

# Child and youth agricultural work in Sub-Saharan Africa

*Perspectives from the World Bank Integrated  
Surveys on Agriculture Initiative*

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Working Paper  
September 2015

## **Understanding Children's Work (UCW) Programme**

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As part of broader efforts towards durable solutions to child labour, the International Labour Organization (ILO), the United Nations Children's Fund (UNICEF), and the World Bank initiated the interagency Understanding Children's Work (UCW) Programme in December 2000. The Programme is guided by the Roadmap adopted at The Hague Global Child Labour Conference 2010, which laid out the priorities for the international community in the fight against child labour. Through a variety of data collection, research, and assessment activities, the UCW Programme is broadly directed toward improving understanding of child labour and youth employment, their causes and effects, how they can be measured, and effective policies for addressing them. For further information, see the project website at [www.ucw-project.org](http://www.ucw-project.org).

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## 1. INTRODUCTION

1. The vast majority of child workers worldwide are found in the agriculture sector. ILO figures indicate that 57 percent of working children aged 5-17 years, over 98 million children in absolute terms – work on farms performing tasks ranging from harvesting crops, tending livestock, to handling machinery, spreading fertiliser or spraying pesticide (ILO, 2012). While not all work that children undertake in agriculture is bad for them, ILO figures indicate that agriculture is one of the three most dangerous sectors in which to work at any age, along with construction and mining. Agriculture is also a sector where many children are effectively denied education, greatly reducing their future chances of escaping from poverty by finding better jobs or becoming successfully self-employed (ILO, 2007).

2. Despite their numbers and the often hazardous nature of their work, children working in agriculture have received surprisingly little research attention. Aggregate estimates of children agriculture are available for most countries,<sup>2</sup> but far fewer countries have detailed information on the agriculture sub-sectors where they work, the modalities of their farm work, the specific tasks performed, the hazards they face, or the their relative importance in agricultural production. These and other information gaps serve to limit understanding of the role of children in the agriculture sector and impede the development of informed and well-targeted policy responses.

3. The current report forms part of a broader effort aimed at filling these knowledge gaps. Making use of data from the new World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA),<sup>3</sup> the report assesses the extent, nature and relative importance of child and youth employment in smallholder agriculture in four Sub-Saharan Africa countries (i.e., Ethiopia, Niger, Nigeria and Tanzania). The study is descriptive in nature, aimed at paving the way for more in-depth research using more advanced instruments in a subsequent research phase.

4. The remainder of the report is structured as follows. Section 2 describes the LSMS-ISA survey instrument and in particular the component of the LSMS-ISA household and agriculture questionnaires containing information on child and youth employment in agriculture. Section 3 presents a general picture of the employment situation of children and youth in the four countries, and of the role of agriculture within it. Section 4 then looks in more detail at agricultural employment and in particular at child and youth involvement in smallholder

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<sup>2</sup> For detailed statistics refer to the UCW website [www.ucw-project.org](http://www.ucw-project.org).

<sup>3</sup> The LSMS-ISA Initiative consists of nationally representative (panel for some countries) household surveys with a strong focus on agriculture and the nature and conditions of work in the agriculture sector.

cultivation and livestock production. Section 5 addresses the relative role play by children in smallholder cultivation and livestock production. Section 6 concludes.

## 2. DATA SOURCES

5. The data used in this study are from the World Bank LSMS-ISA Initiative in the four countries. The LSMS-ISA survey instrument covers a wide range of socio-economic topics using three different questionnaires administered to the households and the communities: the household questionnaire, the agriculture questionnaire, and the community questionnaire. The household questionnaire includes the typical LSMS modules soliciting information about household demographics, education, labour, health, housing, assets, expenditures, non-farm enterprises, non-labour income. The agriculture questionnaire collects a wide range of information about the role of agriculture in households' economic wellbeing.

6. Recalling that the main scope of the report is to generate detailed information about children's employment in agriculture, it is worth explaining the sources of the employment information available in the LSMS-ISA survey instrument. First of all, from the labour module of the household questionnaire it is possible to obtain information about employment along both the extensive and the intensive margins for every household member aged 5 years old and over. The labour module solicits information about employment over the last seven days through three standard questions:

- (a) During the past 7 days, have you worked for someone who is not a member of your household, for example, an enterprise, company, the government or any other individual?;
- (b) During the past 7 days, have you worked on a farm owned or rented by a member of your household, either in cultivating crops or in other farming tasks, or have you cared for livestock belonging to yourself or a member of your household?"; and
- (c) During the past 7 days, have you worked on your own account or in a business enterprise belonging to you or someone in your household, for example, as a trader, shop-keeper, barber, dressmaker, carpenter or taxi driver?

7. Question (b) of the labour module represents a first source of information about work on household farms. On one hand, this information is very comprehensive and precise because it derives from questions asked individually to each household member about any task accomplished on the farm. But on the other hand, it does not allow differentiating the different tasks performed by each household member working on the farm, nor does it permit fully capturing tasks that can follow a seasonal pattern because the question refers only to the seven days preceding the interview. For these reasons, we can only combine the labour module information with information on farm size and type derived from the agriculture questionnaire, since these characteristics do not change over the course of one agricultural season.



8. A second source of information about work on household farms is the harvest module of the agriculture questionnaire (post-harvest round),<sup>4</sup> through which a “knowledgeable person” in the household is asked to report plot-specific information about labour inputs, both household and hired, used in harvesting during the last rainy harvest season. More specifically, this information is solicited by asking the respondent to list all household members that worked on each plot for harvesting and to answer the following three questions for each listed household member:

- (d) How many weeks did [NAME] household member work?;
- (e) During those weeks, approximately how many hours did [NAME] work per week?; and
- (f) During those days, approximately how many hours did [NAME] work per day?

9. This information is very detailed and can be matched with farm's characteristics (size and type) and with the crops harvested on each plot by the household members reported to have worked on that same plot. At the same time, it is subject to recall bias since it is not solicited individually and it refers to a less clearly-defined time period lying further in the past, unlike the last seven-day time period of the question contained in the labour module.

10. This study exploits information primarily from the labour module of the household questionnaire in section 3 and makes use primarily of the agriculture questionnaire in sections 4 and 5.

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<sup>4</sup> The harvest module of the agriculture questionnaire collected during the post-planting visit does not have information about the labor input.

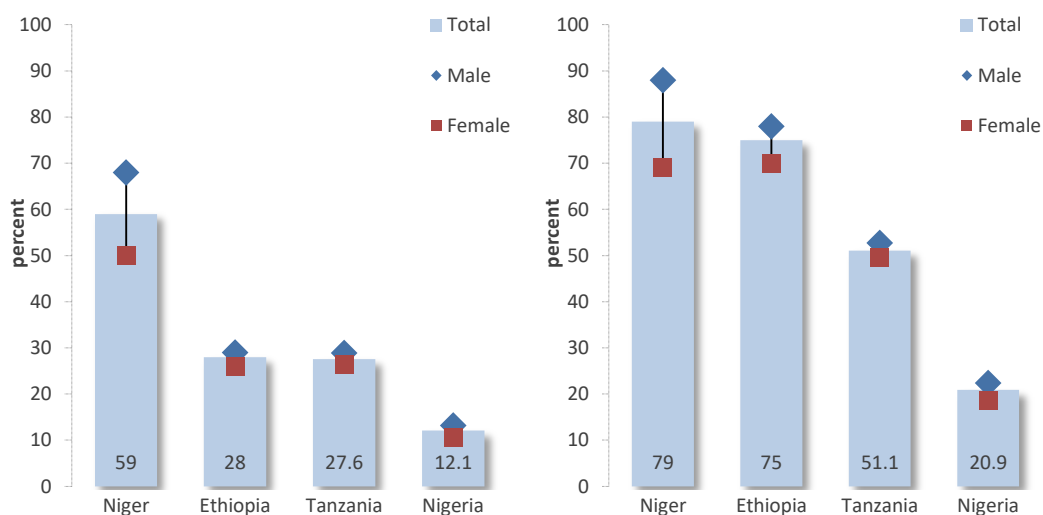
### 3. CHILD AND YOUTH EMPLOYMENT: AN OVERVIEW

#### 3.1 Children's employment

**11. Children's employment is very common even among younger (6-14 year-old) children.** Involvement in employment among younger children ranges from 59 percent (Niger) to 12 percent (Nigeria). While child labour laws differ from country to country, most children in this age range in employment are also in child labour, the subset of children's production that is injurious, negative or undesirable to children and that should be targeted for elimination (see Panel 1). The very high levels of employment in this age range, particularly in Niger, Ethiopia and Tanzania, is therefore cause for significant concern. Involvement in employment among older, 15-17 year-old, children is much higher, ranging from 79 percent (Niger) to 21 percent (21 percent). Employment figures for this age group are more difficult to interpret, however, as these children are above the general minimum working age and the work they perform only constitutes child labour if it is hazardous in nature.

Figure 1. Children's involvement in employment is commonplace in the four countries

(a) Percentage of children in employment, children aged 5-14 years, by sex  
 (b) Percentage of children in employment, children aged 15-17 years, by sex



Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**12. Children's involvement in employment appears to have a gender dimension.** A higher share of boys than girls are in employment in all four countries. The difference by sex is most pronounced in Niger for both the 6-14 years (18 percentage points) and 15-17 years (19 percentage points) populations.

13. Children’s employment is incompatible with children’s schooling. As reported in Figure 2, there is a clear negative correlation between employment and children’s ability to attend school,<sup>5</sup> highlighting the close links between the challenges of child labour and educational marginalisation. Equally important but more difficult to quantify is the impact of employment on educational achievement among those children that do manage to work and attend school at the same time. Although data on achievement are not available from the LSMS-ISA initiative, the time and energy that children must dedicate to work undoubtedly negatively affects their ability to benefit from their time in the classroom and their ability to study outside of it.

Figure 2. Employment is incompatible with children’s schooling  
Percentage of individuals in education, by work status and age



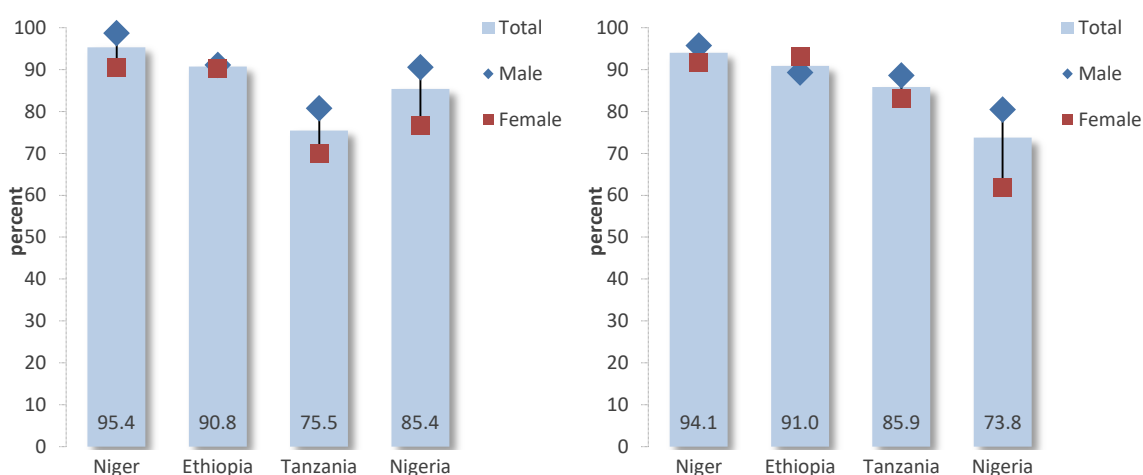
Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

<sup>5</sup> Estimates for Ethiopia and Niger should be interpreted with caution in this regard, as it was necessary to link information from the household and agriculture questionnaires to obtain these estimates.

**14. Agricultural forms by far the largest component of children’s employment.** As reported in Figure 3, agricultural work predominates in all four countries for both the 5-14 and 15-17 years age ranges and for both male and female children. Understanding children’s employment in the study countries, therefore, means, first and foremost, understanding their work and role in the agriculture sector.

Figure 3. Children’s employment is overwhelmingly agricultural in nature in the four countries

(a) Agricultural employment as a percentage of total employment, children aged 6-14 years, by sex  
 (b) Agricultural employment as a percentage of total employment, children aged 15-17 years, by sex



Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

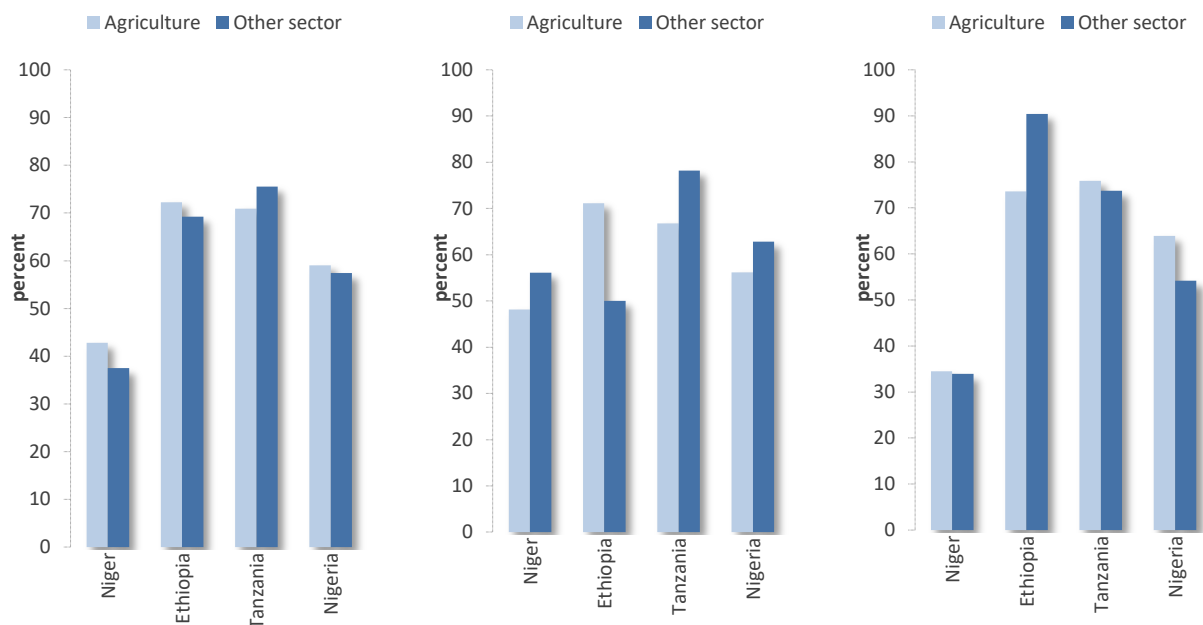
**15. Children working in agriculture are less likely to attend school, but not consistently more so than children working in other sectors.** Figure 4, which compares the school attendance of children working in agriculture and children working in other sectors, illustrates this point. In Ethiopia, Niger and Nigeria, the attendance of children working in agriculture is slightly higher than those working in other sectors, while in Tanzania child agricultural workers face a slight disadvantage vis-à-vis other working children in terms of their ability to attend school. In all three countries, however, these overall patterns disguise differences by sex. In Niger, Nigeria and Tanzania, boys working in agricultural are less likely than other working boys to attend school, but for girls agricultural work appears to be less a barrier to schooling than work in other sectors. In Ethiopia, by contrast, agricultural work is more likely than other work to interfere with schooling for girls, but boys in agriculture are actually much more likely to attend school than boys working in other sectors.

