

TOWARDS A LIVING INCOME FOR COCOA FARMERS IN GHANA

Assessing companies' efforts to date



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Executive summary

This report analyzes existing strategies and interventions implemented by cocoa and chocolate companies operating in Ghana to raise the income of cocoa farmers in their supply chains. It has two main aims: first, to complement companies' learning efforts by pulling together and distilling lessons and insights from across the sector; and second, to strengthen transparency and accountability around living incomes by bringing greater visibility to companies' efforts and their impact on raising the incomes of farmers in their supply chains to date.

The analysis covers six of the largest chocolate manufacturers (buyers) and four of the largest cocoa traders/processors (suppliers) operating in Ghana. The report covers three main areas:

- 1 Mapping of companies' living income strategies** – synthesis of companies' existing strategies and interventions to raise farmer incomes within their sustainability programs.
- 2 Assessment of farmer income conditions** – analysis of key income trends (productivity, costs, price) of farmers participating in companies' sustainability programs.
- 3 Analysis of the effectiveness and impact of companies' living income strategies** – distillation of insights on the ability of companies to meaningfully raise the incomes of cocoa farmers in their supply chains in Ghana.

The findings might not necessarily be new for individual companies that have been implementing sustainability programs in Ghana for many years. However, the lessons that companies have learned have rarely been shared with a wider audience. This research aims to make these lessons more visible across the sector and create a joint foundation of knowledge upon which to build future living income strategies.

Key findings

1. COMPANIES FOLLOW A BLUEPRINT APPROACH TO RAISING FARMER INCOMES THAT REMAINS CENTERED ON PRODUCTIVITY

There is much similarity in how companies approach the issue of farmer income within their sustainability strategies. Sustainability programs are the primary vehicle through which companies work to raise farmer incomes. These programs have grown in importance and scale over the past few years. The programs of the four traders/processors in this study alone reach an estimated 429,000 farmers – over half of the Ghanaian cocoa farmer population. Nine of the ten companies in the study have committed to sourcing 100% of their cocoa from farmers participating in their sustainability programs, and currently source between 60% to 90% of their cocoa from such farmers.

This research aims to contribute to a joint foundation of knowledge upon which to build future living income strategies.



All companies work on raising farmer incomes, but lack clear commitments to achieving a living income. While raising farmer incomes is a priority goal of all 10 companies' sustainability programs, only one company has made a concrete, public commitment for farmers in its sustainability program to reach a living income. The fact that companies have not yet mainstreamed sustainability interventions with a living income ambition conflicts with their stated support of a living income for cocoa farmers, including their participation in the national Initiatives for Sustainable Cocoa in Europe (ISCOS).¹

Raising farmers' productivity remains at the center of companies' efforts to help raise farmer incomes (followed by income diversification). Around 98% of the farmers surveyed had participated in productivity interventions, particularly training on good agricultural practices (GAPs). There has also been a growing emphasis by companies on supporting farming households in diversifying their incomes (both on and off-farm) through training and providing inputs. However, the percentage of farmers benefitting from interventions targeting income diversification has remained low (at 21%).

Lowering farmers' production costs has so far been less-consistently emphasized by companies. The degree of production cost support by companies ranged from 39% of farmers participating in relevant interventions for the highest scoring company, to 4% of farmers for the lowest scoring company. This wide variability was echoed by observations at community visits. While two companies reported expanding their production cost support by providing farm services to farmers (e.g. pruning and spraying gangs), the field staff of two other companies admitted to discontinuing efforts to provide inputs on credits due to low repayment rates.

Pricing did not emerge as a prioritized pathway companies used to raise farmer incomes. While all companies briefly mention premium payments and their support of the living income differential (LID) in their sustainability reports, there is little detail on the reach, size and impact of these payments. While 77% of farmers said that they had received sustainability and/or loyalty premium payments during the last harvesting season, farmers across several company programs also reported that premium payments had been disrupted during COVID-19 and were either never reinstated or significantly reduced (although this has been difficult to validate).

When linking gender and income, companies prioritize strengthening women's non-cocoa income. Overall, gender and income interventions are only loosely linked in practice as gender sits under the community pillar (not the livelihoods pillar) of most sustainability programs. While companies are increasingly mainstreaming gender within their sustainability programs (between 28% and 40% of participants in sustainability programs are women), and the analysis revealed a focus on non-cocoa related interventions targeted at women participants, especially village savings and loan associations (VSLAs).

Out of all 10 companies, only one company has made a concrete, public commitment for farmers in its sustainability program to reach a living income.



2. DESPITE SIGNIFICANT EFFORTS BY COMPANIES, FARMERS' INCOMES HAVE BEEN DECLINING

Across the surveyed communities, farmers reported a decline in cocoa production over the past three harvesting seasons. The average number of bags of cocoa² produced by farmers decreased by 23.9%, from 13.57 bags three years ago to 10.33 bags during the 2021/22 season. This finding aligns with aggregate figures on the production of cocoa in Ghana over the past three harvesting seasons, although the decline is more pronounced in this study's results.

During the same time period, the average productivity of cocoa farmers in our sample decreased by almost 25%, from 373kg/ha to 281kg/ha. Women farmers have seen a higher drop in productivity (27.8%) than men (22.4%). Farmers mainly reported unfavorable weather (66%) and their inability to purchase inputs (49%) as reasons why production has decreased. High levels of disease, pests, and lack of labor support were also frequently reported as factors that have affected crop production. On average, yield numbers were lower than what companies reported.

