Work and Rural Livelihoods: The Micro Dynamics of Africa's 'Youth Employment Crisis'

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Abstract

While it is widely accepted that Africa is experiencing a youth employment crisis, the nature of the crisis is disputed. In relation to rural youth, the crisis is variously framed in term so unemployment, underemployment, missing jobs, a lack of decent work, waithood and mixed or diverse livelihoods; with each framing pointing toward a different response. We look more closely at how young people engage with the labour market using a small, high-frequency dataset that includes activities of 233 individuals aged 18–24 years in rural areas of Ghana and Uganda. Specifically, we describe four dimensions of their work (its nature, frequency, steadiness and amount), analyse relationships between these dimensions, and link them with characteristics of the study participants. We conclude that in the early phases of livelihood building non-domestic work activities of young people are multi-faceted, context and seasonally specific, and highly gendered. This reflects, in part, different priorities given to education, domestic work, childbearing and social relations relative to economic activities. This study highlights the need for a better understanding of the various factors—including individual priorities—that come into play in the early phases of livelihood building, and their implications for when and how young people engage with non-domestic work.

Keywords Work · Gender · Ghana · Uganda · Young people · Labour market

Résumé

S'il est largement admis que l'Afrique traverse une crise de l'emploi des jeunes, la nature de la crise ne fait pas l'unanimité. En ce qui concerne les jeunes en milieu rural, la crise est expliquée de différentes façons, en termes de chômage, de sous-emploi, d'emplois manquants, de manque de travail correct, de "waithood" et de moyens de subsistance mixtes ou diversifiés; et chaque explication nous oriente vers une solution différente. Nous examinons de plus près la façon dont les jeunes s'engagent sur le marché du travail, à l'aide d'un ensemble de données à haute fréquence qui comprend

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les activités de 233 personnes âgées de 18 à 24 ans dans les zones rurales du Ghana et de l'Ouganda. Plus précisément, nous décrivons quatre aspects de leur travail (la nature, la fréquence, la stabilité et la charge du travail), nous analysons les liens entre ces aspects et nous les relions aux caractéristiques des participant.e.s à l'étude. Nous concluons que lors les premières phases de recherche de moyens de subsistance, le travail non domestique des jeunes est multiforme, spécifique au contexte et saisonnier, ainsi que fortement sexospécifique. Cela reflète en partie les différentes priorités accordées à l'éducation, au travail domestique, à la maternité et aux relations sociales par rapport aux activités économiques. Cette étude souligne la nécessité de mieux comprendre les divers facteurs - y compris les priorités individuelles - qui entrent en jeu lors des premières phases de recherche de moyens de subsistance, et leurs implications sur le moment et la manière dont les jeunes s'engagent dans le travail non domestique.

Introduction

There is broad agreement that sub-Saharan Africa (SSA) is experiencing a serious youth employment crisis (AfDB 2016; Fox et al. 2016; Losch 2016). In most accounts this crisis is tightly linked to a slow demographic transition that results in a 'youth bulge', a relatively large share of the population being comprised of children and young adults (UN 2018). However, the youth bulge can only be a partial explanation: large shares of young people entering the labour market are neither new nor specific to SSA (cf. Bloom and Williamson 1998), and the youth share of both the whole population and the working age population has been declining since around 2005 (Fox 2019). Because many young people attend school and may not be working, labour force participation by young people is generally lower than by adults, suggesting that the youth share of the labour force would have peaked even earlier than 2005.

SSA's youth employment crisis is described in different ways and analysed from different perspectives, but the dominant perspective frames the crisis primarily in terms of unemployment (and less often, underemployment). For example, AGRA (2015) cites ILO to the effect that unemployment among African youth is twice as high as among adults, is projected to remain at around 12%, and is linked to higher levels of poverty. High youth unemployment features in other problem analysis (e.g. African Union 2011; IDRC 2015). However, any analysis of unemployment among youth in SSA is hampered because, as noted by Golub and Hayat (2015):

> 'Data on employment in Africa is sparse and not very up to date. The very concepts of labour force participation, employment, and unemployment used in developed economies are problematic in low-income Africa' (p.137).

Nevertheless, using nationally representative data from nine African countries, Yeboah and Jayne (2018) conclude that the employment structure among young people is similar to that of the whole working-age population, and that farming remains the largest source of employment among young people. They hypothesise

that the relatively low rate of unemployment among the working-age population overall (9%) reflects the fact that in the absence of social protection schemes people can ill afford not to work.

Given the dominance of informal employment (Sumberg et al. 2020b), and the fact that the majority of young people still live in rural areas, some authors suggest that underemployment rather that unemployment is the more important dimension of the crisis (Fox et al. 2016). However, if data on unemployment are sparse, reliable data on underemployment are non-existent.

Those who highlight high youth unemployment or underemployment tend toward one of two explanations. The first, and perhaps the most common, is the existence of a 'skills gap', which refers to the mismatch between the skills that young people bring to the labour market and the skills needed by employers (e.g. Yeboah 2018). The notion of a skills gap focuses attention on the poor quality and limited labour market relevance of much formal education (The World Bank 2018), the need for curriculum reform including 'soft' and 'employability' skills (Assan and Nalutaaya 2018), and opportunities for technical and vocational education and training (TVET) (African Union 2007; FAO et al. 2014; McGrath et al. 2019). Messy, drawn-out, non-linear transitions between school and work, which Nilsson (2019, p.746) described as 'multiform and dynamic', including 'reversed transitions (going back to school) as well as simultaneous presence in multiple states (working while in school, holding several jobs etc.)' are seen by some as further evidence of the skills gap. In any case, the notion of a skills gap is central to the justification of a long-standing policy and investment focus on 'training' and 'capacity building', despite less than impressive results (Fox and Kaul 2017; Kluve et al. 2017).

The second explanation shifts the focus away from the supposed deficits of young people and toward the economy. Here the argument is that there is simply not enough jobs: rather than an employment crisis, SSA is experiencing a 'missing jobs' crisis (Betcherman and Khan 2018; Sumberg et al. 2020a). While the need to boost formal job creation in the manufacturing and services sectors has been well recognised (Filmer and Fox 2014; Monga et al. 2019), this has proven to be easier said than done. For some, the lack of jobs is more than an economic problem. In developing the notion of 'waithood' for example, Honwana (2012) suggests that lack of employment opportunities is delaying African young people's attainment of social adulthood. Specifically, she suggests that:

'the majority of young Africans today live in waithood' [which is] 'a neither-here-nor-there position in which young people are expected to be independent from their parents but are not yet recognised as social adults. No longer a brief transitional stage in the life-course, waithood is becoming a permanent condition' (p.20).

Another perspective defines the crisis in terms of a decent work deficit, and specifically highlights the predominance of informal labour arrangements which mean that much of the work that many young people do is to one degree or another unsafe, insecure, poorly remunerated, and/or seasonal (Elder and Koné

2014). They also mean that young people's work is generally not covered by labour legislation, regulatory regimes or social protection schemes. Table 1 uses the International Classification of Status in Employment 2018 (ICSE-18) (ILO 2018) to illustrate that many workers in SSA, and particularly in rural areas, should be considered as 'In employment for Profit' (i.e. they are self-employed), meaning they themselves carry the bulk of economic and livelihoods risk. This suggests that without any legal protection or employment-related benefits, the goal of 'decent work for all' (SDG 8) is a long way off. The most common explanation again points toward an anaemic, uncompetitive formal sector constrained by lack of strategic focus and investment, combined with a burden of corruption and overregulation (The World Economic Forum 2017).

A third perspective on the youth employment crisis focuses not on being employed or not, or the nature of the work, but how different work activities are brought together to build and support livelihoods. Here the language of side-hustle, and mixed, portfolio or diversified livelihoods comes to the fore (Bryceson 1999; Mwaura 2017; Williams and Pompa 2017), with the suggestion that many young people engage with the labour market by trying, combining, and juggling. The notion of 'necessity entrepreneurship' (Llisterri et al. 2006; Langevang et al. 2012) has also been used to describe how many young people are forced to create their own survival jobs, and contrasts with the proposition that because of the innate innovative capacities of African youth, entrepreneurship offers a viable route to a secure and decent livelihood (Chigunta et al. 2005; Kew et al. 2015; Dolan and Rajak 2016).

Because of a lack of empirical data, there is at present no consensus as to which of these perspectives best describes the employment crisis experienced by rural youth in SSA. Even the ILO designed 2012–2013 school-to-work transition survey, which covered 26,400 young people across eight African countries, offers only limited insights (Elder and Koné 2014). These gaps in evidence and understanding are a major constraint to the formulation of effective policy and programming to address Africa's youth employment challenge.

To help address this gap, in this paper we analyse the micro-dynamics of young people's engagement with work over a 12-month period. Specifically, we use data collected from samples of rural young people, aged between 18 to 24 years, living in northern Ghana and Eastern Uganda to ask: What does the youth employment crisis actually look like in rural areas? Using a unique, relatively high frequency data set we analyse the work and other activities of a total of 233 individuals. We are particularly interested in gaining new insight into young people's engagement with the labour market during the early phases of livelihood building.