Figure 4. Children’s employment in agriculture is also incompatible with education

(a) School attendance rate, children in agricultural employment and in other employment, 6-14 years age range, total

(b) School attendance rate, children in agricultural employment and in other employment, 6-14 years age range, male

(c) School attendance rate, children in agricultural employment and in other employment, 6-14 years age range, female



Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**Panel 1. Child labour: A note on terminology**

The definition of **children in employment** derives from the System of National Accounts (SNA) (Rev. 1993), the conceptual framework that sets the international statistical standards for the measurement of the market economy. Children in employment are those engaged in any economic activity for at least one hour during the reference period. Economic activity covers all market production and certain types of non-market production (principally the production of goods and services for own use). It includes forms of work in both the formal and informal economy; inside and outside family settings; work for pay or profit (in cash or in kind, part-time or full-time), or as a domestic worker outside the child’s own household for an employer (with or without pay).

The term **child labour** refers to the subset of children’s production that is injurious, negative or undesirable to children and that should be targeted for elimination. Three main international conventions – the UN Convention on the Rights of the Child (CRC), ILO Convention No. 182 (Worst Forms) and ILO Convention No. 138 (Minimum Age) – provide the main legal standards for child labour and a framework for efforts against it.

**ILO Convention No. 138** (Minimum Age) represents the most comprehensive and authoritative international definition of minimum age for admission to work or employment. C138 calls on Member States to set a general minimum age for admission to work or employment of at least 15 years of age (Art. 2.3) (14 years of age in less developed countries), and a higher minimum age of not less than 18 years for employment or work which by its nature or the circumstances in which it is carried out is likely to jeopardise the health, safety or morals of young persons, i.e., hazardous work (Art. 3.1). The Convention states that national laws or regulations may permit the employment or work of persons from 13 years of age (12 years in less developed countries) on light work which is (a) not likely to be harmful to their health or development; and (b) not such as to prejudice their attendance at school, their participation in vocational orientation or training programmes approved by the competent authority or their capacity to benefit from the instruction received (Art. 7).

## Panel 2.Cont'd

**ILO Convention No. 182** (Worst Forms of Child Labour) supplements C138 by emphasising the subset of worst forms of child labour requiring immediate action. For the purposes of the Convention, worst forms of child labour comprise: (a) all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom, as well as forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict; (b) the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances; (c) the use, procurement or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in relevant international treaties; and (d) work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children (Art. 3).

The **UN Convention on the Rights of the Child** (CRC) recognises the child's right to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development (Art. 32.1). In order to achieve this goal, the CRC calls on States Parties to set minimum ages for admission to employment, having regard to other international instruments (Art. 32.2).

### 3.2 Youth employment

16. Labour force participation is relatively high and education participation is relatively low among young persons in the 15-29 years age range. Youth labour participation in Niger, Ethiopia and Tanzania stands at 83 percent, 81 percent and 69 percent, respectively, while education participation in the same countries stands at 12 percent, 27 percent and 25 percent, respectively (Table 1). The youth employment situation in Nigeria, however, differs considerably. There, labour force participation is much lower (38 percent) and at the same time education participation is much higher (36 percent). While measured unemployment is low (again with the exception of Nigeria), substantial numbers of youth in the four countries fall in the NEET category, i.e., are neither in education, employment or training, and therefore at elevated risk of social marginalisation. The share of NEET youth ranges from 21 percent (Nigeria) to 10 percent (Niger).

17. Differences by sex in terms of activity status are considerable in all four countries. Female youth are consistently less likely to be continuing with their education, and consistently more likely to be inactive and out of school and to fall into the NEET category. Underlying this pattern is the different culturally-dictated paths taken upon entering adolescence. Female youths are more likely to leave school to take up domestic responsibilities in their own homes and male youth to remain in school and then to enter the labour force.

Table 1. *Aggregate labour market indicators, persons aged 15-29 years, by sex*

Population category		Labour force participation (% pop.)	Education participation (% pop.)	Inactive and out of education (% pop.)	NEET <sup>(a)</sup> (% pop.)	Unemployment rate (% active)
Ethiopia	Total	81	27	13	13	
	Male	86	31	8	8	
	Female	76	23	17	17	
Niger	Total	83	12	10	10	0
	Male	90	16	3	3	1
	Female	79	9	16	16	0
Nigeria	Total	43.1	42.6	21.1	25.8	10.9
	Male	44.0	51.6	13.5	19.0	12.5
	Female	42.2	33.8	28.5	32.4	9.2
Tanzania	Total	73.7	25.1	8.6	13.2	3.7
	Male	74.1	29.8	5.2	8.9	5.5
	Female	73.3	20.7	11.7	17.2	4.7

Notes: (a) NEET refers to youth who are not in education or employment. It is a measure that therefore reflects both youth who are inactive and out of education as well as youth who are unemployed; (b) Relaxed unemployment considers both unemployed workers and all individuals who are not working and are available for work. The relaxed unemployment rate is the sum of unemployed workers and not working individuals available for work expressed as a percentage of the expanded active population. The expanded active population, in turn, comprises not working individuals available to work and the active population.

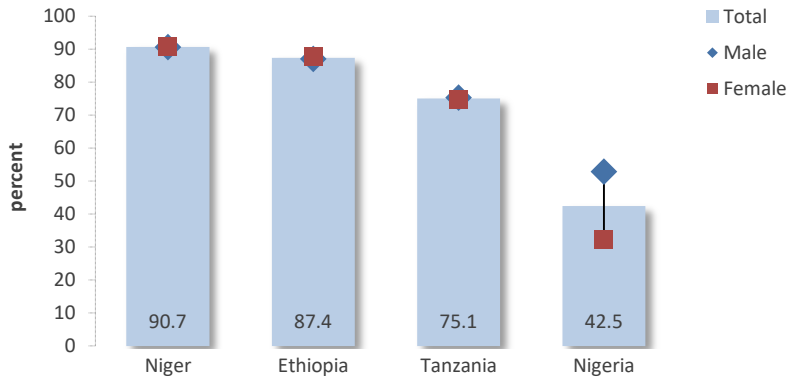
Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**18. Youth employment in the 15-29 years age range is also concentrated in the agriculture sector.** Agriculture accounts for 92 percent of employed youth in Niger, 89 percent in Ethiopia and 75 percent in Tanzania, with little difference by sex. Again, Nigeria, where agriculture accounts for only 43 percent of all youth jobs and for only 33 percent of female youth jobs, is the exception. In Tanzania and Nigeria, the largest shares of employed youth outside the agriculture are found in the services sector.<sup>6</sup> As with children, therefore, understanding youth employment outcomes in the four countries, requires above all detailed information about the nature and conditions of youth employment in the agriculture sector.

<sup>6</sup> Further decomposition by sector is not possible in Niger and Ethiopia due to limited observations-

**Figure 5. Youth employment is also concentrated in the agriculture sector**

Agricultural employment as a percentage of total employment, youth aged 15-29 years, by sex



Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**19. Youth jobs in the agricultural sector are more likely to be non-wage and in the informal economy.** The predominance of agriculture should be interpreted in the context of a wide body of evidence indicating that the productivity and profitability in the non-farm sector is generally better than in the farm sector, as are average wages and working conditions. Almost all youth in agricultural employment in the four countries – male and female alike – are in informal work arrangements without wages, while their peers in other sectors enjoy better prospects of wage employment (although informality is a challenge across all sectors)(Figure 6).

**Figure 6. Youth jobs in the agricultural sector are more likely to be unremunerated**

(a) Distribution (%) of employed youth aged 15-29 years, by status in employment, total

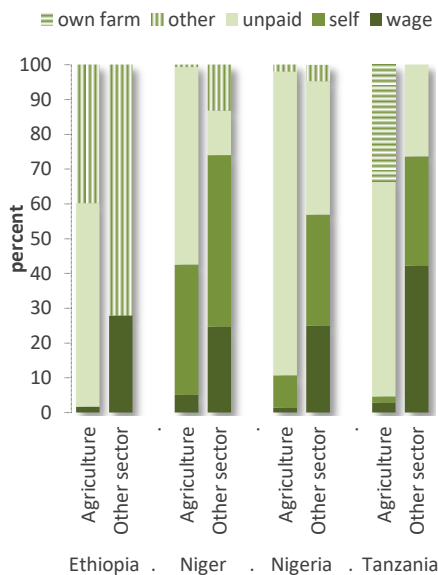
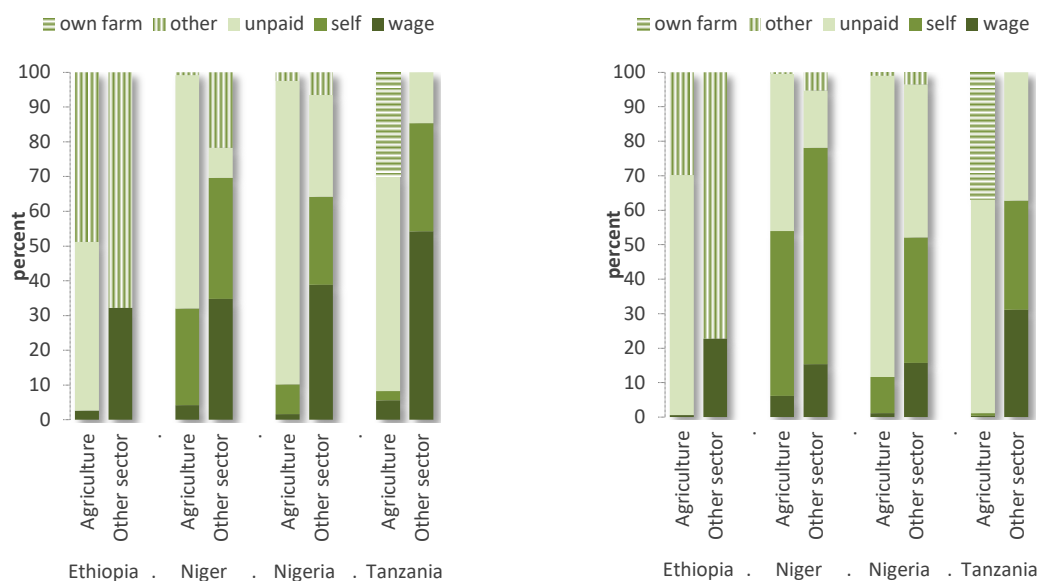




Figure 6. Cont'd

(b) Distribution (%) of employed youth aged 15-29 years, by status in employment, male

(c) Distribution (%) of employed youth aged 15-29 years, by status in employment, female

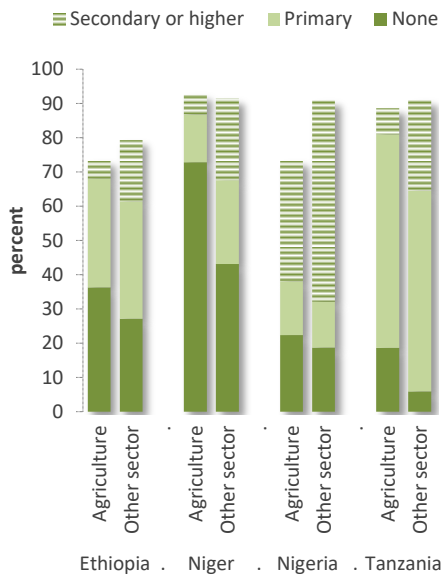


Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

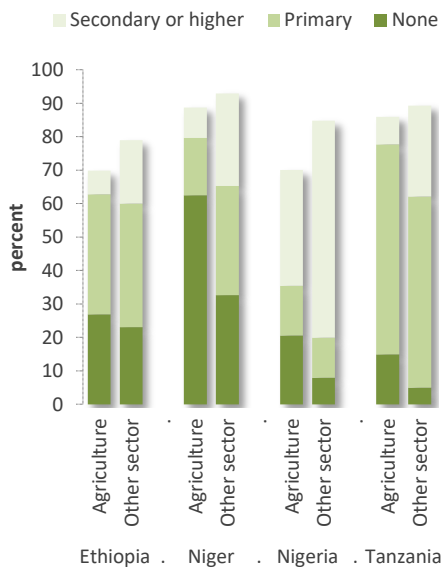
20. While human capital levels in the youth labour force are low across all sectors, this is particularly the case in the agriculture sector. In all four countries, agriculture is the sector with the greatest share of poorly educated or uneducated youth. These patterns apply to both male and female youth, and underscore the low-skill, informal nature of agricultural work. In Niger, 73 percent of young persons in agriculture have no education at all, a 30 percentage point higher share than youth in other sectors. The share of uneducated youth is much lower in Ethiopia, Nigeria and Tanzania, but agriculture is again the sector with the greatest share of poorly educated youth.

Figure 7. Youth workers in the agriculture sector are less educated than their peers working in other sectors

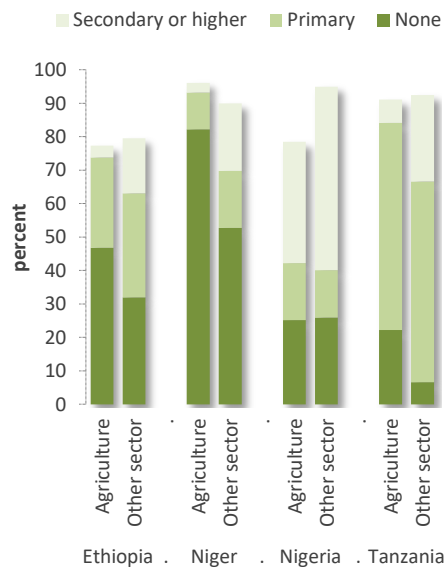
(a) Distribution (%) of employed youth aged 15-29 years, by sector of employment and educational status, total



(b) Distribution (%) of employed youth aged 15-29 years, by sector of employment and educational status, male



(c) Distribution (%) of employed youth aged 15-29 years, by sector of employment and educational status, female



Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

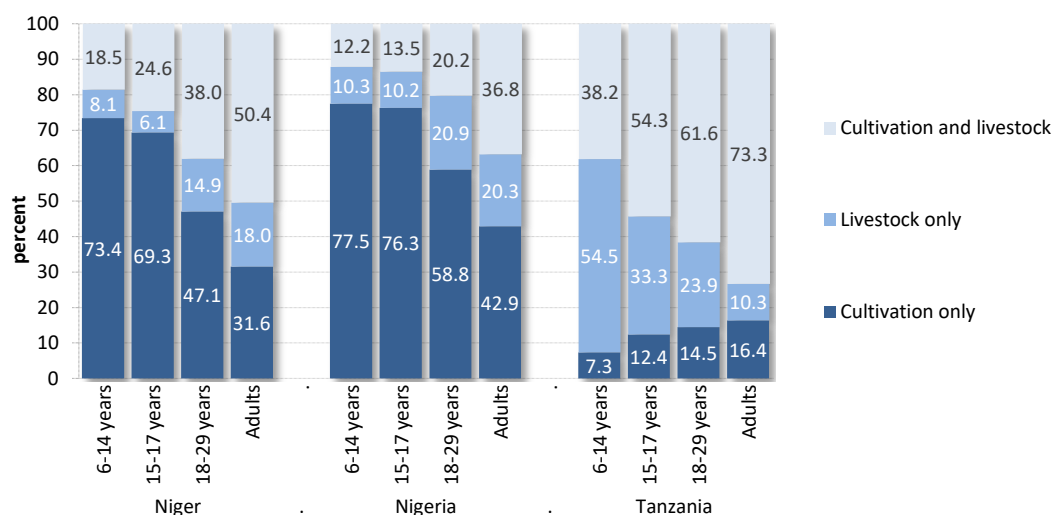
## 4. CHILDREN AND YOUTH WORKING IN SMALL HOLDER AGRICULTURE: A MORE DETAILED LOOK

21. This chapter exploits the more detailed information from the LSMS-ISA agriculture questionnaire to look in more depth at children and youth working in two types of smallholder agriculture – cultivation and livestock production.