Farmers have also been affected by a rapid increase in production costs, in particular the prices for fertilizer, agrochemicals, and hired labor. Farmers reported an average unit cost increase of 43% for agrochemicals, 51% for hired labor and more than 200% for fertilizer. Farming household expenditures were also found to have increased sharply, particularly food (50%), education (60%) and transportation (104%).

As a result of these two trends, farming households' net incomes have declined significantly. Overall, participating farmers' net income decreased by an estimated 16.38% between the 2019/20 and 2021/22 harvesting season. Average net income declines were more pronounced for women farmers (21.44% versus 14.15% for men). The LID implemented by the Ghanaian government in 2019/20 helped to buffer income shocks as it increased the farmgate price by 28% in its first season. Nevertheless, nearly 90% of farmers said they are worse off when they compared their household's income today to three years ago.

3. SUSTAINABILITY PROGRAMS ARE NOT DELIVERING ON FARMER INCOMES

Analyzing the disconnect between companies' efforts to raise farmer incomes and the observed decline of farmers' income over the past three years is complicated by the fact that robust, public data on the income effects of companies' interventions are virtually non-existent. Nevertheless, several limitations of companies' current income strategies and interventions can be identified.

First, companies are still in the early stages of systematically tracking and reporting on their impacts on income. Contrary to reporting requirements around child labor or deforestation, companies do not have sufficient incentives or pressure to consistently report their progress on actual farmers' income levels and changes. Only two companies have published income data for Ghana, and only one has published data over time (the other published a one-time income assessment comparing sustainability program participants with non-participants). The absence of a standardized approach used by

Farmers' net income decreased by an estimated 16.38% between the 2019/20 and 2021/22 harvesting season.



companies to assess farmer incomes makes rigorous evaluation and comparisons of impacts unfeasible.

Second, although companies have implemented productivity interventions for years and the practices and elements necessary for achieving higher productivity levels are well known, low productivity has remained a somewhat intractable challenge for companies. In interviews, companies recognized the unresolved productivity challenge. Several companies admitted to not meeting their productivity targets and highlighted the uphill battle of merely stabilizing yields given ageing farms, changing weather patterns and the risk of disease. Companies also emphasized the challenge of high yield volatility, even for individual farmers, which makes it difficult both to sustainably improve productivity levels over time and to reliably measure progress over time.

Adoption challenges were the most frequently mentioned challenge by companies regarding their efforts to raise farmers' productivity through GAP training. Companies recognized that the focus on knowledge transfer through training alone is insufficient in triggering behavior change at scale. Unfortunately, only one company reported adoption rates (although for Côte d'Ivoire, not Ghana), which were very low at 18%. This is in line with our survey, which found that only 27% of farmers said they had been able to adopt and apply all recommended practices.

Third, companies are not paying sufficient attention to production costs, especially in the current climate. Exploding costs are exacerbating the existing farm investment gap in Ghana. Companies recognized that the level of farm investment has remained too low and that a multiple of current investment is needed to meaningfully and sustainably raise farmers' yields. Although cutting costs is the first thing most companies do when trying to increase their profitability, this has remained sidelined in companies' farmer income strategies.

High costs were also identified as the primary barrier for higher adoption rates. Implementing GAPs requires the application of both farm inputs and labor – with cost implications that often go beyond the resource capacity of individual farmers. In our survey, 80% of farmers stated that applying GAPs also significantly increased their production costs.

Pricing is a neglected income lever in companies' current strategies. There remains a significant gap between the elevation of the topic in global cocoa debates and companies' current implementation of pricing interventions in their supply chains. There are several shortcomings in how companies currently intervene on price. First, there is a lack of transparency on premium payments. None of the companies publish detailed data on premium payments on a country-by-country basis (e.g. number of farmers, amount per bag).

There is a discrepancy between the premiums that companies report paying and the amounts farmers receive. Companies disclosing their premium payments report paying \$70 in premiums per ton on average. However, most farmers stated that they receive between GHC (Ghanaian cedi) 13 and GHC 15 per bag, which translates into \$35 to \$40 per ton. Only one company appeared to consistently pay GHC 25 per bag, which comes close to \$70 per ton.

There remains a significant gap between the elevation of the topic in global cocoa debates and companies' current implementation of pricing interventions in their supply chains.



The price premiums paid by companies are too low to make a significant difference in farmers' incomes. A farmer producing ten bags of cocoa per year receives between \$20 and \$42 in total in premium payments. Considering the average living income gap per household in Ghana is more than \$2,600 a year,³ current premiums do not make a significant contribution to closing farmers' living income gaps. As a result, two-thirds (65%) of farmers who received premiums indicated that they did not increase their income levels. Significant gaps in premium payments also remain, as almost a quarter of farmers (23.4%) reported not receiving premiums during the last harvesting season.

Evaluating the success of companies' diversification strategies is hampered by a lack of data. Only three of the ten companies published or shared selective data regarding the impact of their diversification interventions on income. While these few data points indicate a positive contribution of diversification to farmers' incomes, representatives across companies expressed humility when asked about the impact of their diversification interventions from a living income perspective.

Key barriers mentioned by farmers and companies limiting the potential of diversification as a way to raise farmer incomes include limited markets for on-farm non-cocoa produce, limited capital or finance to operate off-farm trading activities, and poor (road) infrastructure which further limits buyers and affects the transportation of goods to market centers. Companies are grappling with their role, given the vast range of support functions that must be in place in order to successfully grow and market alternative income-generating activities.

