



NOT JUST COCOA

Child labour in the agricultural sector in Ghana

NOT JUST COCOA: CHILD LABOUR IN THE AGRICULTURAL SECTOR IN GHANA

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Understanding Children's Work (UCW) Programme

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As part of broader efforts towards durable solutions to child labor, 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 labor. Research on the work and the vulnerability of children and youth constitutes the main component of the UCW Programme. Through close collaboration with stakeholders in partner countries, the Programme produces research allowing a better understanding of child labour and youth employment in their various dimensions and the linkages between them. For further information, see the project website at www.ucw-project.org.

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EXECUTIVE SUMMARY

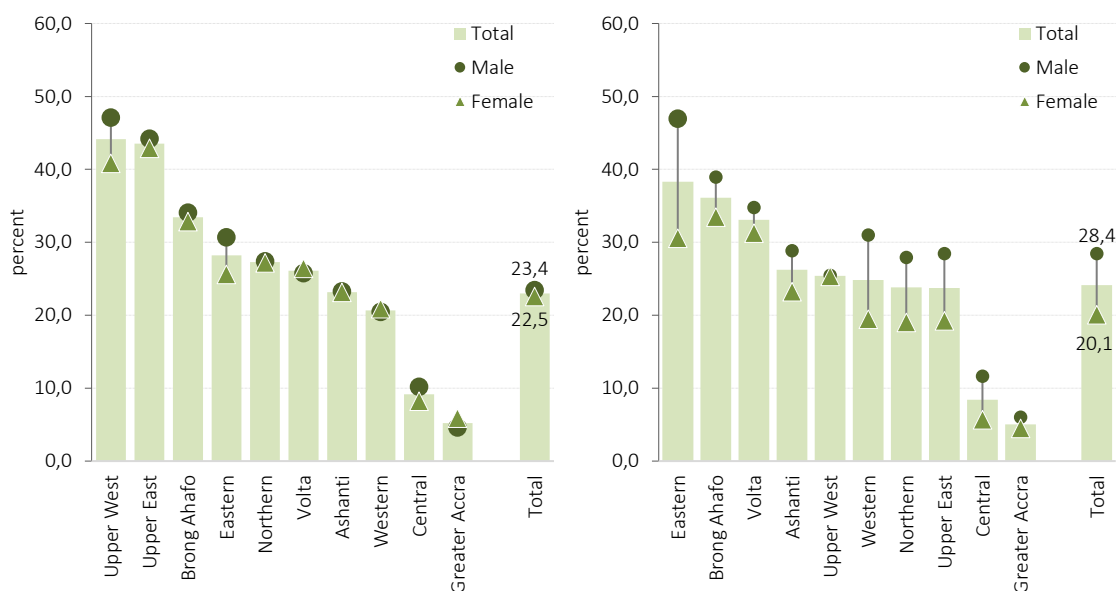
The current Report is designed to provide a detailed picture of child labour in Ghana, both within and outside the cocoa sector, building on results of a companion study conducted in 2016.¹The Report forms part of a larger effort to the build evidence base needed to guide accelerated action against child labour in cocoa-growing communities and against child labour more broadly in the country.

Overall picture

Child labour in Ghana remains a pressing concern. More than one in five children aged 5-14 years (23%), 1.6 million in absolute terms, are involved in child labour. The incidence of child labour among 15-17 year-olds is even higher. Almost 24% of all children in this age range, 424,000 in absolute terms, are engaged in child labour. These overall estimates of child labour mask important differences by age, residence and sex. In short, child labour increases with age and is much higher in rural areas than in cities and towns. Differences in terms of involvement between boys and girls are negligible among 5-14 year-olds, but significantly more boys than girls work in the 15-17 years age range. Child labour incidence also differs considerably across regions, as also shown in Figure 1.

Figure 1. Rates of child labour vary considerably across regions

(a) % of children in child labour, children aged 5-14 years, by sex (b) % of children in child labour, children aged 15-17 years, by sex



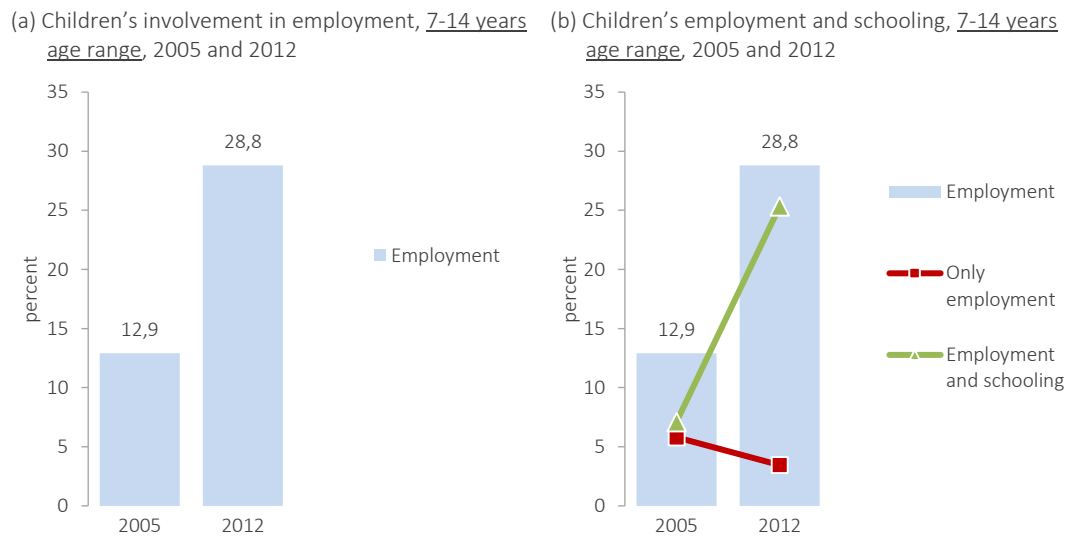
Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

¹Child labour and the decent work deficit in Ghana, 2016. Understanding Children's Work (UCW) country study. Available at www.ucw-project.org

Children’s employment appears to have risen considerably in recent years. Data restrictions unfortunately prevent the estimation of child labour for the 2005 round of the Ghana Living Standards Survey (GLSS). It is possible, however, to compare the estimates of children’s *employment* for the 7-14 years age range from the 2005 and 2012 rounds of the Ghana Living Standards Survey. While children’s employment is a slightly broader concept than child labour, it nonetheless provides a useful proxy for assessing changes in child labour. The comparison of the results from surveys conducted in 2005 and 2012 points to a sharp *rise* in children’s employment: the percentage of children in the 7-14 years age range in employment more than doubled from 2005 (13%) to 2012 (29%)(Figure 2a).

The rise in children’s employment occurred entirely in the sub-group of children combining school and work. The group only in employment (i.e., not also attending school) actually declined over the 2005-2012 period (Figure 2b). Children, in other words, must increasingly shoulder the burden of work in addition to their studies. These stark results underscore the need for more information on the causes of the rise in children’s employment, and the need to adjust policy responses accordingly.

Figure 2. Changes in children’s involvement in employment, 2005-2012



Source: UCW calculations based on the fifth and sixth rounds of the Ghana Living Standards Survey, 2005 and 2012/13.

Child labour in cocoa production

Ghana stands alongside Cote d’Ivoire as the most important producer of cocoa in the world. Cocoa represents the main agricultural export in Ghana, with an estimated one and half million growers almost exclusively on smallholder farms. Cocoa child labour is concentrated in five principal regions in the lower half of the country – Western, Central, Eastern, Ashanti and Brong Ahafo. Almost nine percent of all children in these principal cocoa-growing regions are in cocoa child labour, translating into 464,000 children in absolute terms.²

² These figures do *not* include children in cocoa child labour outside these five regions. As reported in Appendix Table A7, some 6,529 children aged 5-17 years in the Volta region, 395 in the Northern region

Incidence of children’s employment in cocoa appears to have risen even faster than children’s employment elsewhere. A simple comparison of estimates from surveys undertaken in 2005 and 2012 suggests that the incidence increased from 3.5% to 11.2% of 7-14 year-olds in the principal cocoa-growing regions. This increase in children’s involvement in the cocoa sector actually exceeded the increase in children’s employment in other sectors over this time period.

The majority of children involved in cocoa production are working as unpaid family workers. Almost 95 percent of 5-14 year-olds children working in cocoa in the principal cocoa-growing regions are unpaid family workers, a direct effect of the smallholder production structure of the cocoa sector in Ghana.

Most children working in cocoa production are exposed to hazards in the course of their work. Eighty-four percent of all children working in cocoa production, 294,000 children in absolute terms, are exposed to at least one hazard in the course of their work. Children’s exposure to hazards frequently translates into episodes of work-related injury or ill-health. Two-thirds of all children working in cocoa production self report at least one injury or ill-health episode. A significant minority of children working in cocoa production, almost 56,000 in absolute terms, are also exposed to verbal and physical abuse, a frequently overlooked form of workplace hazard.

Other forms of child labour

While the preceding discussion makes clear that cocoa child labour remains an important priority, child labour in Ghana extends well beyond cocoa farming, even in the regions where cocoa farming is concentrated. Children in other forms of child labour account for 18% of all children in the 5-17 years age range, while those in cocoa child labour account for about five percent of children in this age range. About three out of every four of those in child labour in Ghana, in other words, in fact work *outside* of cocoa production.

Table 1. Percent of children in cocoa child labour and other sector, children aged 5-14 years

Region	Total child labour	Child labour in Cocoa	Child labour in agriculture other than cocoa	Child labour in other sectors
Ashanti	23.2	7.6	9.9	5.7
Brong Ahafo	33.4	8.2	19.4	5.8
Central	9.2	4.7	3.4	1.1
Eastern	28.2	9.4	13.1	5.7
Greater Accra	5.2	-	0.5	4.7
Northern	27.3	0.1	23.8	3.5
Upper East	43.5	-	38.6	5
Upper West	44.1	-	43.6	0.6
Volta	26.1	0.8	21	4.3
Western	20.7	12.4	2.7	5.6
TOTAL	23.0	5.0	13.3	4.6

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

and 243 in the Upper East region are also in cocoa child labour. Nationally, about 5.4% of all 5-17 year-olds are in cocoa child labour (Appendix Table A1).

Table 2. Percent of children in cocoa child labour and other sector, children aged 15-17 years

Regions	Total child labour	Child labour in Cocoa	Child labour in other agriculture	Child labour in other sector
Ashanti	26.2	5.1	10.7	10.4
Brong Ahafo	36.1	7.3	10.8	18.1
Central	8.4	1.5	2.7	4.3
Eastern	38.3	9.6	14	14.7
Greater Accra	5.0	4.6	-	0.5
Northern	23.7	4.8	0.3	18.6
Upper East	23.8	3.3	-	20.6
Upper West	24.8	6.9	14.5	3.4
Volta	25.4	0.4	-	25.0
Western	33.1	6.1	0.9	26.1
TOTAL	24.1	5.4	6.6	12.2

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Child labourers working outside of cocoa production are generally worse off in terms of their ability to attend school. The school attendance of child labourers outside the cocoa belt is eight percentage points lower for 5-14 year-olds, and seven percentage points lower for 15-17 year-olds, compared to their same-aged peers in cocoa child labour. But high rates of school attendance among cocoa child labourers does not of course mean that work in cocoa production is not harmful to education in other ways, as the time and energy required for this work inevitably affects the ability of children to benefit from their classroom time and ability to study outside of the classroom.

Differences in school attendance are likely in part a product of how children's working time is distributed over the day and week. The overwhelming majority of children in the cocoa sector (93%) work either on the weekend (89%) or during holidays (3%) when school is not in session. Other child labourers by comparison are relatively more likely to work at some point during the school day, when the interference with schooling is more direct.

The time intensity of child labour is also considerably higher for child labourers working outside the cocoa sector, another factor affecting their ability to combine work and education. The differences in this regard are particularly pronounced between cocoa child labourers and child labourers living outside the cocoa-growing regions. The latter group must work on average almost twice as many hours each week than the former group; this pattern applies to both the 5-14 and 15-17 age ranges.

But cocoa child labourers appear clearly worse off than other child labourers in terms of exposure to hazards, abuse and injuries. While the preceding comparative statistics on school attendance and working hours cast cocoa child labour in less negative light than other forms of child labour, this is not the case when looking work-related hazards and ill-health. Cocoa child labourers are much more likely to be exposed to hazards and abuse in the workplace, and are much more likely to suffer work-related injuries. But as we have no information on the severity of the injuries and hazards, this comparison should be interpreted with caution.

Children's role in agricultural production

Children appear to play a substantial role in agricultural production, both inside and outside of the cocoa sector. The estimated marginal products of labour in agriculture indicate that the productivity of children is high and indeed not dissimilar to that of adults, suggesting in turn that the opportunity costs of removing children from agricultural work are relatively high. Calculations of labour contributions also point to an important role of children in production. Children account for about 15% of total crop production and for about 13% of crop production in the cocoa sector.

Estimated elasticities of substitution indicate that child labour and productive assets can be readily substituted in agricultural production. This suggests in turn that the introduction of production technologies that are more reliant on non-labour inputs is likely to result in a substantial reduction in the use of child labour.

Conclusion

The evidence reported in preceding discussion underscores the continuing urgent need to address child labour in cocoa production in Ghana. According to the results of the GLSS 6, almost half a million children, about five percent of all children aged 5-17 years, are in cocoa child labour, and comparisons with estimates from previous national surveys suggest that the incidence of cocoa child labour has in fact *increased* in recent years, despite national efforts against it. The reported evidence also highlight the smallholder production structure of the cocoa sector in Ghana, with the majority of child labourers working as unpaid family workers. What is more, child labourers in cocoa production appear much more exposed to workplace hazards and abuses, and much more susceptible to work-related injury and ill-health, than child labourers working elsewhere.

But the evidence also makes clear that child labour in Ghana concerns much more than just cocoa production. Indeed, more than three-quarters of all child labourers in the country work *outside* the cocoa sector, and these children must clearly not be forgotten in child labour elimination efforts. While less hazardous than cocoa production, the work performed by non-cocoa child labourers is nonetheless *more* time intensive and *more* likely to interfere with schooling. Like cocoa child labour, child labour outside of cocoa production appears to have *increased* in recent years, calling for renewed efforts to address child labour in Ghana in all sectors.

What are the priorities moving forward? The 2016 study cited at the outset emphasises the importance of a comprehensive approach build around a set of key policy pillars – basic education, social protection, public awareness, social mobilisation, legislation and advocacy – and discusses priority intervention areas in each.³ These policy pillars and intervention priorities are relevant to addressing child labour both within and outside of cocoa production.

³Child labour and the decent work deficit in Ghana, 2016. Understanding Children's Work (UCW) country study. Available at www.ucw-project.org

With specific reference to the cocoa sector, the current Report points to at least three additional priorities.

First, evidence of the very high elasticity of substitution between child labour and productive assets suggests that the introduction of non-labour-intensive production technologies could play an important role in reducing cocoa child labour.

Secondly, the high levels of productivity of cocoa child labourers, both relative to other child labourers and more generally, means that households bear high opportunity costs in removing their children from cocoa child labour, pointing in turn to the importance of strategies aimed at compensating households for these costs.

Third and more broadly, in view of evidence indicating that cocoa child labour has actually increased in recent years despite intensified efforts against it, there is an urgent need for impact evaluations designed to identify effective policy interventions.

1. INTRODUCTION

The recent study entitled *Child labour and the Youth Decent Work Deficit in Ghana* (2016) underscores the need for accelerated efforts against child labour in the country.⁴ The study, developed by UCW in collaboration with the Ghana Statistical Service, Ministry of Labour and Employment and the National Steering Committee on Child Labour, indicates that some two million Ghanaian children aged 5-17 years remain trapped in child labour. The Report also points to child labour in cocoa-growing communities as a particular priority.

Building on the results of this companion study and other recent research on child labour in the country, the current Report is designed to provide a more detailed picture of child labour in Ghana, both within and outside the cocoa sector. It compares the extent and conditions of children working in cocoa production in other forms of work, in order to augment other studies that have either looked at child labour in aggregate terms or that have focused exclusively on cocoa child labour. The Report is the first in Ghana to discuss child labour in cocoa production on the basis of a nationally-representative survey.

The 2010 Declaration and accompanying Framework of Action signed by the Government state that by 2020 the worst forms of child labour in the cocoa sector will be reduced by 70% in the aggregate, while Target 8.7 of the global Millennium Development Goals calls for ending child labour in all its forms by 2025. Achieving these ambitious targets will require sound policy choices based on solid evidence. This Report forms part of a larger effort to build evidence base needed to guide accelerated action against child labour in cocoa-growing communities and against child labour more broadly in the country.

The remainder of the Report is structured as follows. Section 2 describes the data and key definitions used in the analysis. A brief overview of child labour in the country is provided in Section 3, followed by a more in-depth discussion of child labour in the cocoa sector, in Section 4, and of other forms of child labour, in Section 5. Section 6 looks at the role of children in agricultural production. Section 7 concludes.

⁴Child labour and the decent work deficit in Ghana, 2016. Understanding Children's Work (UCW) country study. Available at www.ucw-project.org

2. DATA AND DEFINITIONS

The Report makes use of data from the sixth round of Ghana Living Standards Survey (GLSS 6),⁵ a nationwide household survey conducted in 2012/13. The survey collected detailed information on a wide range of socio-economic topics using three different questionnaires administered to households and communities: the household questionnaire, the agriculture questionnaire, and the community questionnaire.⁶ Topics covered included demographic characteristics, education, health, employment and time use, child labour, migration, household income and consumption, housing conditions, and household agriculture.

Recalling that the main aim of the Report is to generate detailed information about children's employment and child labour – in cocoa production and elsewhere – it is worth explaining the sources of the employment information available in the GLSS 6 and how we used this information to create variables needed for the analysis.