22. Figure 8 reports how the child and youth (and adult) agricultural workforce is distributed across these two activities in three of the study countries.<sup>7</sup> In Niger and Nigeria, children tend to be specialised in cultivation, with smaller shares involved in livestock exclusively or combining the two activities. Children in Tanzania by contrast are more likely to be specialised in livestock production or to be combining livestock production or cultivation. There are some differences in specialisation between male and female children: in Niger and Nigeria, female children are more likely to be specialised in cultivation and male children in livestock or in both activities (Appendix Figure 29). In all three countries, specialisation diminishes with age, i.e., a greater share of the workforce in each age group engages in both cultivation and livestock production.

Figure 8. Children are less likely than adults to to combine both cultivation and livestock production

(a) Distribution of workforce in cultivation or livestock production, by age group, total<sup>(a)</sup>



Notes: (a) In Ethiopia, the livestock questionnaire is administered at household level meaning that it is not possible to identify those working in livestock at the individual level.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

<sup>7</sup> In Ethiopia, the livestock questionnaire is administered at household level meaning that it is not possible to identify those working in livestock at the individual level.

23. The agriculture questionnaire of the LSMS-ISA survey instrument provides information on the size and type of the farms where children and youth are found and on the specific type of crops they are involved in cultivating, information crucial to the design and targeting of programmes addressing the agricultural work of these groups. Each of these variables are looked at below, first at the extensive and then at the intensive margin, in order to present as complete a picture as possible of the work experience of children and youth involved in cultivation. We then review available information from the agriculture questionnaire on the involvement of children and youth in livestock production.

#### 4.1 Characteristics of children's and youth's work in smallholder cultivation

24. Children are more involved in the cultivation of some crops than others, although patterns in this regard differ across the four countries. This point is illustrated in Figure 9, which reports the share of total child agricultural workers involved in cultivating each specific crop or crop type.<sup>8</sup> In Ethiopia, the largest share of child agricultural workers is involved in the cultivation of oil seeds, while in Niger and Nigeria, children are most likely to be involved in cultivation of root crops and sorghum, respectively. In Tanzania, by far the largest share of child agricultural workers are involved in the cultivation of maize. A breakdown by sex, reported in Appendix Figure A4, shows generally smaller shares of girls than boys involved in each crop. The *relative* importance of each crop type, however, only differs significantly in Niger, where the cultivation of oil seeds forms a lesser component of girls' cultivation work than that of boys.

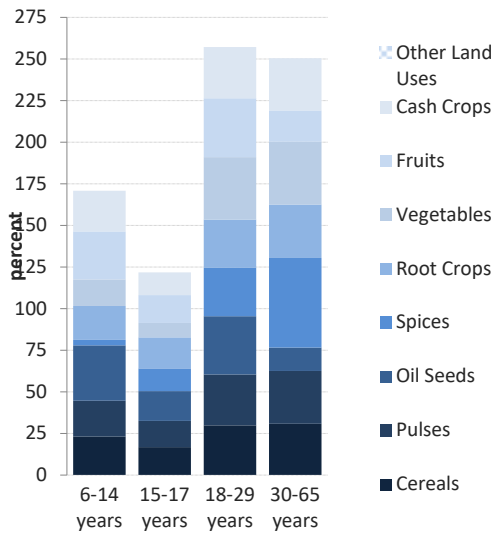
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<sup>8</sup> Crop types and categories differ somewhat across the four countries.

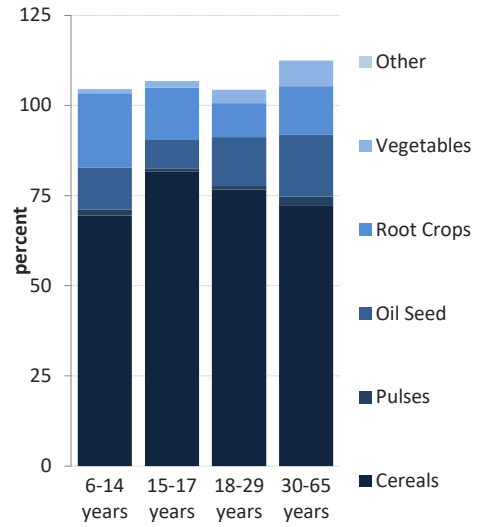
Figure 9. There is no clear pattern in terms of children’s specialisation by crop

Distribution (%) of workforce in cultivation, by age group and crop type, <sup>(a)</sup> <sup>(b)</sup> total

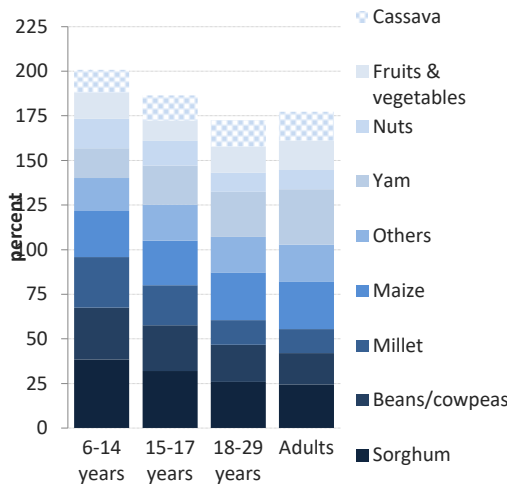
(a) Ethiopia



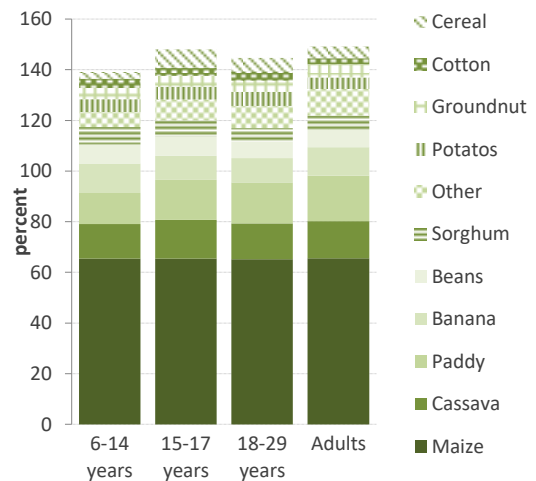
(b) Niger



(c) Nigeria



(d) Tanzania



Notes: (a) Percentages sum to more than 100 because many persons are involved in the harvesting of more than one crop type.; (b) “Other” in Nigeria includes cotton, cotton seed, rice (shelled and unshelled), acha, sesame, ginger, pigeon pea, potato, sweet potato, soya beans, sugar cane, wheat, cocoa, cocoa beans, cocoa pod, locust beans, palm tree oil, bean oil.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

25. The fact that shares of total child agricultural workers involved in each crop sum to more than 100, however, indicates that children are generally not restricted to working in the cultivation of a single crop type, but rather are involved in the cultivation of *multiple* crops. In Nigeria, for

instance, about 62 percent of 6-14 year-olds in cultivation work help in the cultivation of multiple crops. Breaking this number down further, some 30 percent are involved in the harvesting of two crops, and 20 percent in the harvesting of three crops, and 13 percent in the harvesting of at least four crops.

26. Another way of viewing the crop specialisation of children is comparing it with that of youth and adults. In other words, by addressing the question as to whether child agricultural workers are more or less likely than their older counterparts to be specialised in cultivating a specific crop. Figure 9 does *not* indicate major differences in crop specialisation by age, but rather only in some specific instances. In Ethiopia, for example, spices stand out as a crop category where child agricultural workers are *less likely* to be involved than youth, who are in turn less involved than adults. In Nigeria, the share of agricultural workers involved in cultivation of sorghum, beans and millet declines with age. In other words, a larger share of child agricultural workers cultivate these crops than youth agricultural workers, and a larger share of youth agriculture workers in turn cultivate these crops compared to their adult counterparts.

**27. Children and youth are involved in all phases of the agricultural cycle.** Again, however, while there are some specific instances of children's specialisation there is no clear overall pattern in this regard. In Niger, a larger share of child agricultural workers are involved in planting than in weeding or harvesting, while youth and adults are distributed more evenly across these three activities. In Tanzania, shares of youth and adult agricultural workers involved in planting, weeding and harvesting are higher but they do not appear more specialised in any one of them; rather, older agricultural workers appear more likely to multi-task.<sup>9</sup> Specialisation by agricultural task does not appear to be present in Ethiopia; roughly equal shares of agricultural workers at each age are involved in planting and harvesting. Multi-tasking, however, appears to rise with age in Ethiopia.

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<sup>9</sup> There does, however, appear to be age-related specialisation in fertilising in Tanzania (the only country where information on this activity is available). The share of agricultural workers involved in fertilising is smallest for younger children, and increases for each subsequent age group thereafter.

Figure 10. Children and youth are involved in all phases of the agricultural cycle

Percentage of population involved in cultivation activities, by type of activity, age range and country, total

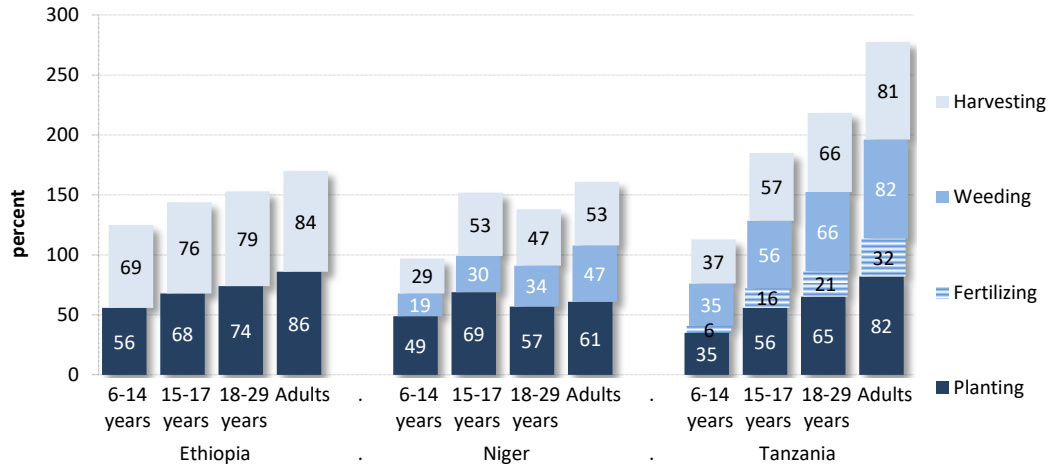
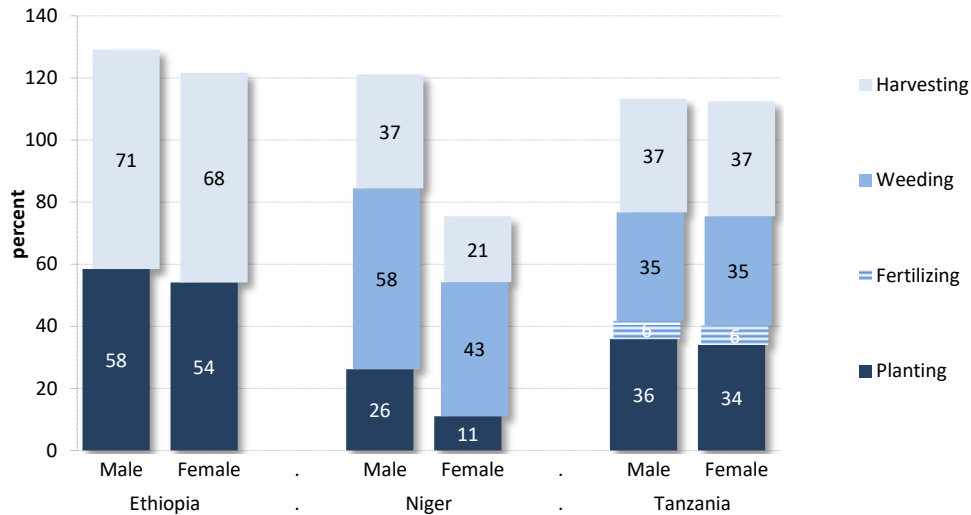


Figure 11. A clear pattern of specialisation by sex is apparent only in Niger

Percentage of population involved in cultivation activities, by type of activity and sex, 6-14 years age range



Notes: (a) Columns sum to more than 100 hundred because of the large shares of individuals working in more than one activity. Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, and Tanzania (see Table 1).

**28. There is a clear pattern of specialisation by sex among children in Niger.** As reported in Figure 11, Nigerien female children are much less involved in planting, harvesting and weeding than their male peers. There are surprising little differences between boys and girls, however, in these activities in Tanzania and Ethiopia.

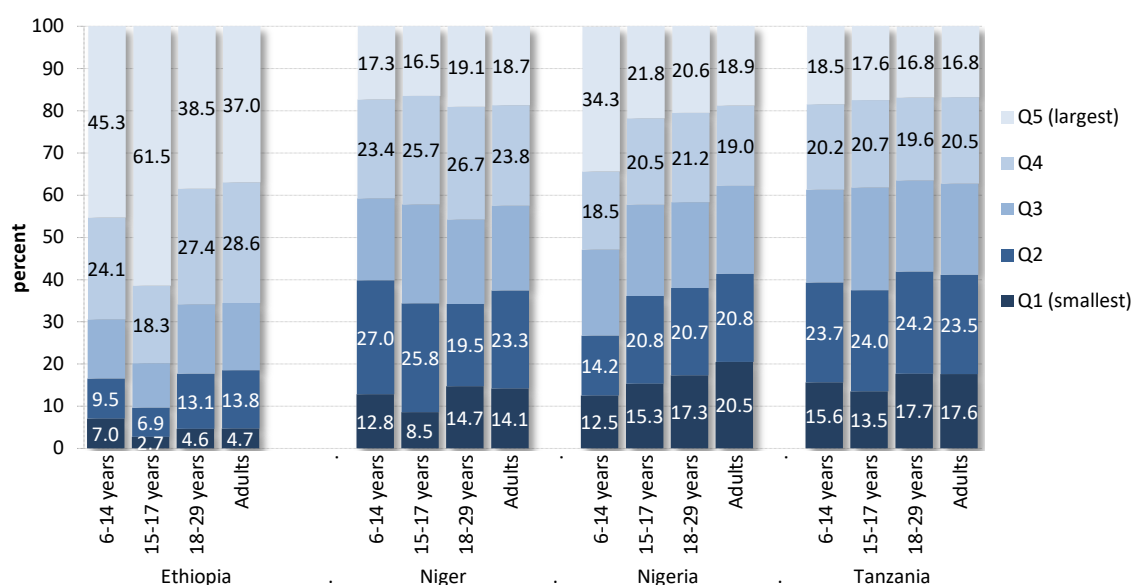
29. In addition to the information about labour inputs, the agriculture questionnaires contain information on the size and type of the farms

where children and youth are found. Farm size is categorized into quintiles of the distribution of cultivated land size: the first quintile includes all the household farms up to 0.3 acres (one acre is roughly 0.4 hectares), the second includes land size between 0.3 and 1.5 acres, the third quintile between 1.5 and 4 acres, the fourth between 4 and 9 acres, and the fifth all the farms with land over 9 acres.