In their current form, companies' sustainability programs are unlikely to substantially improve women's incomes position as cocoa farmers due to the prevalent focus on strengthening women's non-cocoa roles. There is also the risk that companies' approach of focusing living income efforts on better-off farmers will have a negative impact on women, who on average have less land and lower yields than men.

Lastly, the effectiveness of interventions targeting farmer incomes is affected by the fragmented and competitive landscape in which companies are implementing their strategies. Traders/processors play a key role in designing and implementing income interventions. Yet, despite the need for greater collaboration to achieve a living income, they generally do not collaborate on implementation. In Ghana, it is not uncommon for several traders/processors to operate side-by-side within the same communities – each working with a separate group of farmers but implementing similar interventions. This is not only inefficient but also creates highly transactional farmer–company relationships, which prevent long-term support and accompaniment for individual farmers.

Despite the need for greater collaboration to achieve a living income, traders/processors generally do not collaborate on implementation.



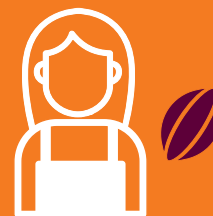
Towards a more holistic approach to living income

This report's findings present a sobering but not necessarily surprising picture: despite significant efforts by companies to raise the incomes of cocoa farmers in their supply chains in Ghana, there is little evidence that farmer incomes have increased as a result.

The findings indicate that business as usual will not improve farmer incomes in Ghana. Without more pronounced and ambitious efforts, a living income will remain an illusion for most farmers across companies' cocoa supply chains. There is an urgent need for companies to adopt a new approach to help raise cocoa farmers' incomes. Key elements of this new approach should include:

- **From farmer income to living income:** All efforts by companies to raise farmer incomes contribute to the goal of achieving a living income. However, they are not sufficient. Elevating living income as core priority for companies requires concrete policy commitments that embed living income in their sustainability programs and sourcing strategies.
- **From sustainability to procurement:** Even the best-designed sustainability program is unlikely to address the structural barriers to raising farmer incomes, which sit beyond the individual farm or community levels. Addressing the living income gaps of cocoa farmers in a meaningful way requires a procurement-oriented approach that aligns procurement goals with living income goals. This approach uses sourcing practices, such as higher prices, greater traceability, and long-term trading relationships with strong farmer organizations as levers for higher incomes.
- **From productivity to profitability:** From a living income perspective, productivity is not an end in itself. Increasing productivity might lead to higher income, but it also might not. Costs and prices are critical intervening variables between productivity and profitability. Companies should actively invest in effective solutions to reduce farmers' costs and raise farmgate prices in order to enable a pathway towards a living income.
- **From minimizing sourcing costs to increasing supply chain investments:** There is the urgent need for substantial investment in the Ghanaian cocoa sector to make a living income for cocoa farmers a realistic opportunity. Without a substantial increase in funding, there is a risk that companies will either focus their efforts on a small subset of farmers or that their investments in a broader number of farmers will remain superficial. Due to their high levels of profitability, companies have the resources to significantly increase their supply chain investments.
- **From data secrecy to income transparency:** Data availability and quality remains a major challenge to making progress on living income. Companies should invest in collecting robust income data and engage with other companies and stakeholders in sharing, aggregating and standardizing income data collection approaches. A particular focus should be on gender-disaggregated income data, including gender-specific indicators and targets.

Without more pronounced and ambitious efforts, a living income will remain an illusion for most farmers across companies' cocoa supply chains.



- **From fragmentation to collective action:** Companies need to overcome the fragmented and competitive landscape of sustainability interventions in order to support farmers in raising their incomes. Pre-competitive collaboration around living income (e.g. data sharing and learning, provision of farm services, and pricing reform) is critical since cost-benefit calculations around living income differ depending on if they are implemented by an individual company or by the sector as a whole.
- **From land size to land tenure:** Land is the income driver that companies have so far paid the least attention to. The relevance of land in the context of living income is not limited to land size (or even access) but rather land tenure and titling. Supporting the formalization of land ownership can be a powerful tool to incentivize farm investment and attract finance. Land is also an opportunity for companies to strengthen the gender focus of their living income strategies, since access to and tenure of land is more limited for women.
- **From gender as an add-on to gender-inclusive design:** Without a purposive gender-inclusive design, living income strategies are likely to benefit men rather than women. Companies should ensure the active participation of women in program design, tailor income interventions to women farmers, and strengthen the positions of women at the household, community and sector levels, including their unpaid care duties, land rights, access to finance, market participation and decision making.
- **From weak to strong farmer organizations:** The low level of farmer organization is a key hinderance to their ability to earn a living income, since farmers' bargaining power and access to support programs has remained limited. Companies should invest in more farmer-centric and farmer-led approaches to achieving a living income through strengthening farmer organizations.

SECTION 1

Introduction

The past three years have been a difficult time for cocoa farmers in Ghana. Starting in 2020, the COVID-19 pandemic temporarily brought the sector to a halt, disrupted cocoa supply chains, and temporarily depressed global cocoa demand. The war in Ukraine has contributed to input shortages and escalating food and fuel prices. High rates of inflation and the depreciation of the Ghanaian currency are hurting cocoa farmers' ability to attain a decent standard of living. Longer-term trends, such as ageing farms and farmers, changing weather patterns, and the expansion of illegal mining on cocoa land are further exacerbating the precarious incomes of farmers.

Against this backdrop has been the growing recognition of the urgent need to support farmers in improving their economic situation. Much of this recognition has crystalized into momentum around the concept of living income as the benchmark for a decent standard of living. Looking across sustainability debates, agendas and initiatives in the cocoa sector, living income has become one of the central issues of the sector, particularly in Côte d'Ivoire and Ghana.

