RESEARCH REPORT

How effective are school kits at addressing child labour?

A summary report of an original research paper: “Lefoll, Erwin, Isabel Günther and Edward Asiedu, 2025, Evaluating the Effect of School Kits on Child Labour: Experimental Evidence from Ghana’s Cocoa Communities. ETH Research Collection”

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Contents

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Background

Context

Child labour is a persistent challenge in cocoa-growing communities in Ghana, where a significant proportion of children are engaged in hazardous agricultural work. Although school enrolment is nearly universal, a significant number of children combine school with work, and often miss classes to work on farms.

In cocoa-growing areas, school kits are commonly provided to children as part of efforts to prevent and address child labour. In the 2023-4 cocoa season alone, over 61,000 children received school kits through Child Labour Monitoring and Remediation Systems (CLMRS) – child-centred support systems designed to identify children in or at risk of child labour and provide support to improve their situation. A standard school kit contains a school uniform, shoes, a bag, and learning materials. These kits are intended to support children's schooling, reduce financial pressure on households, and ultimately address child labour. However, until now, there has been no evidence demonstrating whether school kits are an effective measure for reducing child labour in cocoa communities in West Africa.

Objectives

To address this gap, researchers from ETH Zürich, ETH NADEL, and the University of Ghana, in collaboration with ICI, conducted an experimental study to measure the effects of distributing school kits to primary school children in Ghana's cocoa-growing communities. The study aimed to assess **whether providing a school kit to a primary school child could increase schooling engagement, reduce child labour and lead to other positive outcomes for the child and their family.**

Importantly, the study assessed the effects of school kits as a **stand-alone intervention**. This differs from the reality on the ground, where CLMRS or other programmes aimed at tackling child labour generally provide a combination of different types of support. Intervention bundles within CLMRS or other approaches usually include awareness-raising for households and communities on the risks related to child labour and the importance of education, livelihood support for households, and community-level initiatives, such as adult labour groups, savings groups, and renovation of key infrastructure, such as boreholes or schools. Nonetheless, practitioners responsible for allocating budgets across CLMRS components or broader child-labour programmes require evidence on the effectiveness of individual support options. This study offers valuable insights to inform those decisions.

This paper summarises the study methods and key findings. The full Working Paper, including detailed data, methodology, and additional results, is available on the ETH Zürich web portal.

Existing evidence on in-kind educational support

Previous research shows that in-kind support for education, such as school kits, might influence educational outcomes, although their effects on child labour are often more limited.

Most studies to date have focused on the impact of individual school items, such as uniforms or textbooks, on educational outcomes. For instance, providing school uniforms has been shown to increase school attendance and reduce dropout rates (e.g., Duflo et al., 2015; Evans & Ngatia, 2021). For textbooks and other school supplies, on the other hand, the evidence overall suggests that they have little or no impact on school attainments, and when they do help, it's only in certain situations or for specific groups of children (e.g. Glewwe et al., 2009; Falisse et al., 2019). However, *none of these studies has examined the impact on child labour and none of these studies has analysed the provision of a comprehensive school kit of more than one item.*

Other types of interventions that reduce the cost of schooling, such as scholarships, school feeding programs, as well as conditional cash transfers, tend to improve school participation and can reduce child labour, though the latter effect is often smaller. This is because improved school attendance does not always translate into reduced work, especially in contexts like smallholder farming households, where children combine school and work.

Theory of change for distributing school kits to address child labour

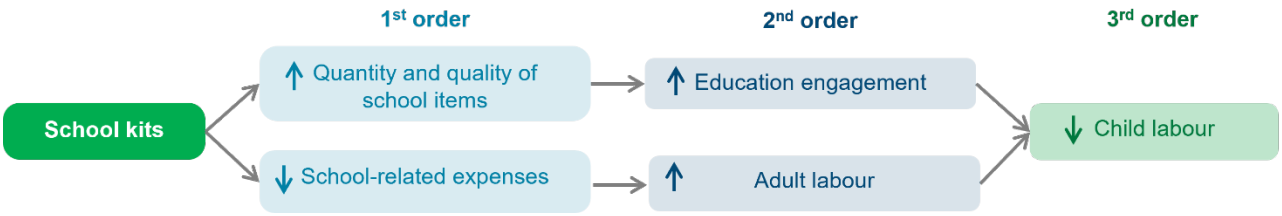
The theory of change for distributing school kits in cocoa-growing communities in Ghana is built on a sequence of expected behavioural responses that link educational support to reductions in child labour.