Employment. We define a household member (aged 5 years old and over) “employed” if the following question was affirmatively answered: “Did (NAME) do any work for pay (cash or in –kind), profit or family gain in the past 12 months for at least 1 hour?”.

Working hours. We consider the number of weeks and the number of hours per week worked during the last year prior to the survey reported under the following questions: “During the past 12 months, for how many weeks did (NAME) usually work?” and “During these weeks, how many hours per week did (NAME) usually work?”.

Child labour. Child labour is defined according to ILO Conventions No. 138 (Minimum Age) and No. 182 (Worst Forms) and national legislation⁷ exploiting questionnaire components related to the amount of worked hours and to the type of industry and occupation. In particular, we define a child in employment as “in child labour” if: (a) he/she is aged up to 11 years old; (b) he/she is aged between 12 and 14 and working over 14 hours per week; (c) he/she is aged between 15 and 17 and involved either in hazardous industries⁸ or hazardous occupation⁹ or working over 43 hours per week or working during night.

⁵Ghana has conducted five rounds of living standards surveys since 1987. The second, third and fourth rounds occurred in 1988, 1991/92 and 1998/99, respectively. The fifth round of the Living Standards Survey (GLSS 5) was implemented in 2005/06.

⁶The household questionnaire includes modules gathering information about demographic characteristics of the population, education, health, employment and time use, child labour and housing conditions. The agriculture questionnaire provided information on crop, livestock and fishing production, assets, household income and consumption, migration and credit. The community questionnaire, administered only to rural communities (in 647 Electoral Divisions (EA) representing 54% of all EAs covered by GLSS 6), collected a wide range of information about community-level services, infrastructure and economic activity.

⁷Children's Act (Act. 560, 1998)

⁸Mining or Construction according to ISIC code

⁹The list of hazardous occupation is in ILO Convention 182, Recommendation 190 (which compiled a list of works hazardous environment) and it is identified thanks to three digit ISCO code; moreover we classify a child in hazardous occupation if he/she answers affirmatively in the employment module related to health and safety issues to be exposed to the following: Dust, fumes; Fire, gas, flames; Loud noise or vibration; Extreme cold or heat; Dangerous tools (knives etc); Work underground; Work at heights; Work in water/lake/pond/river; Workplace too dark or confined; Insufficient ventilation; Chemicals (pesticides, glues, etc.); Explosives; Narcotic drugs; Arms (guns); Other things, processes or conditions bad for your health or safety specify).

Involvement in cocoa production. Cocoa working status is defined by combining information from the household-based agricultural questionnaire and the individual based employment questionnaire. An individual is then defined to be involved in cocoa production if: (a) he/she works in a household reporting to have harvested cocoa in the first or the second season in the agriculture module and (b) he/she reports to be involved in agricultural economic activity according to the industry ISIC code “growing of cocoa and other beverage crops” in the employment module.¹⁰ “Cocoa regions” are defined as those with employment in cocoa production equal to or greater than two percent of the regional population.

Sector and employment status. Sectors of employment are identified using both the ISIC industry codes and the employment status. The latter disentangles workers in paid employment, non-agricultural self-employment, agricultural self-employment, contributing family worker, domestic employee and casual worker. Employment in agriculture is constituted by individuals that are paid employee, agricultural self-employed or contributing family worker and working in the agricultural industry, according to ISIC industry codes.¹¹ Employment in sectors other than agriculture is constituted by individuals working in non-agricultural industry, according to ISIC industry codes, independently on the employment status.

School attendance. We define a household member (aged 5 years old and over) as “attending school” if the following question was affirmatively answered: “Is (NAME) still in school?”.

The agriculture questionnaire can also be exploited in order to understand the role of child labour in agriculture and, more specifically, in crops and cocoa production. As explained in more detailed in Section 6 of the Report, we use data from this questionnaire to create variables needed for the estimation of the household crop production function, from which we derive the marginal products of adult and child labour and the contribution of adult and child labour to production.

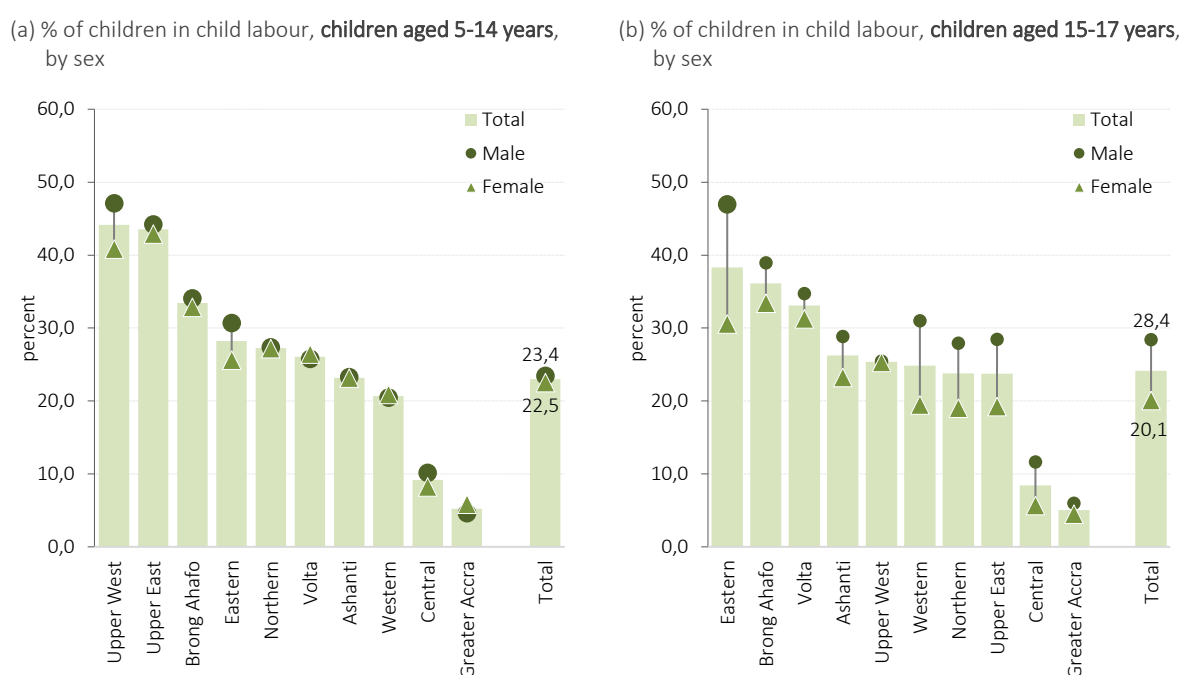
¹⁰ The ISIC industry code used to identify cocoa industry is code 127: “Growing of cocoa and other beverage crops”.

¹¹ The ISIC industry codes used to identify the agriculture sector are codes from 111 to 240.

3. CHILD LABOUR IN GHANA: AN OVERVIEW¹²

Child labour in Ghana remains a pressing concern. Almost one in four children aged 5-14 years (23%), 1.6 million in absolute terms, are child labourers (Figure 3a and Table A1). The incidence of child labour among 15-17 year-olds is even higher. Almost 24% of all children in this age range, 424,000 in absolute terms, are engaged in child labour (Figure 3b and Table A1). These overall estimates of child labour mask important differences by age, residence and sex. In short, child labour increases with age and is much higher in rural areas than in cities and towns. Differences in terms of involvement between boys and girls are negligible among 5-14 year-olds, but significantly more boys than girls work in the 15-17 years age range.

Figure 3. Rates of child labour vary considerably across regions



Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Child labour incidence also differs considerably across regions, as also shown in Figure 3. Among 5-14-year-olds, incidence is highest in the Upper West and Upper East regions, where over 44% of all children are child labourers. Among 15-17-year-olds, Eastern and Brong Ahafo rank highest in terms of child labour incidence, at 38% and 36%, respectively. For both age ranges, incidence is lowest in the Central and Greater Accra regions.

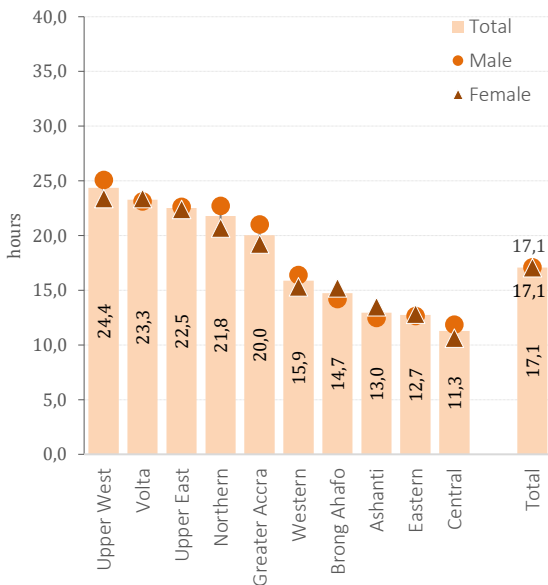
Children aged 5-14 years in child labour log an average of 17 working hours per week, rising to over 23 hours for those aged 15-17 years (Figure 4). Not included in this total are the additional hours that most children spend each week performing chores within their own homes.

¹²Overall estimates of child labour in Ghana were discussed in companion report *Child labour and the Youth Decent Work Deficit in Ghana* (2016) and are therefore only reviewed briefly here. For details, see *Child labour and the decent work deficit in Ghana* (2016) available at www.ucw-project.org

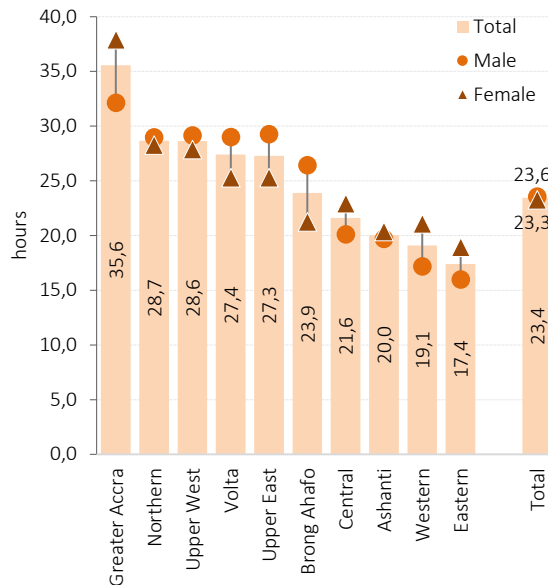
As with child labour incidence, the time intensity of child labour varies considerably by region, from a high of 24 hours in Upper West region to a low of 11 hours in the Central region for the 5-14 years age group. It is worth noting that the Upper West and Upper East regions rank among the highest for child labour at both the extensive and intensive margins. Children from these regions not only face a greater risk of child labour involvement, in other words, but this labour is also more likely to demand substantial amounts of their time.

Figure 4. Child labourers spend significant amounts of time in work each week, with obvious consequences for their rights to education and leisure

(a) Average weekly working hours, child labourers aged 5-14 years, by sex



(b) Average weekly working hours, child labourers aged 15-17 years, by sex

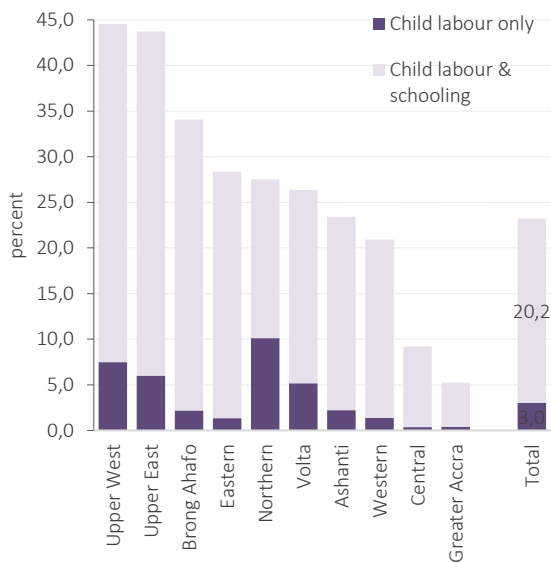


Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

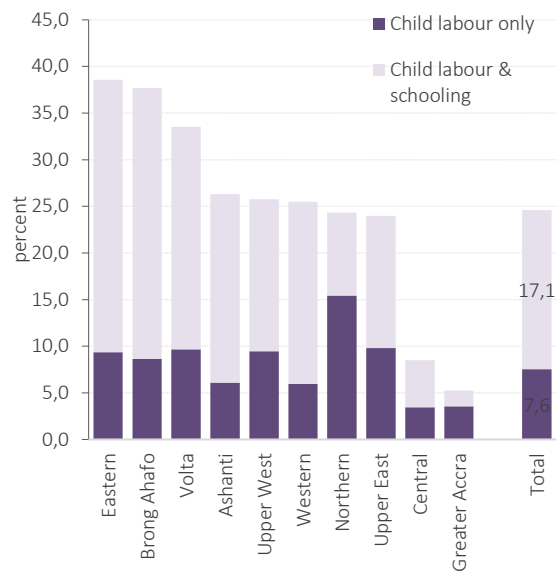
Most child labourers combine school and work, although child labourers are nonetheless substantially less likely to attend school than their non-working peers. As reported in Figure 5, three percent of all 5-14 year-olds are in child labour only while 20% combine school and child labour. This translates into a school attendance rate for child labourers of 87%, about six percentage points lower than the attendance rate of non-child labourers. A higher share of 15-17 year-olds are in child labour only, not surprising in that this age range corresponds with the time that adolescents begin their transition from school to working life. Again, regional differences in the school attendance of child labourers is considerable: the Northern region stands out as the place where 5-14 year-old child labourers are least likely to go to school.

Figure 5. Most child labourers also attend school

(a) % of children in child labour, **children aged 5-14 years**, by sex



(b) % of children in child labour, **children aged 15-17 years**, by sex



Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

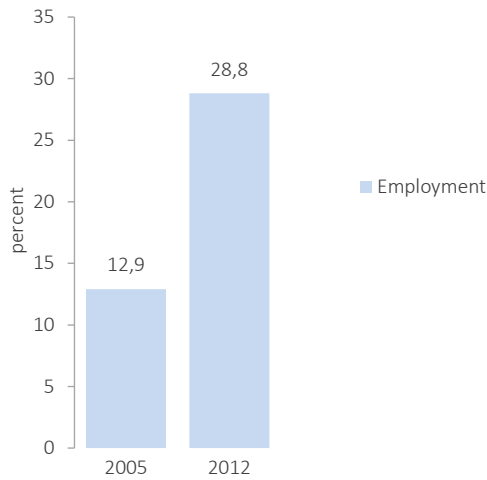
How is child labour changing over time? Data restrictions unfortunately prevent the estimation of child labour for the 2005 round of the Ghana Living Standards Survey (GLSS). It is possible, however, to compare the estimates of children's *employment* for the 7-14 years age range¹³ from the 2005 and 2012 rounds of the Ghana Living Standards Survey. While children's *employment* is a slightly broader concept than child labour,¹⁴ it nonetheless provides a useful proxy for assessing changes in child labour.

¹³ The 2005 round of the survey collected information on employment only for children aged 7 years and older. Earlier survey rounds are not included in the analysis of trends due to comparability issues.

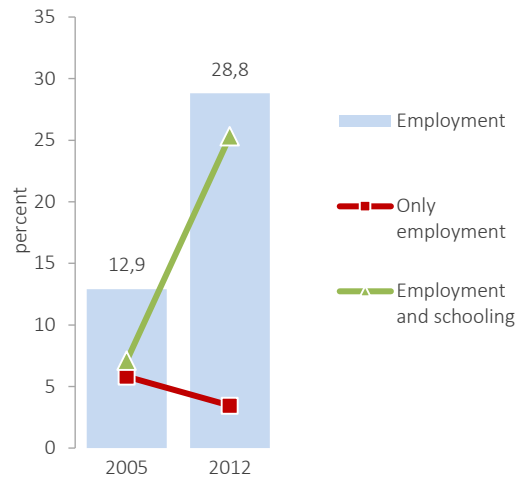
¹⁴ Specifically, as discussed above, child labour for children in the 12-14 years age range does not include children in light forms of employment.

Figure 6. Changes in children’s involvement in employment, 2005-2012

(a) Children’s involvement in employment, 7-14 years age range, 2005 and 2012



(b) Children’s employment and schooling, 7-14 years age range, 2005 and 2012



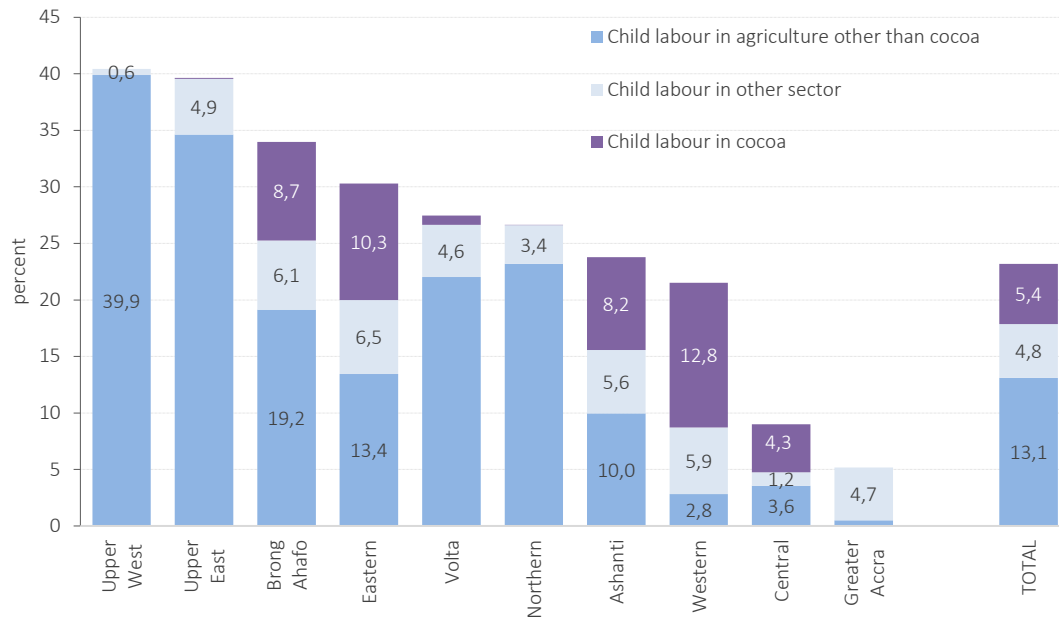
Source: UCW calculations based on the fifth and sixth rounds of the Ghana Living Standards Survey, 2005 and 2012/13.