The momentum around living income falls on fertile ground. Companies operating in the cocoa sector in Ghana have been working for many years to improve the incomes of farmers in their supply chains through their sustainability programs. As the issue of living income has gained prominence, attention on interventions targeting farmers' incomes has increased correspondingly.

However, questions remain. To what degree has the elevation of living income as a sustainability issue translated into companies' program designs? How successful have companies been so far in raising the incomes of farmers in their supply chains? What are companies learning about what is working (and what is not) when it comes to raising farmer incomes?

This study aims to shine a better light on the existing income interventions and strategies of companies in the Ghanaian cocoa sector and help overcome the lack of public data and insights into the current and potential impacts of existing strategies and interventions. It seeks to complement companies' learning efforts by pulling together and distilling lessons and insights from across the sector. By identifying key success factors and barriers, this report aims to provide concrete recommendations to companies and the broader living income community about how to maximize the impact of farmer income strategies and interventions.

The research has three objectives. First, to help create a collective evidence and knowledge base around companies' efforts to help raise the incomes of cocoa farmers in their supply chains. Second, to strengthen the accountability mechanisms around living income by increasing the

As the issue of living income has gained prominence, attention on companies' interventions targeting farmers' incomes is increasing correspondingly.

transparency of companies' efforts to date. Third, to help localize and contextualize the conversation on living income and elevate the experience and perspective of farmers on companies' interventions.

Parts 2 and 3 of the report provide an overview of the Ghanaian cocoa sector and outline the research methodology and sampling approach. The empirical findings are then divided into three parts. First, we highlight key income trends of cocoa farmers participating in companies' sustainability programs, focusing on yield, costs and prices (Part 4). Second, we provide a snapshot of companies' efforts to raise farmer incomes, including the type of interventions, their reach and transparency (Part 5). Third, we outline key takeaways regarding the effectiveness and impact of current approaches and strategies to raise farmer incomes (Part 6). Part 7 synthesizes the findings by linking them to the bigger picture of enabling a living income for cocoa farmers in Ghana.

We are thankful for the constructive engagement by the companies participating in this research project. Active engagement with companies was a priority during this project. We hope that this engagement continues and that the research findings will provide impetus for more impactful strategies and interventions to raise the incomes of cocoa farmers in Ghana.

The findings presented in this report might not necessarily be new for individual companies who have been implementing sustainability programs for many years in Ghana. However, the lessons companies have learned over the years are rarely shared with a wider audience. By making these lessons more visible across the sector, we hope that we can help create a joint foundation of knowledge upon which to build future living income strategies.

Analytical framework for closing living income gaps

This study takes living income and its conceptual underpinnings as its guiding concept. It follows the Living Income Community of Practice,⁴ which defines living income as the average income that a household needs to have and maintain a decent standard of living, including sufficient good food and drinking water, decent housing, access to health and education, decent clothing, necessary transport, other essential needs and a provision for unexpected events and/or contingencies.

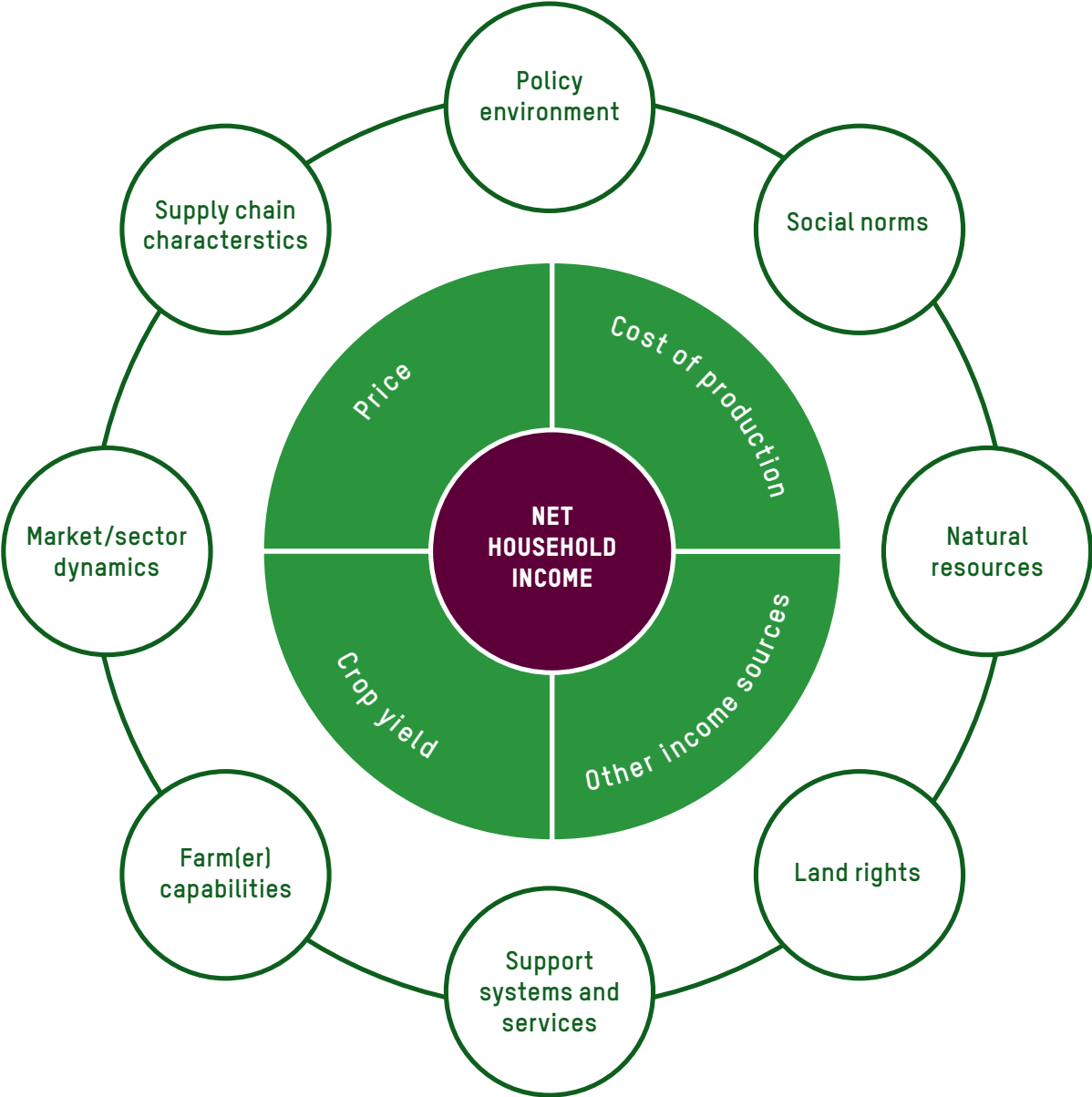
The concept of living income shifts the goalposts on benchmarking the economic well-being of farmers. It goes beyond traditional notions of poverty alleviation that are concerned with basic subsistence and survival. It puts a strong emphasis on the idea of decency and earning enough to live comfortably.