The remainder of the paper is organized as follows. Section "Methods" presents the methods. Section "Results" first describes the two samples; then goes on to focus on four dimensions of the participants' engagement with work; and, finally, examines conditional correlations of work patterns using multiple regression analysis. Section "Discussion and implications" discusses the implications of the analysis and concludes.

Table 1 Classification of status of employment by type of authority and type of economic risk

Authority	Economic risk	
	In employment for pay	In employment for profit
Independent workers	*ICSE specification* Employers in corporations Owner-operators of corporations <u>without</u> employees	*ICSE specification* Independent workers <u>without</u> employees (inc. own-account workers in household market enterprises without employees Employers (inc. employers in household market enterprises)
	SSA examples	*SSA examples* Smallholder farmer or livestock producer Petty trader / hawker Operator of family enterprise (hairdresser, tailor, brick maker, shop / bar / restaurant operator) Driver of own motorcycle, taxi or lorry
	SSA importance[b] VERY FEW workers	*SSA importance*[b] MANY rural workers MANY urban workers
Dependent workers	*ICSE specification* Employees (inc. permanent, fixed-term, short-term and casual, paid apprentices, trainees and interns)	*ICSE specification* Dependent contractors Contributing family workers
	SSA examples Civil servant[a]/teacher[a] Employee in formal[a] or informal business or organisation Casual farm labourer Domestic helper	*SSA examples* Family member working on family farm or in family enterprise Sharecropper Driver of hired motorcycle, taxi or lorry
	SSA importance[b] SOME rural workers MANY urban workers	*SSA importance*[b] MANY rural workers SOME urban workers

Source Authors' illustration based on ICSE-18 (ILO 2018)

[a] These are the only workers who are likely to be organised or have any meaningful protection under employment law

[b] Authors' estimates

Methods

Between April 2015 and April 2016 the *Youth Livelihoods Diaries* project, funded by the Mastercard Foundation, collected information on the activities (work and other), income, savings, borrowing, expenditure and financial shocks of small samples of young people in northern Ghana and Eastern Uganda (Williams and Pompa 2017). Some of these data, collected on a biweekly basis over a 12-month period, are re-analysed in this paper.

Participants were identified through a purposive sampling strategy. They were first contacted through community engagement exercises, where the nature and purpose of the research were presented. After expressing interest, potential participants were screened based on criteria of suitability for the diary methodology (e.g., permanent resident, having time available during working hours, and being comfortable discussing personal issues). A balanced representation of men, women, age groups, and those in school and out of school was sought. This process resulted in the identification of 126 and 142 participants in Ghana and Uganda, respectively. The data collection process was designed to be a minimal burden on participants, and there was a low attrition rate: over the course of the study, more than 80% of the original sample (84% in Ghana and 82% in Uganda) provided data for more than 95% of the data collection periods. Data were collected by local young people who were trained to use a tablet device to ask and record answers to a standard set of questions every two weeks. The interviews consisted of closed questions with pre-established answer categories.

In Ghana, the research took place in the Upper East Region, close to Navrongo, the capital of the Kassena-Nankana District. Study participants lived in Gaane, Korania, Nangalkinia, Nimbasinia, Pungu Wusungu, Vanania and Wuru villages, located approximately 10 kms from the centre of Navrongo. The major economic activity of the area is small-scale, rainfed agriculture and related activities, with most individuals being self-employed. This area has a unimodal rainfall pattern with a dry period between October and April. Main crops include millet, maize, groundnut, corn, sorghum, cowpeas and onions. Some irrigated vegetables are produced during the dry season. Livestock including poultry, goats, sheep and cattle are also raised. Historically, the north of Ghana was a source of labour for cocoa production in the south of the country, and there is still significant seasonal and more permanent migration to the south by young people and others in search of work and land (Gough and Birch-Thomsen 2016; Wiemers 2017). At 13.1%, the incidence of poverty in Kassena-Nankana District is the lowest among the districts in the Upper East Region (Ghana Statistical Service 2015), although the north of Ghana is still generally poorer than the south.

The study site in Uganda included the villages of Magamaga, Mpungwe, Bugaya, Bukaye, Buswiga, Buwaaya, Buwaiswa, Kabayigire, Nabitambala, Nakatte and Namaganga located in the Jinja, Iganga and Mayuge districts of the Eastern Region. These villages are within 70 kms of Jinja town. In this area the economy is dominated by small-scale, rainfed agriculture, with the main crops including maize, banana, millet, cassava, beans, and soya beans. The area is

characterized by a relatively high incidence of persistent poverty (25%): in these districts, the annual percent reduction in poverty between 2006 and 2013 was approximately half of that seen in the Central and Western regions overall (The World Bank 2016).

In both countries, participants were asked about their work activities and the time spent on these. The activities included crop, horticulture and/or livestock production on their own farms and/or on the farms of their parents; wage employment on other people's farms and in small businesses; and self-employment activities including small-scale food processing, trading, repair work and other services. In addition, time spent on other kinds of activities was also recorded. Reproductive activities included childcare, caring for elderly, cooking and cleaning. Community activities included attending meetings, resolving conflicts, helping with life-events, helping other households, organizing parties or events, talking to government agencies on behalf of community and informing community members. Social activities included welcoming guests, visiting others, going to a public place, sports and clubs.

For the purposes of this analysis, individuals who participated in less than 20 of the 26 rounds of data collection have been dropped. This resulted in 8 and 27 individuals being dropped from the Ghana and Uganda samples, respectively. Further, a few individuals reported working what appeared to involve an excessive number of hours during some periods. In these cases, a decision was made to cap the maximum number of hours worked at 120: this affected 6 individuals in Ghana and 16 individuals in Uganda.

One of the limitations of this dataset is non-representativeness of the samples because of the purposive sampling strategy. This means that the findings from the analysis cannot be generalized for the entire youth population of the selected districts. However, given the efforts made to balance the samples by gender, age and level of schooling, we believe they still provide useful insights into work patterns of young people in the selected villages. Further, the frequency of data collection as well as the low attrition rates helps ensure internal validity.

Rainfall data for the study period, which is used as a proxy for seasonality, come from the RP5 database and refer to the towns of Navrongo in Ghana and Jinja in Uganda, the closest points for which detailed data were available.[1] We used principal component analysis (PCA) to create a socio-economic asset index that captures both the economic and social differences for participants.[2] In addition to the usual array of consumer and production assets that is captured in standard asset indexes, two 'social assets' were included in the index: being in a relationship (i.e. when a participant described themselves as not being single) and having at least one child. Our contention is that both of these can legitimately be considered as assets because they bring an expanded set of social relations (and the potential to access financial and other resources, see Flynn and Sumberg 2017) and enhanced social standing

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[1] https://rp5.ru

[2] Consumer assets include bicycle, motorbike, house, furniture, TV, radio, fridge, phone, computer/laptop, tablet, electric fan and electric iron. Productive assets include building material, land, cattle, cutlass and plough. Social assets include having a child and being in a relationship.

Table 2 Individual characteristics of participants (on average, unless indicated otherwise)

Characteristic	Ghana				Uganda			
	All	Male	Female	p value	All	Male	Female	p value
Age (years)	21	21	21	0.727	21	21	21	0.286
	(2)	(2)	(2)		(2)	(2)	(2)	
Currently in education (%)	44	39	51	0.179	19	19	20	0.893
	(50)	(49)	(51)		(40)	(39)	(40)	
Single (%)	75	63	91	0.000	62	46	79	0.000
	(43)	(49)	(30)		(49)	(50)	(41)	
Children (%)	31	48	9	0.000	50	64	36	0.002
	(46)	(50)	(30)		(50)	(48)	(48)	
Grew up in a village (%)	93	95	91	0.304	86	88	84	0.520
	(25)	(21)	(30)		(35)	(33)	(37)	
N	118	65	53		115	59	56	

Standard deviation in parentheses

(i.e. they are markers of social adulthood). These may be of particular importance to young women as they begin to build their livelihoods.

Finally, we use multiple regression analysis to examine the determinants of the frequency of work (henceforth, work pattern). We begin by estimating a simple probit model, defining a variable that takes the value 1 if an individual is in a specific work pattern and 0 otherwise (Model 1). Then, we estimate an ordered logit model (Long and Freese 2006) to check for robustness of our results (Model 2). Model 2 is for ordered categorical dependent variables, taking into account their ordinal nature. In this case, the dependent variable has three ordered categories referring to the pattern (frequency) of work: Less Often, Often and Most Often. To examine the relationship between work patterns and type of work, we use the ordinal logit estimation. These analyses allowed us to examine the significant factors explaining the likelihood of working more often, while controlling for various individual characteristics.