The comparison of the results from the 2005 and 2012 GLSS rounds points to a sharp *rise* in children’s employment: the percentage of children in the 7-14 years age range in employment more than doubled from 2005 (13%) to 2012 (29%)(Figure 6a). The rise in children’s employment occurred entirely in the sub-group of children combining school and work. The group only in employment (i.e., those not also attending school) actually declined over the 2005-2012 period (Figure 6b). Children, in other words, must increasingly shoulder the burden of work in addition to their studies. These stark results underscore the need for more information on the causes of the rise in children’s employment, and the need to adjust policy responses accordingly.

While child labour in the cocoa sector (referred to henceforth as “cocoa child labour”) has received most attention, child labour in Ghana extends well beyond cocoa farming. As reported in Figure 7, fewer than one in four of all child labourers nationally are found in the cocoa sector. Cocoa child labour is concentrated in five principal regions in the lower half of the country – Western, Central, Eastern, Ashanti and Brong Ahafo – and even in these regions there are substantial shares of child labourers involved in work outside the cocoa sector.

Figure 7. Child labour extends well beyond the cocoa sector, even in the regions where cocoa farming is concentrated

Percentage of children in cocoa child labour and in other child labour, children aged 5-17 years ^(a)



Note: (a) The sum of the three categories of child labour, i.e., child labour in cocoa, child labour in agriculture other than cocoa and child labour in other sector, provides the total share of children in child labour (see also Table A1 in Appendix)

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

In light of these figures, and in order to provide as complete a picture as possible of the child labour situation in the country, the next sections look not only at child labourers in the cocoa sector but also those working elsewhere. Section 4 focuses on cocoa child labour in the five principal cocoa-growing regions and Section 5 on child labourers in other forms of work, both in the cocoa-growing regions and in other regions.

4. COCOA CHILD LABOURERS IN THE PRINCIPAL COCOA-GROWING REGIONS OF GHANA¹⁵

The issue of child labour in the cocoa sector began to grow in prominence as a policy concern in the late 1990s with the emergence of a number of accounts of trafficked children employed in slave-like conditions on cocoa farms in both Ghana and neighbouring Côte d'Ivoire. These accounts helped spur the promulgation of the *Children's Act, 1998 (Act 560)*, a key turning point in the country in terms of recognizing children's rights and protecting them from exploitation,¹⁶ as well stepped-up programming efforts, spearheaded since 2001 by the parties who now make up the Child Labour Cocoa Coordinating Group (CLCCG).¹⁷

Extent

Since the approval of *Children's Act*, several studies have been conducted to measure the prevalence of child labour in cocoa production. These studies have consistently shown a large number of children involved in cocoa farming activities, although most rely on data collected from different geographical areas of the cocoa belt that are not always directly comparable due to the spatial and agronomic idiosyncrasies of different production.

The sixth round of the Ghana Living Standards Survey (GLSS 2012/13), given the nationally representative nature of the survey, provides a more robust comparison between child labour in cocoa households and child labour in non-cocoa households throughout Ghana. Using the definition of cocoa child labour described in Section 2, data from GLSS 2012/13 indicate that 8.8% of all children *in the five principal cocoa-growing regions*¹⁸ are in cocoa child labour (Figure 8a), translating into 464,000 children in absolute terms.¹⁹ These figures do *not* include the limited number of children in cocoa child labour *outside* these five regions. As reported in Appendix Table A7, cocoa child labourers outside the cocoa areas are estimated to number about 7,200.²⁰ Considering also this group yields a national estimate of cocoa child labour of 5.4% for the 5-17 years age range (Appendix Table A1).

¹⁵Western, Central, Eastern, Ashanti and Brong Ahafo.

¹⁶The Act, *inter alia*, sets the minimum age for employment at 15 and in both the formal and informal economies. The Act also prohibits children younger than age 18 from engaging in activities deemed as hazardous.

¹⁷In September 2010, the Governments of Côte d'Ivoire and Ghana, USDOL, and Industry joined as partners to sign the Declaration and the accompanying Framework. In the signing of the Declaration and Framework, these partners committed to take action to reduce child labour and the worst forms of child labour in cocoa production and to the goal of achieving a 70% reduction in the worst forms of child labour in the cocoa sectors of the two countries in the aggregate by 2020. The Child Labour Cocoa Coordinating Group (CLCCG) was established to coordinate efforts among the partners working under the Declaration and Framework.

¹⁸ I.e., Ashanti, Brong-Ahafo, Central, Eastern and Western.

¹⁹ These figures do *not* include children in cocoa child labour outside these five regions. As reported in Appendix Table A7, some 6,529 children aged 5-17 years in the Volta region, 395 in the Northern region and 243 in the Upper East region are also in cocoa child labour. Nationally, about 5.4% of all 5-17 year-olds are in cocoa child labour (Appendix Table A1).

²⁰ By region, there are some 6,529 children aged 5-17 years in the Volta region, 395 in the Northern region and 243 in the Upper East region.

Panel 1. Cocoa production in Ghana

The agriculture sector represents a driving force of the Ghanaian economy, accounting for approximately 42% of the country's GDP and employs over half of its work force.²¹

Ghana, with an estimated one and half million growers almost exclusively on smallholder farms, ranks as one of the world's largest cocoa producers. Cocoa cultivation is concentrated in the regions of Ashanti, Brong-Ahafo, Central, Eastern, Western and Volta, which together comprise the Southern forest belt of the country.

Although most cocoa growers also cultivate other crops (such as yam, cassava and vegetables) they are typically heavily dependent on the cocoa harvest for their cash income. Farmers benefit from a price that is fixed pan-territorially by the government in each crop year with reference to international markets.²²

Cocoa remains a traditionally grown crop; land and labour are the key inputs in the production cycle.²³ Labour requirements are highest on cocoa land holdings during the main harvest season from August to December and during the period from January to March when time is devoted to clearing land and planting new trees. Weeding, another important farming activity for the maintenance of cocoa trees, takes place mostly in the rainy season in June and July. Pesticides and other plant protection chemicals are applied several times throughout the year.

The main sources of labour used in cocoa production include, in order from greatest to least importance, family members (including children), hired paid labour, sharecroppers and, finally, mutual labour exchange groups (*nnoboa*). Men own most of the cocoa farms; the limited number of landholdings belonging to women are usually smaller in size and scale.

By age range, incidence of cocoa child labour in the principal cocoa-growing regions is 8.3% for children aged 5-14 years (350,000 children in absolute terms)(Figure 8b),²⁴ and is 10.7% for children aged 15-17 years (115,000 children in absolute terms)(Figure 8c).²⁵

²¹<http://gipcghana.com/17-investment-projects/agriculture-and-agribusiness/cash-crops/287-investing-in-ghana-s-cash-crops.html>

²² Vigneri; 2005; Vigneri and Kolavalli, 2016.

²³ Amanor 2010, Kolavalli and Vigneri, 2012.

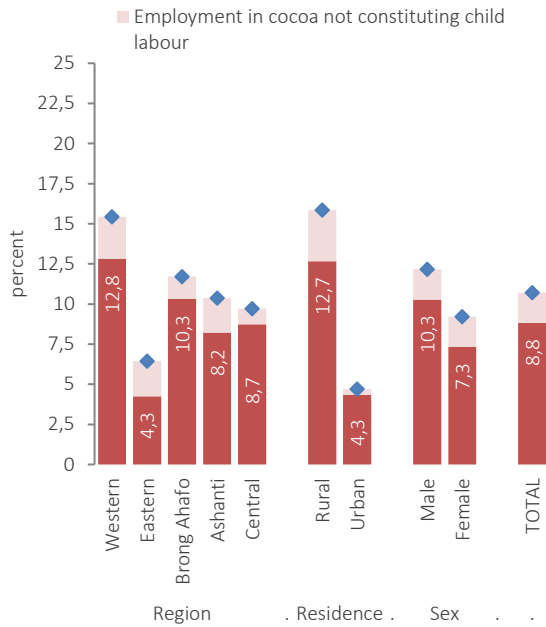
²⁴ These figures do *not* include children in cocoa child labour outside these five regions. Around 5,000 children aged 5-14 years in the Volta region and around 400 children in this age range in the Northern region are also in cocoa child labour. Nationally, about five percent of all 5-14 year-olds are in cocoa child labour, as detailed in Appendix Table A1.

²⁵ Again, these figures do *not* include children in cocoa child labour outside these five regions. Around 1,400 children aged 15-17 years in the Volta region and around 250 children in this age range in the upper East region are also in cocoa child labour. Nationally, 6.6% of all 15-17 year-olds are in cocoa child labour, as detailed in Appendix Table A1.

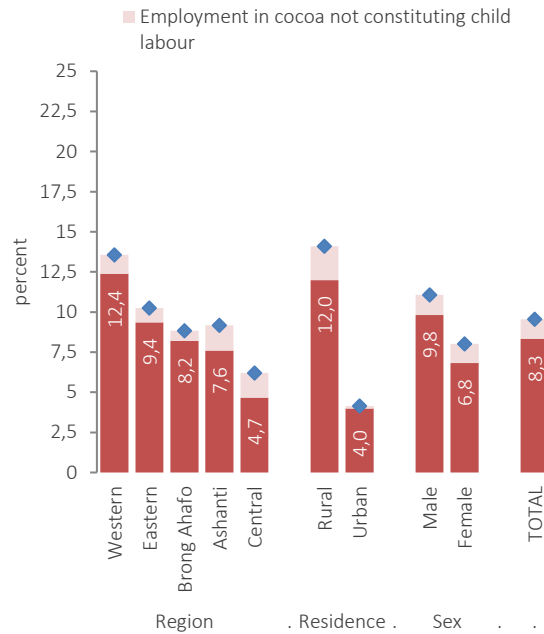
Figure 8. Substantial shares of children work in cocoa production in the main cocoa-growing regions^(a)

Percentage of children in cocoa-growing regions in child labour in cocoa production and in other employment in cocoa production

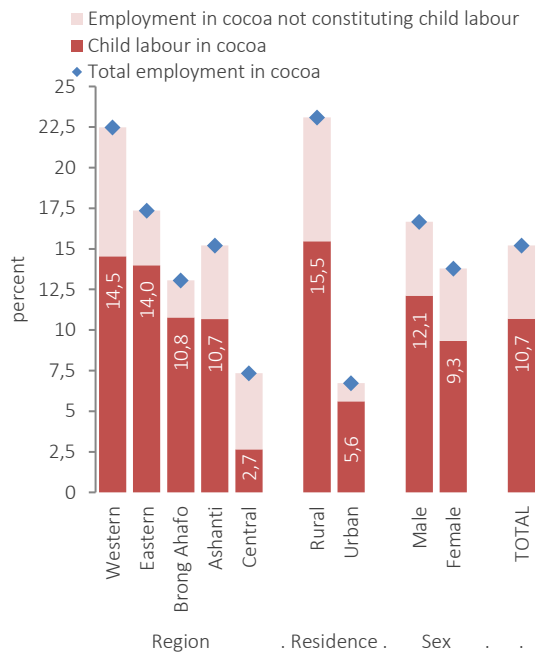
(a) Children aged 5-17 years, by region, residence and sex



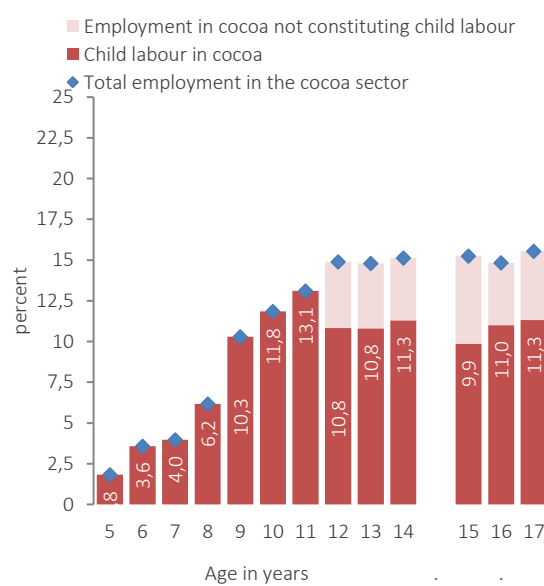
(b) Children aged 5-14 years, by region, residence and sex



(c) Children aged 15-17 years, by region, residence and sex



(d) Children aged 5-17 years, by age



Notes: The five principal cocoa growing regions are Ashanti, Brong-Ahafo, Central, Eastern and Western.

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Incidence of cocoa child labour varies considerably by children's background characteristics in the five regions. As reported in Figure 8, patterns in this regard are similar for the 5-14 and 15-17 years age groups: incidence is much higher in rural compared to urban areas; is higher among males than females;

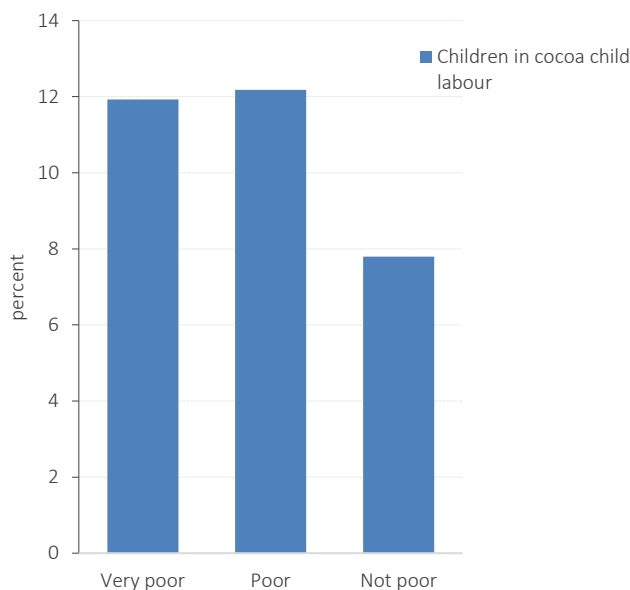
and is highest in the Western region followed by the Eastern, Brong Ahafo, Ashanti and Central regions. Involvement in cocoa labour also rises with age, as children become more productive as they grow older and stronger.

It should be recalled that these figures refer to *child labour* rather than to the broader concept of *employment*. As discussed in Chapter 2, this distinction becomes relevant from age 12 years onwards when the definitions of child labour and employment diverge.²⁶ As also reported Figure 8, higher shares of children in the five regions – 9.6% of 5-14 year-olds and 15% of 15-17 year-olds – are in *employment* in the cocoa sector in the principal cocoa-growing regions.

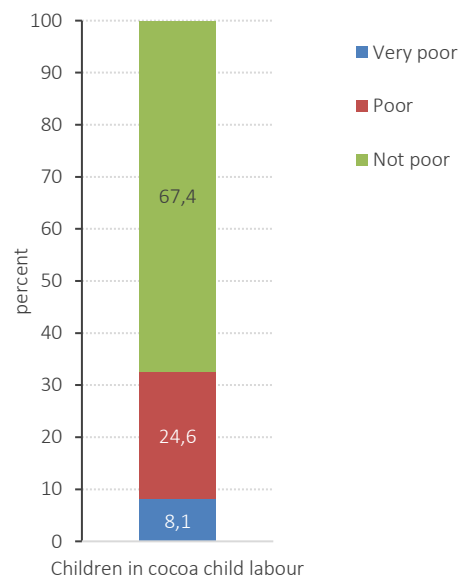
Almost all children involved in cocoa production work with their families. Just under 95 percent of 5-14 year-olds and 94 percent of 15-17 years olds working in cocoa in the principal cocoa-growing regions are unpaid family workers (Table A20). This reflects the broader pattern of child labour in agriculture in Ghana as well as the smallholder production structure of the cocoa sector in Ghana, which involves all family members.

Figure 9. Cocoa child labour does appear clearly correlated with poverty in the five regions

(a) Percentage of children aged 5-17 years in cocoa child labour, by poverty status, five principal cocoa-growing regions^(a)



(b) Percentage distribution of children aged 5-17 years in cocoa child labour, by poverty status, five principal cocoa-growing regions^(a)



Notes: The five principal cocoa growing regions are Ashanti, Brong-Ahafo, Central, Eastern and Western.

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

It is interesting to note that while children from poor households are more likely to be in cocoa child labour (Figure 9a), by far the largest share of cocoa child labourers (two-thirds) are in fact from non-poor households (Figure 9b), suggesting that poverty is not the only factor underlying the child labour in cocoa production in the five regions. As shown in Section 6, the productivity in

²⁶ Among 12-14 year-olds, child labour is limited to employment that exceeds 14 hours per week, occurs at night or that is hazardous in nature. For 15-17 year-olds, child labour is limited to employment that is hazardous in nature, occurs at night or exceeds 40 hours per week.

terms of value of children (and of adults) is much higher in the production of cocoa than in overall agricultural production. This helps to explain why child labourers involved in cocoa production do not generally belong to the poorer households and is also an indication of a high opportunity cost of giving up their work in cocoa production.