Important elements of the living income concept include its focus on the household level, the consideration of production costs (net income) and different income streams (on-farm and off-farm), and its context-specificity (i.e. living income can vary from place to place due to different household sizes or varying costs of living).

The incomes of cocoa farming households are calculated using several components, including a farm's cocoa production volumes multiplied by the price farmers receive, minus the costs associated with producing these

volumes. Added to this are net incomes from other sources (on-farm and off-farm). These immediate income drivers are affected by a range of factors in farmers’ operating environments (Figure 1). This research focuses on four immediate income drivers that companies can help address: price, cost of production, crop yield, and other income sources.

Figure 1. Income drivers

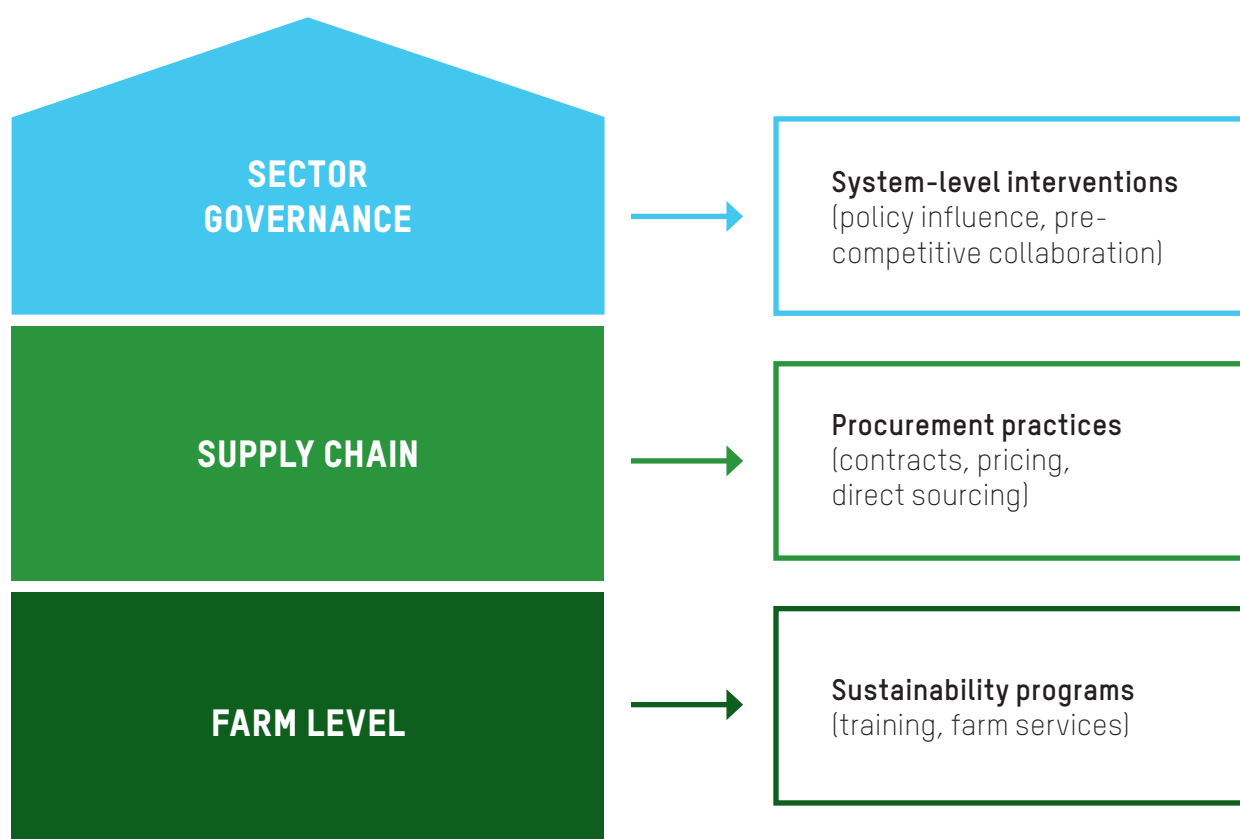


Companies have three main ways to shape farmers’ income opportunities (Figure 2).