Results

The Samples

Table 2 provides basic descriptive statistics for the two samples. In Ghana, there are statistically significant differences in the percentage of men and women in the sample who are single (91% for men vs 61% for women) and in the percentage of those who have at last one child (9% for men vs 49% for women). In Uganda, similar patterns are observed, with statistically significant differences in the percentage of

those who are single (80% for men vs 46% for women) and the percentage of those having at least one child (34% for men vs 64% for women).

Four Dimensions of Work

In this section, we propose and describe four dimensions of the work undertaken by the study participants, and the relationships between them. The four dimensions, outlined in turn below, are: (1) Nature, (2) Frequency, (3) Steadiness, and (4) Amount. The focus here is on economic activities; reproductive activities, including unpaid care work, were dealt with separately.

Nature of Work

The first dimension looks at the 'nature of work' undertaken by the study participants. All reported work was grouped under one of three headings. Own Farm work includes all crop and livestock activities undertaken by the participants on their own account for consumption or sale. Self-employment includes all work for which the income was earned directly, and includes, for example, petty trading, small-sale catering, trades and many other activities, but excludes own farm work. Strictly speaking, Own Farm work is also self-employment, but we have separated these to highlight the continued importance of farming. Finally, wage employment includes all situations in which labour is supplied in exchange for a wage or salary, which could involve agricultural or any other kind of work supplied by the day, or for longer periods. From these types of work, we construct three reporting categories: (1) Own Farm Only; (2) Own Farm Plus (where Own Farm is combined with other self-employment or wage employment); and (3) Other (self-employment or wage employment, without any Own Farm).

Using these categories, Table 3 shows the average work profile over the year (periods when no work was reported are not included). Own Farm—either alone or in combination with other activities—is critically important in both countries, as also found by Yeboah and Jayne (2018). Participants reported engaging in Own Farm work during 85% and 83% of the periods in which they worked in Ghana and Uganda, respectively. In Ghana, Own Farm Only (45%) was slightly more frequent than Own Farm Plus (40%), while in Uganda there was no difference between them.

Figure 1 shows how engagement in the different work activities evolved over time, and in relation to periods of No Work and rainfall. In Ghana, the large increase in No Work from December corresponds with decreases in Own Farm Only and Own Farm Plus, and an increase in Other work. In other words, the dry season not only means less frequent work, but also a shift in the type of work. Own Farm does not disappear completely during the dry season, which may reflect, for example, engagement in small-scale irrigated vegetable production. In Uganda we observe a sharp decline in Own Farm Plus from May, associated with an increase in No Work, Own Farm Only and Other. Work composition then remains relatively stable until an increase in Other work is seen during March to April.

Table 3 Summary statistics across four dimensions of work

Dimension	Ghana						Uganda						p value[b]
	N	Mean	SD	Median	Min	Max	N	Mean	SD	Median	Min	Max	
1. Nature of work													
Own Farm Only (periods if>0)	111	7	5	6	1	21	94	8	6	6	1	23	0.000
Own Farm Only (%)	111	45	26	41	4	100	94	41	30	31	4	100	0.506
Own Farm Plus (periods if>0)	106	7	4	6	1	19	111	9	6	8	1	24	0.000
Own farm Plus (%)	106	40	19	39	6	86	111	42	24	40	5	100	0.180
Other (periods if>0)	77	4	4	3	1	16	78	6	5	5	1	17	0.036
Other (%)	77	29	24	23	4	100	78	29	24	25	4	94	0.000
2. Frequency of work (% of periods worked)	118	63	26	65	4	100	115	78	19	85	15	100	0.000
3. Steadiness (periods)[a]	118	2.4	2	2	1	16	115	3.2	3	2	1	25	0.089
4. Amount (hours per two-week period)	117	41	30	31	1	120	115	65	34	57	12	120	0.791
5. Amount (total hours over year)	116	659	550	503	1	2391	115	1380	971	1121	158	3120	0.006

[a]Number of consecutive periods during which the same category of work was pursued

[b]Compares Ghana and Uganda
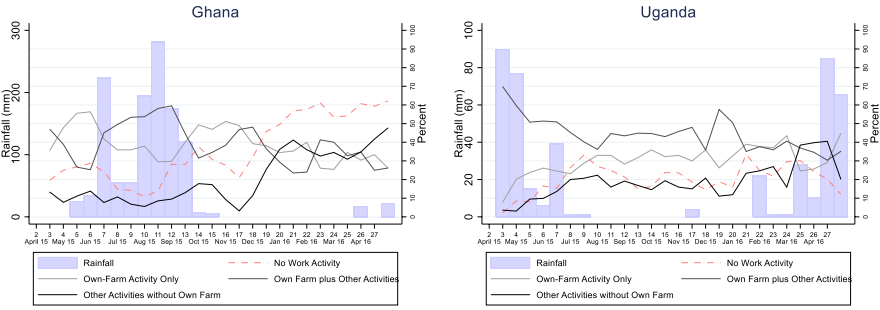
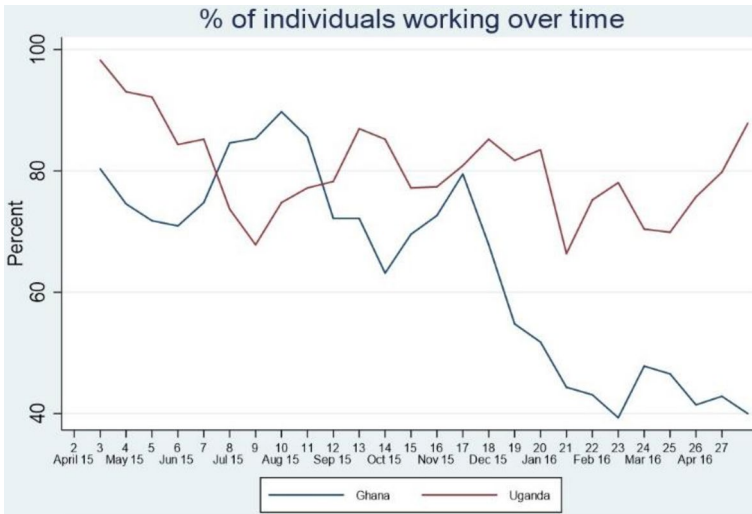**Fig. 1** Evolution of type of work over the study period

Fig. 2 Percentage of individuals working over the study period

Frequency of Work

Frequency of work looks at the share of two-week periods that participants reported undertaking any kind of work (Table 3). On average, they reported working during 63% and 78% of periods in Ghana and Uganda, respectively. Not only did participants in Uganda work during a greater share of periods, but in Ghana the distribution was weighted considerably more towards the lower end. In other words, more individuals in Ghana seemed to work only on an occasional basis. Indeed, while 22% of individuals in Ghana worked during 40% or less of the reporting periods, this figure was less than 5% in Uganda. On the other hand, nearly 50% of individuals in Uganda worked in 80% or more of all periods, while in Ghana only 28% of individuals worked this frequently.

Figure 2 shows how the frequency of work evolved over time. In Ghana, the percentage of individuals working went from a high of 90% in August to a low of 40%

in February/March. This strongly reflects the seasonal agricultural calendar in northern Ghana, with engagement in work dropping considerably during the dry season between December and April. In contrast, in Uganda, the percentage of individuals working declined from a peak of more than 95 in April/May, to roughly 70 in July/August before recovering and declining again in January/February. The bimodel rainfall pattern in the Jinja area, and the absence of a prolonged dry period, is reflected in the more consistent engagement in work over the year.

Steadiness of Work

The third dimension is the steadiness of work undertaken by the study participants, with steadiness being defined as doing the same type of work over consecutive reporting periods. Our idea of steadiness builds on the literature that suggests that relative to steady employment, a lapse for of any reason could affect and individual's existing skills and earning abilities, and that women are more likely to follow such uneven pathways (Becker 1962; Weisshaar and Cabello-Hutt 2020). Over the 12-month study period the maximum possible steadiness would be an individual who engaged in the same type of work during each of the 26 reporting periods. This dimension links to debates about diversified or mixed livelihoods, and whether different work activities are pursued in parallel or in series.

Table 3 shows the average number of consecutive periods during which the same work was undertaken. Average steadiness of work in Ghana was lower than in Uganda (2.4 vs 3.2. consecutive periods). The average steadiness of work for 60% of participants in both countries was approximately 2.5 periods. Another aspect of steadiness relates to those individuals who, over the course of the year, only ever reported doing one type of work. In fact, this was quite rare, involving only nine participants in Ghana (8 females, 1 male) and three in Uganda (2 females, 1 male). Eight of these twelve (67%) did Own Farm Only, a much higher proportion than the share of Own Farm Only work periods across the full sample.

Amount of Work

The final dimension, the amount of work, focuses on the number of hours worked. Table 3 presents the average hours worked by study participants in Ghana and Uganda over the two-week reporting periods. Overall, during the periods they work, participants in Uganda worked 50% more hours than those in Ghana.