Trends

Cocoa child labour has been a central focus of national efforts against child labour over the past decade and a half (see Panel 2), raising the question of whether these efforts have translated into a reduction of child labour in the cocoa sector. While concrete conclusions concerning the *direct impact* of interventions against cocoa child labour cannot be drawn in the absence of a robust impact evaluation, the data from the various rounds of the Ghana Living Standards Survey can at least offer insight into whether cocoa child labour has declined during the period of intensified efforts against it.

Panel 2. Tackling cocoa child labour in Ghana

Cocoa child labour is a particular priority in national efforts against child labour in Ghana. Prompted by international media attention on the exploitation of children in the cocoa sector, and faced with the risk of heavy sanctions, representatives of the cocoa industry met with members of the ILO, trade unions, consumer organisations, NGOs and politicians to elaborate a strategy for dealing with cocoa child labour. This process resulted in 2001 in a “Protocol for the growing and processing of cocoa beans and their derivative products in a manner that complies with ILO convention 182 concerning worst forms of child labour” and in a number of programmatic efforts within the framework of the Protocol.

In 2002, the government launched a programme to eliminate child trafficking in Ghana and set up a Task Force to work on this issue. The programme involved awareness raising on child trafficking as well as training of security officers (e.g., police, immigration and customs officers at border posts) in the identification and interception of child traffickers and in the rescue of child victims.

Between 2003 and 2006, Ghana participated in the West African Cocoa and Commercial Agriculture Programme to Combat Hazardous and Exploitative Child Labour (WACAP). WACAP was initiated with the aim of preventing and eliminating hazardous child labour in the cocoa and other agricultural sub-sectors in the whole West African cocoa producing region (i.e., Ghana, Cameroon, Côte d’Ivoire, Guinea and Nigeria). Programme components included raising awareness of child labour among families and communities, piloting interventions to remove children from work, and facilitating children’s enrolment in education and training. The programme also involved building the income generating capacity of families and developing a child labour monitoring system (ILO/IPEC 2005).

In 2006, the Ministry of Manpower, Youth and Employment released a five-year National Programme for the Elimination of the Worst Forms of Child Labour in the Cocoa Sector (NPECLC), which was a component of the larger “Time-Bound Programme”.²⁷ Research conducted by the Tulane University in 2009 and 2010 revealed that some children in the cocoa growing areas were reached by the NPECLC, and that interventions including withdrawal, rehabilitation, education and vocational training services were successfully delivered. However, inadequate funding and over reliance of external funds prevented the programme from reaching all cocoa growing districts and from providing support to additional needy children in the targeted communities (Payson Centre, 2010). There was also a general sense that the initial two-year programme time frame was too short and concerns that the district assemblies (the implementing partners) were not able to continue the Child Labour Monitoring Systems with their own budgets and capacities.

Since 2006, two other child labour interventions in the cocoa sector were rolled out by the government of Ghana and its development partners in addition to the NPECLC (apparently the NPECLC was discontinued in 2016: the Yen Daakye project (implemented by the International Cocoa Initiative) and the IMPACT project. The ICI project employed a community-based approach to enable cocoa farmers, their families and communities to make the necessary changes

²⁷The Time-Bound Programme is considered the most comprehensive initiative in Ghana to reduce the worst forms of child labour, which aimed to develop Child Labour Monitoring Systems across different economic sectors in the country as a whole.

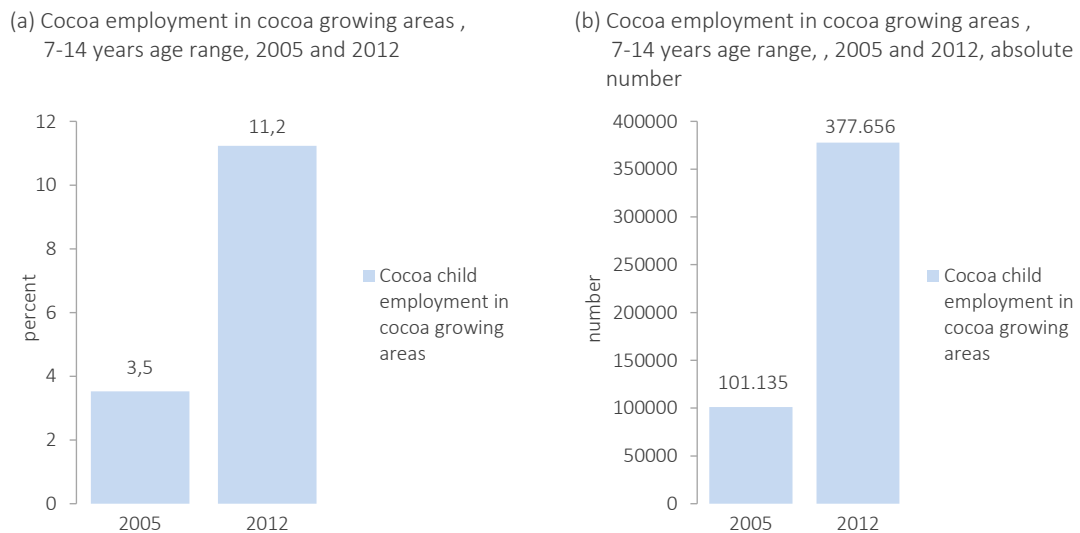
in their labour practices and understand more about children’s developmental and educational needs. Each community developed and implemented an action plan and sought support as needed from district authorities. An evaluation of the project in 2009 described the ICI’s approach as an ‘emerging good practice’ because it enabled communities to take responsibility for changes in child labour practices and other aspects of their lives. The evaluation, however, was also clear of the limited scope and focus of the ICI’s programme. The iMPACT project provided targeted communities with basic infrastructure such as KG and primary school blocks, health facilities and water and sanitation facilities.

Results of a qualitative evaluation of these projects conducted in the Wassa Amenfi district of the Western region (a major cocoa growing area) suggested that their impact was generally limited. Although, for example, awareness was raised of the harmful nature of some cocoa farming tasks and of the detrimental effect that work has on children’s school attendance, neither the children nor the adults covered by the evaluation indicated that this heightened awareness translated into a reduction in children’s involvement in the cocoa sector. Moreover, even if children emphasised the importance of their education, they also cited their need to help their parents on the farm. The general sense emerging from these efforts was that they did not address the underlying economic factors driving families’ recourse to child labour. Families unable to afford labour from outside the household are left with no option other than child labour, despite their awareness of the potential hazards they are exposing these children to.

Relevant in this context, albeit not specifically targeted to address child labour in cocoa, is the ‘Livelihood Empowerment against Poverty’ (more commonly known as *LEAP*) established by the Government in 2008 to address extreme poverty (<http://leap.gov.gh/>).

A simple comparison of estimates from the fifth and sixth GLSS survey rounds indicates that children’s employment in cocoa production²⁸ unfortunately increased significantly over the period from 2005 to 2012. Indeed, incidence tripled from 3.5% to 11.2% of 7-14 year-olds²⁹ in the principal cocoa-growing regions, and from 101,100 to 378,000 in absolute terms (Figure 10).

Figure 10. Incidence of cocoa child labour appears have risen dramatically the 2005-2012 period



Source: UCW calculations based on the fourth, fifth and sixth rounds of the Ghana Living Standards Survey, 2005/06 and 2012/13.

²⁸Data limitations mean that it is only possible to compare estimates of children’s employment for the 7-14 years age range from the 2005 and 2012 rounds of the Ghana Living Standards Survey. While children’s employment is a slightly broader concept than child labour (as it includes children age 12-14 years in light forms of employment), employment nonetheless provides a useful proxy for assessing changes in child labour.

²⁹ The narrower, 7-14 years, age range is used here because the 2005 round of the survey collected information on employment only for children aged 7 years and older.

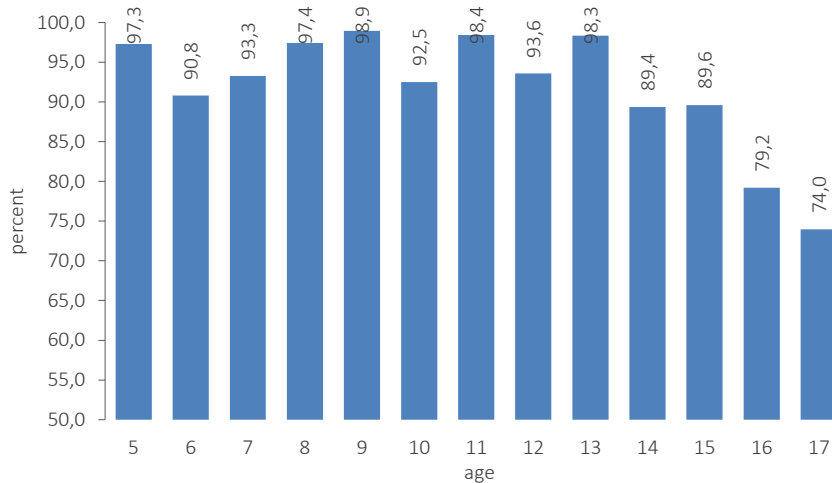
This increase in children’s involvement in the cocoa sector actually exceeded the increase in children’s employment in other sectors over this time period (see next section). According to the data used in this study, intensified efforts have not, therefore, had the desired effect on cocoa child labour, although we cannot of course preclude the possibility that the rise would have been even greater in their absence.

Interplay with schooling

Most children working in the cocoa sector also attend school. For the overall 5-14 years age group, 95% of those working in cocoa production combine their work with schooling. The school attendance of cocoa workers falls off somewhat beyond the compulsory schooling age range,³⁰ but even at the age of 17 years, three-quarters of children working in the cocoa sector also go to school (Figure 11).

Figure 11. Most children working in the cocoa sector also attend school

School attendance rate of children working in cocoa production, principal cocoa-growing regions,^(a) by age



Notes: (a) The principal cocoa-growing regions are Ashanti, Brong Ahafo, Central, Eastern and Western; (b) Basic schooling in Ghana begins at age four and is 11 years in duration. The school system is comprised of a 2-year pre-primary cycle, a 6-year primary cycle, a 3-year lower secondary cycle and a (non-compulsory) 3-year upper secondary cycle (Source: UNESCO Institute of Statistics).

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Other research by Tulane University also suggests that a higher share of children working in the cocoa sector are attending school than in the past.³¹ Parents, in other words, while not removing their children from cocoa production altogether, appear increasingly willing to ensure that this work is not at the expense of their children’s school attendance. This change has been

³⁰ Basic schooling in Ghana begins at age four and is 11 years in duration. The school system is comprised of a 2-year pre-primary cycle, a 6-year primary cycle, a 3-year lower secondary cycle and a (non-compulsory) 3-year upper secondary cycle (Source: UNESCO Institute of Statistics).

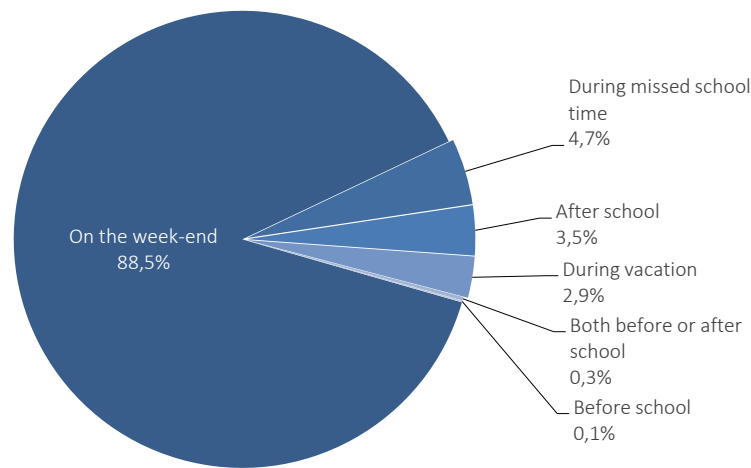
³¹The 2015 Tulane report provides some evidence on the potential interference of working on cocoa with schooling: between 2008/09 and 2013/14, the percentage of children working in cocoa production and not attending school (as measured by the number of children 6-14 not attending school in the last 12 months) fell from about 6% to 0.7%, while the percentage whose work in cocoa was interfering with their schooling rose from about 5% to 7%. There was also an upward trend in the percentages of children working in cocoa production who reported being able to write a simple statement and perform simple calculations.

encouraged by educational policies such as the Capitation Grant³² and the Ghana school feeding programme³³ introduced in some regions.

How precisely do children combine their work in the cocoa sector with schooling? As reported in Figure 12, most children – 89% - work during the weekend when school is not in session. Smaller shares of children work before and/or after school (3.9%) or during school vacations (2.9%). Only about five percent, on the other hand, indicate actually missing school time in order to work. It is also important to keep in the seasonality of the production cycle in the cocoa sector, and how this effects labour requirements. Children are needed primarily during the harvest season and to a lesser extent for sowing and weeding in other seasons, and *not*, therefore, throughout the school year.

Figure 12. Most children working in the cocoa sector do so during the weekend

Timing of children’s work in the cocoa sector (percentage distribution of children working in cocoa production and attending school), 5-14 years age group, principal cocoa-growing regions^(a)



Notes: (a) The principal cocoa-growing regions are Ashanti, Brong Ahafo, Central, Eastern and Western.

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

These figures should not however be interpreted as indicating the children’s work in the cocoa sector is compatible with their schooling, as the heavy demands of this work undoubtedly has implications for the time and energy that children have for their study. Indeed, earlier studies of children working in the cocoa sector suggest that a large share is unable to read and write despite attending school.³⁴ Clearly, enrolment statistics alone do not account either for absenteeism associated with labour demands or for the consequences of working time on children’s ability to benefit from their time in the classroom.³⁵

³²The Capitation Grant was introduced in 2005. Public kindergartens, primary schools and JHS receive a small grant for each pupil to cover levies and textbooks previously paid for by parents. Now parents must buy only school uniforms and writing material.

³³ The Ghana School Feeding Programme (GSFP) has been in implementation since 2005 in the context of the Comprehensive African Agricultural Development Programme (CAADP) Pillar III, and in response to the first and second Millennium Development Goals (MDGs) on eradicating extreme poverty and hunger and achieving universal primary education.

³⁴MMYE/NPECLC 2008.

³⁵Tulane University 2011.

Evidence from other sources also suggests that all cocoa child labourers are not equal in terms of their ability to attend school. Research by Krauss (2016), for instance, suggests that children who are not biologically related to the adult farmer managing cocoa production generally work harder across all farming tasks, are given less time off and are less able to attend school. Many of these children are migrants from Northern Ghana, who are sent out to work on farms managed by distant friends or by persons identified through other social networks.

Exposure to hazards, abuse and work-related ill-health

Work in cocoa farming involves a range of tasks, e.g., land clearing, burning, tree felling, spraying and applying agricultural chemicals and carrying heavy loads, which are of a hazardous nature and pose immediate or long-term threats to health and well-being. These hazardous tasks are included in the Hazardous Child Labour Activity Framework for the Cocoa Sector in Ghana and are ostensibly prohibited for all children (Panel 3).³⁶

Panel 3. Hazardous Child Labour Activity Framework for the cocoa sector of Ghana

- Clearing of forest and/or felling of trees
- Bush burning
- Working with agrochemicals, i.e. purchasing, transport, storage, use (mixing, loading and spraying/applying), washing of containers and spraying machine, and disposal
- Being present or working in the vicinity of a farm during pesticide spraying, or re-entering a sprayed farm within less than twelve hours after spraying
- Using machetes or long cutlasses for weeding
- Climbing and working on trees higher than three metres (nine feet) to cut mistletoe with a cutlass
- Working with a motorised mist blower, knapsack sprayer and/or chainsaw
- Harvesting overhead cocoa pods with a harvesting hook
- Breaking cocoa pods with a breaking knife
- Carrying/ heavy loads beyond the permissible carrying weight, i.e. above 30 percent of body weight for more than two miles (three kilometres)
- Working on the farm for more than three hours per day or more than 18 hours per week for children at weekends, holidays and/or children who have completed school; for children in school working more than two hours/day on a school day
- Working without adequate basic foot and body protective clothing
- Working alone on the farm in isolation (i.e. beyond visible or audible range of the nearest adult)
- Going to or returning from the farm alone or working on the farm between 6 pm and 6 am
- Absence from school during cocoa season to do farm work
- Working full time on the farm and not attending formal/non-formal school (applicable to children under 15 years).

Initial small scale studies undertaken around the time of the release of the Hazardous Child Labour Activity Framework in 2008 suggested that children's exposure to hazards in the cocoa sector were limited and that most of the work

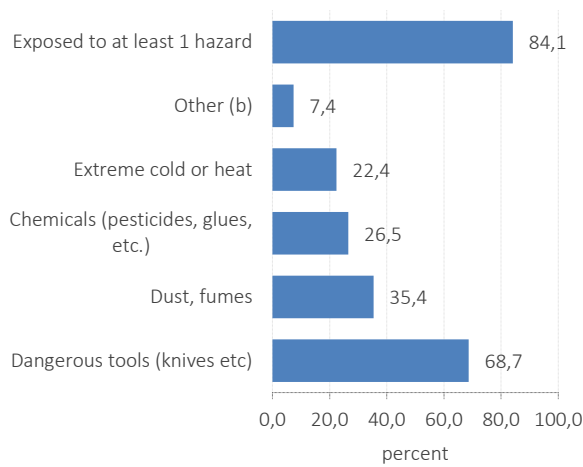
³⁶In June 2008, the Ministry of Manpower, Youth and Employment released a Hazardous Child Labour Activity Framework. The framework specifies activities considered hazardous for children working in cocoa production for the whole seasonal calendar. Also the number of working hours and the opportunities of education are considered. The Hazardous Child Labour Activity Framework was developed with the input of experts on child labour issues as well as consultations in farming communities in cocoa growing districts.

undertaken by children was “acceptable and light”.³⁷The inference from these studies was that only a few children working in cocoa farming were exposed to serious hazards or worst forms of labour, and it was for these children that well-planned and organised interventions needed to be urgently designed and implemented.

