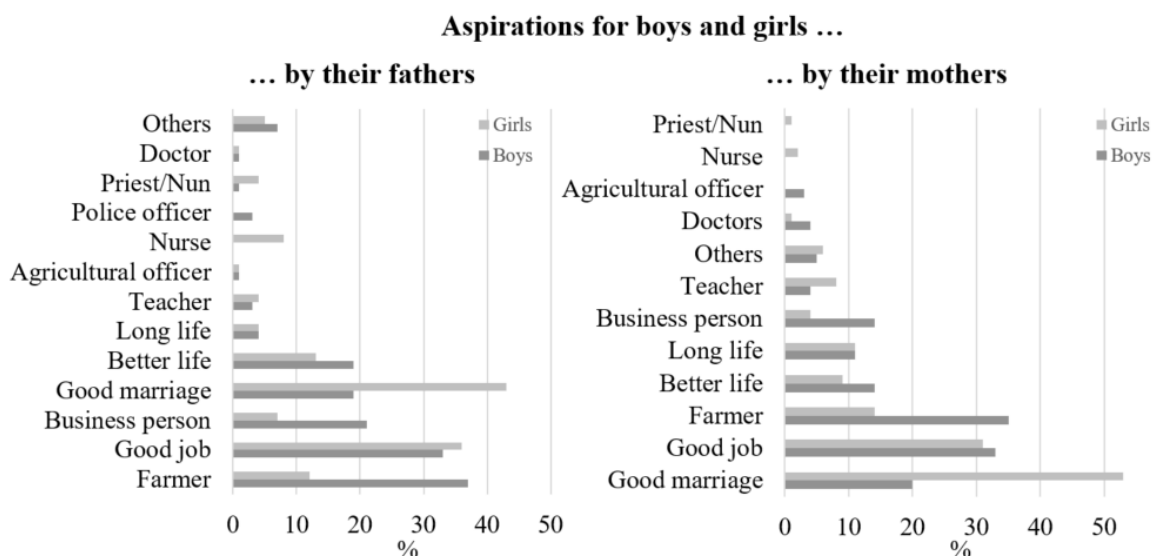
*“I will embrace farming as a part-time occupation to diversify family income by combining income that comes through regular salary as a policewoman to the income from farming.”*

(Female FGD participant, 15 years, Vubwi)

*“I will consider taking up farming temporarily to raise money and food required to realise my goal of becoming a teacher.”* (Female FGD participant, 12 years, Vubwi)

## 4.2. What are the parental aspirations for their adolescent sons and girls?

Figure 4 shows parents' aspirations for children when asking an open question to avoid framing effects. While 37% of the fathers desired their sons to pursue farming (37%), only 12% desired their daughters to become farmers. Most (43%) aspired girls to have a "good marriage". Similar to fathers, mothers more often aspired their sons (37%) to become farmers than their daughters (14%) and more often aspired a "good marriage" for their female children (53%).



**Figure 4: Parent's aspirations for their sons and daughters**

**Note: Multiple responses were possible.**

Table 7 shows the results when asking parents to choose between full-time farming, part-time farming, and no farming for their children. Both fathers and mothers were more likely to favored full-time or part-time farming for boys – and part-time or no farming for girls.

	Fathers aspirations (N=87)	Mothers aspirations (N=87)
... for boys		
Full-time farming	51%	52%
Part-time farming	38%	33%
No farming	11%	15%
... for girls		
Full-time farming	31%	30%
Part-time farming	48%	46%
No farming	21%	24%

**Table 7: Parent's aspirations in agriculture for sons and daughters**

The FGDs revealed that both fathers and mothers believed farming to be a lucrative business that can help male children to meet their responsibilities as future family heads in the absence of white-collar jobs. *Some mothers also desired (part-time) farming for their male children to preserve the family farm tradition:*

*"Farming is a very lucrative business with great potentials for young boys nowadays to leverage on in the absence of white-collar jobs to meet family obligations." (Male adult FGD participant, Lundazi)*

*"I desire my son to engage in part-time farming for the future just to preserve the farm family tradition." (Female adult FGD participant, Vubwi)*

Mothers' preference for a non-farm career for female youth associated with the labor burden associated with agriculture:

*"Although agriculture is very much profitable nowadays when cultivated on a commercial scale, farming is still very challenging for females because they're not as strong as the males in withstanding the stress associated with farming manually." (Female adult FGD participant, Mambwe)*

The motivation for some mothers who desire part-time farming for their daughters is to diversify income and ensure food security:

*"I prefer my daughter to practice farming on a part-time basis to diversify family income, ensure readily available food for home consumption, and to ensure she has something to fall back on in the event of job loss." (Female adult FGD participant, Vubwi)*

#### **4.3. Which factors and actors are associated with the aspirations of boys and girls?**

Table 8 shows different youth-related factors that may shape boys' aspirations towards farming. Boys' probability to envision full-time or part-time farming is significantly correlated

with farm satisfaction. Indicating a rural area as the desired place of residence was positively associated with the aspiration to become full-time farmers. Factors such as education and academic performance, youth exposure, group membership, aspiration level, location, and the estimated share of land inherited were not correlated with the aspirations.

	Full-time farming		Part-time farming	
	Estimate (S.E)	Exp (B)	Estimate (S.E)	Exp (B)
Education	0.102 (0.262)	1.107	0.188 (0.239)	1.207
Academic performance	-2.496 (3.693)	0.082	-1.244 (3.215)	0.288
Farm satisfaction	0.768*** (0.296)	2.156	0.539*** (0.203)	1.714
Exposure	0.074 (0.230)	1.077	0.170 (0.188)	1.186
Aspiration level	-0.060 (0.039)	0.942	-0.016 (0.039)	0.985
Land inheritance	0.005 (0.023)	1.005	0.009 (0.021)	1.009
Location (ref: peri-urban)				
Close to urban	-0.029 (1.480)	0.972	-2.021 (1.298)	0.133
Very remote area	0.691 (1.202)	1.996	-0.450 (1.031)	0.638
Desired location (ref: foreign)				
Rural	19.178*** (1.472)	2.133	2.208 (2.192)	9.099
Urban	17.170 (0.000)	2.862	1.574 (1.650)	4.826
Group membership	-1.598 (1.063)	0.202	-0.421 (0.911)	0.656
Constant	-22.422*** (3.443)	-	-5.770* (3.356)	-

**Table 8: Youth related factors associated with boys' aspirations towards agriculture**

**Note: Cox & Snell R<sup>2</sup> (=0.501) and Nagelkerke R<sup>2</sup> (=0.577) suggest that a high share of the variations in the dependent variable are explained by the independent variables. Significance is indicated with \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.**

Similar to boys, girls' probability of envisioning a livelihood in agriculture was related to farm satisfaction (see Table 9). Girl's aspiration level was negatively correlated with aspiring to a full-time farming livelihood. Girls with high aspirations are likely to want to leave full-time farming behind. Girls residing in more remote places were more likely to envision full-time farming and girls who wish to reside in urban areas were less likely to aspire to full-time farming.

	Full-time farming		Part-time farming	
	Estimate (S.E)	Exp (B)	Estimate (S.E)	Exp (B)
Education	-0.216 (0.496)	0.806	0.402* (0.229)	1.495
Academic performance	-14.279 (9.050)	6.292	4.920* (2.746)	137.058
Farm satisfaction	1.439*** (0.521)	4.214	0.456*** (0.155)	1.577
Exposure	-0.314 (0.299)	0.731	-0.151 (0.161)	0.860
Aspiration level	-0.099*** (0.038)	0.906	-0.031 (0.020)	0.969
Land inheritance	-0.014 (0.074)	0.986	-0.007 (0.051)	0.993
Location (ref: peri-urban)				
Close to urban	0.972 (2.017)	2.644	-1.479* (0.887)	0.228
Very remote area	4.155* (2.449)	63.782	-0.046 (0.925)	1.047
Desired location (ref: foreign)				
Rural	0.914 (2.695)	2.493	2.571 (2.118)	13.083
Urban	-6.037** (2.688)	0.002	0.333 (1.180)	1.395
Group membership	2.649 (1.653)	14.141	0.926 (0.783)	2.524
Constant	-3.672 (3.869)	-	-4.075* (2.279)	-

**Table 9: Youth related factors associated with girls' aspirations towards agriculture**

**Note: Cox & Snell R<sup>2</sup> (=0.698) and Nagelkerke R<sup>2</sup> (=0.788) suggest that a high share of the variations in the dependent variable are explained by the independent variables. Significance is indicated with \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.**

Table 10 shows how parent's own and farm characteristics correlate with boys' aspirations.