Figure 3 shows the evolution of average hours worked per period over time, and in relation to rainfall. In Ghana, there is a gradual increase in the hours worked, apparently reflecting the shift from rainy season to dry season. In Uganda, the average hours worked decreased over the course of the study, from a peak of 80 to a low of around 50.

Table 3 also reports the total hours worked over the year. On average, those in Uganda reported working almost twice as many hours as those in Ghana. Figure 4 shows that the major difference between the two samples is at the upper end of the distribution with, for example, a much greater proportion of individuals in Uganda working more than 2000 h (~ 38 + hours/week) over the year (27% vs 2% in Ghana).
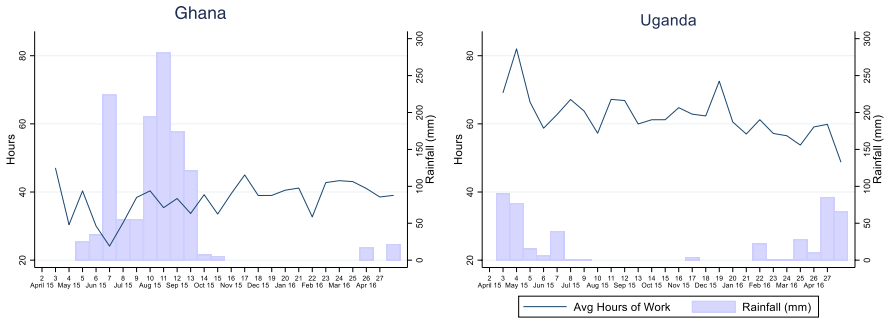
Fig. 3 Average hours worked during periods of work, over the study period
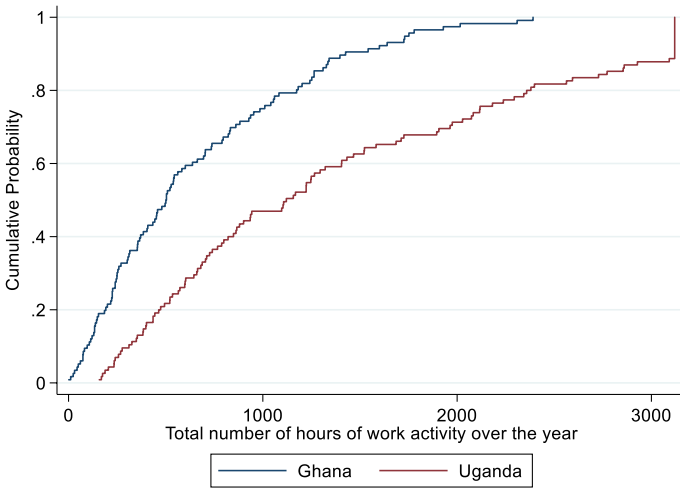

Fig. 4 Cumulative frequency distribution of total hours worked over te study period

To summarise, this initial analysis of the four dimensions of work indicates that on average, compared to those in Uganda, study participants in Ghana (1) worked during fewer periods (63 vs 78% of periods); (2) were equally engaged with Own Farm work (with or without other activities) (85 vs 83%); (3) were somewhat less steady in their work (2.4 vs 3.2 consecutive periods); and (4) worked fewer hours per two-week period (41 vs 65), and fewer total hours over the year (659 vs 1380).

The seasonality story that emerges is multifaceted, although always present and important as also observed by Elder and Koné (2014). In northern Ghana, with its stronger and longer dry season, (1) the share of participants not working increases during the dry season; (2) the activities of those who work change (less Own Farm and more Other); while (3) the hours worked by those who work remain constant. In Uganda we observe a broadly similar pattern: (1) the share of participants not working increases during the dry season; (2) the activities of

Table 4 Share of periods worked, by work pattern

	Ghana				Uganda			
	Less often	Often	Most often	All	Less often	Often	Most often	All
Mean (%)	29	68	95	63	51	83	97	78
SD	13	11	5	26	12	8	2	19
Median (%)	31	65	96	65	50	85	96	85
Min (%)	4	50	89	4	15	69	96	15
Max (%)	46	85	100	100	65	92	100	100
N	33	60	25	118	29	61	25	115

those who do work change (less Own Farm and more Other); and (3) the hours worked by those who work do not change.

Work Patterns

In this section, we deepen the analysis by exploring the relationships between the dimensions of work introduced above. To facilitate this, we propose a classification of individuals based on the share of periods they reported working (Frequency of work). We do this by first splitting the sample in quartiles, based on the share of periods worked, and then merging the second and third quartiles. This results in three working patterns as follows: (1) Less Often working, includes individuals in the bottom 25% of the distribution; (2) Often working, includes individuals in the middle two quartiles; and (3) Most Often working, includes individuals in the top 25% of the distribution.

Table 4 shows the share of periods worked by the individuals associated with each working pattern. The differences between the means across the working patterns are greater in Ghana (ranging from 29 to 95%) than Uganda (ranging from 51 to 97%). The Most Often groups in Ghana and Uganda are very similar, while the Less Often groups are very different: in Ghana members of the Less Often group work on average during 30% of periods compared to 49% in Uganda.

Descriptive Analysis by Work Patterns

Table 5 presents several characteristics of the study participants by work pattern. In addition to the characteristics discussed above, we also present time spent on two other types of activities: reproductive activities (including childcare, caring for elderly, cooking, cleaning and maintenance) and non-work activities (including community, social and religious pursuits).

For the Ghana sample, perhaps most striking is that fact that women represent more than 90% of the individuals in the Less Often group but less than 20% of those in the Most Often group. Associated with this very strong gender differentiation in work pattern, we see that compared to the Less Often group (which is predominately women), those in the Most Often group (which is predominately

Table 5 Individual characteristics by working pattern (standard deviation in parentheses)

| Characteristic	Ghana					Uganda				
	All	Less often	Often	Most often	p value	All	Less often	Often	Most often	p value
Age (years)	21 (2)	21 (2)	21 (2)	21 (2)	0.689	21 (2)	21 (2)	21 (2)	21 (2)	0.223
Female (%)	55 (50)	94 (24)	50 (50)	16 (37)	0.000	51 (50)	69 (47)	48 (50)	40 (50)	0.073
Single (%)	75 (43)	70 (47)	72 (45)	92 (28)	0.094	62 (49)	62 (49)	59 (50)	68 (48)	0.743
Attending education (%)	44 (50)	42 (50)	47 (50)	40 (50)	0.835	19 (40)	38 (49)	15 (36)	8 (28)	0.009
Having children (%)	31 (46)	42 (50)	33 (48)	8 (28)	0.014	50 (50)	38 (49)	56 (50)	52 (51)	0.289
Asset Index	0.230 (0.198)	0.134 (0.168)	0.217 (0.172)	0.380 (0.207)	0.000	0.383 (0.254)	0.254 (0.240)	0.407 (0.226)	0.472 (0.287)	0.003
Reproductive activity (hours)	23 (18)	30 (13)	23 (20)	18 (17)	0.036	28 (17)	23 (14)	28 (19)	35 (13)	0.035
Non-work activity (hours)	12 (8)	11 (7)	11 (8)	17 (9)	0.009	20 (16)	12 (9)	20 (16)	28 (20)	0.002
Community activity (hours)	3 (4)	2 (2)	3 (3)	6 (5)	0.000	7 (7)	4 (4)	7 (8)	10 (8)	0.007
Social activity (hours)	5 (4)	4 (4)	4 (4)	8 (6)	0.000	8 (7)	5 (4)	9 (7)	11 (9)	0.006
Religious activity (hours)	4 (5)	5 (4)	4 (5)	3 (4)	0.117	4 (5)	3 (2)	4 (4)	7 (7)	0.014
N	118	33	60	25		115	29	61	25	
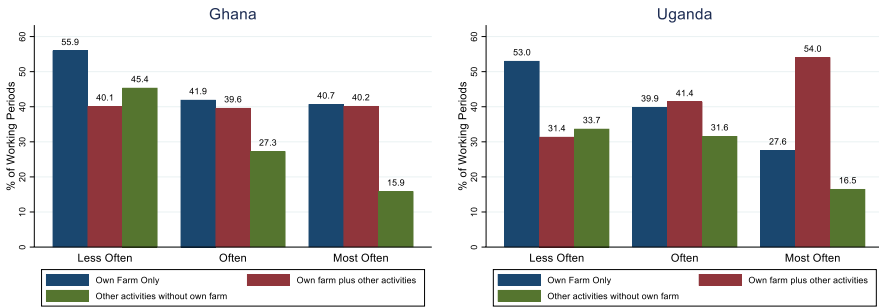
Fig. 5 Work pattern and type of work

men) are: more likely to be single (92 vs 70%); less likely to have at least one child (8 vs 42%); spend less time on reproductive activity (18 vs 30 h); and have a significantly higher Asset Index (0.380 vs 0.134). There is no difference between these two patterns in current school attendance.