1. **Expected first-order outcomes** (i.e., immediate, direct effects)
   Providing children with a full set of good-quality school materials removes potential material barriers to children's schooling, reduces the financial burden on households, and increases children's motivation for schooling.

2. **Expected second-order outcomes**
   With the financial relief from not having to purchase school supplies, households may reallocate resources, for instance, by hiring adult labour for cocoa farming. At the same time, when children are better equipped, they may attend school more regularly and may have better learning outcomes.

3. **Third-order outcomes** (i.e., intended long-term impacts)
   As households hire more adult labour and children attend school more consistently, children's involvement in cocoa-related work, especially hazardous tasks, is expected to decline.

Figure 1 Theory of change



The experiment at a glance

To assess whether distributing school kits leads to the expected outcomes, a randomised controlled trial (RCT) was conducted in 64 primary schools across cocoa-growing communities in Ghana. A total of 1,743 children participated in the study.

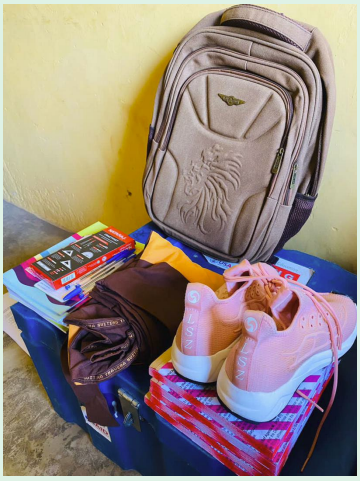
Schools were randomly assigned to either a treatment group (32 schools) or a control group (32 schools). Children in treatment schools received school kits during the first term of the 2023 school year, while those in control schools received the kits only after the endline data collection. This "phased" treatment design was adopted for ethical reasons, ensuring that all participating children ultimately benefited from the intervention.[1]

The study targeted children in grade 4 or 5, approximately 12 years old.[2] This stage marks the end of the primary school cycle, when the risk for children to drop out of school before transitioning to secondary school is particularly high. School kits were given to all children in the selected classes, independent of whether their families engaged in cocoa farming.

Content and value of a school kit

The school kits provided as part of this experiment represented the standard school kits distributed by ICI partners as remediation support in the context of CLMRS in Ghana. Each kit included: a school uniform (tailored to each child's measurements), a pair of shoes, a school bag, 10 exercise books, five notebooks, 10 pens, and a maths set.

The value of each school kit was approximately GHS 600 (around USD 50). This represents 9% of a household's annual cocoa sales on average (based on the 2021-2022 season, as per baseline data collected for this study). Considering that hired adult workers in cocoa are typically paid around GHS 40 per day (as per the baseline data), the value of the school kit is equivalent to 15 full days of adult labour.



[1] The study was registered with the American Economic Association's registry for randomised control trials (AEA RCT Registry). Ethical clearance was obtained from both the Ethics Commission at ETH Zurich and the Ethics Committee for the Humanities at the University of Ghana.