Boys from households using animal traction are much more likely to envision full-time or part-time farming and boys from households with more land are more likely to envision full-time farming. Boys whose mothers desire them to engage in full-time agriculture are more likely to actually envisage full-time farming. Male youth whose fathers have higher ambitions are less likely to envision full-time farming. Boys from households with more assets, an indicator for wealth, are more likely to plan to refrain from full-time farming.

	Full-time farming		Part-time farming	
	Estimate (S.E)	Exp (B)	Estimate (S.E)	Exp (B)
Household farm size	0.313* (0.174)	1.368	0.221 (0.144)	1.248
Assets	-0.822*** (0.349)	0.440	-0.329 (0.288)	0.719
Farm income	-0.042 (0.040)	0.958	-0.061 (0.038)	0.941
Crop income	0.010 (0.024)	1.010	0.008 (0.023)	1.008
Father aspiration level	-0.065*** (0.025)	0.938	-0.036 (0.022)	0.965
Mother aspiration level	0.010 (0.019)	1.010	0.001 (0.017)	1.001
Power source (ref: own labor)				
Animal traction	21.887*** (1.066)	3.201	4.843** (2.437)	126.816
Hired labor	19.991 (0.000)	4.809	2.961 (2.188)	19.324
Father aspiration (ref: no farming)				
Full-time farming	0.038 (1.453)	1.038	-0.238 (1.225)	0.788
Part-time farming	0.396 (1.527)	1.485	-0.038 (1.240)	0.963
Mother aspiration (ref: no farming)				
Full-time farming	3.063** (1.332)	21.401	0.663 (1.132)	1.941
Part-time farming	-1.236 (1.519)	0.283	0.620 (1.199)	1.858
Constant	-16.497*** (4.233)	-	2.445 (4.618)	-

**Table 10: Parents related factors associated with boys' aspirations towards agriculture**

**Note: Cox & Snell R<sup>2</sup> (=0.496) and Nagelkerke R<sup>2</sup> (=0.572) suggest that a high share of the variations in the dependent variable are explained by the independent variables. (\*\*\*)p<0.01, \*\*p<0.05, \*p<0.1)**

Table 11 show that girl's aspirations to the farm are equally strongly associated with the main power source of farming and that girls whose mothers aspire them to farm are more likely to do so as well. Similar to the case of boys, fathers' aspiration levels negatively correlate with adolescent girls' likelihood of envisaging a full-time farming career, but mother's aspirations positively correlate with the girls' likelihood to envision part-time farming

	Full-time farming		Part-time farming	
	Estimate (S.E)	Exp (B)	Estimate (S.E)	Exp (B)
Household farm size	0.154 (0.110)	1.167	0.076 (0.096)	1.079
Assets	-0.331 (0.244)	0.718	-0.270 (0.218)	0.763
Farm income	-0.008 (0.017)	0.992	-0.023 (0.016)	0.978
Crop income	0.001 (0.015)	1.001	0.019 (0.015)	1.019
Father aspiration level	-0.027* (0.015)	0.973	0.006 (0.014)	1.006
Mother aspiration level	0.014 (0.014)	1.014	0.026** (0.013)	1.026
Power source (ref: own labor)				
Animal traction	17.942*** (0.757)	6.194	0.208 (1.809)	1.232
Hired labor	17.324 (0.000)	3.341	-0.976 (1.790)	0.377
Father aspiration (ref: no farming)				
Full-time farming	0.138 (0.936)	1.148	-0.643 (0.924)	0.526
Part-time farming	-0.482 (0.895)	0.617	0.501 (0.756)	1.650
Mother aspiration (ref: no farming)				
Full-time farming	2.396*** (0.983)	10.979	1.064 (0.917)	2.897
Part-time farming	0.737 (0.917)	2.089	1.090 (0.750)	2.974
Constant	-18.080*** (1.964)	-	0.088 (2.707)	-