Gender differentiation across the working patterns is also seen in the Uganda sample, but it is less pronounced than in Ghana. Women represent around 70% of the individuals in the Less Often group but only 40% of those in the Most Often group. Compared to the Less Often group (which is predominately women), those in the Most Often group (which is predominately men) are: much less likely to be attending education (8 vs 38%); less likely to have at least one child (38 vs 52%); spend more time in both reproductive activity (35 vs 28 h) and other non-work activity (28 vs 12 h); and have a significantly higher Asset Index (0.472 vs 0.254).

Figure 5 shows the relationship between the three work patterns and the type of work undertaken. In both Ghana and Uganda, Own Farm Only dominates the Less Often pattern. Further, as we look across the patterns from Less Often working to Most Often working, a clear trend is observed: the importance of the combination of Own Farm Only and Own Farm Plus relative to Other increases dramatically. In other words, working more often is not associated with increasing engagement in Other types of work. A difference in Uganda is that Own Farm Plus dominates the work of those in the Most Often working group.

The relationship between work pattern and steadiness of work is shown in Fig. 6. In both countries, steadiness increases as the frequency of work increases. In Uganda, average steadiness nearly doubles between the Often working and Most Often working groups. Comparing Ghana to Uganda, it is noteworthy that while the steadiness of the Less Often and Often groups are similar, the Most Often group in Uganda is considerably steadier than in Ghana. This may reflect the fact that a higher proportion of the Most Often group in Uganda are engaged in Own Farm Plus, with the combination of farm and other work supporting the steadier working pattern.

Figure 7 shows the relationship between work pattern and the hours worked on average for each period of work. In both countries, there is a clear positive relationship between how often work is undertaken and the number of hours worked;
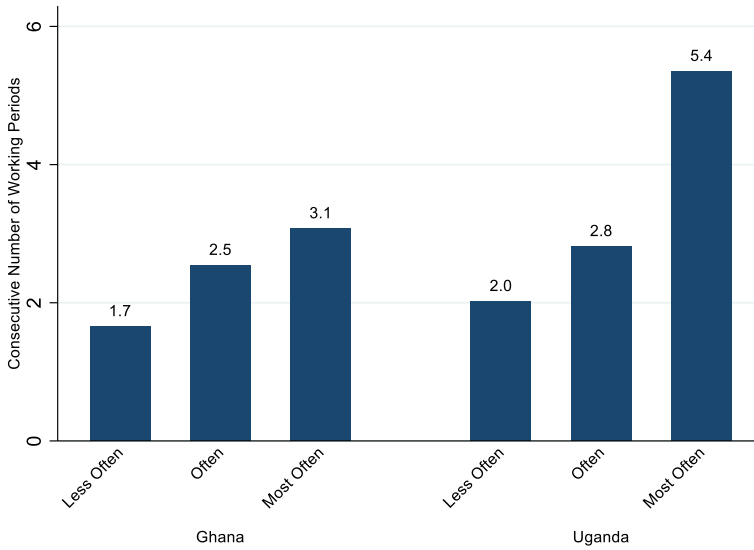
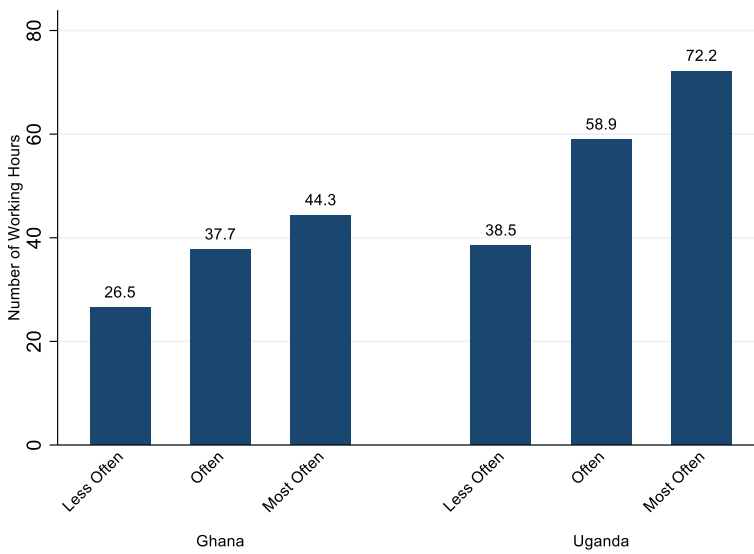**Fig. 6** Work pattern and steadiness of work

Fig. 7 Work pattern and work effort

but this trend is more pronounced in Uganda. The differences in hours of work by work patterns is statistically significant in both countries.

In summary, this analysis of the relationships between the different dimensions of the work highlights several key points. First, the work patterns are highly gendered in both Ghana and Uganda, with women dominating the Less Often pattern and men dominating the Most Often pattern. This is more extreme in Ghana than Uganda. On

the other hand, differences in age are not associated with the different work patterns: in neither country are older participants more likely to work more often.

Second, having children and spending more time on reproductive activities are associated with the female dominated Less Often work pattern in Ghana, although somewhat surprisingly, attending education is not. In contrast, in Uganda, attending education is associated with the Less Often work pattern, but neither having children nor hours of reproductive work are. Indeed, in Uganda those in the Most Often group are more likely to have children and to spend significantly more hours in both reproductive work and non-work activities.

Third, the relative importance of Own Farm work, either with or without other self- or wage employment, increases from the Less Often to Most Often work pattern (in both Ghana and Uganda). Working More Often is not associated with a greater emphasis on Other work independent of Own Farm work. Nor are older individuals more or less likely to be involved in Own-Farm or Other work.

Fourth, in both countries individuals who work more often are also steadier in their work. Working less often is associated with increasing levels of 'to and from' between work types. Fifth, individuals who work more often also work more hours during their work periods, although this is somewhat less pronounced in Ghana than in Uganda. There is no evidence from either country that study participants compensate for working less often by working more hours during their work periods. As a result, over the course of the year, there were very significant differences in the total number of hours devoted to work that produced food or income.

Finally, the different work patterns are associated with significantly different asset levels, which increase steadily from the Less Often to the Most Often groups. Given that the Less Often group is dominated by females in both countries, this might raise concerns about equitable access to remunerative opportunities or productive resources. However, the causal link between work pattern and assets is unclear: do more assets enable different work patterns and thus a different emphasis in the type of work, or are they the result of different work patterns and types of work?

Determinants of Work Pattern—Regression Analysis

In this section, we disentangle conditional correlations for the three work patterns—Less Often working; Often working; Most Often working—and ask specifically, what determines how often people work?

To identify and measure the determinants, we begin with a simple probit model for each of the three work pattern categories (Model 1). Additionally, as a check of robustness, we estimate the ordered logit model with the categorical dependent variable, Work Pattern (Model 2). Among the explanatory variables, we include: gender (female dummy), schooling (attending education dummy), assets (production asset index, consumer asset index, number of children, marital status (married dummy)), age (years), reproductive work (hours) and non-work activity (hours of community, social and religious activity). Further, to examine the relationship between work patterns and type of work (as in Fig. 5) in a multiple regression framework, we use the ordinal logit estimation with periods engaged in the following work types as an

explanatory variable: (1) Own Farm Only; (2) Own Farm Plus, and (3) Other, with Own Farm only as base category.

Table 6 presents the results of the key estimations, with the coefficients, their standard errors, and the significance of the result. Panel A and B present the results for Ghana and Uganda, respectively. Columns (1)-(3) and (5)-(7) report the probit results, and columns (4) and (8) present the ordinal logit results. Our analysis focuses on the coefficients in Table 6. Additionally, Table 7 outlines the corresponding marginal effects for Model 1 (Columns 1–3 and 5–7) and Model 2 (Columns 4 and 8).

First, for the female dummy in Ghana, we find a positive and significant coefficient for working Less Often (Column 1) and a negative and significant coefficient for working Most Often (Column 3). These results are robust to the alternate specification as an ordinal logit (Column 4), which suggests that the log odds of working more often is 2–3 times lower for women when all other variables are held constant. While the signs of the coefficients are the same in Uganda, they are not significant for either model (Columns 5–8). The marginal effects in Table 7 affirm the pronounced gendered dimension in Ghana, as work patterns differ significantly between women and men, with women 33 percentage points less likely to be working more often.

Second, for the attending education dummy, the only significant coefficient is for working Less Often in Uganda (Column 5), and its negative sign suggests there is no trade-off between school attendance and work. Young people attending education are least likely to work Less Often. The same is reflected in Column (8), where we find a positive and significant coefficient suggesting education is associated with increasing the log odds for working more often. Consistent with these results, the marginal effects show that young people in school are 17 percentage points less likely to work less often.