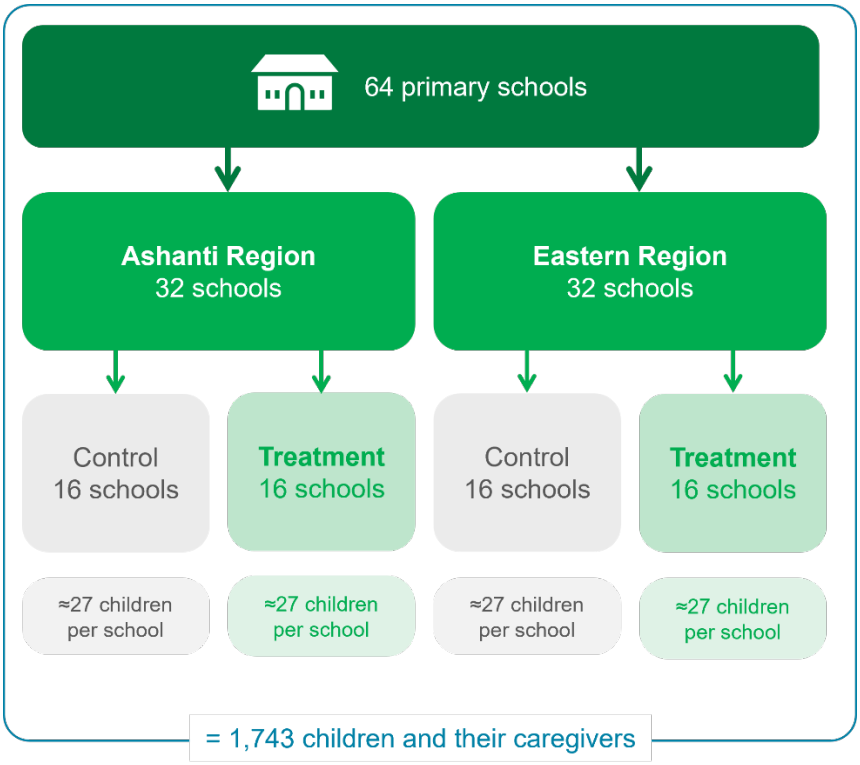
[2] In cases where a school's grade 5 enrolment was 20 or more students, only these were interviewed. However, if grade 5 enrolment was less than 20, all grade 4 students were added to the sample. This approach resulted in an average of 27 students per school.

The **64 primary schools** were located in six districts, four in the Eastern Region (Abwakwa South, Ayensuano, Suhum, and West Akim) and two in the Ashanti Region (Asante Akim Central and Asante Akim South). [3] The schools were selected in collaboration with the Ghana Education Service and ICI, ensuring that no CLMRS was in place in the study areas, and that no similar interventions had been implemented previously, to the best of the knowledge of ICI and its partners.

A total of **1,743 children and their caregivers** were interviewed at baseline (November–December 2022), with a follow-up (endline) conducted in November 2023. Attrition was low, with 90% of the original sample successfully tracked at endline.

This rigorous design allowed the researchers to identify the causal impact of the school kit intervention on child labour and other outcomes.

Figure 2 Research design



[3] To ensure balanced representation of both regions, randomization was stratified by region, meaning within each region half of the sampled schools were randomly assigned to treatment.

Study methodology

Structured interviews were held with **children and caregivers** at baseline (November–December 2022) and endline (November 2023). The child surveys collected detailed information on:

- Children's school attendance, academic performance, and learning outcomes.
- Whether the child worked in cocoa, other farm or non-farm economic activities (not including household chores) in the last 7 days and in the last 6 months; and whether the child executed any hazardous work activities or worked under hazardous conditions, as defined by Ghana's Hazardous Activity Framework (HAF) in crop agriculture

The caregiver surveys collected information on:

- Household characteristics, such as income sources, land ownership, and labour use.
- Caregivers' education, employment history, and awareness of child labour risks.

Importantly, interviews were conducted at school rather than at home. Pre-testing showed that children were less distracted in the school environment and more willing to answer questions honestly about their work activities. Conducting interviews at school was also logistically more efficient. When school-based interviews were not feasible, enumerators visited households to interview children and caregivers; this applied to approximately 6% of the sample.

In addition, school registry information was obtained from **school head teachers** on:

- Daily school attendance for each child.
- Academic performance, specifically maths and English scores, for the second and third terms of the 2023 school year.

Information was also collected at baseline about **school characteristics**:

- School infrastructure, including building materials, availability of toilets, and water sources.
- Condition and availability of school supplies (e.g., uniforms, shoes, bags) owned by children.

