



# How survey design shapes child labour estimates

A summary report of an original research paper: Lefoll, E., E. Asiedu and I. Günther, 2025, The Impact of Survey Design on Child Labour Estimates: Evidence from Rural Ghana. ETH Research Collection, 2025.

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## Background

Child labour remains a major concern in cocoa production in West Africa, where a significant proportion of children are engaged in hazardous agricultural work.

Efforts to tackle child labour in cocoa-growing communities in West Africa often rely on data about children's involvement in work activities. In this context, accurate measurement of child labour is essential for designing effective interventions and targeting them to areas where prevalence is highest. However, child labour estimates can vary widely across studies covering the same populations. This is often due to differences in survey design, which influence how child labour is identified.

In agricultural contexts, child labour prevalence estimates are typically obtained through household surveys. These surveys ask caregivers, and often children themselves, about children's engagement in work activities. Because they involve caregivers and children, most surveys are conducted in a household setting. Most of these surveys follow a two-step approach. The first step involves asking respondents whether the child has done any work. These questions are commonly referred to as "screening questions". If the child or caregiver report that the child has done work, the enumerator then asks a set of more detailed questions about the nature and duration of the child's work activities (step two). This second set of questions is used to determine whether the activities conducted by the child can be classified as permitted light work, child labour, or hazardous child labour.<sup>1</sup>

The way surveys are designed and administered can considerably influence how respondents interpret the questions and report children's work activities, thereby affecting the survey results. When designing a survey, researchers may consider several key aspects, including:

- **Where to conduct interviews** – Researchers need to decide on the interview setting. The location may influence respondents' comfort, privacy, and willingness to report children's work activities accurately.
- **Who to ask questions to** – Researchers must decide whether to ask caregivers, children, or both. Different respondents may report children's activities differently, for example, because they may not remember, may not be aware of the child's activities, or due to social desirability bias.
- **Whether to use screening questions and how** – Researchers need to decide whether to follow a two-step structure, in which screening questions determine whether respondents proceed to more detailed questions about hazardous work, or they may ask all questions regardless of the answers to the initial questions. In addition, researchers must decide how to formulate these questions, using broader or more specific definitions of work.
- **How to present work activities** – Researchers need to decide how to describe children's work activities, for example, through verbal explanations alone or supported by visual illustrations.

To better understand how different survey design choices influence results, ICI, together with ETH Zurich and the University of Ghana, tested and compared different approaches to collecting information about children's work activities. This assessment was conducted as part of a study on child labour in cocoa-growing communities in Ghana, which aimed to assess the impact of providing school kits on children's involvement in child labour.<sup>2</sup>

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<sup>1</sup> For an overview of internationally agreed concepts and definitions, see [Child Labour Statistics \(CHILD database\) database description - ILOSTAT](#); and [Resolution to amend the 18th ICLS Resolution concerning statistics of child labour. Technical report, 20th International Conference of Labour Statisticians, ICLS/20/2018/Resolution IV.](#)

<sup>2</sup> [How effective are school kits at addressing child labour? | ICI Cocoa Initiative](#)

The results from this study are relevant for surveys used to measure rates of child labour, such as child labour prevalence studies within a given population, or impact assessments of interventions addressing child labour. The findings highlight how differences in survey design can influence results and should therefore be carefully considered when designing these surveys and when interpreting and comparing data over time. While the study focuses on child labour data collection in the context of prevalence surveys and impact assessments, some of the insights and practical recommendations may also be relevant for child labour monitoring in the context of a [Child Labour Monitoring and Remediation Systems](#) (CLMRS). See the [Practical implications](#) section for further considerations in CLMRS contexts.

This paper presents the research questions and methods used, and summarizes the results from the original research paper: Lefoll, E., E. Asiedu and I. Günther, 2025, [The Impact of Survey Design on Child Labour Estimates: Evidence from Rural Ghana](#). ETH Research Collection, 2025.

### What does existing research say on child labour measurement?

Previous research has explored how some survey design choices influence the reporting of children's work activities, although evidence remains limited for several aspects.

#### Interview setting

To the best of the researchers' knowledge, no previous studies have examined the effects of different survey settings on child labour estimates.