**30. The distribution of the child farm workforce across farm sizes does not differ significantly from that of other age groups.** As illustrated in Figure 12, the farm workforce in Ethiopia for all age groups is more concentrated in large farms (highest two size quintiles) than smaller ones (lowest two size quintiles). In the remaining countries, the share of the workforce on larger farms and on small farms is roughly equal for all age groups.

Figure 12. There is no clear pattern between children's agricultural work and farm size

Distribution of farm workforce, by farm size quintile<sup>(a)</sup> and age group<sup>(b)</sup>



Notes: (a) Farm size quintiles are as follows: Q1=0-0.3 acres, Q2=0.3-1.5 acres, Q3=1.5-4 acres, Q4=4-9 acres, and Q5=>9+ acres; and (b) In Ethiopia and Niger, the size of the farm is provided at crop level, not at individual level. For each crop, they provide the number of adult men, women and children <15, but no info on the precise age of individual.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**31. Farms can also be classified according to the share of harvest sold to the market.** Here we adopt a threshold of 50 percent in terms of harvested quantity sold to the market in order to categorize farms into subsistence and commercial. Farms selling more than 50 percent of their harvest are categorized as commercial farms and those selling 50 percent or less of their harvest are classified as subsistence farms.

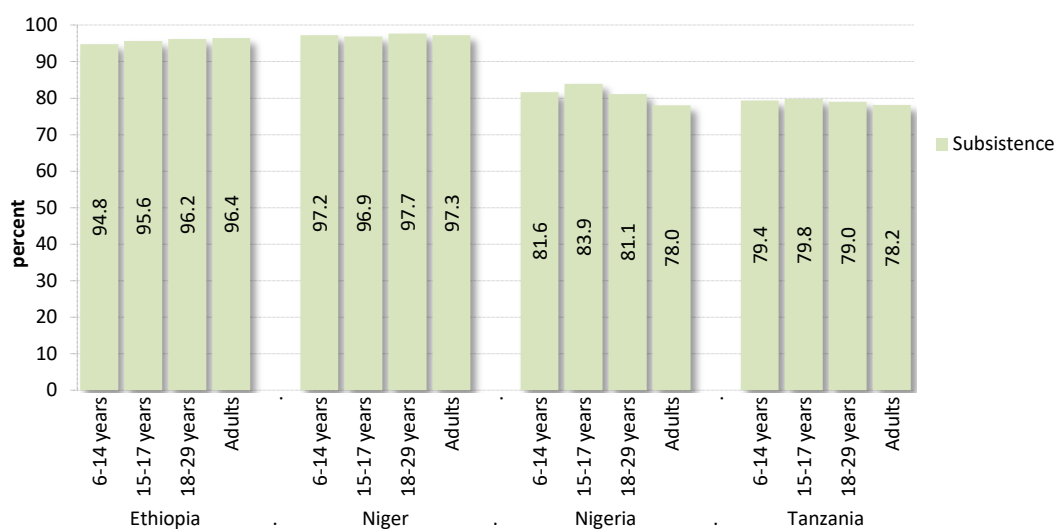
**32. Children and youth, like their older counterparts, are much more likely to work on subsistence than on commercial farms.** As reported in Figure 13, around four out of five children and youth in agriculture



work on subsistence farms. Children and youth do not, however, appear more specialised in subsistence farming than adults; a similar share of adults in agriculture in both countries work on farms where most production is consumed rather than sold.

Figure 13. Children and youth are concentrated in subsistence farms

Percentage of work force in cultivation working in subsistence farming,<sup>(a)</sup> by age group



Notes: (a) Subsistence farms are defined as those selling half or less of their harvest.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

## 4.2 Time intensity of cultivation work

33. The agriculture questionnaire of the LSMS-ISA survey instrument provides information on the involvement of children and youth in smallholder cultivation at the intensive margin, i.e. on the time intensity of their work in smallholder cultivation.<sup>10</sup>

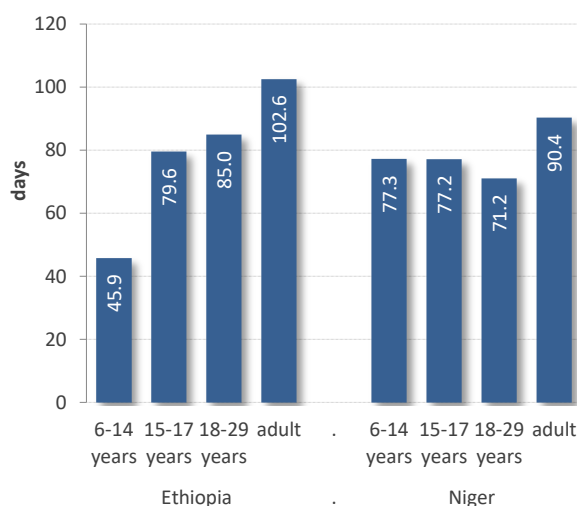
34. The time-intensity of cultivation work rises with age, whether measured in terms of working days per season, as in Ethiopia and Niger, or in terms of working hours per week, as in Nigeria and Tanzania. This pattern notwithstanding, excessive working hours are a particular concern among younger children (particularly in Nigeria, 28 hours per week), while youth and adults may in fact not work for enough time to earn adequately. In both Nigeria and Tanzania, youth and adults in cultivation work 30 or less hours per week, far less than the benchmark 40 hours per week for adult workers in industrialised economies, suggesting that many are *underemployed*. Differences in terms of time intensity of cultivation

<sup>10</sup> Owing to differences in the structure of the data, time intensity is measured in terms of days per agricultural season in Ethiopia and Niger, and in terms of average weekly working hours in Nigeria and Tanzania.

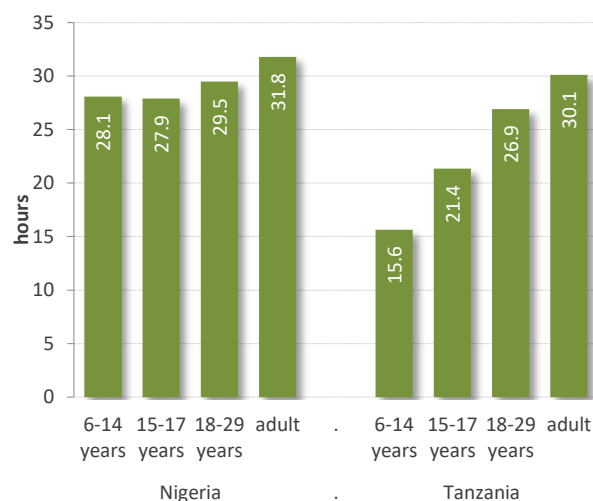
work between male and female children are not large among 6-14 year-olds, but for 15-17 years cultivation work is generally more time intensive for boys than girls (Appendix Figure A5).

Figure 14. The time-intensity of cultivation work rises with age

(a) Average working days in cultivation per season, by age group, total



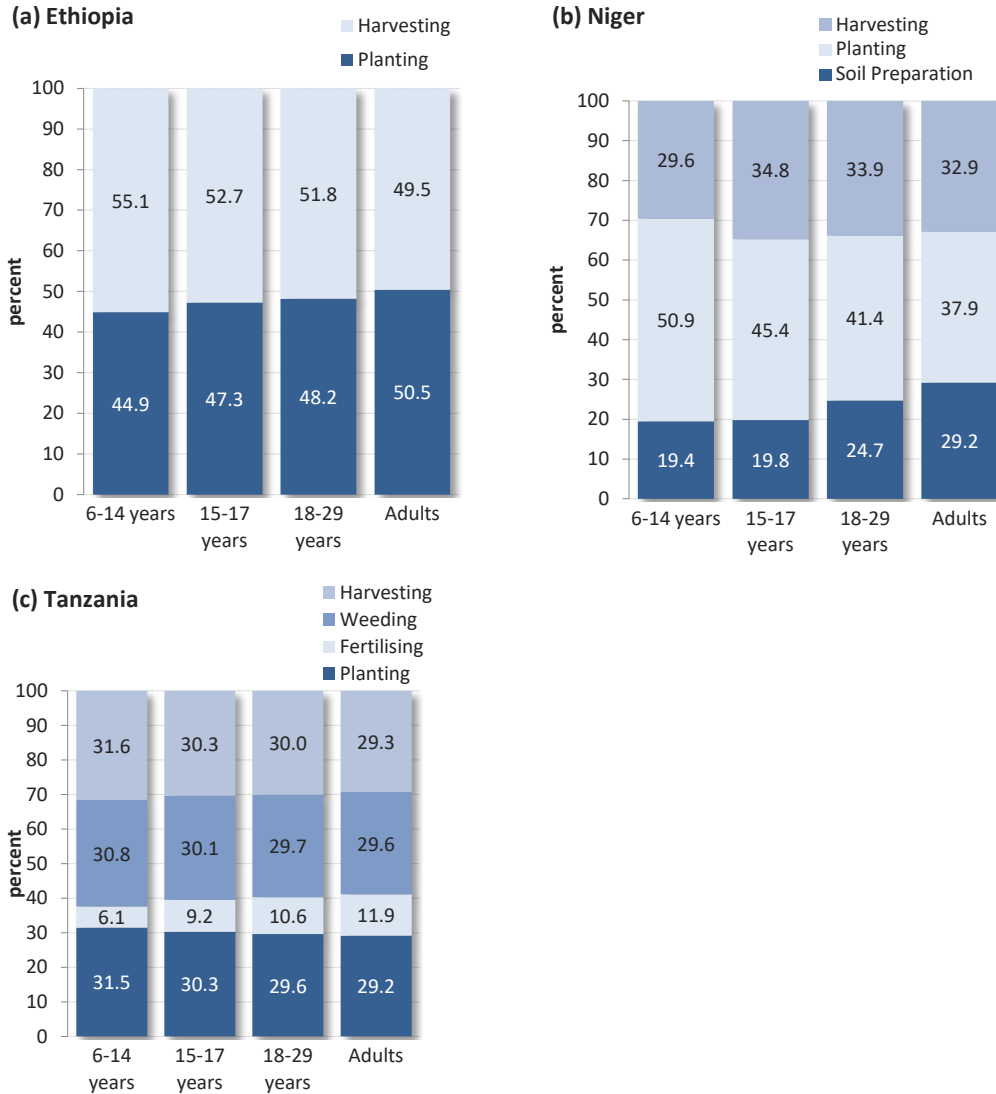
(b) Average weekly working hours in cultivation, by age group, total



Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**35. The time children spend in cultivation is distributed across the agricultural calendar.** As reported in Figure A6, in Ethiopia, children's total work time is allocated to planting and harvesting in roughly equal proportion; the total work time of older agricultural workers in the country is similarly equally distributed. In Niger, younger children spend the largest portion of their total work time in planting, and the share of total work time allocated to this activity diminishes for each age group thereafter. In Tanzania, roughly equal shares of total work time is dedicated to planting, weeding and harvesting by workers in all age groups, while share of total time allocated to fertilising increases with age. The time allocations of children do not appear to differ substantially by sex (Appendix Figure A6).

Figure 15. The time children spend in cultivation is distributed across the agricultural cycle  
Distribution of total time spent in cultivation, by activity and age group

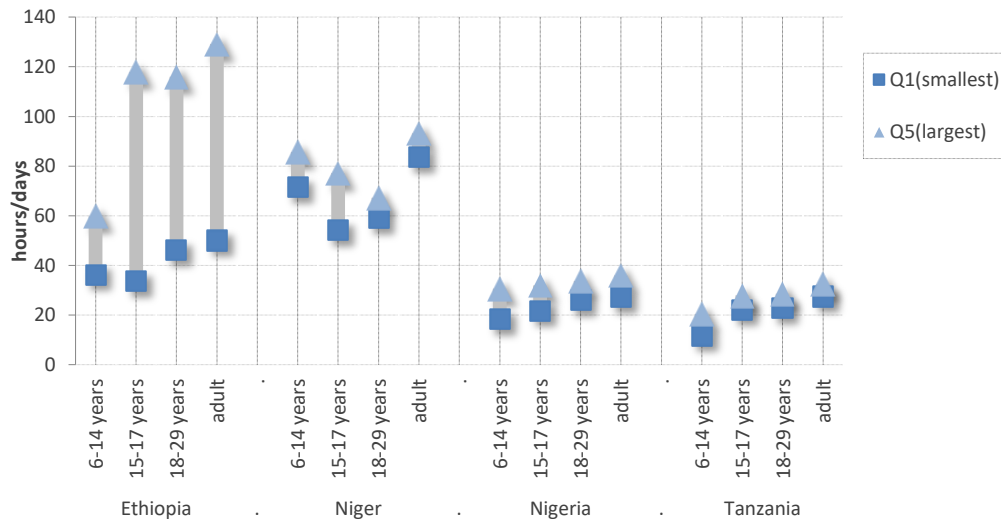


Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**36. Agricultural work is more time-intensive on larger-sized farms, but this pattern is only pronounced in Ethiopia.** As reported in Figure 16, the link between farm size and time intensity differs little across age groups. There is no consistent difference in terms of the intensity of cultivation work between subsistence and commercial farms for any country or age group (Figure 17).