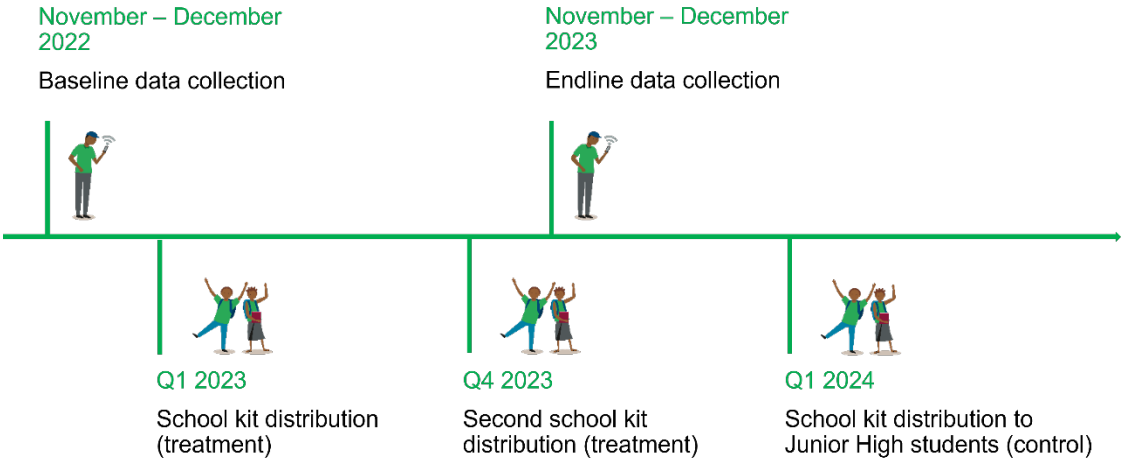
Timeline

The baseline data collection was conducted during the main cocoa harvest season in November – December 2022. At the start of the project, Ghana's academic year ran from January – December. School kits were distributed at the beginning of the new school year in the first quarter of 2023, by which time the targeted children had transitioned to grades 5 and 6.

During the study period, the Ghana Education Service decided to revert to the pre-COVID academic calendar, with the academic year starting in September rather than in January. As a result, participating children transitioned to the next grade 6 months earlier than expected, just before the planned endline data collection in November 2023. Grade 5 students shifted to grade 6, and grade 6 students transitioned to their first year in Junior High School. The children in the treatment group who transitioned to JHS (66% of the children in the treatment group) had to be provided with new school uniforms meeting the JHS dress code, which was completed just in time for the beginning of the school year in October and November 2023; and endline data collection followed right after this.

Despite these logistical challenges, school kit delivery was highly successful: 97% of children in the treatment group confirmed that they had received a school kit at the endline survey. The 23 children who did not receive one were either no longer enrolled in school at the time of distribution or absent during the delivery.[4]

Figure 3 Timeline



[4] During the study period, about 4% of children (30 children) in the control group also reported receiving a school kit, in the context of other programmes delivered by NGOs

Results

Effects on ownership of school items and household education spending

The intervention significantly improved both the quantity and quality of school items owned by children, as well as reducing household spending on education.

At baseline, children's school supplies were often incomplete and in poor condition. On average, children owned about five out of seven essential school items (uniform, shoes, school bag, exercise books, notebooks, pens, and a maths set). However, only two of these items were typically in good condition, and less than 5% of children had all seven items in good shape.

The most common missing item was the maths set, with 80% of children missing one. In addition, 19% of children were without shoes, and 28% lacked a school bag. Importantly, 10% of students do not have the mandatory school uniform, and around 60% of children's school uniforms were in poor condition – worn, torn, damaged, or the wrong size.

By the end of the study, children in the treatment group owned, on average, **0.8 more school items** than those in the control group, and they had **2.5 more items in good condition**. Looking at school uniforms specifically, children in the treatment group were **13.6 percentage points more likely to own a school uniform**, and 45.8 percentage points more likely to have a uniform in good condition. These improvements are particularly important in contexts where inadequate school materials can discourage children's motivation to attend school, create social stigma, and impede learning.