#### Choice of respondent

A substantial body of research has examined whether questions about children's work engagement should be asked directly to children or to an adult proxy, such as a parent or guardian.<sup>3</sup> While children have direct knowledge of their activities, their cognitive development can lead to inaccurate reporting, particularly in younger children (Borgers et al., 2000; Bound et al., 2001). Caregivers, on the other hand, may withhold or misreport information due to social sensitivity bias (Jouvin, 2021; Lépine et al., 2023). Several studies have found that adults consistently underreport child labour compared to children's self-reports, with discrepancies ranging from 17 to 24 percentage points (Dammert & Galdo, 2013; Dillon, 2010; Galdo et al., 2021; Guarcello et al., 2010; Janzen, 2018). This pattern has also been confirmed by a recent study in cocoa-growing communities in Côte d'Ivoire, where adults were found to under-report child labour by a factor of 60% (Lichand & Wolf, 2023).

#### Screening questions

There is limited evidence on how the design of screening questions affects results. Only one randomised survey experiment in Tanzania (Dillon et al., 2012) has explored how the phrasing of screening questions in the context of child labour surveys affects results. It found that when asking children a generic screening question, child labour estimates were significantly lower than when asking a detailed list of work categories.

#### Presentation of work activities

There is currently no robust evidence on how the presentation of work activities, including the use of visual aids or other tools to describe different work tasks to children, affects the accuracy of responses in child labour interviews.

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<sup>3</sup> For an overview, see Dillon, A. & Mensah, E. (2024). Respondent biases in agricultural household surveys. *Journal of Development Economics*, 166, 103-198.

## The experiment at a glance

### Research objectives

To fill some of the gaps in the existing evidence, the study examines the following research questions:

1. **Interview setting:** What are the advantages of conducting child labour interviews at school rather than in their homes?
2. **Screening questions:**
  - i. How do results differ when surveys follow a two-step approach, where screening questions determine whether the survey proceeds to detailed questions, compared with surveys in which all children are asked the full set of questions?
  - ii. When screening questions are used, how do results differ depending on whether they are answered by children or by caregivers?
  - iii. When screening questions are used, how do results differ depending on how broad or narrow the work definition used in these questions is?
3. **Visual aids:** Does the use of visual illustrations improve children's reporting of hazardous activities?

### Study design

The study covered 64 communities in two regions of Ghana, Ashanti and Eastern Region. Data was collected in November 2023. The final sample included in the analysis comprised 1,355 households, with one caregiver interview and one child interview per household.<sup>4</sup> The children in the sample are aged between 10 and 17 years, with 85% of children falling in the 11-13 age group.

Interviews were conducted primarily at school using questionnaires designed to take less than 30 minutes, to minimise respondent fatigue. The survey was designed to reflect the structure of a typical two-step survey. In the first step, a set of screening questions were asked to both children and caregivers to determine whether a child has engaged in work activities. In the second step, more detailed questions on hazardous work were asked only to children. In this study, all children were asked the detailed questions on hazardous work, regardless of their caregivers' or their own responses to the screening questions in step one. This design made it possible to compare what children reported in the full questionnaire with what would have been captured under a two-step approach, where detailed questions are only asked when work is reported in the screening questions.