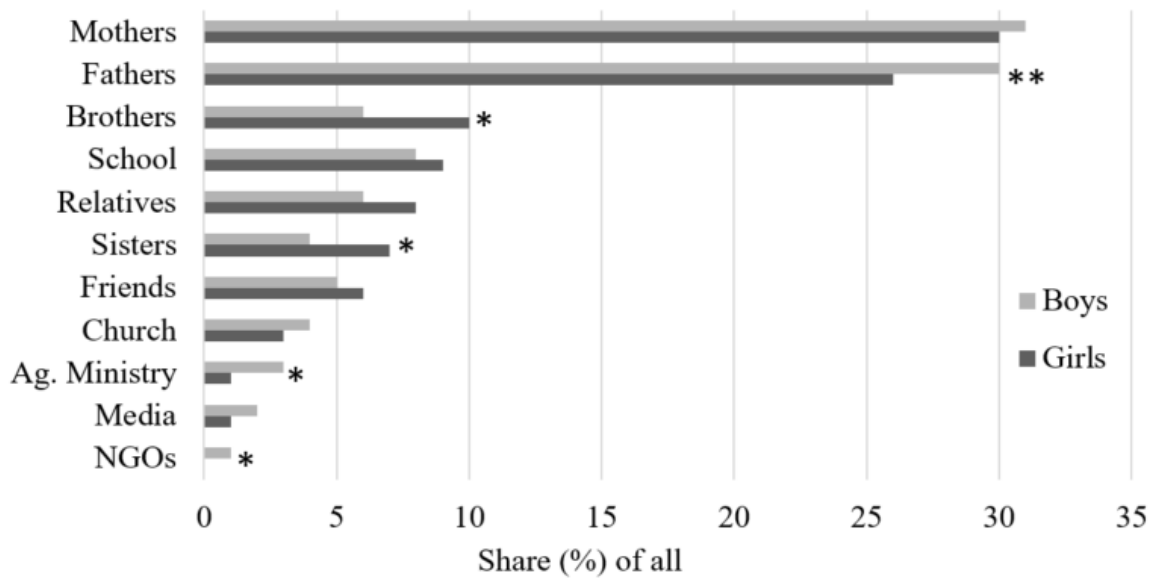
**Table 11: Parents related factors associated with girls' aspirations towards agriculture**

**Note: Cox & Snell R<sup>2</sup> (=0.351) and Nagelkerke R<sup>2</sup> (=0.396) suggest that a high share of the variations in the dependent variable are explained by the independent variables. (\*\*p<0.01, \*\*p<0.05, \*p<0.1)**

#### 4.4. Which actors influence youth aspirations towards agriculture?

Section 4.3 already gives some hints that the youth's aspirations towards farming are related to some degree with parents' aspirations for themselves and their children. Figure 5 shows which actors influence youth aspirations, revealing that mothers and fathers are most influential. Other notable actors are brothers, the schools, relatives, sisters, and friends, however, they all fall much behind the influence level of parents.