Third, production assets are negatively and robustly related to working Less Often in Ghana (Column 1) and positively related to working Most Often (Column 3), and these results are robust to the alternate specification in Model 2 (Column 4). Hence, individuals with greater endowments of productive assets are more likely to work more frequently. In Uganda, we find a similar pattern for consumer assets (Columns 5–8) but not for production assets. The marginal effects are also consistent with these results, suggesting that production and consumer assets play important roles in determining work patterns.

Fourth, the significant coefficients for the married dummy in Uganda (Columns 5–8) suggest that being married is negatively related to working more frequently. While the number of children is not significantly related to work pattern in either country, in both Ghana and Uganda, the number of hours spent on reproductive activity is positively and robustly correlated with the likelihood of working more frequently. The marginal effects also confirm the combination of reproductive activities and work patterns. On the other hand, hours spent on community and social activities is not related to frequency of work, while spending more time on religious activity is negatively and significantly related to working more often in Ghana, but positively related to working most often in Uganda.

Table 6 Explaining work patterns: probit and ordinal logit—coefficients

Variables	Panel A: Ghana				Panel B: Uganda			
	Model 1			Model 2	Model 1			Model 2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Probit			Ordinal Logit	Probit			Ordinal Logit
Characteristics	Less Often	Often	Most Often	Work Pattern	Less Often	Often	Most Often	Work Pattern
Female (dummy)	1.847***	− 0.731	− 2.251**	− 2.802***	0.499	− 0.095	− 0.650	− 1.014
	(0.579)	(0.449)	(0.898)	(0.818)	(0.550)	(0.418)	(0.539)	(0.704)
Attending education (dummy)	− 0.244	0.005	0.819	0.676	− 1.082**	0.571	0.557	1.123*
	(0.411)	(0.292)	(0.513)	(0.515)	(0.461)	(0.372)	(0.580)	(0.607)
Production Asset (Index)	− 3.631**	− 0.050	2.652**	3.951***	− 0.903	− 0.507	0.806	1.298
	(1.425)	(0.737)	(1.165)	(1.369)	(0.795)	(0.559)	(0.688)	(0.947)
Consumer asset (Index)	0.330	− 0.520	1.355	1.634	− 3.046***	1.422*	0.289	3.487**
	(1.365)	(0.964)	(1.500)	(1.674)	(1.152)	(0.816)	(1.007)	(1.376)
Married (dummy)	− 0.145	0.574	− 0.625	− 0.121	0.963*	0.279	− 1.010**	− 1.646**
	(0.540)	(0.465)	(0.846)	(0.795)	(0.545)	(0.389)	(0.463)	(0.655)
Number of children	0.500	− 0.043	− 1.222	− 0.892	− 0.161	0.053	0.173	0.313
	(0.394)	(0.335)	(0.762)	(0.578)	(0.251)	(0.164)	(0.192)	(0.286)
Age (years)	0.045	− 0.023	0.079	− 0.004	0.130	− 0.169**	0.108	− 0.003
	(0.110)	(0.077)	(0.125)	(0.136)	(0.106)	(0.080)	(0.094)	(0.124)
Reproductive activity (hours)	− 0.025*	0.001	0.063***	0.045**	− 0.037**	− 0.004	0.042***	0.073***
	(0.014)	(0.011)	(0.024)	(0.020)	(0.018)	(0.013)	(0.016)	(0.021)
Non-work activity (hours)								
Community activity	− 0.031	− 0.030	− 0.019	0.033	0.007	0.007	− 0.044	− 0.048
	(0.079)	(0.040)	(0.058)	(0.071)	(0.038)	(0.030)	(0.042)	(0.048)

Table 6 (continued)

Variables	Panel A: Ghana				Panel B: Uganda			
	Model 1			Model 2	Model 1			Model 2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Probit			Ordinal Logit	Probit			Ordinal Logit
Characteristics	Less Often	Often	Most Often	Work Pattern	Less Often	Often	Most Often	Work Pattern
Social activity	0.065	− 0.071**	0.070*	0.027	− 0.044	0.014	0.003	0.012
	(0.043)	(0.032)	(0.038)	(0.052)	(0.049)	(0.027)	(0.032)	(0.043)
Religious activity	0.049	0.017	− 0.093*	− 0.101**	− 0.040	− 0.025	0.067*	0.104*
	(0.038)	(0.029)	(0.053)	(0.049)	(0.049)	(0.032)	(0.036)	(0.060)
Constant	− 2.035	1.216	− 4.101		− 0.515	2.789*	− 4.688**	
	(2.211)	(1.559)	(2.607)		(2.033)	(1.520)	(1.843)	
Constant Cut 1				− 1.350				2.341
				(2.694)				(2.372)
Constant Cut 2				2.701				5.691**
				(2.687)				(2.439)
Observations	110	110	110	110	115	115	115	115
Pseudo R^2	0.351	0.0785	0.505	0.328	0.330	0.0678	0.228	0.226

Standard errors in parentheses

Table presents the coefficients for estimation of factors explaining different work patterns. Columns (1)–(3) and (5)–(6) are the results from the probit model; columns (4) and (8) are the ordinal logit results. The cut points (Constant Cut 1 and Constant Cut 2) indicate where the latent variable is cut to make the three groups that we observe in our data, these are not used in the interpretation of the results

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 7 Explaining work patterns: probit and ordinal logit—marginal effects

Variables	Panel A: Ghana						Panel B: Uganda					
	Model 1			Model 2			Model 1			Model 2		
	(1)	(2)	(3)	(4)			(5)	(6)	(7)	(8)		
	Probit			Ordinal Logit			Probit			Ordinal logit		
Characteristics	Less often	Often	Most often	Less often	Often	Most often	Less often	Often	Most often	Less often	Often	Most often
Female (dummy)	0.396***	− 0.267*	− 0.322***	0.331***	− 0.081	− 0.250***	0.106	− 0.035	− 0.147	0.149	− 0.029	− 0.121
	(0.105)	(0.158)	(0.113)	(0.103)	(0.094)	(0.085)	(0.115)	(0.154)	(0.121)	(0.106)	(0.042)	(0.085)
Attending education (dummy)	− 0.052	0.002	0.117*	− 0.080	0.020	0.060	− 0.230**	0.210	0.126	− 0.165*	0.032	0.134*
	(0.088)	(0.107)	(0.070)	(0.062)	(0.026)	(0.048)	(0.091)	(0.133)	(0.130)	(0.091)	(0.044)	(0.074)
Production asset (Index)	− 0.779***	− 0.018	0.380**	− 0.467***	0.114	0.352**	− 0.192	− 0.187	0.183	− 0.191	0.037	0.155
	(0.272)	(0.269)	(0.148)	(0.174)	(0.134)	(0.143)	(0.167)	(0.204)	(0.154)	(0.140)	(0.053)	(0.116)
Consumer asset (Index)	0.071	− 0.190	0.194	− 0.193	0.047	0.146	− 0.649***	0.524*	0.065	− 0.514**	0.099	0.415**
	(0.293)	(0.351)	(0.214)	(0.199)	(0.071)	(0.153)	(0.223)	(0.289)	(0.228)	(0.210)	(0.131)	(0.171)
Married (dummy)	− 0.031	0.210	− 0.090	0.014	− 0.004	− 0.011	0.205*	0.103	− 0.229**	0.243**	− 0.047	− 0.196**
	(0.116)	(0.166)	(0.121)	(0.094)	(0.023)	(0.071)	(0.112)	(0.143)	(0.099)	(0.098)	(0.062)	(0.081)
Number of children	0.107	− 0.016	− 0.175*	0.105	− 0.026	− 0.079	− 0.034	0.019	0.039	− 0.046	0.009	0.037
	(0.083)	(0.122)	(0.102)	(0.070)	(0.033)	(0.055)	(0.053)	(0.060)	(0.043)	(0.042)	(0.014)	(0.034)
Age (Years)	0.010	− 0.008	0.011	0.000	− 0.000	− 0.000	0.028	− 0.062**	0.025	0.000	− 0.000	− 0.000
	(0.024)	(0.028)	(0.018)	(0.016)	(0.004)	(0.012)	(0.022)	(0.028)	(0.021)	(0.018)	(0.003)	(0.015)
Reproductive activity (hours)	− 0.005*	0.000	0.009***	− 0.005**	0.001	0.004**	− 0.008**	− 0.001	0.009***	− 0.011***	0.002	0.009***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.005)	(0.003)	(0.003)	(0.003)	(0.003)
Non-work activity (hours)												
Community activity	− 0.007	− 0.011	− 0.003	− 0.004	0.001	0.003	0.001	0.003	− 0.010	0.007	− 0.001	− 0.006
	(0.017)	(0.014)	(0.008)	(0.008)	(0.002)	(0.006)	(0.008)	(0.011)	(0.009)	(0.007)	(0.002)	(0.006)

Table 7 (continued)