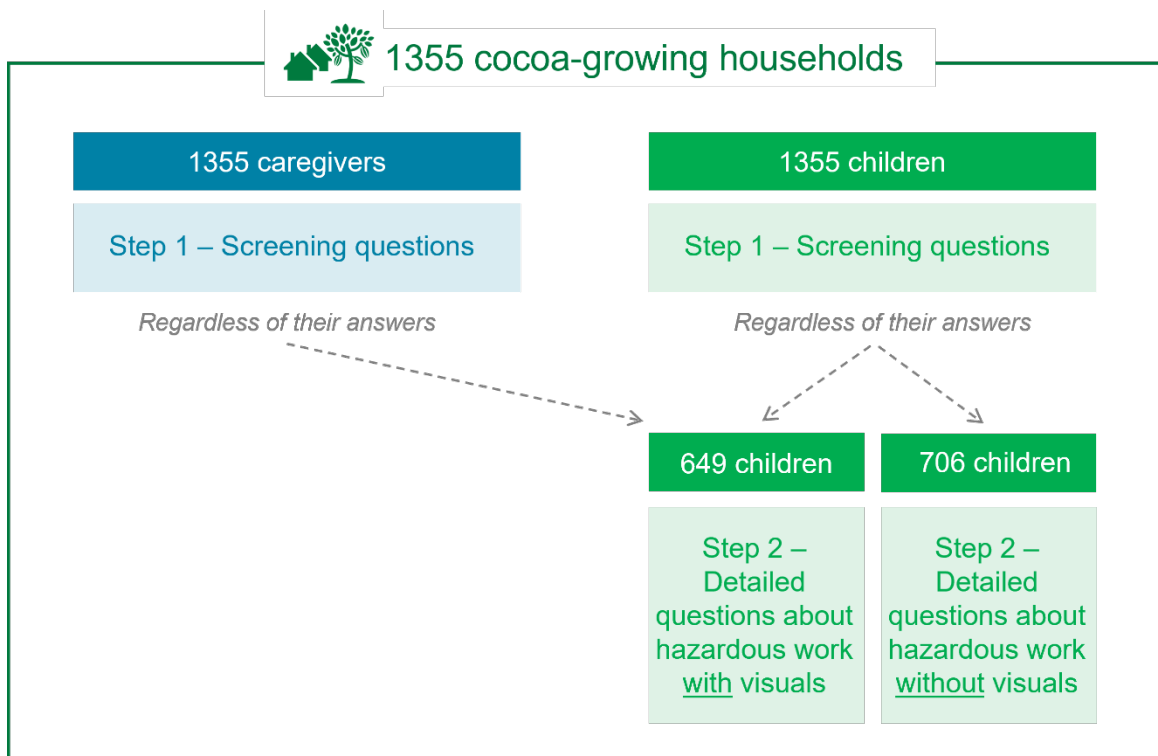
To examine the role of visual aids, for the detailed questions on hazardous work, children were randomly divided into two groups: one group was shown images of hazardous tasks, while the other received verbal descriptions only.

The diagram below illustrates how the survey was structured, and the sections below describe each of these design elements in more detail.

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<sup>4</sup> The data analyzed were collected in the context of an experimental study on the impact of school kits on child labour.

Overview of the study design



**Interview setting**

Interviews with children and caregivers were conducted primarily at school. Children were interviewed alone, without their caregivers. Enumerators chose a suitable location for interviews, within sight of teachers and other students, but away from noise and distractions, in line with safeguarding considerations. Caregiver interviews were conducted first, followed by child interviews during the school day in coordination with teachers to avoid disrupting lessons. When caregivers were unable to attend the school, interviews were conducted at their homes.

After data collection, 25 enumerators provided feedback on their experience through a short qualitative survey. Their observations of respondents’ behaviour during interviews were used to assess the advantages and limitations of conducting interviews in school settings. The cases where interviews were conducted at families’ homes, although limited, also provided useful points of comparison for this qualitative assessment.

**Screening questions**

The screening questions about children’s work activities were asked to caregivers and children in all the households covered by the study. The questions covered different types of work and were structured from broader to more specific activities. For example, respondents were first asked whether the child had engaged in any work activities during the past seven days, before being asked more specific questions such as whether the child had worked on the family farm, in cocoa-related activities, household chores, etc. All children were then asked the full set of detailed questions about hazardous work activities, regardless of their own or their caregivers’ responses to the screening questions.

Because all children answered the detailed questions about hazardous work activities, it was possible to compare these responses with the answers given in the screening questions by both caregivers and children. This allowed us to assess how different respondents report children’s work activities, and how child labour

prevalence rates would differ under a two-step approach in which screening questions determine whether detailed questions are asked.

The survey design also made it possible to compare responses across the different screening questions, ranging from broader definitions of work to more specific ones. This helped explore how the wording and scope of screening questions influence the identification of children involved in hazardous work.

### Survey questions

Step 1: Caregivers and children were asked the following **screening questions**:

- In the last 7 days, did your child (you) do any of the following activities, even for only one hour?
  - Any work or help on the family's own farm (e.g. cocoa plot, food garden, looked after animals, etc.)?
  - Any work or help on someone else's farm (e.g. cocoa plot, food garden, looked after animals, etc.)?
  - Any work or help in a family non-farm business?
  - Any work or help in someone else's non-farm business?
  - Any work or help with household chores/household tasks (e.g. fetching water, washing clothes or dishes, cleaning around the house, cooking, collecting firewood etc.)?
  - Produce or sell articles, handicrafts, clothes, food or agricultural products?