### Actors influence youth aspirations towards farming by gender

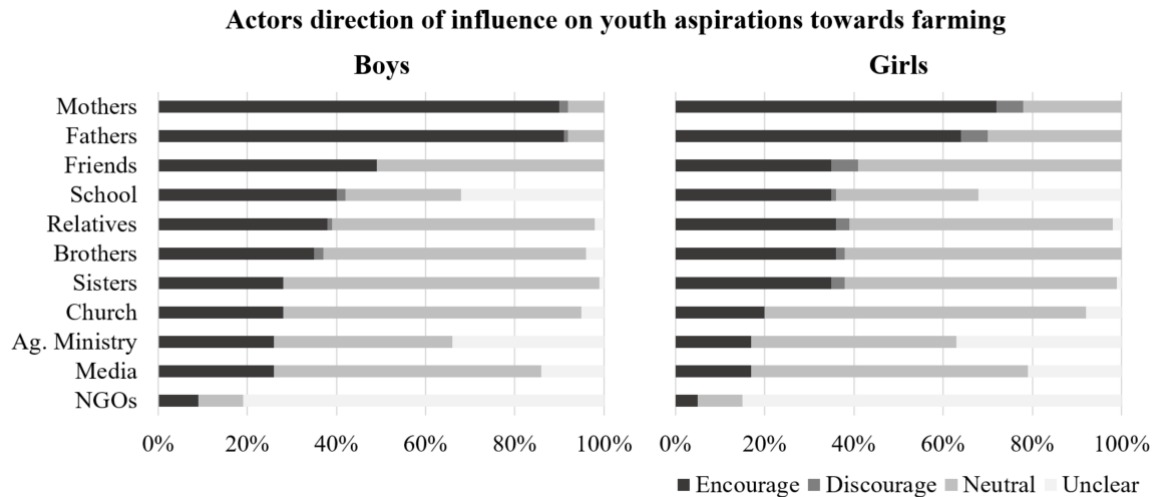


**Figure 5: Actors' influence on youth aspirations towards farming by gender**

**Note: Asterisks denote significant differences according to Mann-Whitney tests with \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.**

Figure 6 shows that fathers and mothers mostly encouraged sons and daughters to engage in agriculture. In the case of girls, the share of parents discouraging them from farming or being neutral about a farming future was higher. The focus group discussions revealed that farm families often encourage their children, in particular sons, to farm by giving them some land to cultivate.

*“A child in a rural area cannot be educated without farming. (...) Our children, especially the male youth, are giving a portion of land to cultivate while observing how family farmlands are cultivated (Male adult FGD participant, Vubwi).*