Variables	Panel A: Ghana						Panel B: Uganda					
	Model 1			Model 2			Model 1			Model 2		
	(1)	(2)	(3)	(4)			(5)	(6)	(7)	(8)		
	Probit			Ordinal Logit			Probit			Ordinal logit		
Characteristics	Less often	Often	Most often	Less often	Often	Most often	Less often	Often	Most often	Less often	Often	Most often
Social activity	0.014	− 0.026**	0.010**	− 0.003	0.001	0.002	− 0.009	0.005	0.001	− 0.002	0.000	0.001
	(0.009)	(0.011)	(0.005)	(0.006)	(0.002)	(0.005)	(0.010)	(0.010)	(0.007)	(0.006)	(0.001)	(0.005)
Religious activity	0.010	0.006	− 0.013*	0.012**	− 0.003	− 0.009*	− 0.008	− 0.009	0.015*	− 0.015*	0.003	0.012*
	(0.008)	(0.011)	(0.007)	(0.006)	(0.004)	(0.005)	(0.010)	(0.012)	(0.008)	(0.009)	(0.004)	(0.007)

Standard errors in parentheses

Table presents the average marginal effects for estimation of factors explaining different work patterns. Columns (1)–(3) and (5)–(6) are the results from the probit model; columns (4) and (8) are the ordinal logit results

*** p<0.01, ** p<0.05, * p<0.1

Table 8 Relationship between Work Patterns and Work Type: Ordinal Logit, coefficients

Variables	Panel A: Ghana			Panel B: Uganda		
	(1)	(2)	(3)	(4)	(5)	(6)
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	Work Pattern—Ordinal Logit			Work Pattern—Ordinal Logit		
Work type						
Own farm only	0.192***			0.028		
	(0.056)			(0.048)		
Own farm plus		0.332***			0.280***	
		(0.072)			(0.051)	
Other			0.120*			0.018
			(0.067)			(0.054)
Characteristics						
Female (dummy)	− 2.797***	− 1.970**	− 2.743***	− 1.081	− 1.326*	− 0.959
	(0.865)	(0.918)	(0.820)	(0.714)	(0.783)	(0.724)
Attending education (dummy)	1.045*	0.750	0.436	1.064*	1.060	1.125*
	(0.556)	(0.563)	(0.537)	(0.616)	(0.687)	(0.606)
Production asset (Index)	3.721***	4.101***	4.129***	1.255	− 0.333	1.413
	(1.421)	(1.561)	(1.381)	(0.945)	(1.103)	(1.010)
Consumer asset (Index)	1.464	2.920	1.115	3.630***	3.498**	3.369**
	(1.784)	(1.794)	(1.669)	(1.399)	(1.546)	(1.421)
Married (dummy)	− 0.244	− 0.132	− 0.135	− 1.759**	− 0.371	− 1.644**
	(0.830)	(0.856)	(0.800)	(0.685)	(0.734)	(0.655)
Number of children	− 0.692	− 1.275**	− 0.812	0.329	0.237	0.297
	(0.602)	(0.638)	(0.580)	(0.287)	(0.329)	(0.289)
Age (years)	− 0.048	− 0.005	− 0.020	0.013	0.019	− 0.009
	(0.144)	(0.149)	(0.138)	(0.126)	(0.142)	(0.125)
Reproductive activity (hours)	0.053**	0.040*	0.040*	0.070***	0.087***	0.074***
	(0.022)	(0.022)	(0.021)	(0.022)	(0.024)	(0.022)
Non-work activity (hours)						
Community activity	0.055	− 0.078	0.061	− 0.044	− 0.143**	− 0.046
	(0.075)	(0.078)	(0.073)	(0.048)	(0.057)	(0.048)
Social activity	0.022	0.026	0.039	0.018	0.020	0.008
	(0.054)	(0.064)	(0.053)	(0.044)	(0.047)	(0.044)
Religious activity	− 0.105**	− 0.096*	− 0.117**	0.107*	− 0.009	0.110*
	(0.051)	(0.052)	(0.050)	(0.060)	(0.068)	(0.062)
Constant cut 1	− 0.677	0.349	− 1.546	2.770	4.029	2.336
	(2.856)	(2.960)	(2.723)	(2.482)	(2.790)	(2.371)
Constant cut 2	3.770	5.749*	2.627	6.129**	8.477***	5.694**
	(2.854)	(2.997)	(2.717)	(2.552)	(2.942)	(2.439)
Observations	110	110	110	115	115	115
Pseudo R^2	0.388	0.458	0.343	0.227	0.396	0.226

Standard errors in parentheses

Table presents the coefficients for estimation of relationship between work patterns and work type using the ordinal logit model. The cut points (Constant Cut 1 and Constant Cut 2) indicate where the latent
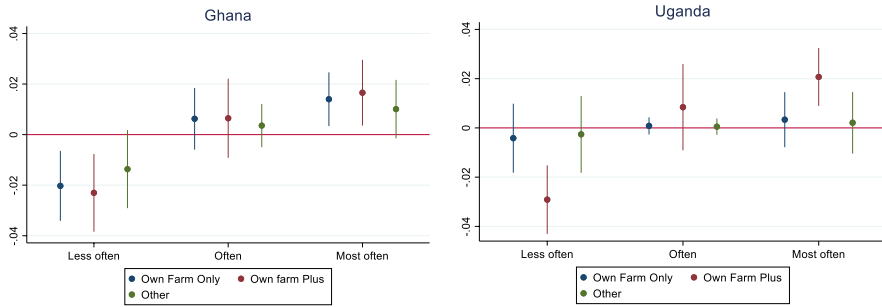
Fig. 8 Relationship between work patterns and work type: ordinal logit, marginal effect

We now turn to the relationship between work pattern and work type over 23 two-week periods using Model 2 (Table 8). We introduce the periods doing each work type (Models 1–3) in turn in Columns (1)-(3) for Ghana, and Columns (4)-(6) for Uganda. The base category of the ordinal logit regression, as with the model presented in Table 6, is the Own Farm Only category.

In Ghana, individuals working more periods on Own Farm Only and Own Farm Plus are significantly more likely to work more often, with the log odds being 0.2 times higher (Column 1) for greater periods doing Own Farm Only activities, and 0.3 times higher (Column 2) for more periods doing Own Farm Plus. In contrast, in Uganda, working more periods on Own Farm Only makes no significant difference to the log odds of work patterns (Column 4). However, when we look at the category Own Farm Plus, there is a significant increase in the log odds of working more often—approximately 0.3 times higher (Column 5). The same can be observed in Fig. 8 that presents the average marginal effect for each work pattern and work type. This suggests that the participants are working more often when their work includes an increasingly diverse combination of Own Farm with Other work activities.

In summary, in Ghana, work patterns are influenced by gender, wealth and reproductive activities. In Uganda, the frequency of work is positively associated with schooling, wealth and reproductive activities, and negatively correlated with being married. In both countries, combining own farm and other activities is associated with higher work frequency, indicating that individuals who are only involved in self-employment or wage employment, without any own farm work, are more sporadic in their work.

Discussion and Implications

Is Africa's rural youth employment crisis best understood as a crisis of unemployment and and/or underemployment, a crisis of decent work, or as a crisis of livelihoods? In this paper, we used a unique, high frequency dataset to shed new light on the micro-dynamics of work in the early stages of livelihood building. Although limited by the sampling strategy and relatively small sample sizes, the analysis suggests that the non-domestic work activities of young people are multifaceted, context and seasonally specific, and highly gendered. The study supports the observation made by others, drawing on different types of data, that the non-domestic work of a significant share of African rural youth is part-time and intermittent and still closely linked to agriculture (Elder and Koné 2014; Yeboah and Jayne 2018; Nilsson 2019).

What is abundantly clear is that even within relatively small geographical areas, young people engage with work in very different ways. The four dimensions of work that are proposed—nature, frequency, steadiness and amount—capture some key aspects of this heterogeneity. The fact that some young people work infrequently and for relatively few hours suggests that for them, unemployment and underemployment, or a lack of opportunity to work, may well be important. In general, the opportunity landscape in northern Ghana would appear more depleted, particularly for young women, than in Uganda. However, it would be wrong to assume that all young people want or are able to work full-time, all year around, as work is only one means of attaining social adulthood.

As expected, the results strongly support the idea that with self-employment dominating both farm and non-farm work in rural SSA, for many, if not most rural young people, the youth employment crisis is a crisis of decent work. Farming, for consumption and sale, is central to the work of the many young people in the study sites in both Ghana and Uganda. Many young people combine farming with other self-employment or wage employment, and those who do, tend to work more often. There is little evidence of specialisation in either farm or non-farm activities.

This analysis raises several important questions. For example, to what degree does the marked intermittency of the work of some individuals reflect: permanent or seasonal limitations in the local opportunity landscape (Sumberg et al. 2018; Abay et al. 2020); constraints in access to productive resources like land and credit; young people being stuck in 'waithood' (Honwana 2012); or that they are prioritising other aspects of livelihood building, including social relations, reproduction and the possibility of further education? Each of these possibilities would have important implications in terms of whether the kinds of work engagement observed in this study are identified as part of a youth employment crisis, how that crisis is framed, and the assessment of possible responses. Understanding the expectations and priorities of young people, and the potential juxtapositions with attitudes and norms that especially affect women, will be particularly important if interventions to address the employment crisis are to be better aligned with the realities of young people's efforts to build rural livelihoods.