These questions were followed by a more targeted question:

- In the last 7 days, has your child (have you) worked on cocoa?

Step 2: Children were asked the following **detailed questions** on hazardous tasks:

- In the last 7 days, which of the following activities have you done?
  - Clearing of forest and/or falling of trees
  - Bush burning
  - Application of agro-chemicals
  - Working with motorised farm machinery
  - Harvesting overhead cocoa pods with a harvesting hook
  - Breaking cocoa pods with breaking knives
  - Removing tree stumps
  - Using machetes/long cutlasses for weeding or pruning
  - Climbing trees higher than 2.5 meters to cut mistletoe or harvest or prune with sharp cutlass
  - Carrying heavy loads, i.e. above 30% of body weight for more than 2 miles (3 km)
  - None of the above

### Visual aids

As part of the detailed questions on hazardous tasks (step 2 of the survey), the study tested whether using visual aids would influence how children report on hazardous activities.

To do this, children were randomly assigned to two groups:

- Group A: Children were asked whether they had engaged in any hazardous work tasks by showing them illustrations of these tasks on a tablet.
- Group B: Children were asked the same questions, but using verbal descriptions of the tasks only.

This allowed us to compare whether children reported hazardous work differently depending on whether the tasks were described using images or words.

The visuals and verbal descriptions used in the survey are presented in the [Annex](#).

## Findings

### Children report more openly in school settings

Interviews conducted in schools created conditions that encouraged children to speak openly about their work activities. According to enumerators, children felt more relaxed during school-based interviews, as they were not observed by caregivers or other household members. Instead, interviews conducted at households were more prone to interruptions and influence from caregivers or household members. The school setting allowed to reduce the risk of external influence on their responses and allowed children to provide more candid answers and speak more openly about their work engagement.



I had an experience where I followed a parent to the house to interview the child because he didn't come to school that day. I asked the child a few questions and then asked for the parents' permission to continue the interview at school. Upon reaching the school, I started the interview over again, and this time the responses were completely different from what the child told me at home.

*Enumerator*

The school setting also provided a more structured and focused environment. Enumerators reported that it was easier to find a quiet and appropriate space for interviews in comparison with the household setting, which helped children concentrate more. As a result, interviews conducted at schools were generally shorter and more efficient.

In addition, children also felt motivated to participate in the survey by seeing their peers being interviewed.

Finally, school-based interviews also increased efficiency by eliminating the need to locate children at their homes, especially because the time window outside school hours is limited.



Children tend to be more open in school compared to their homes, as they ought to be careful what information they give out with their parents around. They are mostly tense when at home compared to school. The only time children communicate well with us at home is in the absence of their parents.

*Enumerator*

However, conducting interviews in school can have certain limitations. For instance, it may exclude children who are not attending school, which can introduce a sampling bias depending on the context. This may be less concerning in settings with high school attendance, such as in Ghana, where children combine school with

work. However, it may be less appropriate in contexts with higher numbers of out-of-school children, where capturing information from these children is essential for valid results.

Furthermore, enumerators also noted that children sometimes discussed the interviews with their peers. As a result, children interviewed later may have known the questions in advance and may have had more time to reflect on their answers, which could influence their responses.

### Practical recommendations for implementation

Enumerators highlighted several conditions that helped ensure smooth data collection in schools:

- ✓ **Inform in advance.** Data collection should be announced well in advance (at least two weeks) to allow schools, caregivers, and children to prepare.
- ✓ **Communicate the objectives.** The purpose of the study should be clearly explained to headteachers and teachers to ensure their collaboration.
- ✓ **Involve headteachers in identifying suitable interview locations** within the school where interviews can be conducted, ensuring privacy while remaining within teachers' sight.
- ✓ **Engage teachers** in encouraging children to take the interviews seriously and give honest responses.

Furthermore, conducting interviews in a school setting requires additional coordination and preparation than interviews in household settings. For instance, permission has to be obtained from education authorities at the national and regional level.

### Using screening questions risks overlooking cases of hazardous child labour

The results show that **when surveys followed a two-step approach**, where detailed questions about hazardous work were only asked if respondents reported child work in the screening questions, child labour estimates were lower. Instead, when enumerators asked all children about hazardous tasks, regardless of answers to the screening questions, child labour estimates were higher. This suggests that screening questions may result in missing some children involved in hazardous work, underestimating prevalence.