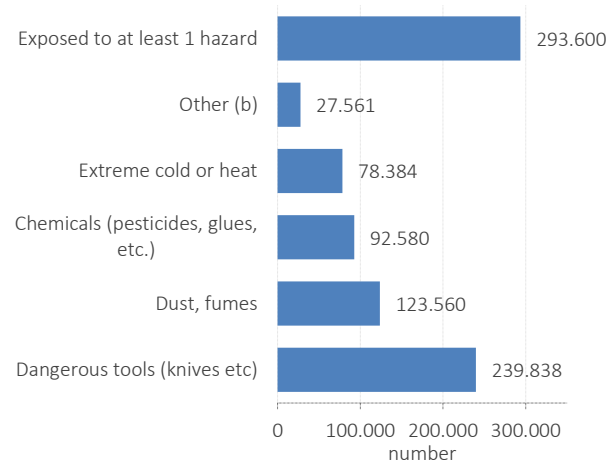
By contrast, the latest study of Tulane University³⁸ found that a large share of children were exposed to hazards in cocoa. The data provided by GLSS 6 also suggests that these initial conclusions concerning children’s exposure to hazards in the cocoa sector may have been overly optimistic.

Figure 13. Most children working in cocoa production are exposed to hazards in the course of their work

(a) Percentage of children working in cocoa production exposed to hazards, 5-14 years age group, principal cocoa-growing regions,^(a) by type of hazard



(b) Number of children working cocoa production exposed to hazards, 5-14 years age group, principal cocoa-growing regions,^(a) by type of hazard



Notes: (a) The principal cocoa-growing regions are Ashanti, Brong Ahafo, Central, Eastern and Western; (b) Other includes: Loud noise or vibration, work at heights, work in water, lake, pond, river

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Indeed, as reported in Figure 13, the GLSS 6 survey results indicate that 84% of all children working in cocoa production, 294,000 children in absolute terms, are exposed to at least one hazard in the course of their work. Two out of every three are exposed to dangerous tools, one out of three is exposed to dust and fumes and about one in four is exposed to chemicals. Extreme cold and heat affects 22% of all children working in cocoa production.

Research from elsewhere suggests that there are sub-groups of cocoa child labourers who are especially at risk of work-related hazards. Krauss (2016) highlights the especially precarious position of children not related to the household head in this regard, most of whom are migrants from the North. Other research by the International Cocoa Initiative (ICI, 2016) also offers interesting insights about which characteristics (both farmer and children specific) are more likely to be associated with the incidence of *hazardous* child labour. Women farmer with young children, land owners, older producers,

³⁷Boas and Huser, 2006; General Agricultural Workers Union, GAWU, 2006; Asuming-Brempong et al., 2007; MMYE/NPECLC, 2008.

³⁸ Survey Research on Child Labor in West African Cocoa Growing Areas, 2015. School of Public Health and Tropical Medicine Tulane University.

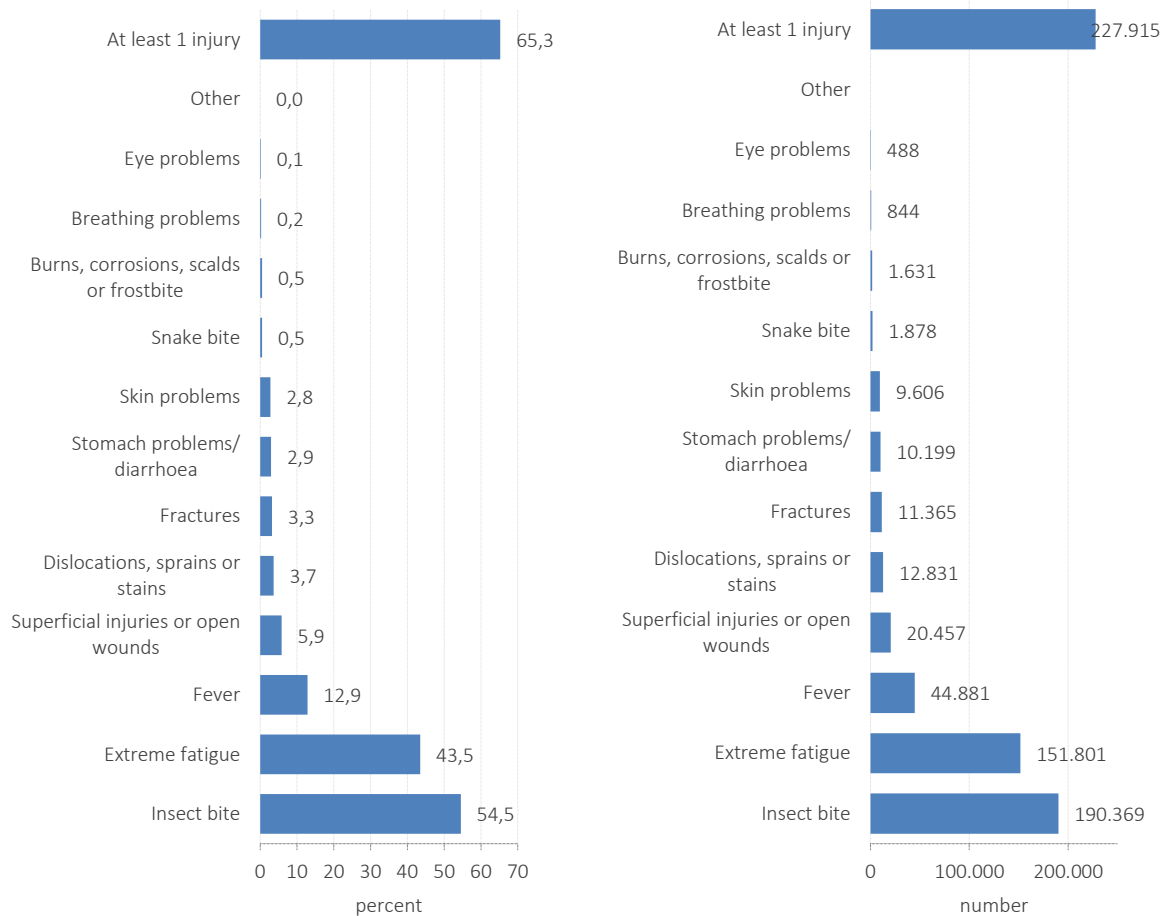
and those with low yields (i.e. those achieving on average 400 Kgs of cocoa per hectare) are all adult features associated with instances of hazardous labour. Older children (15 to 17 years old) and boys are found to be categories of children most at risk.

The GLSS 6 data also indicate that children’s exposure to hazards frequently translates into episodes of work-related injury or ill-health. As reported in Figure 14a, two-thirds of all children working in cocoa production suffer at least one injury or ill-health episode. Insect bites, extreme fatigue and fever are the most common problems. The occurrence of other health problems such as superficial injuries or open wounds, fractures and dislocations, snake bites and burns is less frequent but not negligible, again especially when viewed in absolute terms. One in four episodes of injury or ill-health is sufficiently serious to cause temporary interruptions in schooling or work (Appendix Figure A1). It should also be kept in mind that these figures capture only the *short-term* health effects, and therefore undoubtedly significantly understate the total health impact of children’s work in cocoa production over the children’s entire lifespan.

Figure 14. Exposure to injury or ill-health is also high among children working in the cocoa sector

(a) Percentage of children working in cocoa production suffering work-related injury or ill-health, 5-14 years age group, principal cocoa-growing regions,^(a) by type

(b) Number of children working cocoa production suffering work-related injury or ill-health, 5-14 years age group, principal cocoa-growing regions,^(a) by type

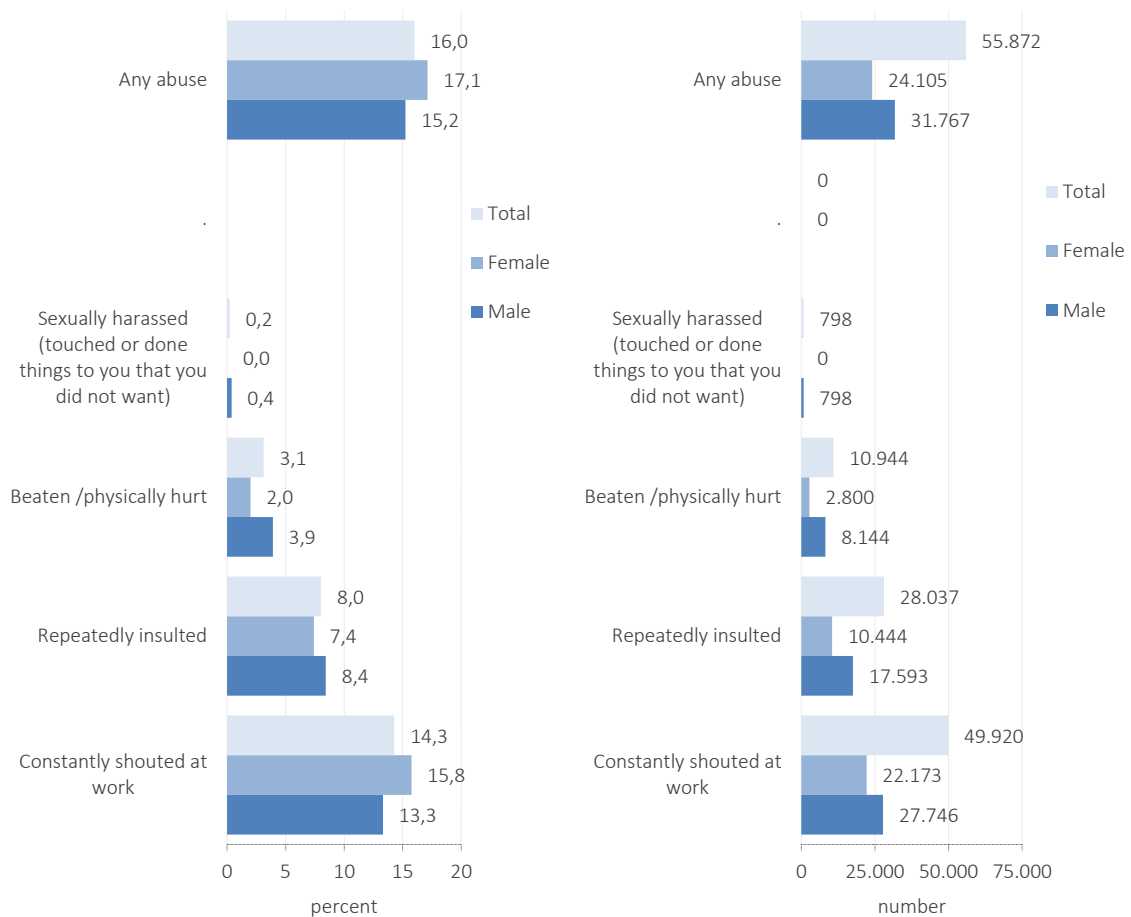


Notes: (a) The principal cocoa-growing regions are Ashanti, Brong Ahafo, Central, Eastern and Western.
Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

A significant minority of children working in cocoa production are also exposed to verbal and physical abuse, a frequently overlooked form of workplace hazard.³⁹ As reported in Figure 15, 16% of children in the cocoa sector, almost 56,000 in absolute terms, report being exposed to some form of physical or verbal abuse. Verbal forms of abuse, i.e., “constant shouting” and “repeatedly insulted”, are most common, reported by 14% and eight percent of children working in cocoa production, respectively. Physical abuse, i.e., “beaten/physically hurt”, is less common, but is nonetheless suffered by almost 11,000 children. Eight hundred children – all boys – report being sexually harassed, i.e., “touched or done things to you that you did not want”. Sexual abuse, however, is typically under-reported in household surveys such as GLSS 6, owing to the sensitivity of the subject. The fact in particular that no female child respondents admit to sexual harassment is suggestive of under-reporting.

Figure 15. A significant minority of children working in cocoa production are also exposed to verbal and physical abuse

(a) Percentage of children working in cocoa production exposed to abuse, 5-14 years age group, principal cocoa-growing regions,^(a) by type
 (b) Number of children working in cocoa production exposed to abuse, 5-14 years age group, principal cocoa-growing regions,^(a) by type



Notes: (a) The principal cocoa-growing regions are Ashanti, Brong Ahafo, Central, Eastern and Western. (b) The question to capture these information is included in the Employment and Time Use module, section on health and safety, and ask: Have you ever been subject to the following at work?
 Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

³⁹ The question to capture these information is included in the Employment and Time Use module, section on health and safety, and ask: Have you ever been subject to the following at work?

5. CHILDREN IN OTHER FORMS OF CHILD LABOUR AND HOW THEY COMPARE TO COCOA CHILD LABOURERS

While the preceding discussion makes clear that cocoa child labour remains an important priority, child labour in Ghana extends well beyond cocoa farming. In fact, as reported in earlier, fewer than one in four of all child labourers are found in the cocoa sector. A focus on cocoa child labour will therefore clearly *not* be sufficient for eliminating child labour in Ghana. In this section of the Report we look in more detail at children in other forms of child labour, both within and outside the principal cocoa-growing regions, and at how they compare with cocoa child labourers.

Extent

Children in other forms of child labour account for 18% of all children in the 5-17 years age range, while those in cocoa child labour account for about five percent of children in this age range (Figure 7). Among 5-14 year-olds, the two regions where overall child labour is highest Upper West and Upper East – are in fact *outside* the cocoa belt (Table 3). What is more, of the five principal cocoa regions, only in one – Western – do cocoa child labourers outnumber other child labourers. Numbers of cocoa child labourers and other child labourers are roughly equal in Central region, while in the other three cocoa regions – Brong Ahafo, Eastern and Ashanti – there are substantially more child labourers working outside the cocoa sector than in it (Table 3). These regional patterns differ for 15-17 year-olds, but even for this age group around four out of every five child labourers work outside of the cocoa sector (Table 4).

Table 3. Percent of children in cocoa child labour and other sector, children aged 5-14 years

Region	Total child labour	Child labour in Cocoa	Child labour in agriculture other than cocoa	Child labour in other sectors
Upper West	44.1	-	43.6	0.6
Upper East	43.5	-	38.6	5.0
Brong Ahafo	33.4	8.2	19.4	5.8
Eastern	28.2	9.4	13.1	5.7
Northern	27.3	0.1	23.8	3.5
Volta	26.1	0.8	21.0	4.3
Ashanti	23.2	7.6	9.9	5.7
Western	20.7	12.4	2.7	5.6
Central	9.2	4.7	3.4	1.1
Greater Accra	5.2	-	0.5	4.7
TOTAL	23.0	5.0	13.3	4.6

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Table 4. Percent of children in cocoa child labour and other sector, children aged 15-17 years

Region	Total child labour	Child labour in Cocoa	Child labour in agriculture other than cocoa	Child labour in other sector
Eastern	38.3	9.6	14.0	14.7
Brong Ahafo	36.1	7.3	10.8	18.1
Western	33.1	6.1	0.9	26.1
Ashanti	26.2	5.1	10.7	10.4
Volta	25.4	0.4	0.0	25.0
Upper West	24.8	6.9	14.5	3.4
Upper East	23.8	3.3	-	20.6
Northern	23.7	4.8	0.3	18.6
Central	8.4	1.5	2.7	4.3
Greater Accra	5.0	4.6	-	0.5
TOTAL	24.1	5.4	6.6	12.2

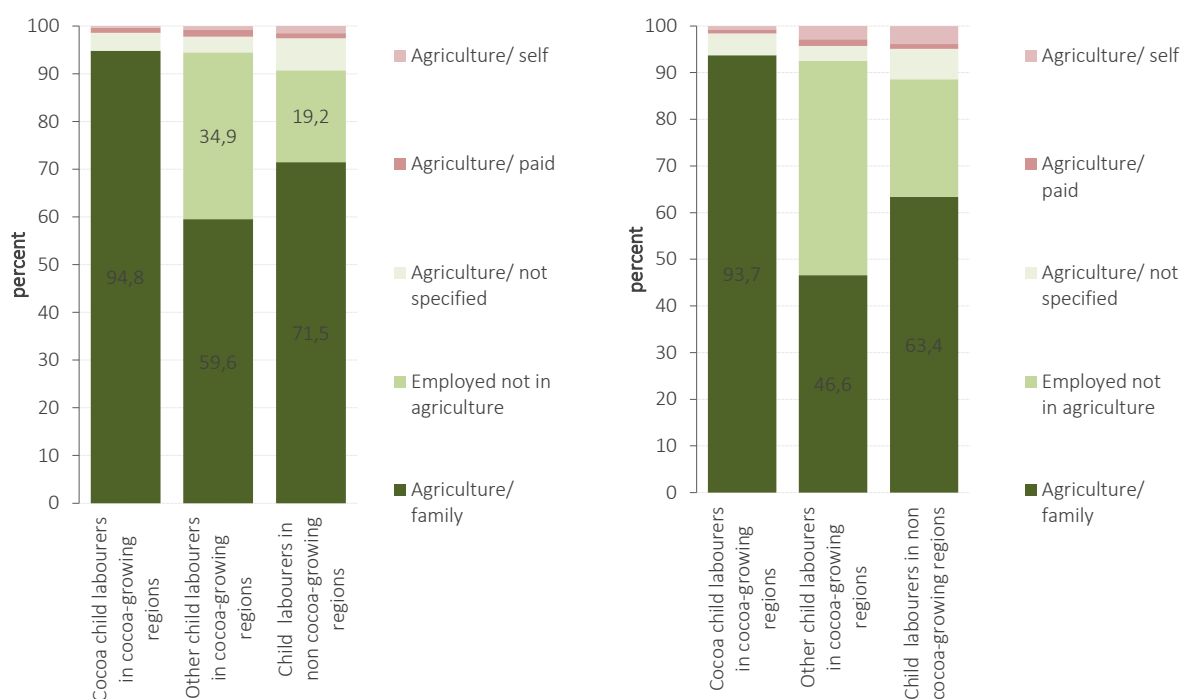
Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Figure 16. Other, non-cocoa, child labourers are less likely to be in family agriculture