Compliance with Ethical Standards

References

Abay, K., W. Asnake, H. Ayalew, J. Chamberlin, and J. Sumberg. 2020. Landscapes of opportunity: A new window on young people's engagement with the rural economy in sub-Saharan Africa. *Journal of Development Studies*. https://doi.org/10.1080/00220388.2020.1808195.

AfDB. 2016. Bank Group Strategy for Jobs for Youth in Africa, 2016–2025. African Development Bank (AfDB), Abidjan.

African Union. 2007. Strategy to revitalize technical and vocational education and training (TVET) in Africa. Final Draft. African Union, Addis Ababa.

African Union. 2011. State of the African Youth Report 2011. African Union Commission, Addis Ababa.

AGRA. 2015. *Africa Agriculture Status Report 2015: Youth in Agriculture in Sub-Saharan Africa*. Nairobi: Alliance for Green Revolution in Africa.

Assan, J., and V. Nalutaaya. 2018. Africa's Youth Unemployment Challenge and the Pursuit of Soft Skills Development by University Students. Review of European Studies 10.

Becker, G. 1962. Investment in human capital: A theoretical analysis. *Journal of Political Economy* 70: 9–49.

Betcherman, G., and T. Khan. 2018. Jobs for Africa's expanding youth cohort: A stocktaking of employment prospects and policy interventions. *IZA Journal of Development and Migration* 8: 13.

Bloom, D.E., and J.G. Williamson. 1998. Demographic transitions and economic miracles in emerging Asia. *The World Bank Economic Review* 12: 419–455.

Bryceson, D.F. 1999. African rural labour, income diversification & livelihood approaches: A long-term development perspective. *Review of African Political Economy* 26: 171–189.

Chigunta, F., J. Schnurr, M. Grant, D. James-Wilson, and V. Torres. 2005. Being "real" about youth entrepreneurship in Eastern and Southern Africa. SEED Working Paper 72. International Labour Office, Geneva.

Dolan, C., and D. Rajak. 2016. Remaking Africa's informal economies: Youth, entrepreneurship and the promise of inclusion at the bottom of the pyramid. *Journal of Developing Studies* 52: 514–529.

Elder, S., and K.S. Koné. 2014. Labour market transitions of young women and men in Sub-Saharan Africa. Work4Youth Publication Series No. 9. International Labour Organization (ILO), Geneva.

FAO, CTA, and IFAD. 2014. Youth and agriculture: Key challenges and concrete solutions. Food and Agriculture Organization of the United Nations (FAO) in collaboration with the Technical Centre for Agricultural and Rural Cooperation (CTA) and the International Fund for Agricultural Development (IFAD), Rome.

Filmer, D., and L. Fox. 2014. *Youth Employment in Sub-Saharan Africa*. Washington, DC: Agence Française de Développement and World Bank.

Flynn, J., and J. Sumberg. 2017. Youth savings groups in Africa: They're a family affair. *Enterprise Development and Microfinance* 28: 147–161.

Fox, L. 2019. Viewpoint: 3 myths about youth employment in Africa and strategies to realize the demographic dividend. *in* B. S. Coulibaly, editor. Foresight Africa: Top Priorities for the Continent in 2019. The Africa Growth Initiative, The Brookings Institution, Washington, DC.

Fox, L., and U. Kaul. 2017. The evidence is in: How should youth employment programs in low-income countries be designed? USAID, Washington, DC.

Fox, L., L.W. Senbet, and W. Simbanegavi. 2016. Youth employment in sub-Saharan Africa: Challenges, constraints and opportunities. *Journal of African Economies* 25: i3–i15.

Ghana Statistical Service. 2015. *Ghana Poverty Mapping Report*. Accra: Ghana Statistical Service.

Golub, S., and F. Hayat. 2015. Employment, unemployment, and underemployment in Africa. In *The Oxford Handbook of Africa and economics: Volume 1: Context and concepts*, ed. C. Monga and J. Yifu Lin. Oxford University Press, Oxford.

Gough, K. V., and T. Birch-Thomsen. 2016. Mobile rural youth in northern Ghana Combining near and distant opportunity spaces.

Honwana, A. 2012. *The time of youth: Work, social change, and politics in Africa*. Boulder: Kumarian Press.

IDRC. 2015. Putting youth employment at the heart of growth. International Development Research Centre (IDRC), Ottawa.

ILO. 2018. *20th International Conference of Labour Statisticians Geneva, 10–19 October 2018*. Geneva: Resolution concerning statistics on work relationships International Labour Office.

Kew, J., R. Namatovu, R. Aderinto, and F. Chigunta. 2015. *Africa's young entrepreneurs: Unlocking the potential for a brighter future*. Development Unit for New Enterprise: University of Cape Town, Rondebosch, South Africa.

Kluve, J., S. Puerto, D. Robalino, J.M. Romero, F. Rother, J. Stöterau, F. Weidenkaff, and M. Witte. 2017. Interventions to improve the labour market outcomes of youth: A systematic review of training, entrepreneurship promotion, employment services and subsidized employment interventions. Systematic Review 37. International Initiative for Impact Evaluation (3ie), London.

Langevang, T., R. Namatovu, and S. Dawa. 2012. Beyond necessity and opportunity entrepreneurship: Motivations and aspirations of young entrepreneurs in Uganda. *International Development Planning Review* 34: 439–459.

Llisterri, J.J., H. Kantis, P. Angelelli, and L. Tejerina. 2006. Is youth entrepreneurship a necessity or an opportunity?: A first exploration of household and new enterprise surveys in Latin America. Inter-American Development Bank.

Long, J.S., and J. Freese. 2006. *Regression models for categorical and limited dependent variables using stata*, 2nd ed. College Station, TX: Stata Press.

Losch, B. 2016. Structural transformation to boost youth labour demand in Sub-Saharan Africa: The role of agriculture, rural areas and territorial development. Employment Working Paper No. 204. International Labour Organization (ILO), Geneva.

McGrath, S., P. Ramsarup, J. Zeelen, V. Wedekind, S. Allais, H. Lotz-Sisitka, D. Monk, G. Openjuru, and J.-A. Russon. 2019. Vocational education and training for African development: A literature review. Journal of Vocational Education & Training 1–23.

Monga, C., A. Shimeles, and A. Woldemichael, editors. 2019. Creating decent jobs: Strategies, policies, and instruments. Policy research document 2. African Development Bank, Abidjan.

Mwaura, G.M. 2017. The side-hustle: Diversified livelihoods of Kenyan educated young farmers. *IDS Bulletin* 48: 51–66.

Nilsson, B. 2019. The school-to-work transition in developing countries. *The Journal of Development Studies* 55: 745–764.

Sumberg, J., J. Flynn, P. Mader, G. Mwaura, M. Oosterom, R. Sam-Kpakra, and A.I. Shittu. 2020. Formal-sector employment and Africa's youth employment crisis: Irrelevance or policy priority? *Development Policy Review* 34: 428–440.

Sumberg, J., J. Flynn, L. Fox, P. Mader, and M. Oosterom. 2020a. Africa's 'youth employment' crisis is actually a 'missing jobs' crisis. *Development Policy Review* (under review).

Sumberg, J., D. Glover, J. Chamberlin, J. Flynn, and V. Johnson. 2018. *Landscapes of rural youth opportunity: A RDR 2019 background paper*. Rome: IFAD.

The World Bank. 2016. *The Uganda poverty assessment report*. Washington, DC: The World Bank Group.

The World Bank. 2018. *World development report 2018: Learning to realize education's promise*. Washington, DC: The World Bank.

The World Economic Forum. 2017. *The Africa competitiveness report 2017: Addressing Africa's demographic dividend*. Washington, DC: World Bank Group.

UN., 2018. *World youth report: Youth and the 2030 agenda for sustainable development*. New York: United Nations.

Weisshaar, K., and T. Cabello-Hutt. 2020. Labor force participation over the life course: The long-term effects of employment trajectories on wages and the gendered payoff to employment. *Demography* 57: 33–60.

Wiemers, A. 2017. "It is all he can do to cope with the roads in his own district": Labor, community, and development in Northern Ghana, 1919–1936. *International Labor and Working-Class History* 92: 89–113.

Williams, T., and C. Pompa. 2017. *Invisible lives: Understanding youth livelihoods in Ghana and Uganda*. Toronto: MasterCard Foundation.

Yeboah, F.K. 2018. *Youth for growth: Transforming economies through agriculture*. Chicago: Chicago Council on Global Affairs.

Yeboah, F.K., and T.S. Jayne. 2018. Africa's evolving employment trends. *Journal of Development Studies* 54: 803–832.