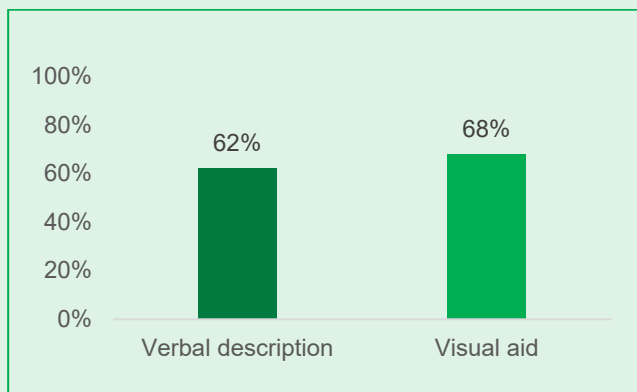
In addition, **who responded to the screening questions** also influenced the results. When caregivers answered the screening questions, more children involved in hazardous work were not identified, resulting in lower child labour estimates compared to when children answered the screening questions themselves.

This difference ranged from 6 to 8.5 percentage points and was even larger for boys, with caregivers about 11 percentage points less likely to report work than boys' self-reports. These findings confirm earlier evidence and suggest that relying on caregiver reports may underestimate children's work activities, likely due to social desirability bias.

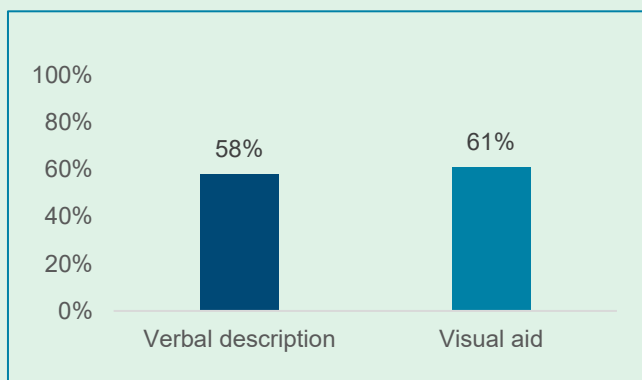
Finally, **the way screening questions were formulated** influenced the results. When a narrow definition of work was used, for instance, focusing only on cocoa work, child labour estimates were lower. By contrast, broader definitions that included farm and non-farm work identified more children in child labour. This suggests that narrow definitions of work were more likely to fail in capturing children involved in hazardous work than broader definitions of work. This pattern was observed both when screening questions were asked to children and when they were asked to caregivers.

## Child labour prevalence for different survey design options

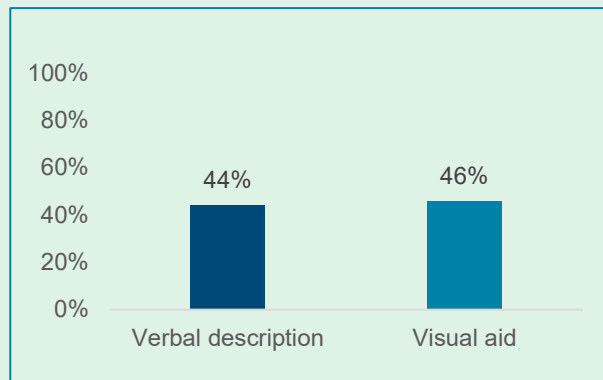
A. When all children are asked **detailed questions**, regardless of responses to screening questions



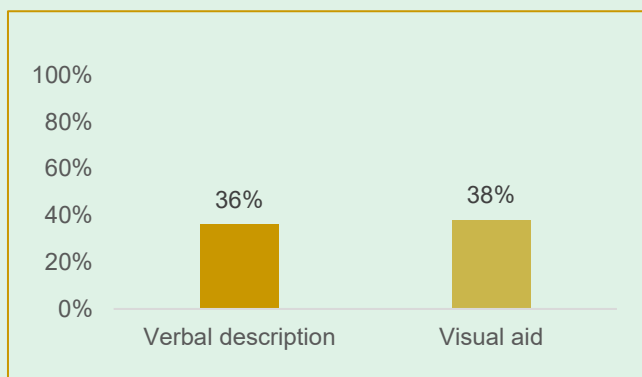
B. When detailed questions are asked to **children** who reported work during **broad screening questions** (cocoa, farm and non-farm work)