- 1. Farm/community level:** A company can help improve farmer incomes through additional support functions (e.g. training, farm services) at the farm level, which are most often delivered through dedicated sustainability programs. These programs are generally linked to but separate from a company’s commercial engagement with farmers, and include non-economic interventions targeting the social and environmental conditions under which cocoa is produced.

2. **Supply chain:** A company in the cocoa supply chain also affects a farmers' income through its commercial practices. The commercial relationship between companies and farmers encompasses the way companies integrate and engage with farmers in their supply chains, how long-term these relationships are, and the terms of trade between different supply chain actors (e.g. price, quality, volumes, etc.)
3. **Sector governance:** A company can shape farmers' incomes through its ability to collaborate with and influence other actors in the same sector, including the rules that govern how the sector operates. This includes companies' collaboration with its industry peers, its influence on the policy environment in both producer and consumer countries, and its influence on sector-level pricing and trading practices.

Figure 2. The three dimensions of companies' living income strategies



From our initial analysis of companies' efforts, it was clear that the focus of companies' efforts to raise farmer incomes has been through their sustainability programs. This then became the focus of this study's analysis. While much attention has recently been given to the launch of living income pilot projects companies have initiated in Côte d'Ivoire and Ghana, such as Nestlé's Income Accelerator Program,⁵ we decided to focus on companies' long-standing sustainability programs. These programs have a longer track record (and thus evidence base) and reach a much larger farmer population than the recently launched pilot projects.

SECTION 2

The Ghanaian cocoa sector

Cocoa was first introduced into Ghana in 1879 and has been a mainstay of the country's economy for over a century. Ghana today is the second-largest producer of cocoa in the world, after Côte d'Ivoire, with cocoa produced by approximately 800,000 small-scale farmers in the Ashanti, Brong-Ahafo, Central, Eastern, Western, and Volta regions and sub-regions.⁶

In Ghana, cocoa is typically harvested manually when the pods ripen. The process consists of cutting the pods, usually with a cutlass, knife or machete. After harvesting, cocoa beans are normally fermented and dried on farms or in villages for up to seven days. Once dried, farmers carry the beans to buying stations of licensed buying companies (LBCs) who purchase the beans and bag them. In Ghana, only LBCs can legally purchase cocoa directly from farmers.⁷

Producer prices are announced annually by the country's marketing board, COCOBOD, and LBCs are expected not to purchase the cocoa below or above these prices (except for premium payments, such as certifications). LBCs further aggregate the cocoa beans and make them ready for quality checks by the Quality Control Company, after which transport firms move the bagged cocoa beans from designated centers to ports for trading and export-related functions undertaken by the Cocoa Marketing Company. Cocoa processing, including grinding and roasting, are undertaken by agribusinesses that work with chocolate manufacturing companies abroad.

In Ghana, the government is involved in nearly all areas of cocoa production and trade.⁸ A key actor is COCOBOD, a specialized agency of the Ministry of Food and Agriculture solely responsible for Ghana's cocoa industry, controlling and regulating the purchase, marketing and export of all cocoa beans produced in the country. COCOBOD has other specialized agencies that undertake pre-harvest and post-harvest functions to develop the cocoa sector.⁹

The challenge of low farmer incomes has been a pressing issue within the Ghanaian cocoa sector for many years. Between 35% to 45% of all cocoa farmers are estimated to live below the poverty line, and up to 90% of farmers do not earn a living income.¹⁰ Low farmer incomes are also at the root of other sustainability challenges in the Ghanaian cocoa sector, including child labor and deforestation.¹¹

Several structural challenges continue to combine to significantly affect productivity and sustainability of the sector overall. These include the old age of cocoa trees, poor access to inputs, prevalence of pests and diseases, and the low capacity of farmer organizations. Others include competition from mining (*galamsey*), declining soil fertility and higher dependence on agrochemicals and fertilizers.¹² Gender inequities, including women's limited access to land, financial services, inputs, and cooperatives, are also constraining the sector's growth and development.¹³



BETWEEN 35% TO 45% OF GHANAIAN COCOA FARMERS ARE ESTIMATED TO LIVE BELOW THE POVERTY LINE.



UP TO 90% OF FARMERS DO NOT EARN A LIVING INCOME.

Ghana's land tenure arrangements and the threat of climate change also pose challenges for cocoa farmers. Due to a growing population, immigration, and other economic activities competing for agricultural land, access to cocoa land is becoming more difficult, especially for younger farmers. Climate change is expected to further affect the availability of land suitable for cocoa production. In Ghana, it is estimated that the area with high climatic suitability for cocoa cultivation could decrease by more than 40% by 2050.¹⁴ In light of these myriad challenges, improving the productivity and sustainability of the sector has become a priority of COCOBOD, cocoa traders and chocolate companies, and industry associations, such as the World Cocoa Foundation. The more recent momentum around the issue of living income builds on years of government and private sector efforts and initiatives. Since 2000, COCOBOD has provided farmers with improved varieties and subsidized fertilizer, and rolled out free pest and disease spraying programs, which are expected to raise farmers' income levels. The recent introduction of the living income differential (LID) of \$400 per ton on all cocoa contracts sold by the country from the 2020/21 season further adds to the government's efforts of raising the income levels of cocoa farmers.