The intervention also reduced household education expenses. On average, households in the control group spent GHS 277 on school items per child. The intervention reduced this by GHS 84, a 30% decrease. Total school-related expenses, including fees and other costs, dropped by GHS 94 down from GHS 414 per child in the control group, or 23% decrease. These savings are significant, although they still fall short of the total value of a school kit, which is GHS 600. Several factors may contribute to this smaller reduction in education spending than the value of the school kit: not all households in the control group purchased every item included in the school kit; households in the control group may have opted for lower-quality items or obtained them through other means; and some school supplies may have been reused from previous years by the control group.

Impact on educational outcomes and labour allocation

The study found that the school kit intervention had modest but meaningful effects on improving educational outcomes and increasing the use of hired adult labour among recipient households.

Modest increase in school attendance

To examine whether school kits affected children's school attendance, the study relied on two complementary sources of data. On the one hand, children self-reported whether they had attended school in the week preceding the endline survey. These data showed no significant change in school attendance amongst the treatment group.

On the other hand, school registers were consulted for records during the second term (April—June) and third term (June—September 2023), spanning from one to seven months after the school kits were distributed. In contrast to the self-reported data, these records showed that children in the treatment group attended **2.5 more days** (out of 48) during the **third term**, representing a **5% increase** compared to the control group. No

significant effects were observed for the second term, which took place one to two months after school kits were distributed.

Improved academic performance

To assess whether school kits influenced children's learning outcomes, the study combined information from short learning assessments included in the child survey with administrative school records.

The child survey assessment measured children's learning achievements in maths and English. A Maths score was constructed based on five basic numeracy questions, and an English score was derived from five basic reading and writing questions. Results show that the school kits increased Maths scores by 0.12 standard deviations.

In addition, administrative records of children's English and maths grades were requested from head teachers. From these, school performance scores were computed, where 50% weight was given to classroom performance and 50% weight was given to exam results. The analysis of these school performance scores confirmed the findings of the survey, showing a **7.5-point increase** (on a 100-point scale) in maths scores during the third term of the school year (June to September 2023, or 3 to 7 months after the distribution of the school kits). This is a considerable effect size, with the control group scoring 55 points on average.

No significant effects were observed on English scores, neither from the test module in the survey nor from the administrative data.

These results suggest that while the intervention achieved only modest effects on school attendance, it clearly improved children's learning outcomes in mathematics.

Increased use of adult labour

The results indicate that households in the treatment group may have partially substituted child labour with hired adult labour. Households in the treatment group reported hiring **0.56 more adult labourers** for cocoa production in 2023 compared to the control group. This effect is remarkable considering that 60% of households in the sample do not employ any hired adult workers at all. This shift was mirrored by a **GHS 33 increase in daily expenses** for adult labour – about a **38% increase** relative to the control group average.

> These findings suggest that the financial relief from reduced school-related expenses may have enabled households to substitute child labour with adult labour, particularly during peak cocoa harvest periods.

Effects on child work and child labour

The school kit intervention had a measurable impact on child labour in cocoa production, but the effect was weak in terms of statistical significance and did not hold when the indicator was broadened to all types of work.

Reduction in cocoa-related work

Children in the treatment group were **6.4 percentage points less likely** to have worked in cocoa production in the past seven days compared to those in the control group, and this effect is statistically significant at the 10% level. This represents a **16% reduction** relative to the control group average. The same effect size holds when we look at children's engagement in hazardous work tasks on cocoa farms.

Overall, these patterns hold when the reference period is extended to 6 months. Child labour in cocoa in the last 6 months decreased by 5.9 percentage points, which for this reference period corresponds to an 8%

reduction only (based on a 76% prevalence rate within the control group). The results are robust to a range of alternative model specifications[5] and definitions of the child labour indicators.

These effects are short-term effects only, measured within a year after school kits have been distributed. As school items and school uniforms need regular replacement, direct effects of school kits are not necessarily expected to persist beyond this period. However, when school kits trigger mechanisms like motivation, a sense of achievement at school, and a shift in attitudes towards school, some impacts may be sustained over a longer timeframe.

No significant change in other work activities

Looking at an indicator of whether children have done any work or hazardous work in farming, not limited to cocoa, the positive effect of the school kits dissolved. Likewise, no effects were found when looking at child work and hazardous child labour on off-farm activities, or when broadening the measures to child work or hazardous child labour in any type of economic activity.