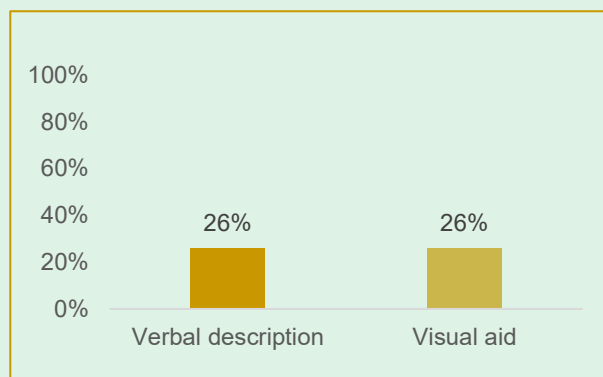
C. When detailed questions are asked to children whose **caregivers** reported child work during **broad screening questions** (cocoa, farm and non-farm work)



D. When detailed questions are asked to **children** who reported work during **specific screening questions** (cocoa work only)



E. When detailed questions are asked to children whose **caregivers** reported child work during **specific screening questions** (cocoa work only)



### Visual aids help children recognise hazardous tasks

The results show that when surveys followed a two-step approach, where detailed questions about hazardous work are only asked if respondents report child work in the initial screening questions, visual aids had only a limited and non-statistical impact on the results compared to verbal descriptions (see graphs B, C, D, and E above).

By contrast, when children were asked about hazardous tasks regardless of their own or their caregivers' responses to the screening questions, visual aids led to higher child labour estimates (see graph A above). Children who were shown illustrations were 6 percentage points more likely to be classified in child labour compared to those without visuals. Visuals also increased the number of hazardous activities reported, suggesting they help children recall and recognise tasks more accurately. This effect was stronger for boys than girls, possibly because boys perform more physically demanding tasks that are easier to illustrate.

According to the field team, visual aids also helped maintain children's interest throughout the survey. By contrast, when using verbal explanations only, going through the list of hazardous activities would become tedious, leading to fatigue and reduced concentration. This was much less the case when children were shown pictures.

However, using visual aids also presents some challenges. By nature, images tend to be more specific than words, for example, in terms of the task shown, the work environment, or the characteristics of the child, such as the gender. This can lead to misinterpretation. For instance, a picture showing a child carrying cocoa pods may be understood as referring specifically to cocoa-related work, whereas the question might be intended to capture the carrying of any heavy load. Similarly, an image of a child weeding with a machete may be interpreted narrowly, rather than as the use of any sharp tool.

The field team therefore recommended that enumerators should spell out the question alongside showing the picture, to avoid any misinterpretation or ambiguity. In addition, as a general good practice, illustrations should be designed to be as generic as possible, avoiding unnecessary detail on the work environment or the characteristics of the child depicted. Where possible, images should also represent both boys and girls performing each task.

From a very practical perspective, the field team also recommended that enumerators should not rely solely on digital versions of the illustrations included in the data collection application but should also carry printed copies to avoid disruptions due to power or connectivity issues.

## Key takeaways and practical implications

Overall, the study shows that different survey design choices can lead to very different child labour prevalence estimates. The differences become particularly clear when comparing approaches that rely on screening questions (two-step approaches) with those that ask all children about hazardous work.

For instance, when detailed questions on hazardous work are only asked if children or their caregivers report work in the screening questions, the estimated child labour prevalence was 26% when using verbal descriptions. By contrast, when all children are asked about hazardous work regardless of their own or their caregivers' responses to the screening questions, the estimate rises to 68% when using visual aids.

In addition, even within a two-step approach, the way screening questions are formulated also affects the results: using a narrow definition of work leads to lower estimates than using broader definitions that include different types of work activities.

Together, these findings show that relatively small changes in how questions are asked and structured within the same survey can lead to very different estimates. This helps explain why child labour prevalence can vary across studies, highlighting the need to consider survey design when interpreting and comparing results across studies and countries.