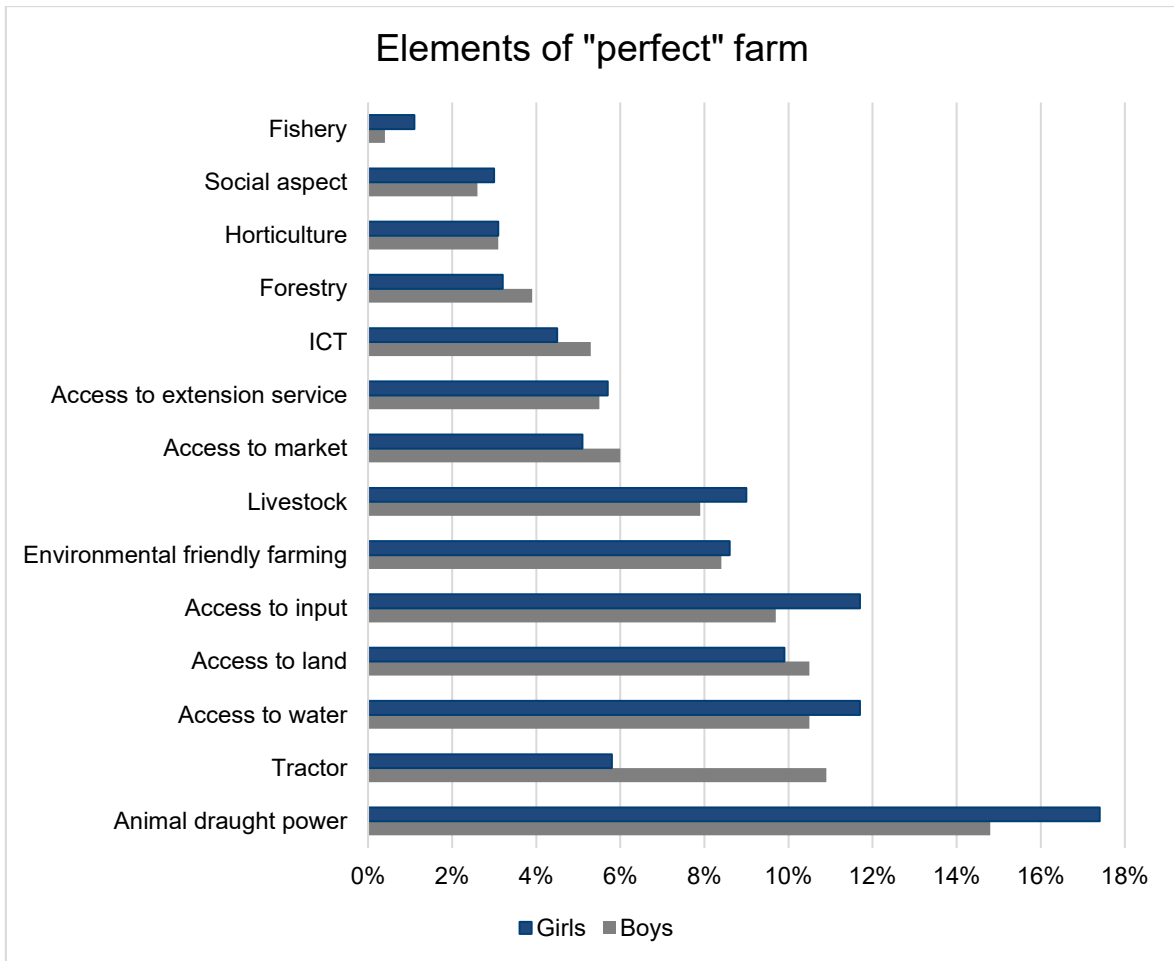


**Figure 6: Actors' direction of influence on youth aspirations towards farming**

#### 4.5. What does the perfect farm look like?

Figure 7 shows how the youth imagined their "perfect farm", confirming the central role of labor-saving mechanization. Both boys (15%) and girls (17%) saw animal draught power as a key element of the "perfect farm". 11% of the boys and 6% of the girls envisioned tractors. Other key elements include access to water, e.g. in the form of irrigation, as well as inputs and land. Both boys and girls considered environmentally friendly farming to be key. Overall, there were no pronounced gender differences.





**Figure 7: Key elements of the ideal farm in order of importance by gender**

## 5. Discussion and conclusion

This study has explored actors and factors shaping youth aspirations towards farming, in particular the role of parents' personal and farm characteristics, and structural gender differences. A better understanding of the mechanisms affecting youth aspirations and gender differences can help to design more effective and appropriate policy interventions for “youth in agriculture”.

The results reveal a large influence of parents' aspirations on children's aspirations. Fathers and mothers were perceived as (far) more influential for the formulation of the aspirations than other social network members such as peers, the church, or the media. The econometric results suggest a significant relationship between father's aspirations and children's aspirations towards farming and between mothers' aspirations for their children

and their likelihood to envision farming. This corresponds with Ball & Wiley (2005) who found a significant relationship between the aspirations of parents and children regarding the generational succession of family farms in the United States of America.

Parents mostly envisioned full-time farming for male youth, contradicting empirical research from other countries in Africa where most parents desired their children to leave farming (Tadele & Gella, 2012; Verkaart et al., 2018). For daughters, parents typically envisioned livelihoods based on part-time farming or outside of agriculture. This corresponds with culturally prescribed gender roles such as male “breadwinners” and female “caregivers”. Fathers and mothers typically aspired to a “good marriage” for their daughters.

Mirroring the parent's aspirations for them, the results showed that boys are more inclined towards farming (full-time or part-time) than girls, who mostly desired non-farm livelihoods. This reflects several other studies from various developing countries (Elias et al., 2018; Rietveld et al., 2020; Tadele & Gella, 2012). The gender differences can be explained by the parent's aspirations which are more likely to discourage daughters from farming (full-time) and encourage sons to farm. For sons who want to farm this is positive reinforcement: they are supported to fulfil their aspirations, for example, by receiving farmland. In contrast, young men who do not want to farm may feel “locked” into farming by parental expectations and societal norms. This may help to explain why boys with high aspiration levels are not more likely to refrain from farming than those with low aspirations. In contrast, girls with higher aspiration levels were significantly more likely to aspire to a future outside of farming. To some extent, this may also reflect gender norms, however, high-aspiring boys can also channel their energy into becoming large commercial farmers, while high aspiring girls face constraints to pursue such a vision and gender disparities often relegate women's roles as farmers to family subsistence. This would reflect Rietveld et al. (2020) who found that young women are particularly likely to see no future in commercial farming. For girls, this corresponds with the findings from a cross-country study where young people with high aspirations were more commonly deserting rural areas and farming in search of high-status occupations and a better life (Mussa, 2020).