Status in employment (% distribution), child labourers in cocoa production and other child labourers

(a) Child labourers aged 5-14 years

(b) Child labourers aged 15-17 years



Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

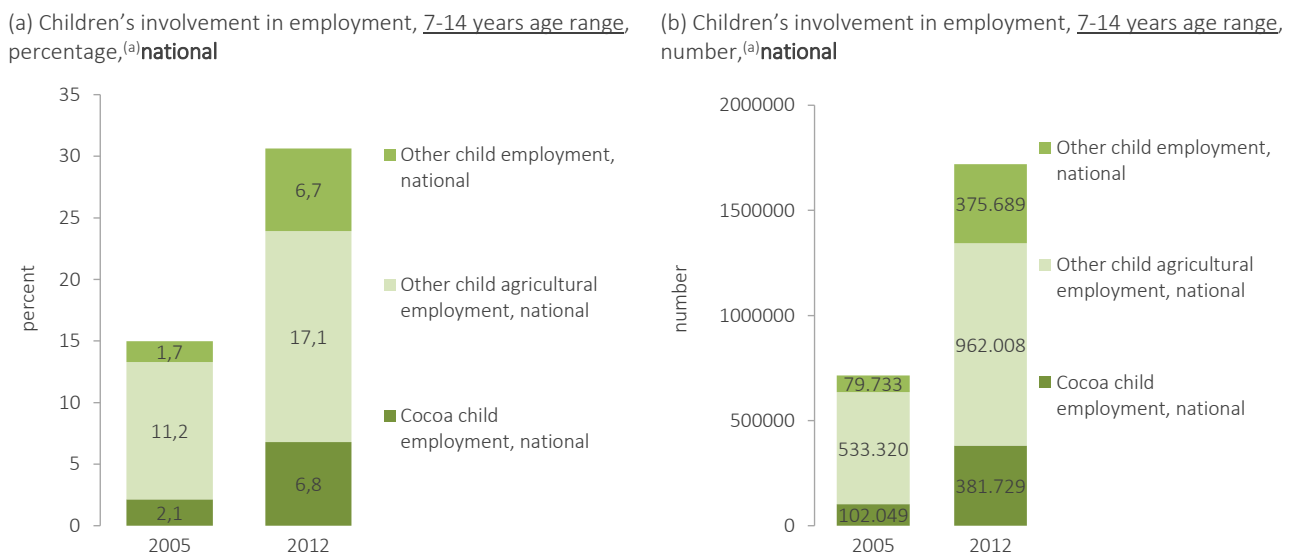
Other, non-cocoa, child labourers are less likely to be in family agriculture, although this work modality predominates across all forms of child labour in Ghana. As reported in Figure 16a, 95% of all cocoa child labourers in the 5-14 years age range work within the family unit, but the share in family agriculture

falls to 72% for child labourers outside the cocoa belt and to 60% for other child labourers within the cotton belt. Most non-cocoa child labourers who are not in family agriculture work outside the agriculture sector rather than in other modalities of agriculture employment. These broad patterns also prevail for child labourers aged 15-17 years, as shown in Figure 16b.

Trends

The worrying rise in children’s employment in the cocoa sector discussed in the previous section also extended to children’s employment in other sectors. The increase in the incidence of cocoa children’s employment, however, outstripped that of other children’s employment, and cocoa child employment has therefore grown in relative importance over time in Ghana. As reported in Figure 17, nationally, children’s involvement in *non*-cocoa employment doubled from 2005 to 2012, while children’s involvement in cocoa employment more than tripled over the same period. The net result of these changes is that children’s employment in cocoa production formed a significantly larger share of overall children’s employment in 2012 (22%) than was the case seven years earlier (14%).

Figure 17. The incidence of non-cocoa children’s employment also rose over the 2005-2012 period, but more slowly than the incidence of cocoa child labour



Notes: (a) For the purpose of comparability, children’s employment is used here as a proxy for child labour.

Source: UCW calculations based on the fourth, fifth and sixth rounds of the Ghana Living Standards Survey, 2005 and 2012/13.

Interplay with schooling

Simple comparisons of school attendance indicate that child labourers in the cocoa-growing regions are relatively more likely to work in combination with schooling. As reported in Figure 18a, school attendance among 5-14 year-olds stands at 95% both for cocoa child labourers and other child labourers living in the cocoa belt, but is eight percentage points lower for child labourers living

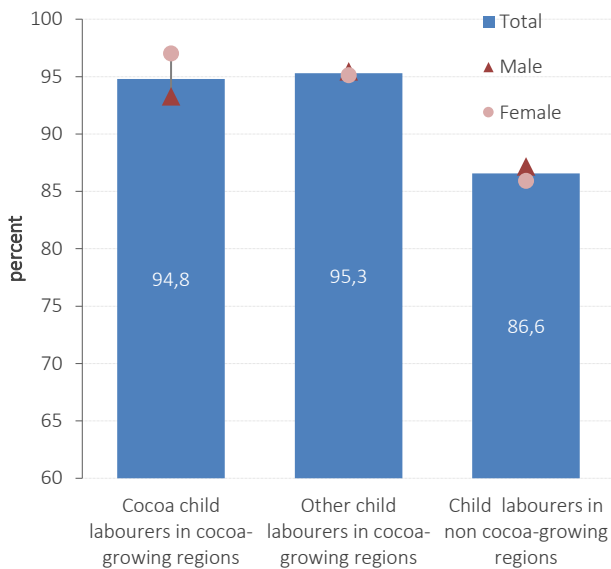
elsewhere. Among 15-17 year-olds, cocoa child labourers have the highest levels of school attendance (82%), followed by other child labourers in the cocoa belt (79%) and then by child labourers outside the cocoa belt (75%).

While caution should be exercised in reading too much into these descriptive findings, they suggest that work in the cocoa sector may be more compatible with school attendance than other forms of work performed by children. But, as noted earlier, high rates of school attendance among cocoa child labourers does not of course mean that work in cocoa production is not harmful to education in other ways, as the time and energy required for this work inevitably affects the ability of children to benefit from their classroom time and ability to study outside of the classroom.

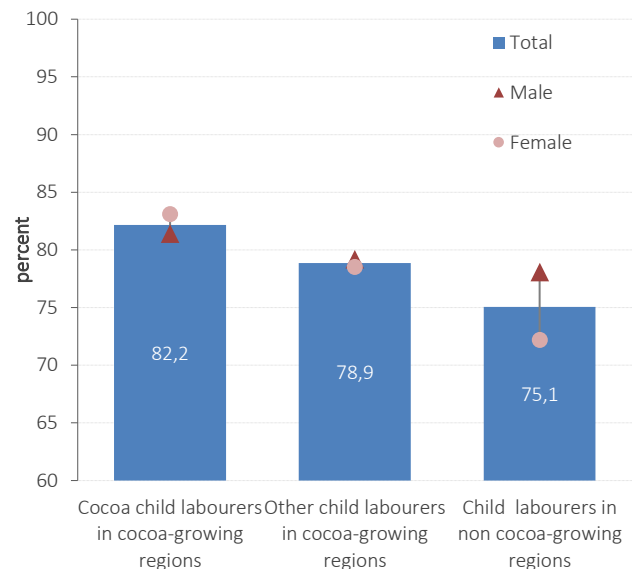
Figure 18. Cocoa child labour appears to interfere less with children's schooling

School attendance rates, child labourers in cocoa production and other child labourers

(a) Child labourers aged 5-14 years



(b) Child labourers aged 15-17 years

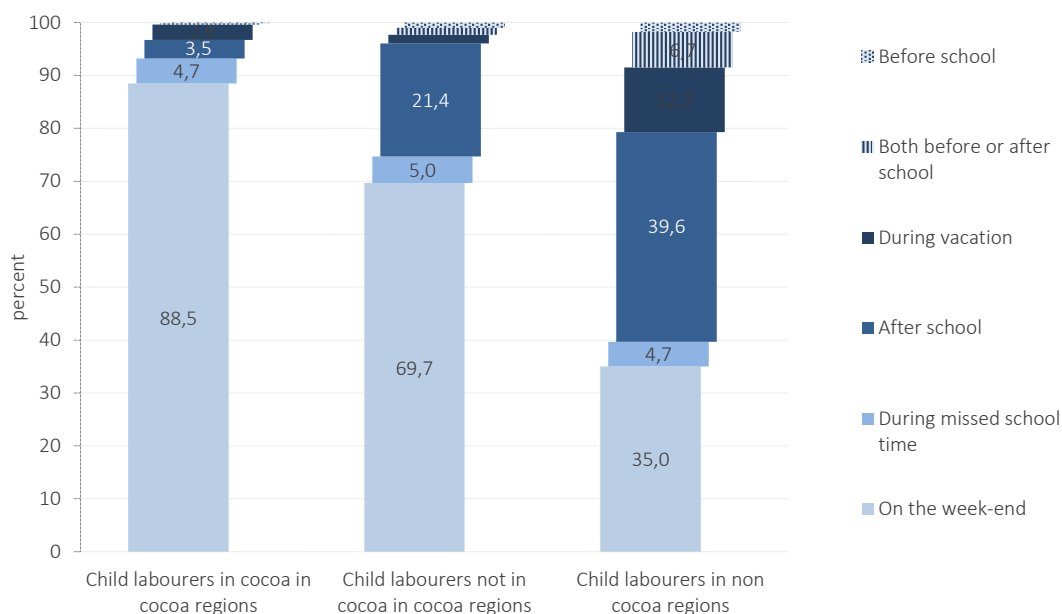


Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Differences in school attendance are likely in part a product of how children's working time is distributed over the day and week. As reported in Figure 19, the overwhelming majority of children in the cocoa sector (93%) work either on the weekend (89%) or during holidays (3%) when school is not in session.

Figure 19. Children's work in the cocoa sector is more concentrated on weekends

Percentage distribution of children's working time, by type of child labour



Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Other child labourers by comparison are relatively more likely to work at some point during the school day when the interference with schooling is more direct. This is especially the case for child labourers outside the cocoa belt, among whom more than half must work during school days, either before school only (2%), during school (5%), after school only (40%) or both before and after school (7%).

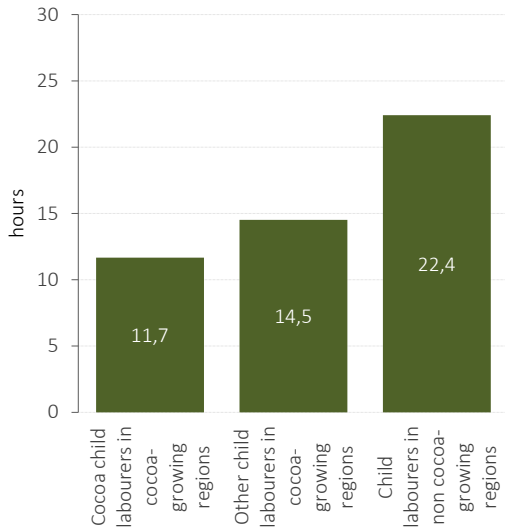
Time intensity

The time intensity of child labour appears considerably higher for child labourers working outside the cocoa sector, also affecting their ability to combine work and education. The differences in this regard are particularly pronounced between cocoa child labourers and child labourers living outside the cocoa-growing regions. As reported in Figure 20, the latter group must work on average almost twice as many hours each week than the former group; this pattern applies to both the 5-14 and 15-17 age ranges. Differences in weekly working hours between cocoa child labourers and other child labourers *within* the cocoa belt are smaller, especially in the 5-14 age group, but nonetheless still favour cocoa child labourers.

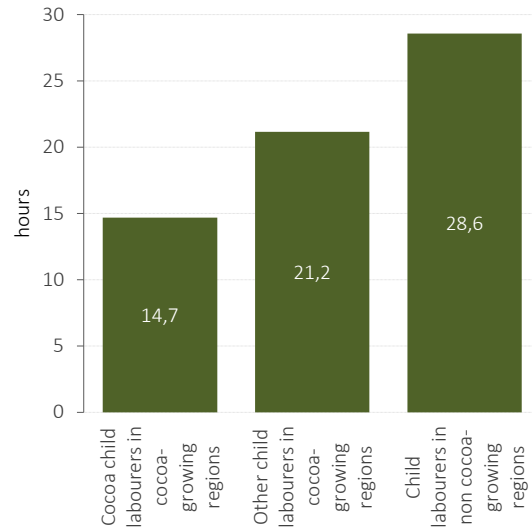
Figure 20. Cocoa child labour appears much less time-intensive than other child labour

Average weekly working hours, child labourers in cocoa production and other child labourers

(a) Child labourers aged 5-14 years



(b) Child labourers aged 15-17 years



Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Exposure to hazards, abuse and ill-health

Cocoa child labourers appear clearly worse off than other child labourers in terms of exposure to hazards, abuse and injuries. While the preceding comparative statistics on school attendance and working hours cast cocoa child labour in less negative light than other forms of child labour, this is *not* the case when looking work-related hazards and ill-health. As reported in Figure 21, cocoa child labourers are much more likely to be exposed to hazards (Figure 21a) and abuse (Figure 21b) in the workplace, and are much more likely to suffer work-related injuries (Figure 21c).

Figure 21. Cocoa child labourers are more exposed to hazards, abuse and injuries

(a) Exposure to hazards (% of child labourers aged 5-14 years)

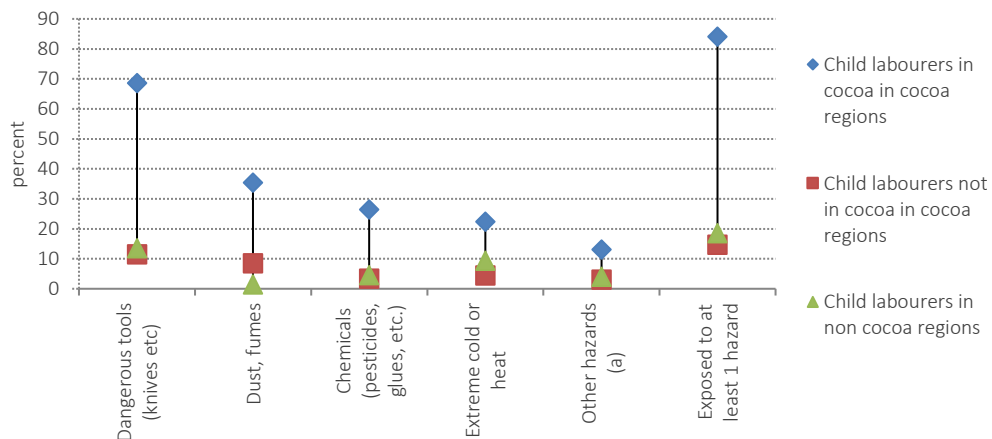
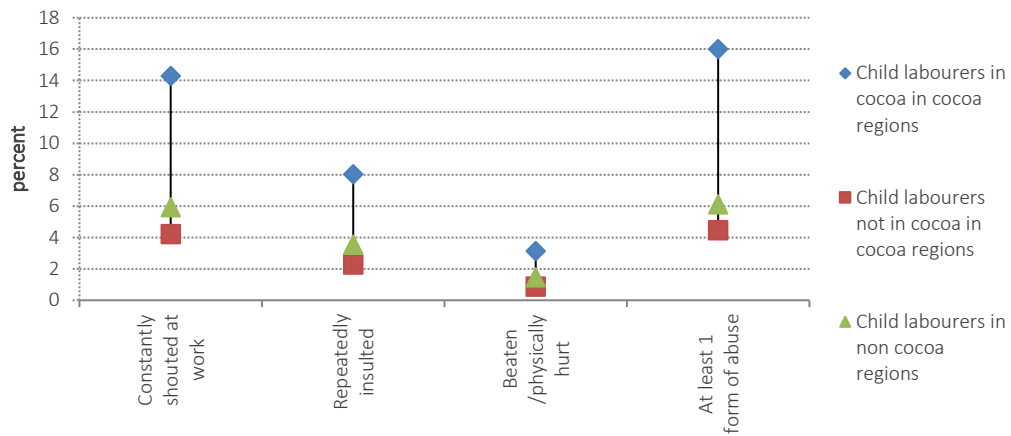
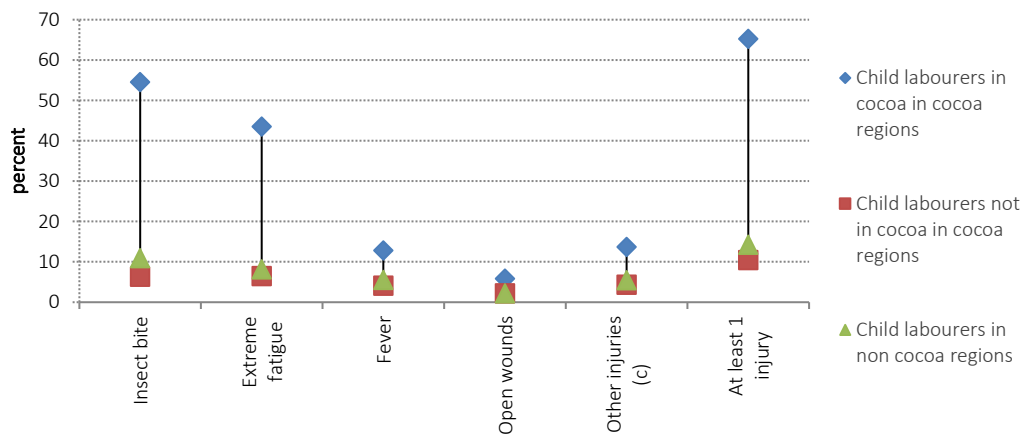


Figure 21. Cont'd

(b) Exposure to verbal or physical abuse (% of child labourers aged 5-14 years)



(c) Exposure to injury (% of child labourers aged 5-14 years)



Notes: (a) Other hazards refer to: loud noise or vibration; work in water/lake/pond/river: work at heights; workplace too dark or confined; (b) Sexual harassment was phrased in survey questionnaire as "touched or done things to you that you did not want"; (c) Other injuries refer to: superficial injuries or open wounds; dislocations, sprains or stains; fractures; stomach problems/ diarrhoea; skin problems; snake bite; burns, corrosions, scalds or frostbite; breathing problems; and eye problems..