Stronger effects for specific children and household profiles

The study identified several heterogeneous effects of the school kits, meaning that their impact varied across different subgroups of children and households.

Child-level differences

- **Gender**: The intervention had a stronger effect on reducing child labour in cocoa among **girls**.
- **Academic performance**: Children with lower academic performance at baseline experienced greater reductions in cocoa-related child labour and exposure to hazardous work when receiving school kits. This suggests that the intervention may be particularly beneficial for academically vulnerable students.

Household-level differences

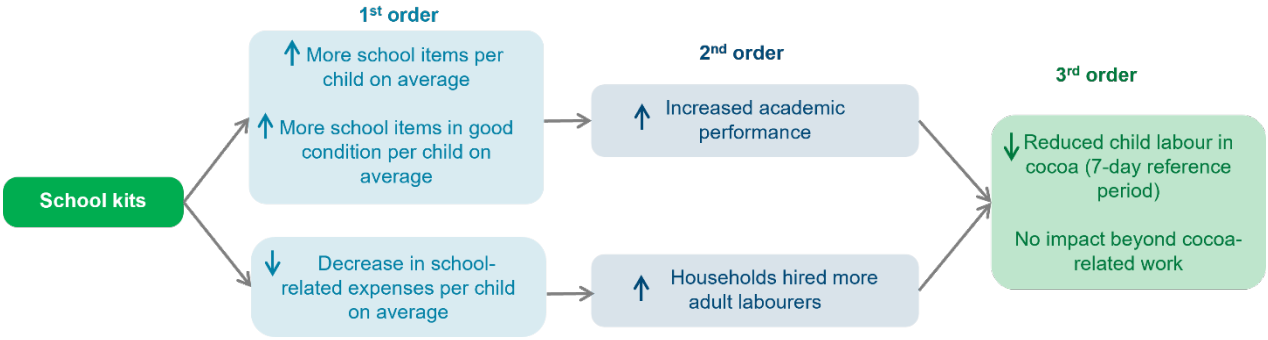
- **Cocoa households**: The effect on child labour was much stronger for households that derive most of their income from cocoa. For these, the school kits led to a reduction in child labour in cocoa by 13 percentage points. Children living in cocoa-growing households are the group for who school kits can achieve most in terms of reducing child labour.
- **Household size**: The more children a family has, the stronger the effect of giving a school kit to one of the children. This pattern applies to reductions in cocoa child labour and in any type of child labour.
- **Land ownership and size**: Households that **owned land** were more likely to reduce child labour when they received school kits.

In summary, the school kit intervention was most effective for girls, academically weaker students, and particularly for children from cocoa-dependent households. These findings highlight the importance of targeted approaches to maximise the impact of child labour reduction strategies.

[5] See the full working paper for details.

Conclusions

Providing school kits to primary school children in cocoa-growing communities in Ghana can lead to modest but meaningful improvements in educational outcomes and can help alleviate household budgets. However, the effects on child labour are difficult to discern. Amongst the different indicators for child labour that were tested, the study found evidence of an effect only for *children's engagement in hazardous activities in cocoa*, and even this effect was at a weak level of statistical significance.



At approximately USD 50 per child (excluding delivery logistical costs), school kits are a relatively low-cost intervention that can be scaled across similar contexts. They are tangible, easy to distribute, and well-received by communities, which is why many private and civil society actors opt to include them in their programmes to tackle child labour in cocoa production.

However, as the results of this study show, school kits as a standalone intervention cannot achieve substantial results in addressing the complex challenge of child labour. While school kits alleviate some financial barriers to education, broader strategies are needed to obtain meaningful reductions in children's participation in child labour. Potentially, the effectiveness of school kits might be enhanced when they are integrated into comprehensive strategies, including improvements of the quality of schools, targeted awareness raising to households, strengthening livelihoods, and facilitating access to adult labour for farm work.

The results of this study may also encourage programmes to target school kits to children most likely to benefit, such as girls, households with many children, and particularly those highly reliant on cocoa farming, to maximise cost-effectiveness and impact.

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