Figure 16. There is no consistent pattern in terms of time intensity and farm size

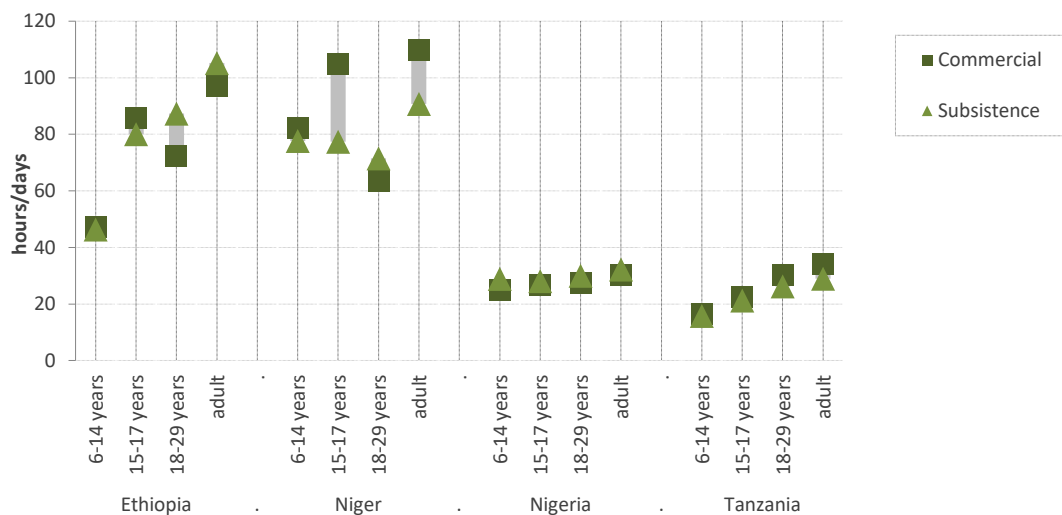
Average weekly working hours in cultivation, by age group and farm size



Notes: (a) Farm size quintiles are as follows: Q1=0-0.3 acres, Q2=0.3-1.5 acres, Q3=1.5-4 acres, Q4=4-9 acres, and Q5=>9 acres; (b) Commercial farms are defined as those selling over 50 percent of their harvest. Niger: only household members laborers  
 Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

Figure 17. The time intensity of children's agricultural work differs little between commercial subsistence farms

Average weekly working hours in cultivation, by age group and farm type



Notes: (a) Commercial farms are defined as those selling over 50 percent of their harvest. Niger: only household members laborers  
 Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

### 4.3 Involvement in livestock production

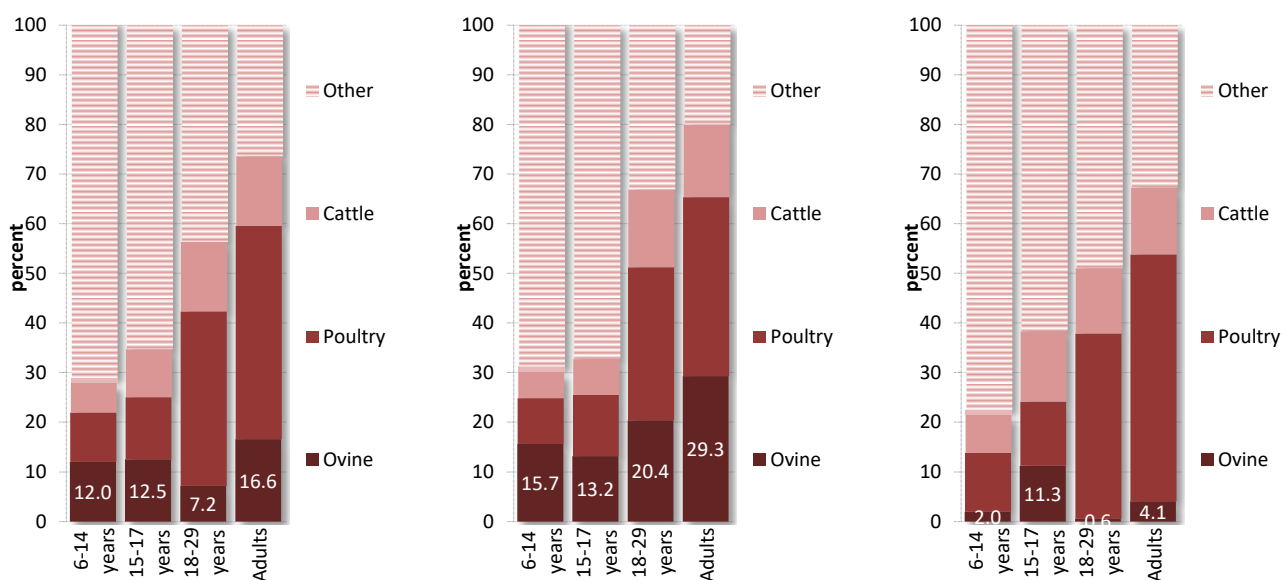
37. The agriculture questionnaire of the LSMS-ISA survey also provides some general information on in livestock production in Niger and Nigeria.<sup>11</sup> As reported in Figure 18, children, youth, and adults working in livestock production are concentrated in three primary livestock types – ovine, poultry and cattle. The highest shares of children are found in cattle and ovine production in Niger and in ovine production in Nigeria. There is again some evidence of specialisation along gender lines. This is especially apparent in Niger, where ovine production is almost exclusively the domain of male children in the 6-14 years age group. Most household members, however, are not limited to only one livestock category. In Nigeria, for instance, some 75 percent of all children, 73 percent of youth and 76 percent of adults work with more than one type of livestock type.

Figure 18. The ovine sector accounts for the largest share of children working in livestock production

(a1) Share of persons working livestock production,<sup>(a)</sup> by livestock type and age group, NIGER, total

(a2) Share of persons working livestock production,<sup>(a)</sup> by livestock type and age group, NIGER, male

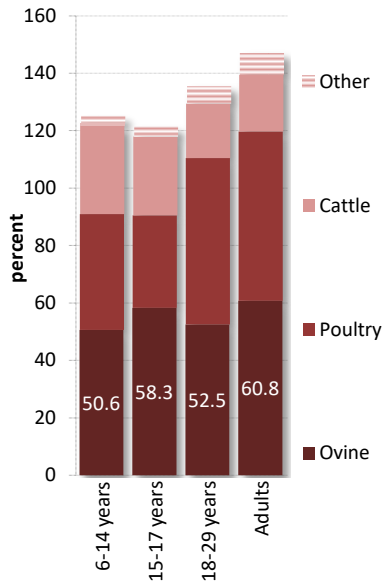
(a3) Share of persons working livestock production,<sup>(a)</sup> by livestock type and age group, NIGER, female



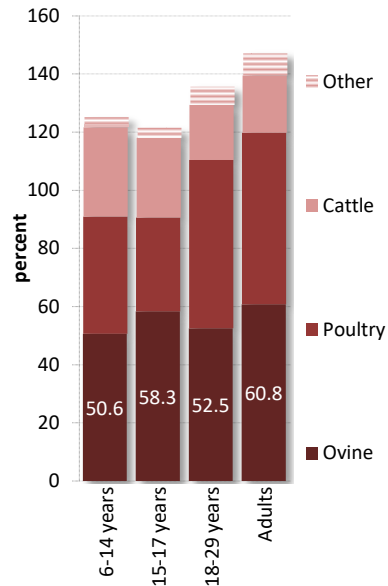
<sup>11</sup>The information on livestock production does not include working hours.

Figure 18.Cont'd

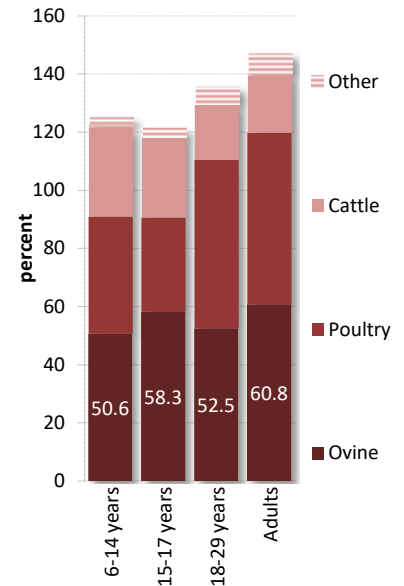
(b1) Share of persons working livestock production, <sup>(a)</sup> by livestock type and age group, NIGERIA, total



(b2) Share of persons working livestock production, <sup>(a)</sup> by livestock type and age group, NIGERIA, male



(b3) Share of persons working livestock production, <sup>(a)</sup> by livestock type and age group, NIGERIA, female



Notes: (a) Other livestock types are donkeys, horses, rabbits, camels and dogs.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**Panel 2. Children’s use of agricultural machinery and implements in Nigeria**

Harvesting and livestock production are overwhelmingly non-mechanised for children, youth and adults alike in Nigeria. Children’s use of agricultural machinery and implements is another collected by the agriculture questionnaire of Integrated Agriculture Survey in Nigeria. Table A, which reports that share of children, youth, and adults working in harvesting or livestock production using agricultural implements or machinery, highlights the non-mechanised nature of agriculture in Nigeria across all age groups. Almost half (48 percent) of children aged 6-14 years and 42 percent of youth use no implements or machinery at all, and the remainder use only simple implements such as hoes, cutlasses and wheelbarrows. The picture is very similar for adults – almost none makes use of a tractor and almost half (46 percent) utilises no agricultural implements or machinery.

**Table A. Harvesting and livestock production are overwhelmingly non-mechanised for children and adults alike**

Share of persons in harvesting or livestock production making use of agricultural implements/machinery,<sup>(a)</sup> by type of implement/machinery and age group

Item	Children (6-14)	Children (15-17)	Youth (18-29)	Adults
Tractor	0.0	0.0	0.0	0.0
Plough	1.6	1.5	1.9	0.9
Trailer/cart	0.8	0.8	0.3	0.2
Ridger	0.4	0.2	0.0	0.4
Planter	0.0	0.0	0.0	0.0
Pickup	0.0	0.0	0.0	0.1
Water pump	0.4	0.3	0.4	0.6
Sprinkler	0.2	0.6	0.1	0.0
Other animal drawn equipment	2.4	2.7	1.4	1.3
Other tractor drawn equipment	0.0	0.0	0.1	0.1
Sprayer	2.5	3.9	2.1	1.9
Wheel barrow	6.7	7.3	7.8	7.4
Cutlass	42.1	50.2	49.7	44.9
Hoe	49.2	56.1	52.5	46.6
Other <sup>(b)</sup>	7.5	9.2	7.8	7.1
None	47.7	40.7	41.9	47.8

Notes: (a) Percentages sum to more than 100 because some persons utilize more than one type of implement/machinery; (b) The other category includes axe, basin, basket, shovel, etc.

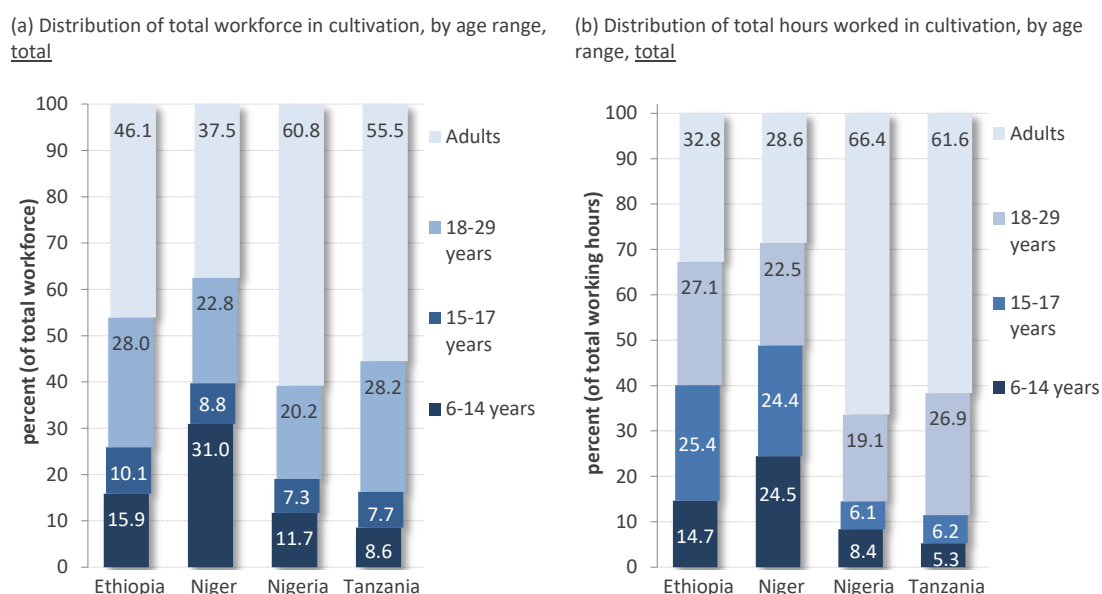
Source: UCW calculations based on Nigeria GHS agriculture questionnaire (*post-harvest round*), 2011.

## 5. “CHILD- AND YOUTH-LABOUR CONTENT” OF SMALLHOLDER CULTIVATION AND LIVESTOCK PRODUCTION

38. Not answered in the descriptive statistics presented above is the question of the *relative importance* of children’s and youth’s labour in cultivation and livestock production. In other words, what is the “child and youth labour content” of smallholder agriculture in the four countries? We take up this question in the current section by looking at the share of the total agricultural workforce and of total working hours in agriculture accounted for by child and youth workers.

39. Children and youth play a central role in the agricultural production in the four countries measured at both the intensive and extensive margins. As reported in Figure 19, children aged 6-17 years account for from 15 percent (Tanzania) to 27 percent (Niger) of the total workforce and the total working hours in cultivation. Even youngest children in the 6-14 years age bracket appear important, accounting for from eight percent (Tanzania) to 18 percent (Niger) to the total cultivation and for an almost as high share of total working hours. Youth aged 18-29 years are also central to agricultural production, making up from 20 percent (Nigeria) to 29 percent (Ethiopia) of the total workforce in cultivation and for a similar share of total working hours.

Figure 19. Children play an important role in cultivation measured at both the intensive and extensive margins

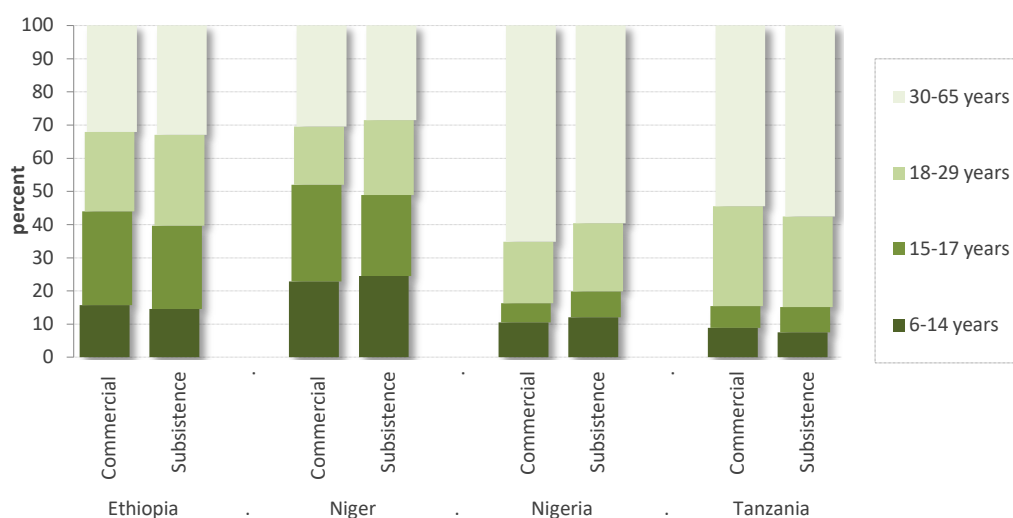


Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).



**40. The relative role of children and youth is not clearly correlated to type (i.e., commercial or subsistence)<sup>12</sup> of farm.** Farms that sell at least half of their production, defined for our purposes as commercial, do not appear any more or less reliant on child labour than farms whose production is primarily for subsistence.