SECTION 3

Methodology and sample

Methodology and research process

The research methodology was co-designed by Oxfam and a research consulting team at the Bureau of Integrated Rural Development (BIRD) at the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi.¹⁵ The project also received input from a group of global advisory experts to provide quality assurance.¹⁶

The first task was to compile and analyze publicly available information on the strategies and interventions of companies to raise farmer incomes in Ghana. The research team reviewed company websites and sustainability reports, and developed an assessment template for each of the 10 participating companies. Interviews with company representatives (one per company) were then conducted to validate findings and distill the qualitative learning that companies had gathered from their efforts to date.

The document review revealed significant similarities in companies' sustainability approaches to raising farmer incomes, including a near-universal focus on productivity, diversification, and premiums as the three main strategies. Considering the similarity of interventions, we decided not to measure and compare the income impact of individual companies or programs. Instead, community-level research was conducted to unearth cross-cutting insights and assess farmers' perceptions of their incomes and their participation in companies' interventions.

For the research activities involving cocoa farmers, a mixed-methods approach was chosen of 404 farmer surveys and 24 focus group discussions. Surveys and focus groups were conducted at communal gathering places between June and September 2022. Farmers were informed about the purpose of the research and given the opportunity to ask questions or not participate. The farmer survey covered demographic information, socio-economic characteristics, and detailed questions on income and expenditure and production levels. The survey was administered by a group of trained research assistants familiar with the local language, using digital tablets running the Kobo Collect toolbox.

Focus group discussions focused on production trends, pathways through which companies are raising their income levels, barriers farmers face and opportunities for improving their income levels. Data were collected between June and August 2022 from 24 communities in seven districts across the Ashanti, Eastern, Central, and Western North regions.

A central objective of the research was to elevate the perspectives and voices of farmers on their income situations and the interventions of companies.

In both the farmer survey and focus group discussions, respondents were asked to recall information for the 2019/20, 2020/21 and 2021/22 cocoa seasons. At the time of fieldwork, production volumes and prices for the 2022/23 cocoa season were yet to be determined.

A central objective of the research was to elevate the perspectives and voices of farmers on issues related to their income situations and the efforts by companies to help raise their incomes. While there are limitations to the reliability of perception data from farmers, we believe it is important to capture these perspectives in order to better understand farmers' experiences, concerns and motivations.

Sample selection

Farmer selection

The project combined different sampling approaches to select farmer participants. The first qualifying criteria was farmers' link to the food and agriculture companies participating in this research. Farmers had to be registered by participating cocoa/chocolate companies and have actively participated in a company sustainability program within the two years preceding the survey. They were therefore part of these companies' supply chains.

To increase the sample's representativeness, a cross-section of farmers participating in company sustainability programs participated in the research. The main criteria included different geographies (districts and regions), farmers' participation in different companies' programs, and gender balance. The sampling approach was random, purposive, and practically implementable in the field with the resources available.

Companies played a significant role in selecting and providing access to farmer participants. Their local staff selected the specific communities to visit. In each community, company staff supported the selection of a pool of registered farmers who participated in the focus groups and survey. This ensured that farmers who participated were actually participating in companies' programs.

All registered farmers in specific communities had an equal chance of participating in the research to ensure that potential bias related to selecting only high-performing farmers was removed. Given the domination of men in the cocoa sector in Ghana, at least a third of the respondents were planned to be women, to allow for the gathering of women's perspectives. The sampling approach also focused on ensuring geographical spread across major cocoa-growing regions in Ghana (Ashanti, Western North, Eastern and Central) and a minimum of two communities for each company/program.

As is best practice, the research was designed to collect quantitative information from a representative number of cocoa farmers, which will be a 95% confidence interval and 5% of margin of error. Available information from COCOBOD shows that there are about 800,000 cocoa farmers in Ghana. Using this as a guide, we calculated sample size (using the conventional formula) to satisfy a 95% confidence interval.¹⁷ Based on this computation, and validated by an online sample size calculator, the survey was designed to reach at least 400 farmers to be statistically representative.

Company selection

Companies were selected based on their relevance within the global cocoa sector (measured by revenue). Since export data on a company-by-company basis are difficult to obtain, we relied on global figures to determine the sample of largest corporate actors operating in, and sourcing from, Ghana.

Ten companies were selected and approached to engage in the project. The sample included six chocolate manufacturers (buyers) and four traders/processors (suppliers). Company programs covered included those of Hershey, Mars, Lindt, Ferrero, Nestlé and Mondelez (buyers), and are implemented by ECOM, Cargill, OLAM and Barry Callebaut (suppliers). Data on individual company programs are not included; instead, findings are presented in the aggregate and companies are anonymized (e.g. X number of companies).

Limitations, caveats, and generalizability

There are some important limitations to the findings. First, because of poor record-keeping, recall data were the key primary source of farm-level data, especially in relation to questions on production, land cultivated, prices and costs. Recall data can be inaccurate and characterized by over- or under-reporting of certain figures.

Second, the respondents were selected from a pool of farmers that have participated in companies' sustainability interventions. As a result, their conditions and issues may be different from farmers who have not been exposed to such interventions (the study did not include a control group of farmers not participating in sustainability programs). Also, the over-representation of women compared with their share in the total cocoa farmer population might bias the results towards their experiences. As a result, the realm of generalizability is at most the population of farmers participating in companies' sustainability programs in Ghana, not the entire population of Ghanaian cocoa farmers.

While the intention of this research is not to generalize its findings, there are some indications that the findings can potentially be transferred to the broader cocoa sector in Ghana. Farmers participating in companies' sustainability programs are generally not the worst-performing farmers within the broader farmer population. As a result, some of the challenges observed for the sample population are likely to be equally or even more pronounced within the wider cocoa farmer population in Ghana.