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

In terms of hazards, differences between cocoa child labourers and other child labourers are most pronounced for exposure to dangerous tools, dust and fumes, chemicals, extreme temperatures and arms. In terms of abuses, cocoa child labourers face a relatively higher risk of verbal abuse, i.e., shouting and insults, in particular. Finally, in terms of injury, differences between cocoa child labourers and other child labourers are largest for insect bites, extreme fatigue and fever. The injuries suffered by cocoa child labourers are also more likely to be severe in nature, although differences in this regard among groups of child labourers are smaller (Appendix Figure A1).

6. ROLE OF CHILDREN IN AGRICULTURAL PRODUCTION⁴⁰

We have looked thus far at the extent and characteristics of child labour in Ghana, both in the cocoa sector and elsewhere. We now turn to the question of children's role in production. We look specifically at their contribution to the agricultural production, their productivity vis-à-vis the adult workers, and whether children are complements or substitutes to other inputs in agricultural production.

This information is very important for policy design and for evaluating the possible effects of policy reforms. For example, if children have low levels of productivity then the opportunity costs associated with child labour are also low, in turn implying that relatively small incentives should be sufficient to induce households not to employ children in production. Similarly, if child labour and other inputs are substitutes, policies aimed at transforming the production technology should also contribute to a reduction in the use of child labour.

As most of the children work for their own household, we generally do not observe a market wage rate that could help to measure the productivity of children. For this reason, we need to estimate a production function in order to obtain information about the marginal product of labour. The estimation of the production function is also necessary in order to obtain estimates of the elasticity of substitution among the various inputs and of the contribution of children to production.

We use data from the agriculture questionnaire of the GLSS 6 to create the variables needed for the estimation of the household production function. We consider households involved in agriculture as all households that cultivate at least one crop on a farm (which can be owned, sharecropped, rented, used for free or distributed by the village) and that live in a rural community. Households in cocoa production are identified as those households that grow cocoa on their farms, even if cocoa is not the only crop grown.

Agricultural output is defined as the value of total harvested crops in the past year, as reported by the head of household.⁴¹ Concerning inputs, we consider land size and the value of productive assets (like tractors, harvester, tools, etc.) as *fixed inputs*, expenditures on fertilizers, insecticides, pesticides, etc. as *variable inputs*, and hours worked by household members (both adults and children) and wages paid to hired workers as *labour inputs*.⁴²

As very few households cultivate only one crop and, therefore, labour and other used inputs cannot be uniquely attributed to a single crop, the production function refers to the value of the overall production and not to that of a single crop. We are not able, therefore, to estimate a production function only for cocoa.⁴³

⁴⁰This section is based on Eleonora Porreca (2017), "Child labour supply in agricultural households in Lesotho", UCW Working Paper, Rome, 2017. The interested reader is referred to this paper for further details.

⁴¹ Because of multi crop production we cannot use physical quantities as measure of output

⁴² No information is available on the numbers of hours worked by hired workers.

⁴³ In the results discussed below, we present some estimates relative to cocoa producing household obtained applying the estimated coefficients only to the subsample of cocoa producers.

Hours worked are obtained by matching the labour module of the household questionnaire with the agriculture questionnaire. Hours worked by family members are defined as hours worked by household members self-employed in agriculture or contributing family worker on crop activities identified using ISIC codes.⁴⁴

In order to allow for possible technical inefficiencies, we have estimated the production function using a stochastic production frontier approach. In particular, we estimate the following stochastic production frontier:

$$y_h = F(L_{i,h}^F, L_h^H, N_h | W_h, Z_h) + v_h - u_h \quad (1)$$

where y_h is the value of harvested crops, $L_{i,h}^F$ is hours worked by adults and children ($i = \text{adult, child}$) on own farm, L_h^H is hired work,⁴⁵ N_h indicates variable inputs, W_h fixed inputs and Z_h is a vector of household and individual characteristics that might influence production (education, gender, etc.).

$F(\cdot)$ is assumed to be a trans-log production function and is estimated using the approach proposed by Battese and Coelli (1988)⁴⁶. Finally, $v_h \sim N(0; \sigma_v)$ is a random error and u_h represents inefficiency and it follows a Truncated Normal distribution with mean μ and variance σ_u . The two error terms, v_h and u_h , are assumed to be independent of each other and i.i.d. across households.

In order to address the potential endogeneity of labour and variable inputs, we use an instrumental variable approach⁴⁷ using as instrument a set of variable at community level.

Marginal products (MRP) are computed (first derivative of (1)) as:

$$MRP_{L_i^F} = (\hat{\beta}_k + \sum_{k=1}^n \sum_{z=1}^n \hat{\beta}_{kz} \ln(x_z)) \left(\frac{\hat{y}}{L_i^F} \right), \text{ where } x_z \text{ are all production inputs.}$$

Child contribution to the output is estimated by computing the difference between the predicted output with, $\hat{y}_{h,CL}$, and without, $\hat{y}_{h,noCL}$, child labour, over the predicted output $\hat{y}_{h,CL}$, considering constant all other inputs. This measure is the total contribution of children to household production. We also compute the contribution per child to household production as $\frac{\hat{y}_{h,CL} - \hat{y}_{h,noCL}}{n_{CL} \hat{y}_{h,CL}}$, where n_{CL} is the number of children working in the household agricultural production.

⁴⁴ The ISIC industry codes used to identify crop activities are: from 111 to 130, 150, 161, 163, 164, 210 and 240.

⁴⁵ The variable hired work is defined as the wages paid to hired workers as labour inputs.

⁴⁶ Battese, G., and T. Coelli (1988). "Prediction of firm-level technical efficiencies with a generalized frontier production function and panel data", *Journal of Econometrics*, 38: 387–399.

⁴⁷ In particular we adopt the control function approach. In the first stage labour and variable inputs are regressed against a set of instrumental variables at community level (agricultural extension office in the comm., access to electricity and pipe water, climatic shocks, agricultural wage of adults and children in the comm., presence of immigrants in the comm.) and household characteristics Z_h . In the second stage, we estimate (1) adding the predicted residuals obtained from each first stage.

The elasticities of substitution are computed according to the standard formulas utilizing the MRP just described.⁴⁸

The marginal products of labour are reported in Table 5, both for all the households in agriculture production and for the sub-group of households producing cocoa as part of their production.⁴⁹As shown, the productivity of children and adults is quite similar, indicating that children do indeed play an important productive role.

The value of the labour marginal products for the households that produce cocoa are much larger than the average in the agricultural sector. The data available do not allow us to distinguish between the physical productivity and the price of the output in determining these observed differences. In any case, the estimates indicate that the opportunity cost of child labour is much higher in the production in cocoa, and this should therefore be taken in consideration in designing intervention policies.

Table 5. Marginal products of labour

	Agricultural production	Obs.	Cocoa production	Obs.
Child labour	1.27	2406	2.30	473
Adult labour	1.39	5993	2.27	1455

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

Table 6, reports the contribution of each type of labour input to total crop production. As shown, children appear to play a substantial role, accounting for about 15% of total crop production and for about 13% of crop production in the cocoa sector.⁵⁰

Table 6. Labour contribution to crop production (% of crop production)

	Agricultural production	Obs.	Cocoa production	Obs.
Per child	12.01	2406	11.30	473
Per adult	52.62	5993	54.00	1455
Total child	14.66	6599	12.66	1534
Total adult	90.64	6599	93.80	1534

Notes: Total number of HH in crop production used for estimation of production function: 6599

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

These aggregate estimates of labour contributions, however, mask large variations by region, as reported in Table 7. Children’s contribution ranges from just six percent in the Central region to 27% in the Upper West region. It is interesting to note that children do *not* appear to play a relatively greater role in cocoa production. Indeed, if anything, the opposite pattern appears to

⁴⁸ To compute the elasticity of substitution we use the marginal products at the mean for all inputs in order to overcome the issue of zero values for some inputs.

⁴⁹ .Marginal products of labour represent shadow wages (Jacoby, 1993⁴⁹), so they can be interpreted as hourly wages of adults and children working on their own farms

⁵⁰ Inputs do not sum to 100 because of the translog production function that includes squared inputs and interactions among inputs.

hold: four of the five regions in which children's contribution to production is highest are in fact *outside* the cocoa belt.

Table 7. Labour contribution by region (% of crop production)

Region		Total child contribution	Total adult contribution
Principal cocoa-growing regions	Western	13.04	96.50
	Central	5.54	95.24
	Eastern	13.69	89.22
	Ashanti	13.58	88.39
	Brong Ahafo	16.66	89.22
Other regions	Greater Accra	6.68	89.24
	Volta	14.00	88.49
	Northern	16.96	94.87
	Upper East	18.90	80.24
	Upper West	27.13	96.31

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

The elasticities of substitution, reported in Table 8, provide a measure of the ease with which one input can be substituted for another while keeping output constant.⁵¹ Elasticities higher than one indicate that the inputs are substitutes, while they are complement for elasticities below 1. It appears that child labour is a substitute for both adult and hired labour. Child labour, on the other hand, is a complement to available land, meaning the additional land increases the demand for child labour. Finally, it is worth noting the very high elasticity of substitution between child labour and productive assets, indicating that the introduction of production technologies that are more reliant on non-labour inputs is likely to result in a substantial reduction in the use of child labour.

Table 8. Elasticities of substitution

	Agricultural production
Child and adult	1.40
Child and hired worker	1.32
Child and inputs ^(a)	1.08
Child and land	0.83
Child and productive asset	2.96
Adult and hired workers	1.12
Adult and inputs ^(a)	1.00
Adult and land	0.81
Adult and productive asset	1.60
Hired worker and inputs ^(a)	1.10
Hired and land	0.80
Hired and productive asset	2.12

⁵¹ More precisely, it is a measure of the rate of change in the use of input 1 to input 2 from a change in the relative price of input 2 to input 1, holding output constant. The elasticity measures the ease of substituting one input for the other when the firm can only respond to a change in one or both of the input prices by changing the relative use of two factors without changing output. If the elasticity approaches infinite, the two factors become perfect substitutes, while as the elasticity approaches zero, the two factors are complementary.

Table 8.Cont'd

	Agricultural production
Land and inputs ^(a)	0.69
Land and asset	0.85
Productive asset and inputs ^(a)	1.53

Note: (a) the variable inputs includes: expenditure on fertilizers, insecticides, pesticides, etc.; productive assets includes: tractors, harvester, tools, etc.

Source: UCW calculations based on the sixth round of the Ghana Living Standards Survey 2012/13 (GLSS 6, 2012/13)

7. CONCLUSION

The evidence reported in the preceding sections underscores the continuing urgent need to address child labour in cocoa production in Ghana. Almost half a million children, about five percent of all children aged 5-17 years, are trapped in cocoa child labour, and comparisons with estimates from previous national surveys suggest that the incidence of cocoa child labour has in fact *increased* in recent years, despite national efforts against it. What is more, child labourers in cocoa production appear much more exposed to workplace hazards and abuses, and much more susceptible to work-related injury and ill-health, than child labourers working elsewhere.

But the evidence also makes clear that child labour in Ghana concerns much more than just cocoa production. Indeed, more than three-quarters of all child labourers in the country work *outside* the cocoa sector, and these children must clearly not be forgotten in child labour elimination efforts. While generally less hazardous than cocoa production, the work performed by non-cocoa child labourers is nonetheless *more* time intensive and *more* likely to interfere with schooling. Like cocoa child labour, child labour outside of cocoa production appears to have *increased* in recent years, as Ghana has fallen further behind in its campaign towards ending child labour.

What are the priorities moving forward? The 2016 study cited at the outset emphasises the importance of a comprehensive approach build around a set of key policy pillars – basic education, social protection, public awareness, social mobilisation, legislation and advocacy – and discusses priority intervention areas in each.⁵² These policy pillars and intervention priorities are relevant to addressing child labour both within and outside of cocoa production.

With specific reference to the cocoa sector, the current Report points to at least three additional priorities. First, evidence of the very high elasticity of substitution between child labour and productive assets suggests that the introduction of *non*-labour-intensive production technologies could play an important role in reducing cocoa child labour. Secondly, the high levels of productivity of cocoa child labourers, both relative to other child labourers and more generally, means that households bear high opportunity costs in removing their children from cocoa child labour, pointing in turn to the importance of strategies aimed at compensating households for these costs. Third and more broadly, in view of evidence indicating that cocoa child labour has actually increased in recent years despite intensified efforts against it, there is an urgent need for impact evaluations designed to determine why current efforts have been unsuccessful and how they can be adjusted accordingly.

⁵²Child labour and the decent work deficit in Ghana, 2016. Understanding Children's Work (UCW) country study. Available at www.ucw-project.org

APPENDIX. DETAILED STATISTICS

Employment, school attendance, activity and other indicators in Ghana

Table A1. Employment (%) by region, age group and sex

REGION	Age group and sex of individual								
	5-14			15-17			Adults		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Western	22.9	23.8	23.4	49.3	41.8	45.3	84.5	79.9	82.1
Central	12.6	10.6	11.6	18.9	17.0	17.8	78.0	74.5	76.0
Greater Accra	5.3	6.9	6.1	11.8	10.9	11.2	76.2	67.3	71.5
Volta	28.1	30.1	29.1	50.3	44.7	47.7	82.3	77.2	79.5
Eastern	35.5	29.8	32.8	64.2	52.8	58.2	84.5	78.2	81.0
Ashanti	28.1	27.2	27.7	50.4	49.1	49.8	83.4	78.3	80.6
BrongAhafo	37.6	38.0	37.8	63.1	60.2	61.6	88.0	82.0	84.7
Northern	30.7	30.0	30.4	69.1	60.1	65.0	89.5	82.4	85.6
Upper East	50.2	47.8	49.0	78.7	73.4	76.0	88.3	87.9	88.1
Upper West	51.7	43.2	47.7	80.2	70.8	75.9	89.0	84.5	86.6
Total	26.8	25.9	26.3	50.3	42.5	46.3	83.1	77.3	80.0

Table A2. Child labour (%) by region, age group and sex

REGION	5-14			15-17		
	Male	Female	Total	Male	Female	Total
Western	20.4	20.9	20.7	31.0	19.4	24.8
Central	10.2	8.2	9.2	11.6	5.6	8.4
Greater Accra	4.6	5.9	5.2	6.0	4.5	5.0
Volta	25.8	26.4	26.1	34.7	31.2	33.1
Eastern	30.7	25.6	28.2	46.9	30.6	38.3
Ashanti	23.2	23.1	23.2	28.8	23.2	26.2
Brong Ahafo	34.1	32.8	33.4	38.9	33.4	36.1
Northern	27.4	27.2	27.3	27.9	19.0	23.8
Upper East	44.2	42.9	43.5	28.4	19.2	23.7
Upper West	47.1	40.8	44.1	25.5	25.3	25.4
Total	23.4	22.5	23.0	28.4	20.1	24.1

Table A3. School attendance (%) by region, age group and sex

	5-14			15-17			Adults		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Western	95.6	95.9	95.7	87.1	79.6	83.2	11.1	6.1	8.6
Central	94.6	95.6	95.1	79.8	74.3	76.8	12.6	5.8	8.8
Greater Accra	97.7	94.6	96.2	82.4	75.4	78.2	11.2	9.0	10.1
Volta	86.7	86.4	86.5	84.3	76.3	80.6	14.3	8.1	10.8
Eastern	95.3	95.7	95.5	80.9	78.0	79.4	10.6	6.4	8.3
Ashanti	95.9	95.7	95.8	74.3	81.9	77.8	10.4	6.7	8.3
Brong Ahafo	94.1	93.4	93.7	81.3	78.9	80.0	14.7	7.9	11.0
Northern	73.8	71.3	72.6	67.5	53.2	61.0	12.9	6.1	9.2
Upper East	88.9	90.4	89.7	75.9	79.7	77.8	13.4	8.2	10.6
Upper West	85.2	88.3	86.7	81.2	85.5	83.1	20.3	10.9	15.3
Total	92.0	91.5	91.7	78.9	76.3	77.6	12.2	7.3	9.5

Table A4. Activity (%) by region and sex (age 5-17)

	Total				Males				Females			
	Work Only	Study Only	Work & Study	Neither	Work Only	Study Only	Work & Study	Neither	Work Only	Study Only	Work & Study	Neither
Western	1.4	73.5	22.3	2.9	9.8	46.5	36.7	7.0	80.1	4.8	3.7	11.3
Central	0.6	84.0	11.1	4.4	5.3	64.1	12.8	17.9	74.2	6.6	2.2	17.0
Greater Accra	0.5	90.6	5.6	3.3	5.6	72.1	6.1	16.3	70.0	8.0	2.1	19.9
Volta	5.4	62.5	24.0	8.1	12.7	44.9	35.7	6.8	76.3	5.9	4.9	12.9
Eastern	1.4	64.0	31.5	3.0	14.5	35.3	44.1	6.2	78.0	4.3	4.0	13.7
Ashanti	2.3	70.1	25.6	1.9	13.2	41.0	36.8	9.1	77.6	4.6	3.7	14.1
Brong Ahafo	2.3	57.5	36.3	3.9	12.5	28.3	51.8	7.4	79.9	4.3	6.7	9.1
Northern	10.4	52.4	20.3	17.0	32.0	26.7	34.4	7.0	81.2	3.8	5.4	9.6
Upper East	6.5	47.0	42.7	3.8	19.9	20.9	56.9	2.3	82.0	3.7	6.9	7.4
Upper West	7.7	46.3	40.4	5.6	15.6	21.7	61.5	1.3	76.8	4.7	10.7	7.9
Total	3.2	68.3	23.4	5.1	13.2	43.6	34.0	9.3	76.8	5.4	4.2	13.7