Figure 20. The relative role of children and youth is not clearly correlated to type (commercial or subsistence) of farm  
Distribution (%) of total workforce in cultivation, by age range and farm type

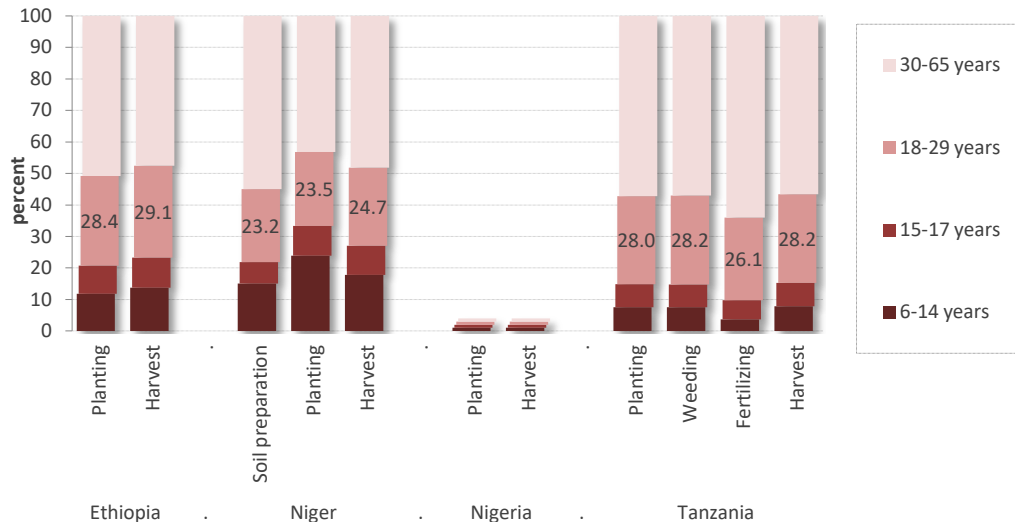


Notes: (a) Commercial farms are defined as those selling over 50 percent of their harvest. Niger: only household members laborers  
Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**41. Children and youth appear to play an important role in all phases of the agricultural cycle.** One question that frequently arises when assessing children’s involvement in agriculture is that of its seasonality, i.e., the extent to which involvement varies across the different agriculture seasons. The results from the four countries suggest that children’s involvement, at least measured in terms of their share of the total workforce, does vary across somewhat across the agricultural cycle but that children play an important role throughout. Patterns in this regard, however, are inconsistent across the four countries (Figure 21). In Ethiopia, children play a slightly larger relative role in harvest activities, while in Niger their role is greatest in planting. The relative importance of children in Tanzania is similar across all activities except fertilising, where children play a slightly less important role. Youth in the 18-29 years age bracket make up a similar share of the total workforce across the agricultural cycle.

<sup>12</sup> Where subsistence farms are again defined as those selling less than half of their harvest.

Figure 21. Children and youth appear to play an important role in all phases of the agricultural cycle  
 Distribution (%) of total workforce in cultivation, by age range and agriculture cycle activity,<sup>(a)</sup> total

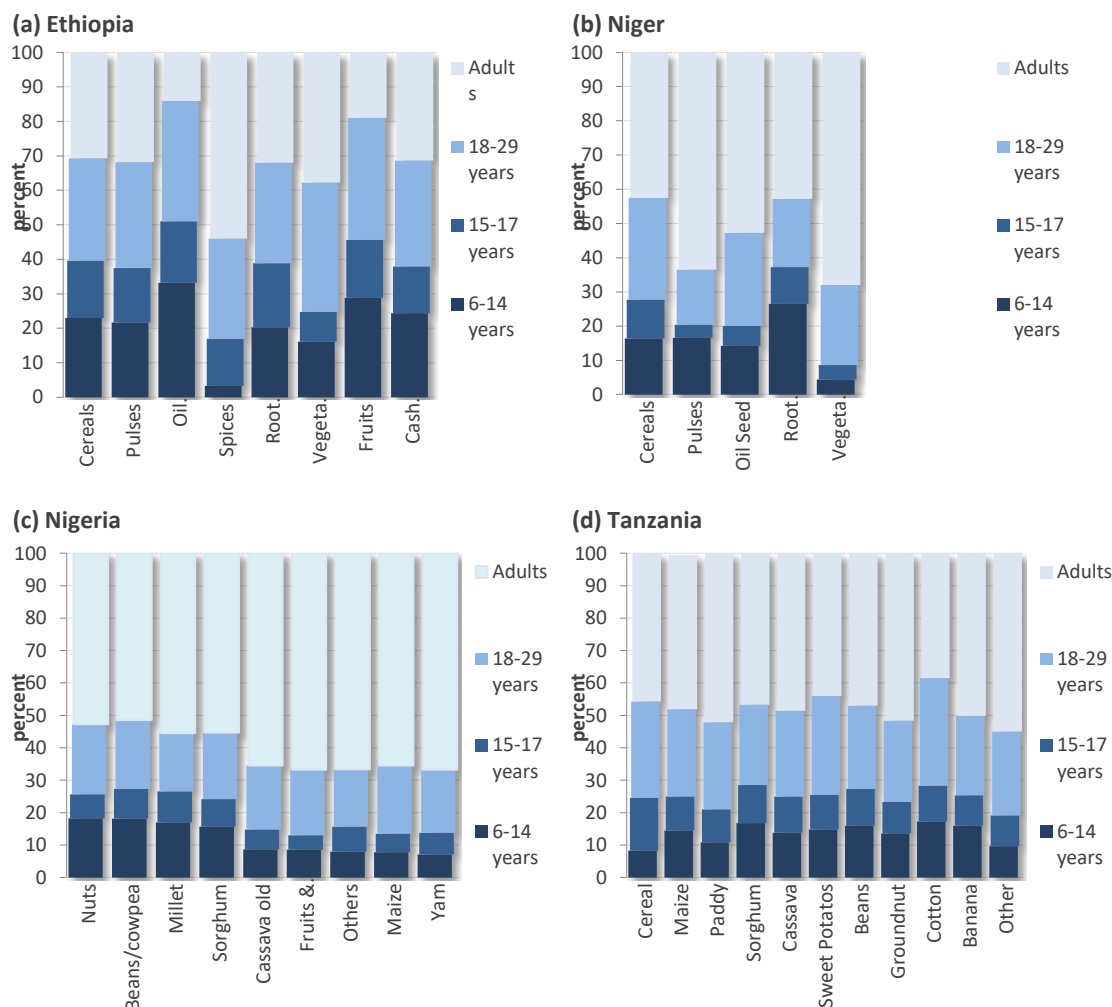


Notes: (a) Specific activities measured across the agricultural cycle differ in the four countries, limiting the comparability of results.  
 Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**42. The relative role played by younger children varies considerably across crops.** Another important insight into the nature of children’s agricultural work can be gained by information on the specific crops for which they play the greatest role. The specific crops and crop categories measured differ across the four countries, but in each country there are substantial differences across crops in terms of the relative importance of younger (6-14 year-old) children. In Ethiopia, children play the most significant role in the cultivation of oil seeds and fruits, while they are only marginally involved in the cultivation of spices. In Niger, the child labour is most prevalent in the cultivation of root crops and least prevalent in the cultivation of vegetables. In Nigeria, younger children are most present in the cultivation of nuts, beans, millet and sorghum. Finally in Tanzania, cotton and banana cultivation are where children are most present. At the same time, Figure 22 indicates that the relative role of older (15-17 year-old) children and youth varies much less across crops and crop categories in the four countries.

Figure 22. The relative role played by younger (6-14 year-old) children varies considerably across crops

Distribution (%) of total workforce in cultivation, by age range and crop type, total



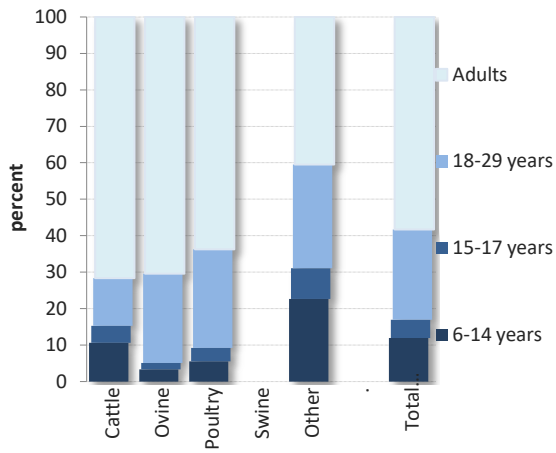
Notes: (a) Farms with multi-crop plots are excluded in order to distinguish working hours per individual crop; (b) Other crops are cotton, cotton seed, rice (shelled and unshelled), acha, sesame, ginger, pigeon pea, potato, sweet potato, soya beans, sugar cane, wheat, cocoa, cocoa beans, cocoa pod, locust beans, palm tree oil, bean oil.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

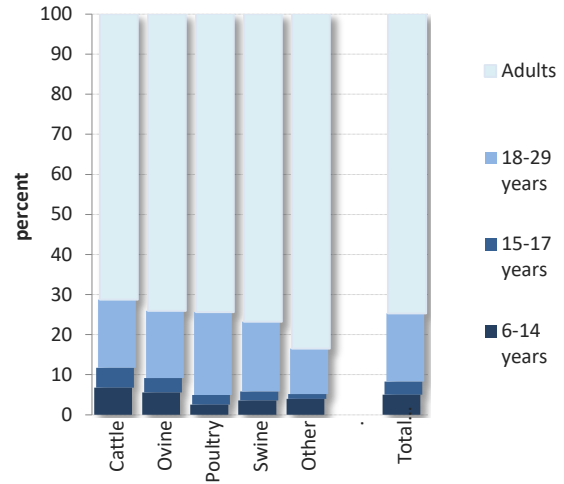
43. Children and youth also play a significant role in livestock production, although with some variation across livestock categories. Children aged 6-17 years account for about 17 percent of the total workforce in livestock production in Niger and for eight percent in Nigeria, the two countries where these data are available. By livestock category, the share of children in the total workforce ranges from 15 percent in cattle production to five percent in ovine production in Niger, and from 12 percent in cattle production to five percent in poultry production in Nigeria (Figure 23). Youth in the 18-29 years age range play a much greater role in livestock production, again with some variation across livestock categories.

Figure 23. The child labour content is also substantial in livestock production

(a) Share of persons working livestock production, <sup>(a)</sup> by livestock type and age group, NIGER, total



(b) Share of persons working livestock production, <sup>(a)</sup> by livestock type and age group, NIGERIA, total



Notes: (a) Other livestock types are donkeys, horses, rabbits, camels and dogs.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

## 6. CONCLUSIONS

44. This report has used the results of the LSMS-ISA survey initiative to analyse child and youth employment in Ethiopia, Niger, Nigeria and Tanzania. It first reviewed the general employment situation of children and youth in the four countries making use of information from the household questionnaire of the LSMS-ISA survey instrument, and then looked in detail at their employment situation in smallholder agriculture drawing on information from the agriculture questionnaire.

45. Results indicate that children's employment remains an important concern in the four countries. Involvement in employment among younger children ranges from 59 percent (Niger) to 12 percent (Nigeria). While child labour laws differ from country to country, most children in this age range in employment are also in child labour, the subset of children's production that is injurious, negative or undesirable to children and that should be targeted for elimination. Children's employment is overwhelmingly agricultural in nature in the four countries. Understanding children's employment in the study countries, therefore, means, first and foremost, understanding their work and role in the agriculture sector.

46. Results from the LSMS-ISA surveys also highlight the conditions facing young persons in the 15-29 years age range in transitioning to working life. While measured unemployment is low, substantial numbers of youth in the four countries fall in the NEET category, i.e., are neither in education, employment or training, and therefore at elevated risk of social marginalisation. The share of NEET youth ranges from 21 percent (Nigeria) to 10 percent (Niger). Female youth are consistently less likely to be continuing with their education, and consistently more likely to be inactive and out of school and to fall into the NEET category. Employment in the 15-29 years age range is also heavily concentrated in the agriculture sector. As with children, therefore, understanding youth employment outcomes in the four countries, requires above all detailed information about the nature and conditions of youth employment in the agriculture sector.

47. The agriculture questionnaires of the LSMS-ISA surveys also offer a first-ever in-depth look at employment in two types of smallholder agriculture – cultivation and livestock production. Two overall findings stand out in this context. **First, children and youth play a very important role in agricultural production in the four countries. Second, the nature of the agricultural work carried out by children and youth does *not* differ markedly from that performed by older workers.** Each of these results is discussed further below.

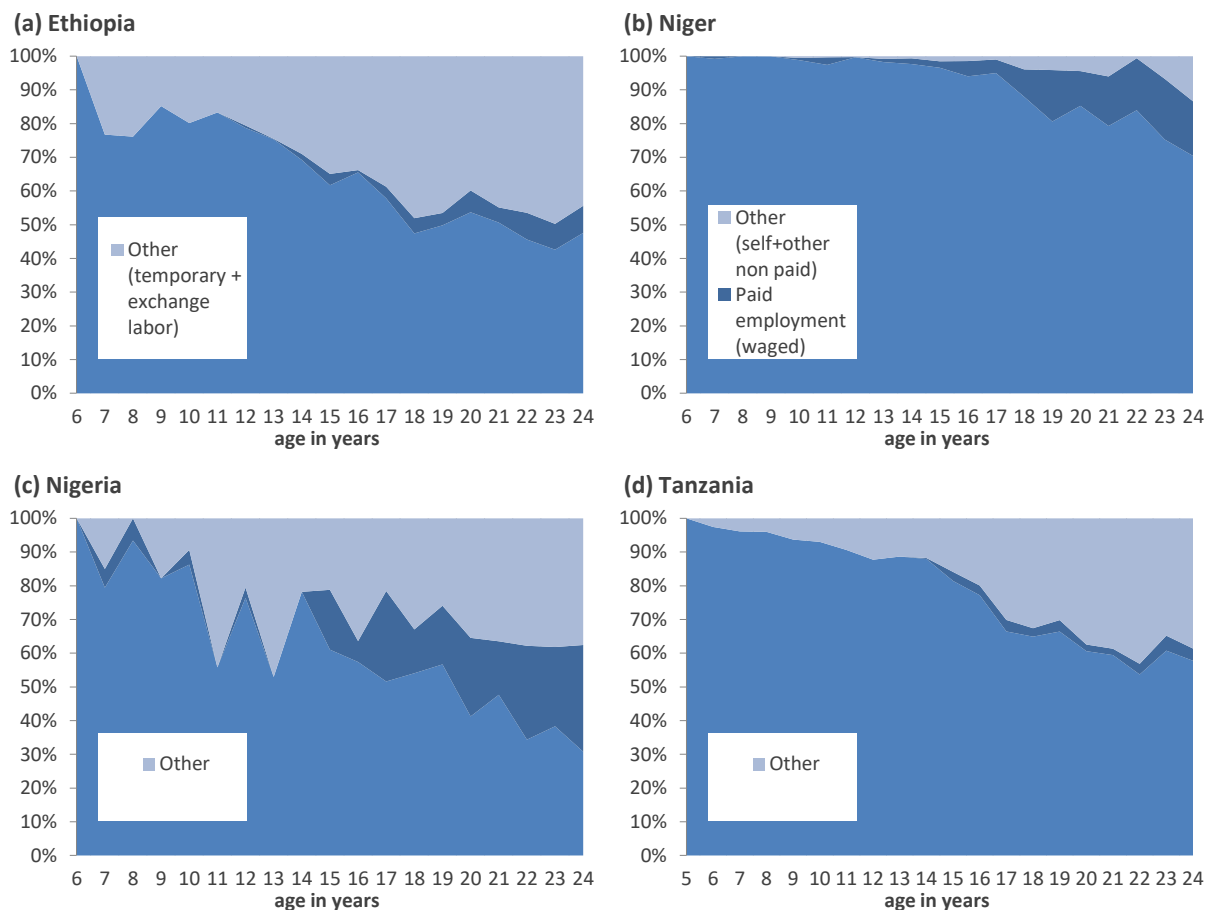
48. Children play a very important role in cultivation measured in terms of both share of total workforce and share of total working hours. Persons aged 6-17 years account for from 16% (Tanzania) to 40% (Niger) of all workers and for from 11% (Tanzania) to 49% of total working hours. Children and youth also play a significant role in livestock production,

accounting for about 17% of the total workforce in livestock production in Niger and for eight percent in Nigeria, the two countries where these data are available. One question that frequently arises when assessing children's involvement in agriculture is that of its seasonality, i.e., the extent to which involvement varies across the different agriculture seasons. The results from the four countries suggest that children's involvement, at least measured in terms of their share of the total workforce, does vary across somewhat across the agricultural cycle but that children play an important role throughout.