Next to parents' aspirations and support, farm satisfaction plays a large role. The results show a significant relationship between the youth's farm satisfaction and their aspirations towards farming. The observation that girls are – on average – less satisfied with their current farming experiences may also help to explain why they are more likely to envision a non-farming livelihood. Girls may be less satisfied because they face different tasks as compared to boys and perceive farming as more burdensome (Rietveld et al., 2020). Moreover, while boys know they will obtain some farmland from their parents – and often already cultivate some farmland on their own - girls are less likely to receive farmland, which may affect their satisfaction level. However, the estimated share of farmland inherited was not significantly correlated with youth aspirations. Experiencing their mothers as less powerful regarding farm decision-making may also explain why girls are more likely to refrain from farming (Rietveld et al., 2020).

There is a need for continued effort to promote women's and girl's empowerment, both because this affects their wellbeing but also because this affects aspirations. The results show that gendered differences in the division of labor and access to and control over resources can influence the scope and range of young people's aspirations. Gendered disparities such as the intergenerational transfer of land from fathers to sons align with the cultural expectation of women in caregiving roles (as wives to male landowners, or as nurses/teachers) and men in leadership and provisioning roles (as husbands and household heads, or as doctors). While the study indicates parents' interest in their children's welfare, the unequal opportunities - manifest in these forms of gendered socialization and entitlement – inevitably translate into gendered aspirations for their children (Quisumbing, 2007). It is these differences in treatment and expectation that significantly encourage and sometimes curtails the range of aspirations, particularly for young girls.

Efforts to reduce the barriers faced by girls to aspire to occupations of 'choice' are therefore encouraged. Such initiatives may involve engaging men and boys as positive agents of change through exchanges with women and girls to harness opportunities that challenge embedded beliefs and gender barriers. If mothers faced fewer burdens to farming, for

example in the form of increased access to inputs and/or more equal control over the use of farming incomes, perhaps more young girls would aspire to be commercial or full-time farmers. It follows that rural and agricultural transformation can also affect boy's and girl's aspirations. It is also noteworthy that the "perfect farm" mostly centered on labor-saving mechanization (Daum, 2019). The regression analysis also suggests a strong link between the types of power sources on the parent's farms and aspirations, highlighting the need for continued efforts for mechanization to make farming attractive (Daum & Birner, 2020). Beyond mechanization, several other aspects are central to the "perfect farm", including access to water, land, inputs, and services but also the notion of "environmentally friendly farming".

Overall, the strong link between parent's and children's aspirations, and the key role of parents for the realization of children's aspirations, e.g. through the transfer of land, suggest that policies, programs, and projects focusing on rural youth should go beyond working with the youth alone. Instead, a whole-family approach seems recommendable, where both parents are equally addressed. In education, this could take the form of parent-teacher associations or locally organized 'career fairs' for youth and their parents. Without such initiatives, efforts to encourage specific livelihood pathways for boys and girls may be undermined by conflicting parents' aspirations, leaving the youth torn in-between. This may be of particular importance where parents are unable to assess the "opportunity space" of the youth. The strong role of parents' aspirations raises some doubts on whether youth can exercise agency in pursuit of their "true" aspirations. For example, boys may pursue a farming career to conform to their parent's aspirations and societal norms, and, vice versa, girls may pursue a non-farming career to also conform to their parent's aspirations and social norms. This tension between obligations and aspirations may threaten the youth's future well-being.

This study faces some limitations, including small sample size and external validity. Both parent's and youths' aspirations may reflect localized socio-economics factors such as culture, traditions, social norms, and the "opportunity space" (IFAD, 2019). As shown by

Chamberlin et al. (2021), rural vibrancy affects youth aspirations to some degree. All of these aspects may be different in other African countries, as well as in other low- and middle-income countries. This also includes the importance of parents for the formation of youth aspirations, who may be more or less important in other countries. However, as shown by the World Value Survey (2020), “traditional societies”, which are characterized by a strong respect for one’s parents (“regardless of how they behave”), are common across African, Arab, and Latin American countries. In such societies, the suggested “whole-family” approach seems to be of particular importance to ensure that youth can pursue livelihoods that can sustain them – physically but also psychologically.

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