Furthermore, the study also shows that conducting surveys in schools rather than in households can offer several advantages. Children tend to be more relaxed and focused during interviews, and their responses are less likely to be influenced by caregivers or other household members. In addition, data collection can be organised more efficiently, and interviews tend to be shorter, leading to potential cost savings. When the context allows, and school authorities are willing to collaborate, school-based data collection can therefore provide a promising alternative to household-based interviews.

The findings from this study have practical implications for both surveys aimed at measuring child labour (e.g. prevalence surveys and impact assessments) and data collection within CLMRS. While some recommendations apply to both contexts, others are specific to one or the other.

### Recommendations for prevalence surveys and impact assessments

The following recommendations can be drawn from this study:

- ✓ **Ask children directly**, instead of adults, while ensuring appropriate safeguarding measures. Children tend to report higher and likely more accurate levels of work than caregivers.
- ✓ **Avoid the two-step approach** with screening questions. Filtering detailed hazardous task questions based on screening questions can lead to an underestimation of hazardous child labour.
- ✓ **Use visual aids.** Visuals can improve recall and understanding, especially when all children are asked detailed questions. Good practices when using visual aids include:
  - ✓ **Combine visuals with clear explanations.** Enumerators should explain the task alongside the visual aids to avoid misinterpretation.
  - ✓ **Avoid specific images.** Illustrations should be as generic as possible, avoiding specific details (e.g. crop type or setting) that may limit how children interpret the question.
  - ✓ **Ensure inclusive representation.** Where possible, images should depict both boys and girls performing the tasks

- ✓ **Print out the illustrations.** Enumerators should not rely solely on digital devices and should have printed versions available in case of technical issues
- ✓ **Consider the survey setting.** Where school attendance is high, conducting interviews in schools can improve data quality and efficiency.




When surveys are used to monitor trends or assess programme outcomes, maintaining consistency is essential.

- ✓ **Keep survey design consistent over time.** Ensure that baseline, midline, and endline surveys use the same design. Even small changes in respondents, settings, or question structure can affect results.
- ✓ **Account for seasonality.** Where possible, conduct surveys at the same time of year to ensure results are comparable, especially in agricultural contexts where children's work varies by season.

### Considerations for CLMRS data collection

- ✓ **Ask children directly,** in line with the minimum standards outlined in CLMRS Core Criteria. Children tend to report higher and likely more accurate levels of work than caregivers. Interviews should be conducted safely and appropriately, ensuring children's protection and respecting safeguarding principles.
- ✓ **Avoid using screening questions for child labour identification.** Screening questions can lead to some children involved in hazardous work not being identified. While they can be useful to streamline data collection and avoid overloading respondents, they should only be used after identification to guide follow-up questions.
- ✓ **Use visual aids.** Visuals can improve recall and understanding, especially when all children are asked detailed questions. Good practices when using visual aids include:
  - ✓ **Combine visuals with clear explanations.** Enumerators should explain the task alongside the visual aids to avoid misinterpretation.
  - ✓ **Avoid specific images.** Illustrations should be as generic as possible, avoiding specific details (e.g. crop type or setting) that may limit how children interpret the question.
  - ✓ **Ensure inclusive representation.** Where possible, images should depict both boys and girls performing the tasks
  - ✓ **Print out the illustrations.** Enumerators should not rely solely on digital devices and should have printed versions available in case of technical issues
- ✓ **Ensure appropriate interview conditions.** While CLMRS interviews take place at the household level and cannot take place at the school setting, particular attention can be paid to conducting interviews in a way that allows children to speak freely, for example, by ensuring that caregivers or other household members cannot overhear the interview.

## Annex

Visuals	Verbal descriptions
	<p>Harvesting overhead cocoa pods with a harvesting hook</p>
	<p>Breaking cocoa pods with breaking knives</p>
	<p>Removing tree stumps</p>



Using machetes/long cutlass for weeding or pruning



Climbing trees higher than 2.5 meters to cut mistletoe or harvest or prune with sharp cutlass



Carrying heavy load, i.e. above 30% of body weight for more than 2 miles (3 km)



Heaping of crops (e.g., cocoa, rubber, etc.)



Plucking crops within hand-reach (e.g., cocoa pods)



Scooping of cocoa beans from pods



Breaking cocoa pods with breaking mallet or hitting on the ground



Picking cocoa pods under cocoa trees in the company of an adult



Drying of cocoa beans