49. The nature of children's agricultural work is *not* systematically different from that of older agricultural workers in the four countries. Children, in other words, do not appear to be any more specialised in any particular crop type than farm workers in other age groups. Children are also no more concentrated in any particular farm type (i.e., large or small, subsistence or commercial) or in any particular agricultural season (i.e., planting or harvesting) than older workers. This finding has important implications for the planning and targeting of programmes addressing agricultural child labour: the fact that the children's agricultural production largely mirrors overall agricultural production points to the need for a generalised approach to addressing agricultural child labour. Rather than narrow programmes targeting a specific crop, activity or season, it makes sense to address agricultural child labour as part of broader efforts aimed at achieving a general improvement in the livelihoods of agricultural households.

## APPENDIX. ADDITIONAL STATISTICS

Figure A1. The status of employment in the agriculture becomes less family-centred as children grow older and enter adulthood  
Percentage distribution of individuals working in the agricultural sector, by status in employment and age

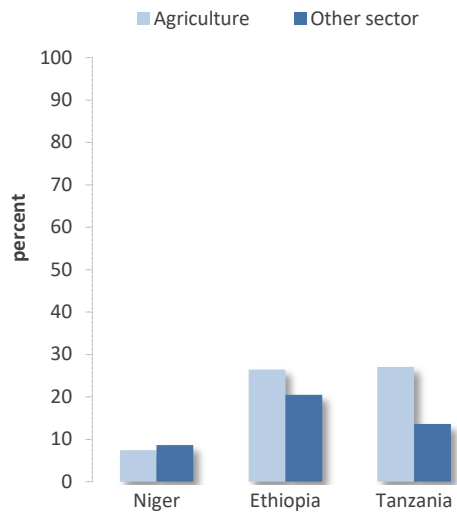


Notes: (a) Other includes self-employment and exchange workers.

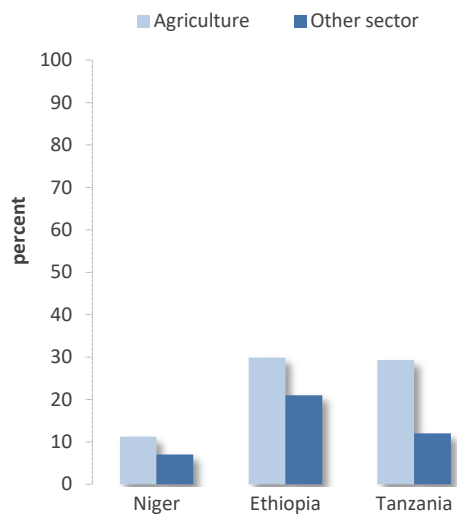
Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

Figure A2. **Children’s employment is agriculture appears especially incompatible with education**

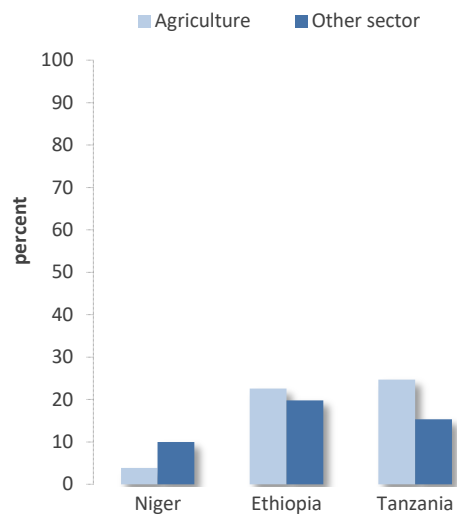
(a) School attendance rate, children in agricultural employment and in other employment, 15-17 years age range, total



(b) School attendance rate, children in agricultural employment and in other employment, 15-17 years age range, male



(c) School attendance rate, children in agricultural employment and in other employment, 15-17 years age range, female

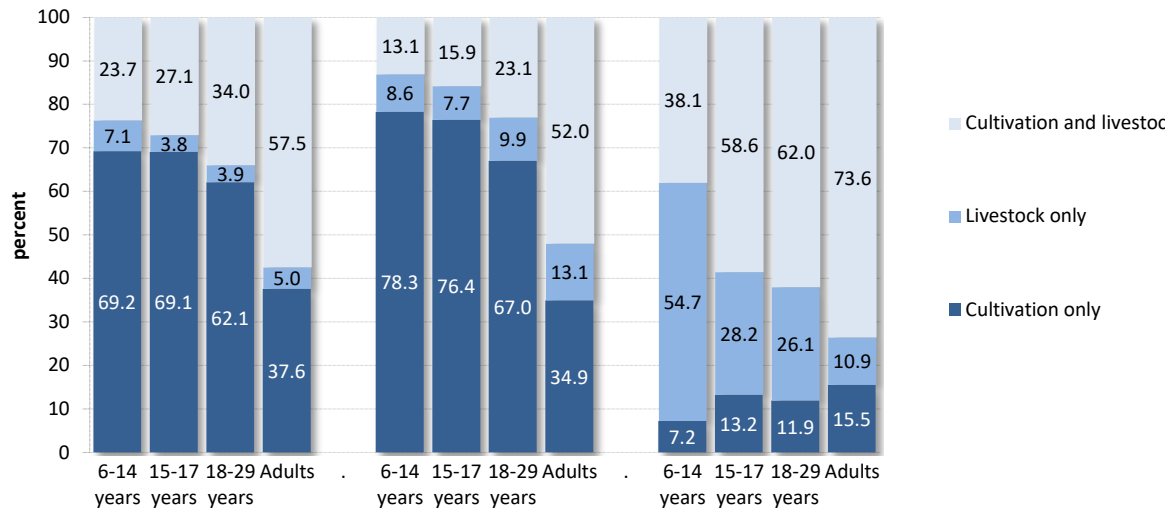


Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

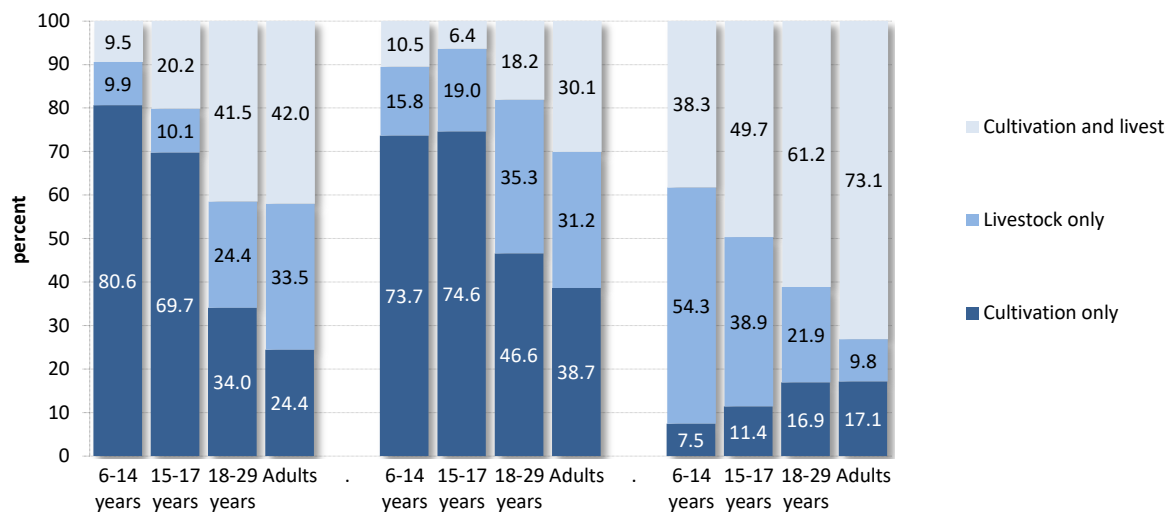


**Figure A3. Children are more likely than adults to be specialised in either cultivation or livestock production, and are less likely to combine the two activities**

(a) Distribution of workforce in cultivation or livestock production, by age group, male<sup>(a)</sup>



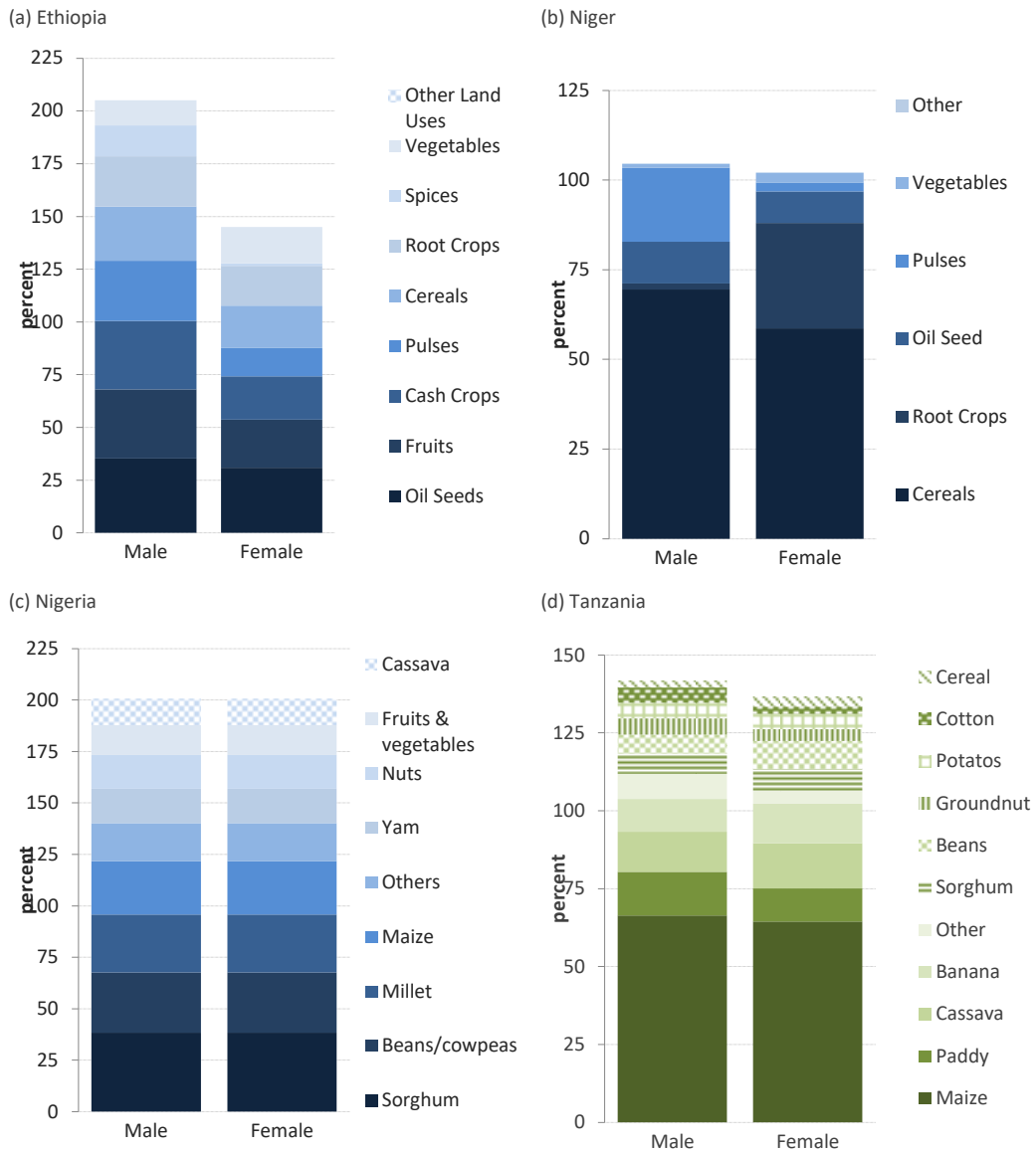
(b) Distribution of workforce in cultivation or livestock production, by age group, female<sup>(a)</sup>



Notes: (a) In Ethiopia, the livestock questionnaire is administered at household level meaning that it is not possible to identify those working in livestock at the individual level.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

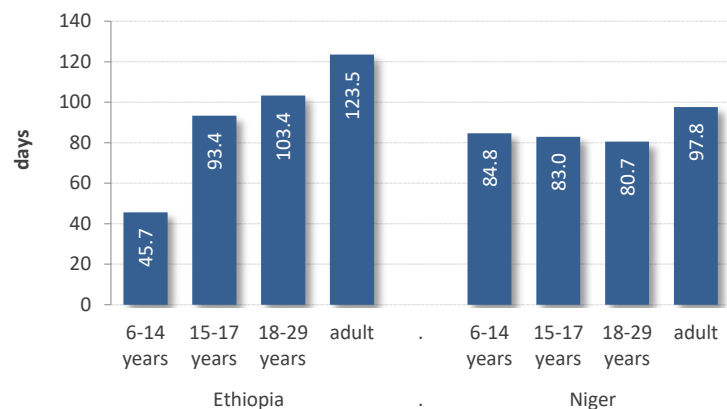
**Figure A4. Child agricultural workers are more involved in the cultivation of some crops than others**  
 Distribution (%) of workforce in cultivation, 6-14 years age group, by sex and crop type,<sup>(a) (b)</sup>



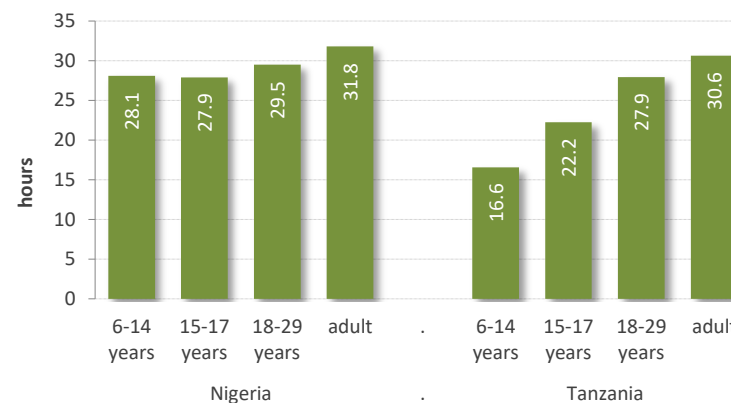
Notes: (a) Percentages sum to more than 100 because many persons are involved in the harvesting of more than one crop type.; (b) "Other" in Nigeria includes cotton, cotton seed, rice (shelled and unshelled), acha, sesame, ginger, pigeon pea, potato, sweet potato, soya beans, sugar cane, wheat, cocoa, cocoa beans, cocoa pod, locust beans, palm tree oil, bean oil.  
 Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

Figure A5. **The time-intensity of cultivation work rises with age**

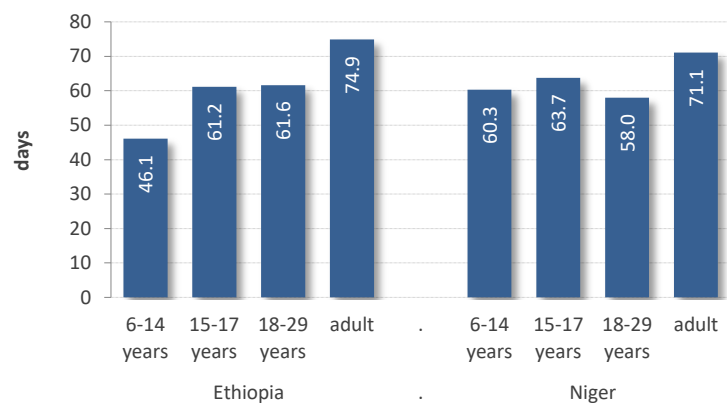
(a1) Average working days in cultivation per season, by age group, male