Table A5. Weekly worked hours by region, age group and sex

	5-14			15-17			Adults		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Western	16.4	15.3	15.9	17.2	21.1	19.1	41.8	39.1	40.5
Central	11.9	10.7	11.3	20.1	22.9	21.6	43.2	39.0	40.8
Greater Accra	21.0	19.2	20.0	32.1	37.9	35.6	54.6	52.4	53.5
Volta	23.1	23.4	23.3	29.0	25.3	27.4	42.4	38.8	40.4
Eastern	12.7	12.8	12.7	16.0	19.0	17.4	42.4	40.3	41.3
Ashanti	12.5	13.5	13.0	19.7	20.4	20.0	45.8	40.1	42.7
Brong Ahafo	14.2	15.2	14.7	26.4	21.3	23.9	42.5	36.7	39.5
Northern	22.7	20.7	21.8	29.0	28.3	28.7	44.1	37.2	40.5
Upper East	22.6	22.4	22.5	29.3	25.3	27.3	42.1	39.2	40.5
Upper West	25.1	23.4	24.4	29.2	27.9	28.6	46.1	41.8	43.9
Total	17.1	17.1	17.1	23.6	23.3	23.4	45.4	41.1	43.2

Table A6. Employment and child labour in cocoa production (%)

	Employment (%) over total population				Employment in cocoa production (%) over total population				Child labour (%) over total population			Child labour in cocoa production (%) over total population		
	5-14	15-17	Adults	Total	5-14	15-17	Adults	Total	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17
Western	23.4	45.3	82.1	60.6	13.6	22.5	27.9	23.0	20.7	24.8	21.5	12.4	14.5	12.8
Central	11.6	17.8	76.0	51.5	6.2	7.4	18.1	13.6	9.2	8.4	9.0	4.7	2.7	4.3
Greater Accra	6.1	11.2	71.5	51.0	0.0	0.1	0.1	-	5.2	5.0	5.2	-	-	-
Volta	29.1	47.7	79.5	61.3	0.9	1.6	2.6	2.0	26.1	33.1	27.5	0.8	0.9	0.8
Eastern	32.8	58.2	81.0	64.7	10.3	17.4	13.8	13.0	28.2	38.3	30.3	9.4	14.0	10.3
Ashanti	27.7	49.8	80.6	62.1	9.2	15.2	12.4	11.6	23.2	26.2	23.8	7.6	10.7	8.2
Brong Ahafo	37.8	61.6	84.7	67.7	8.8	13.1	13.7	12.1	33.4	36.1	34.0	8.2	10.8	8.7
Northern	30.4	65.0	85.6	65.7	0.1	0.1	-	-	27.3	23.8	26.7	0.1	-	-
Upper East	49.0	76.0	88.1	75.1	-	0.3	-	0.1	43.5	23.7	39.6	-	0.3	0.1
Upper West	47.7	75.9	86.6	72.9	-	-	-	-	44.1	25.4	40.4	-	-	-
Total	26.3	46.3	80.0	61.1	5.8	9.4	9.5	8.4	23.0	24.1	23.2	5.0	6.6	5.4

Table A7. Employment in cocoa production, absolute numbers

	Employment (abs. values)				Employment in cocoa production (abs. values)				Child labour (abs. values)			Child labour in cocoa production (abs. values)		
	5-14	15-17	Adults	Total	5-14	15-17	Adults	Total	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17
Western	157,483	80,349	1,059,524	1,297,356	91,550	39,894	360,147	491,591	139,391	44,052	183,442	83,467	25,766	109,233
Central	73,610	29,001	957,554	1,060,165	39,495	11,957	228,166	279,618	58,281	13,658	71,939	29,642	4,317	33,959
Greater Accra	59,039	27,715	1,871,686	1,958,441	-	132	1,513	1,645	50,749	12,417	63,166	-	-	-
Volta	180,757	73,444	965,819	1,220,020	5,279	2,393	32,108	39,780	161,834	50,992	212,826	5,123	1,406	6,529
Eastern	240,554	110,721	1,229,898	1,581,173	75,308	33,024	209,835	318,167	207,235	72,914	280,149	68,788	26,635	95,423
Ashanti	387,309	170,790	2,289,875	2,847,974	128,425	52,202	351,006	531,634	324,543	89,993	414,536	106,465	36,663	143,128
Brong Ahafo	281,120	121,047	1,164,189	1,566,356	65,587	25,651	188,734	279,972	248,286	70,939	319,224	60,871	21,158	82,028
Northern	224,581	104,443	1,122,120	1,451,144	395	197	395	987	201,621	38,275	239,897	395	-	395
Upper East	143,439	54,586	513,795	711,819	-	243	243	486	127,446	17,043	144,489	-	243	243
Upper West	106,181	41,492	343,539	491,212	-	-	-	-	98,239	13,871	112,110	-	-	-
Total	1,854,072	813,587	11,518,000	14,185,660	406,040	165,693	1,372,148	1,943,881	1,617,623	424,155	2,041,778	354,751	116,188	470,939

Indicators regarding cocoa production focusing on five principal cocoa producing regions:
Western, Central, Eastern, Ashanti and Brong Ahafo

Table A8. Employment and child labour by regional specialization in cocoa production, cocoa regions (i.e., Western, Central, Eastern, Ashanti and Brong Ahafo)

	Employment (%)			Child labour (%)			Employment in Cocoa production (%)			Child labour in Cocoa production (%)		
	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17
Male	28.0	50.4	32.4	24.1	31.7	25.6	11.1	16.7	12.2	9.8	12.1	10.3
Female	26.5	45.4	30.4	22.6	23.0	22.7	8.0	13.8	9.2	6.8	9.3	7.3
Urban	19.2	33.9	22.3	16.4	19.1	16.9	4.2	6.7	4.7	4.0	5.6	4.3
Rural	34.0	60.9	39.2	29.2	34.8	30.3	14.1	23.1	15.9	12.0	15.5	12.7
Total	27.2	47.8	31.4	23.4	27.3	24.1	9.6	15.2	10.7	8.3	10.7	8.8

Table A9. Employment and child labour by regional specialization in cocoa production, cocoa regions (i.e., Western, Central, Eastern, Ashanti and Brong Ahafo)

	Employment (%)			Child labour (%)			Employment in cocoa production (%)			Child labour in cocoa production (%)		
	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17
Male	593,292	266,110	859,402	510,583	167,123	677,706	234,718	88,027	322,745	208,433	63,975	272,408
Female	546,783	245,797	792,581	467,152	124,433	591,585	165,648	74,701	240,349	140,800	50,564	191,364
Urban	366,020	174,771	540,790	312,185	98,656	410,841	79,183	34,733	113,916	76,226	28,898	105,124
Rural	774,056	337,137	1,111,193	665,550	192,900	858,450	321,183	127,995	449,178	273,007	85,642	358,649
Total	1,140,076	511,908	1,651,983	977,734	291,556	1,269,291	400,366	162,728	563,094	349,233	114,539	463,772

Table A10. Employment and child labour by regional specialization in cocoa production, non-cocoa regions

	Employment (%)			Child labour (%)			Employment in cocoa production (%)			Child labour in cocoa production (%)		
	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17
Male	25.1	50.0	29.7	22.5	23.2	22.6	0.2	0.5	0.2	0.2	0.4	0.2
Female	25.0	38.2	27.7	22.4	15.7	21.0	0.2	0.4	0.3	0.2	0.1	0.2
Urban	9.7	19.1	11.6	7.9	7.0	7.7	-	-	-	-	-	-
Rural	39.7	71.4	45.5	36.4	33.0	35.8	0.4	0.9	0.5	0.4	0.5	0.4
Total	25.1	43.9	28.7	22.5	19.3	21.8	0.2	0.4	0.2	0.2	0.2	0.2

Table A11. Employment and child labour by regional specialization in cocoa production, non-cocoa regions

	Employment (%)			Child labour (%)			Employment in Cocoa production (%)			Child labour in Cocoa production (%)		
	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17	5-14	15-17	Total 5-17
Male	364,738	163,966	528,704	327,279	76,017	403,297	2,658	1,665	4,323	2,658	1,335	3,994
Female	349,259	137,714	486,972	312,609	56,581	369,191	3,016	1,301	4,316	2,860	314	3,173
Urban	135,178	69,101	204,278	109,562	25,308	134,869	278	-	278	278	-	278
Rural	578,819	232,579	811,398	530,327	107,291	637,618	5,396	2,965	8,362	5,241	1,649	6,889
Total	713,997	301,679	1,015,676	639,889	132,599	772,487	5,674	2,965	8,639	5,518	1,649	7,167

Table A12. School attendance in cocoa-specialized regions

	%			No.		
	5-14	5-17	Total	5-14	5-17	Total
Male	95.2	79.5	92.1	2,004,835	412,952	2,417,787
Female	95.3	79.0	91.9	1,941,217	420,897	2,362,114
Urban	96.2	81.7	93.1	1,819,494	415,292	2,234,786
Rural	94.5	76.9	91.0	2,126,559	418,557	2,545,115
Total	95.3	79.2	92.0	3,946,052	833,849	4,779,901

Table A13. School attendance in non-cocoa regions

	%			No.		
	5-14	5-17	Total	5-14	5-17	Total
Male	87.2	78.1	85.5	1,257,617	253,627	1,511,244
Female	85.9	72.2	83.2	1,188,352	250,077	1,438,428
Urban	95.4	78.7	92.0	1,318,597	277,704	1,596,302
Rural	78.1	71.0	76.8	1,127,372	225,999	1,353,371
Total	86.6	75.1	84.4	2,445,969	503,703	2,949,672

Table A14. Work and study in cocoa-specialized regions (i.e., Western, Central, Eastern, Ashanti and Brong Ahafo)

	5-14						15-17					
	Work Only		Study Only	Work & Study		Neither	Work Only		Study Only	Work & Study		Neither
	Cocoa	Other		Cocoa	Other		Cocoa	Other		Cocoa	Other	
Male	0.8	1.2	69.0	10.4	15.9	2.8	11.3	7.8	39.5	13.5	26.5	9.3
Female	0.2	1.4	70.0	7.9	17.3	3.2	11.8	9.5	44.7	11.7	22.7	9.2
Urban	0.5	1.1	78.4	3.7	14.1	2.2	8.3	7.2	55.6	5.7	20.4	10.0
Rural	0.5	1.4	62.0	13.8	18.7	3.6	14.6	10.0	29.5	18.9	28.4	8.5
Total	0.5	1.3	69.5	9.2	16.6	3.0	11.5	8.6	42.1	12.6	24.5	9.3

Table A15. Work and study in non-cocoa regions

	5-14				15-17			
	Work Only	Study Only	Work & Study	Neither	Work Only	Study Only	Work & Study	Neither
Male	5.5	67.4	19.7	7.3	16.0	43.7	34.5	5.9
Female	5.1	65.8	20.2	9.0	15.4	47.8	24.4	12.4
Urban	0.9	86.6	8.8	3.6	7.2	66.3	12.4	14.1
Rural	9.5	47.5	30.6	12.4	25.2	23.1	47.9	3.8
Total	5.3	66.6	20.0	8.1	15.7	45.8	29.2	9.3

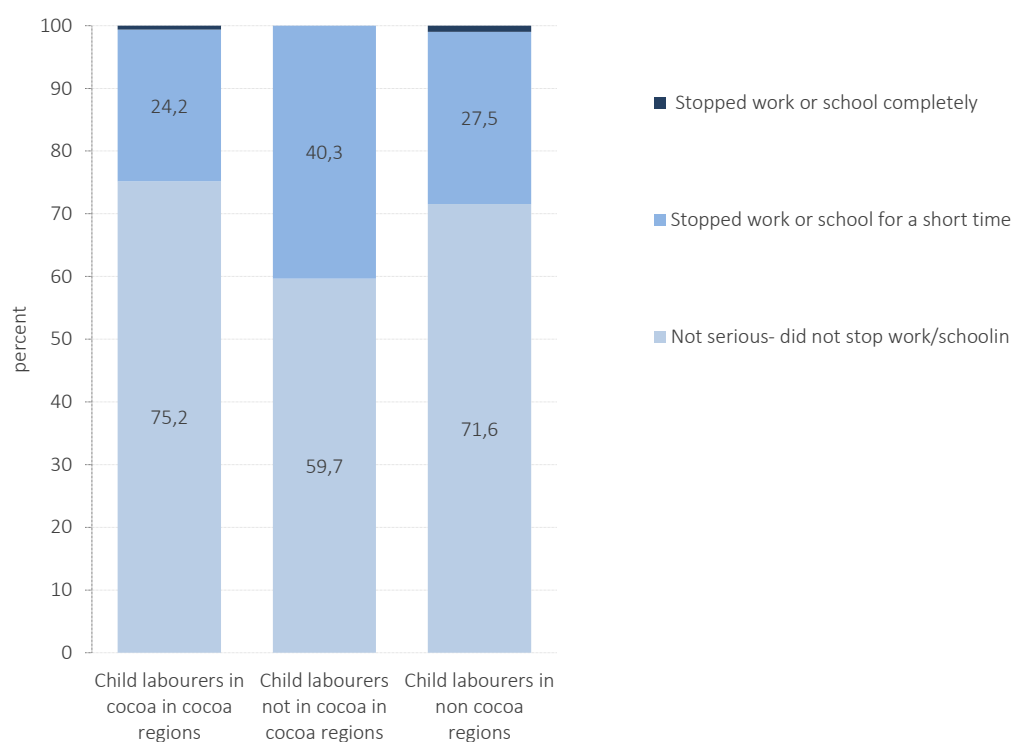
Table A16. Weekly worked hours by region, age group in cocoa-specialized regions (i.e., Western, Central, Eastern, Ashanti and Brong Ahafo)

	5-14			15-17		
	Not in cocoa production	In Cocoa production	Total	Not in cocoa production	In Cocoa production	Total
Male	14.8	11.2	13.4	20.9	15.7	19.2
Female	15.2	11.1	13.9	23.2	13.4	20.3
Urban	15.0	9.5	13.8	23.2	12.5	21.1
Rural	15.0	11.6	13.6	21.3	15.2	19.0
Total	15.0	11.2	13.6	22.1	14.6	19.7

Table A17. Weekly worked hours by region, age group in non-cocoa regions

	5-14	15-17
Male	22.9	29.2
Female	21.9	27.8
Urban	18.9	29.4
Rural	23.2	28.3
Total	22.4	28.6

Figure A1. Severity of injury, by type of child labour



Statistics by region and sector

Table A18. Agriculture and other sectors, employment and child labour, cocoa regions (i.e., Western, Central, Eastern, Ashanti and Brong Ahafo)

Age range	Employment					Child labour				
	Not in employment	Employment in agriculture		Employment in other sectors	Total	Not in child labour	Child labour in agriculture		Child labour in other sectors	Total
		Total agriculture	(Cocoa)				Total agriculture	(Cocoa)		
5-14	72.8	21.1	(9.6)	6.2	100	76.7	18.3	(8.3)	5.0	100
15-17	52.2	32.9	(15.2)	15.0	100	72.8	21.2	(10.7)	6.1	100
Total 5-17	68.6	23.5	(10.7)	8.0	100	75.9	18.9	(8.8)	5.2	100

Table A19. Agriculture and other sectors, employment and child labour, non-cocoa regions

Age range	Employment					Child labour				
	Not in employment	Employment in agriculture		Employment in other sectors	Total	Not in child labour	Child labour in agriculture		Child labour in other sectors	Total
		Total agriculture	(Cocoa)				Total agriculture	(Cocoa)		
5-14	75.0	20.3	(0.2)	4.8	100	77.6	18.5	(0.2)	4.0	100
15-17	56.2	32.9	(0.4)	10.9	100	80.7	15.0	(0.2)	4.3	100
Total 5-17	71.3	22.7	(0.2)	6.0	100	78.2	17.8	(0.2)	4.1	100

Table A20. Agriculture and other sectors, employment and child labour, cocoa regions (i.e., Western, Central, Eastern, Ashanti and Brong Ahafo)

Age range		Employed not in agriculture	Agriculture Paid	Agriculture Self	Agriculture Family contributing	Agriculture Not specified	Total
5-14	Children working in cocoa production	0.0	1.0	0.4	94.8	3.8	100
	Other working children	34.9	1.4	0.8	59.6	3.3	100
	All working children	22.7	1.3	0.7	71.9	3.5	100
15-17	Children working in cocoa production	0.0	0.8	0.8	93.7	4.7	100
	Other working children	45.9	1.5	2.8	46.6	3.2	100
	All working children	31.3	1.2	2.2	61.6	3.7	100

Table A21. Agriculture and other sectors, employment and child labour, non-cocoa regions

Age range		Employed not in agriculture	Agriculture Paid	Agriculture Self	Agriculture Family contributing	Agriculture Not specified	Total
5-14	All working children	19.2	1.1	1.5	71.5	6.7	100
15-17	All working children	25.1	1.0	3.8	63.4	6.6	100

Table A22. Weekly worked hours by region, age group in cocoa-specialized regions (i.e., Western, Central, Eastern, Ashanti and Brong Ahafo)

Age range	Agriculture - cocoa	Agriculture - other	Agriculture - total	Other sectors	Total
5-14	11.2	13.7	12.6	17.4	13.6
15-17	14.6	17.7	16.3	27.1	19.7

Table A23. Weekly worked hours by region, age group in non-cocoa regions

Age range	Agriculture - total	Other sectors	Total
5-14	22.9	20.4	22.4
15-17	27.8	31.0	28.6