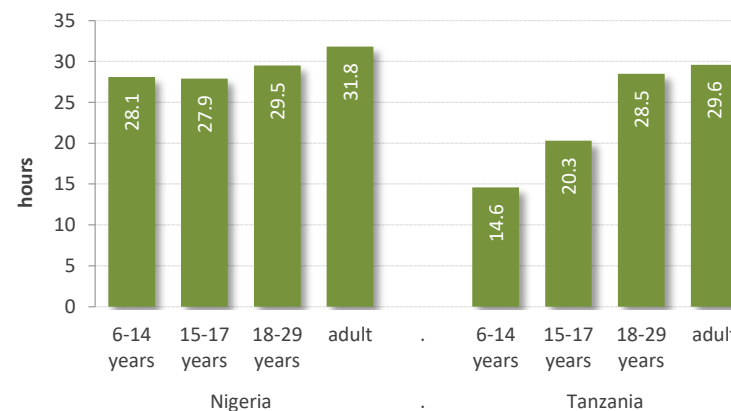
(b1) Average weekly working hours in cultivation, by age group, male



(a2) Average working days in cultivation per season, by age group, female



(b2) Average weekly working hours in cultivation, by age group, female



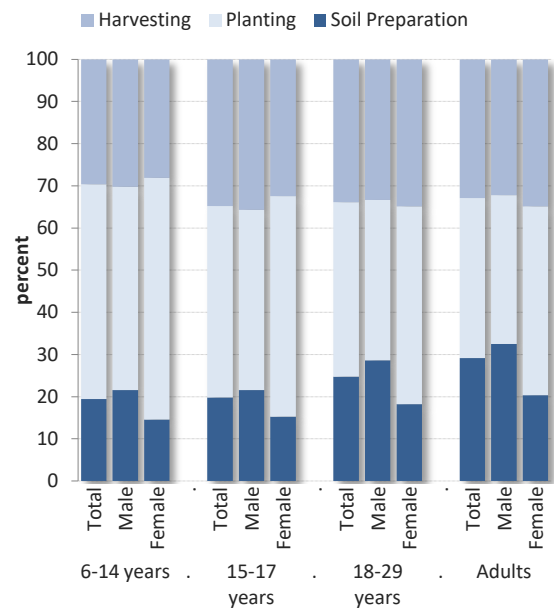
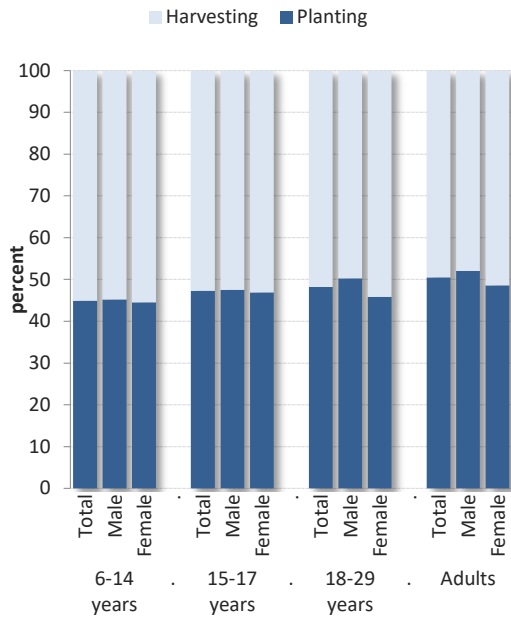
Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

**Figure A6. The time children spend in cultivation is distributed across the agricultural cycle**

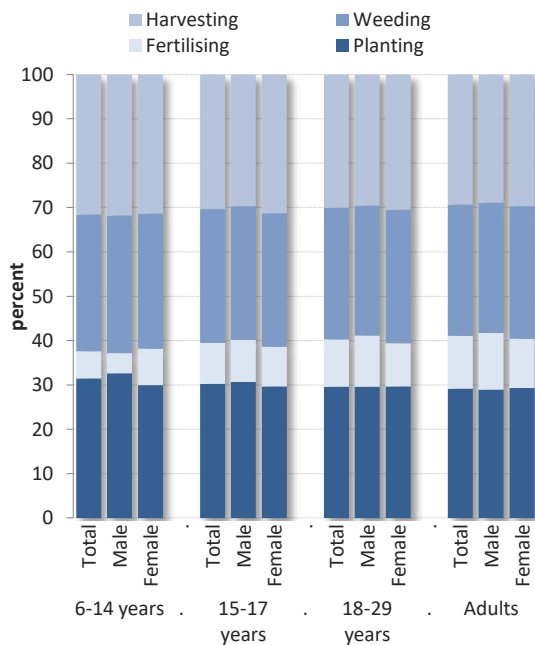
Distribution of total time spent in cultivation, by activity and age group

(a) Distribution of total time spent in cultivation, by activity, age group and sex, ETHIOPIA

(b) Distribution of total time spent in cultivation, by activity, age group and sex, NIGER



(c) Distribution of total time spent in cultivation, by activity, age group and sex, TANZANIA

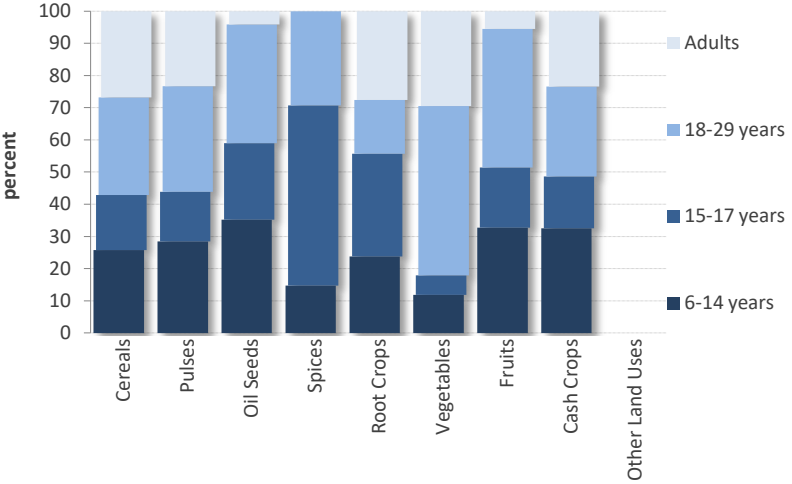


Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

Figure A7. The relative role played by younger (6-14 year-old) children varies considerably across crops

Distribution (%) of total workforce in cultivation, by age range and crop type, male

(a) Ethiopia



(b) Niger

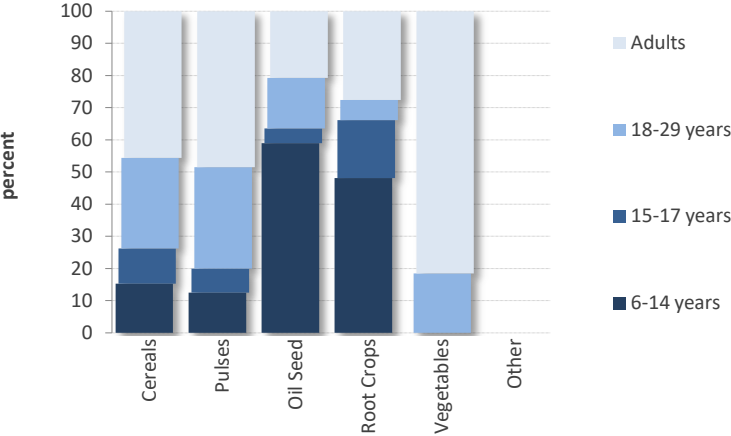
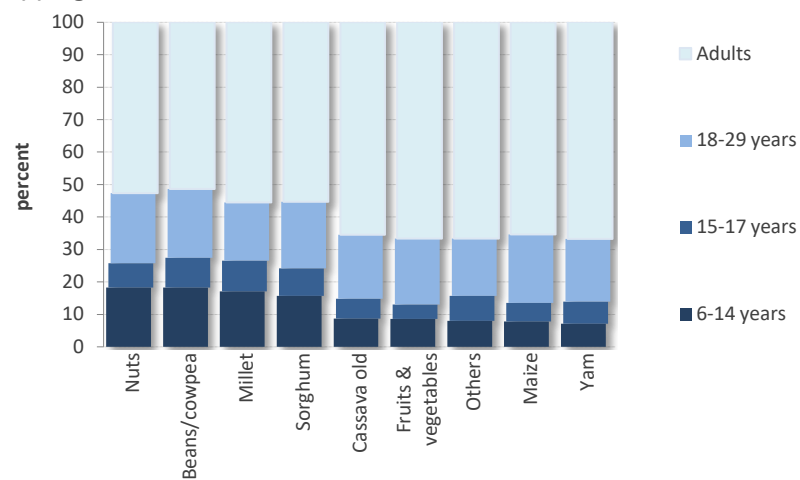
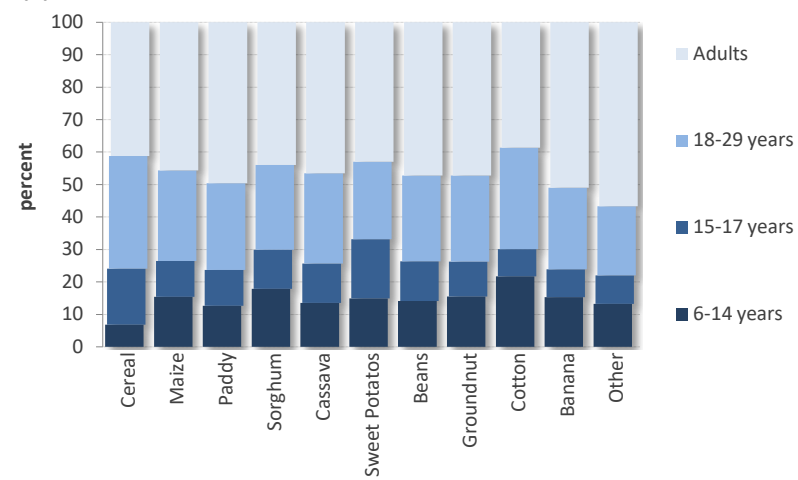


Figure A7.Cont'd

(c) Nigeria



(d) Tanzania

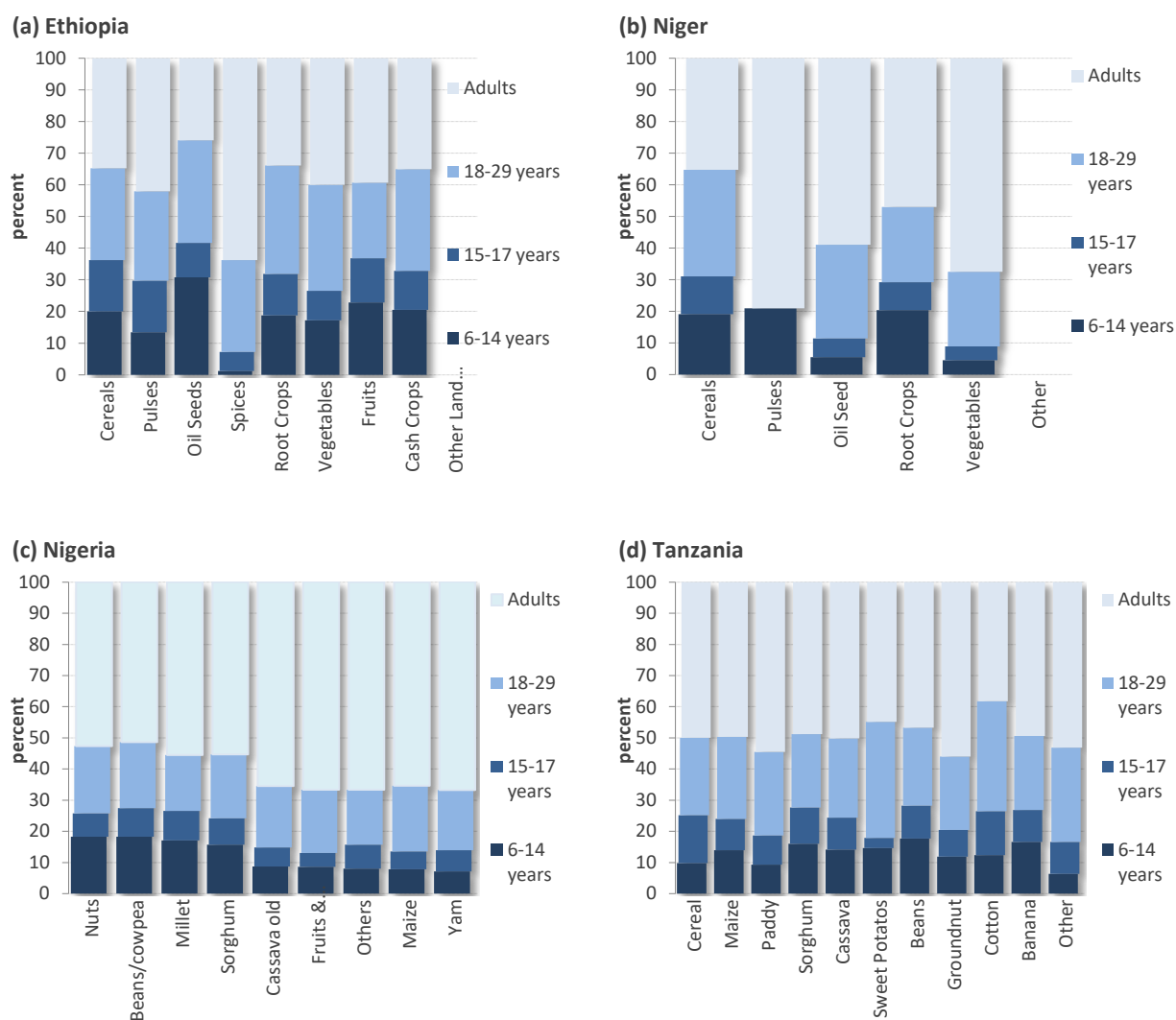


Notes: (a) Farms with multi-crop plots are excluded in order to distinguish working hours per individual crop; (b) Other crops are cotton, cotton seed, rice (shelled and unshelled), acha, sesame, ginger, pigeon pea, potato, sweet potato, soya beans, sugar cane, wheat, cocoa, cocoa beans, cocoa pod, locust beans, palm tree oil, bean oil.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).

Figure A8. The relative role played by younger (6-14 year-old) children varies considerably across crops

Distribution (%) of total workforce in cultivation, by age range and crop type, female



Notes: (a) Farms with multi-crop plots are excluded in order to distinguish working hours per individual crop; (b) Other crops are cotton, cotton seed, rice (shelled and unshelled), acha, sesame, ginger, pigeon pea, potato, sweet potato, soya beans, sugar cane, wheat, cocoa, cocoa beans, cocoa pod, locust beans, palm tree oil, bean oil.

Source: UCW calculations based on World Bank Living Standard Measurement Study-Integrated Surveys on Agriculture Initiative (LSMS-ISA) in Ethiopia, Niger, Nigeria and Tanzania (see Table 1).