Also, farmers were selected across different cocoa districts and regions, and the fact that the experiences are fairly consistent suggests that the findings are likely to also represent the reality of cocoa farmers in other districts. Finally, most of the farmers' responses were triangulated internally (among other cocoa farmers in the same communities and across cocoa farmers in other communities and districts). Responses were also triangulated externally, where necessary. For example, input and other production cost figures were cross-checked with input dealers, field officers and, in some instances, Cocoa Health and Extension Division (CHED) officials. They thus also likely apply to other farmers.

SECTION 4

Mapping companies' farmer income strategies

This study's first contribution is to bring greater visibility and stronger analysis to companies' current efforts to raise farmer incomes. A key goal is to go beyond individual companies and instead analyze income strategies and interventions across the major industry actors in Ghana's cocoa sector.

The following analysis is based on a review of public company materials, interviews with company representatives and observations during visits to cocoa-producing communities. It provides a snapshot of companies' current efforts to help raise the incomes of cocoa farmers in their supply chains through their sustainability programs. Going beyond merely describing these efforts, this section also analyzes the perceived strengths and gaps of companies' current approach.

Companies predominantly work on raising farmer income, not achieving a living income

An important distinction that became apparent early on during research is the difference between *farmer income* and *living income*. When companies were initially approached with a request to better understand how they work on living income in their sustainability programs, several responded that they were not (yet) working on living income in their programs. This came as a surprise given companies' strong emphasis on raising farmer incomes as a key priority of their sustainability strategies. Yet it also foreshadowed some of the gaps discovered during the research.

The fact that companies have not yet mainstreamed sustainability interventions with a living income lens is a relevant finding on its own, especially given that companies have publicly stated their support of a living income for cocoa farmers for several years in their global sustainability communication. Furthermore, companies have committed to working towards a living income for cocoa farmers through their participation in the different national Initiatives for Sustainable Cocoa in Europe (ISCOS).¹⁸

Designing and implementing income-related interventions without a living income focus has important implications on the level of ambition of these interventions and how success is defined and assessed. When any level of income improvement can be considered a success, interventions are unlikely to be appropriately designed for the more ambitious goal of living income. Being serious about living income means being rigorous about measuring income levels and gaps, and being transformative in the approach chosen to raise farmer incomes.

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The significant implications of applying a living income lens also help to explain why so few companies to date have been willing to make a living income commitment for farmers in their supply chain. While all 10 companies analyzed as part of this research have a strong focus on raising farmer incomes as part of their sustainability strategy, only one has made a concrete and timebound commitment of farmers reaching a living income (four other companies have a position statement in support of living income).

Sustainability programs are the primary vehicle to support farmers

Companies’ sustainability programs have grown in importance and scope over the past few years. While many of them have been implemented for over a decade in Ghana, these programs have recently moved from niche to mainstream. Nine of the ten companies have committed to sourcing 100% of their cocoa from farmers participating in their sustainability programs. For most the goal is to achieve this by 2025 and they reportedly currently source between 60% to 90% of their cocoa from farmers in their sustainability programs.

Estimating the reach of sustainability programs is notoriously difficult due to a lack of data, especially at the country level. Only three of the ten companies publicly share the number of farmers participating in their sustainability programs in Ghana. Another six companies disclosed this information to Oxfam upon request. There is a risk of double-counting since the numbers reported by suppliers might include farmers also counted by buyers.

An estimate of the number of farmers reached by major companies’ sustainability programs thus can either only include buyers or suppliers. Based on our calculations, the sustainability programs of the six buyers in this study reach close to 200,000 farmers in Ghana, while the four suppliers reach almost 300,000 farmers. Assuming both buyers and suppliers on average reach 70% of the farmers in their supply chains through their sustainability interventions, the six buyers are linked to 286,000 farmers and the four suppliers to 429,000 farmers¹⁹ – more than half of the Ghanaian cocoa farmer population of about 800,000 farmers (Table 1).

Nine of the ten companies have committed to sourcing 100% of their cocoa from farmers participating in their sustainability programs.

Table 1. Estimates of participating companies’ supply base and sustainability program reach

	Number of farmers in sustainability program (70% of supply base)	Number of farmers in supply chain	Coverage of Ghana cocoa farmer population
Buyers (six companies)	200,000	286,000	36%
Traders/processors (four companies)	300,000	429,000	54%

Reach is only one criterion by which to assess the extent of companies' efforts. The other question is how much companies are investing into their program and each farmer that participates in it, especially as they are expanding in scope. Compared with the companies' widely publicized global sustainability investments, finding data on their sustainability budgets for Ghana is much more difficult. For the four companies where we were able to obtain data, sustainability investments in Ghana vary starkly. Breaking companies' investment down by farmer gives an average investment of between \$93 and \$500 per farmer per year.

These numbers on their own have limited explanatory power. First, the vast share of this investment is spent on implementation partners' operational costs, not on direct benefits to farmers (e.g. premiums or inputs). Second, these numbers represent a snapshot and lack context. Greater transparency of companies' sustainability investments by country (including the number of farmers in each company's supply base and sustainability program) would enable tracking companies' investments over time and provide more meaningful insights on whether companies' expansion of their sustainability programs is matched by higher investments.

The sector's blueprint model

Apart from mapping the reach and depth of companies' support of farmers, the research also aimed to understand the type of interventions that companies are implementing to support farmers in raising their incomes. Data were triangulated through a combination of document review, company interviews and community visits. The following is a synthesized picture of the industry's current strategies and approaches.

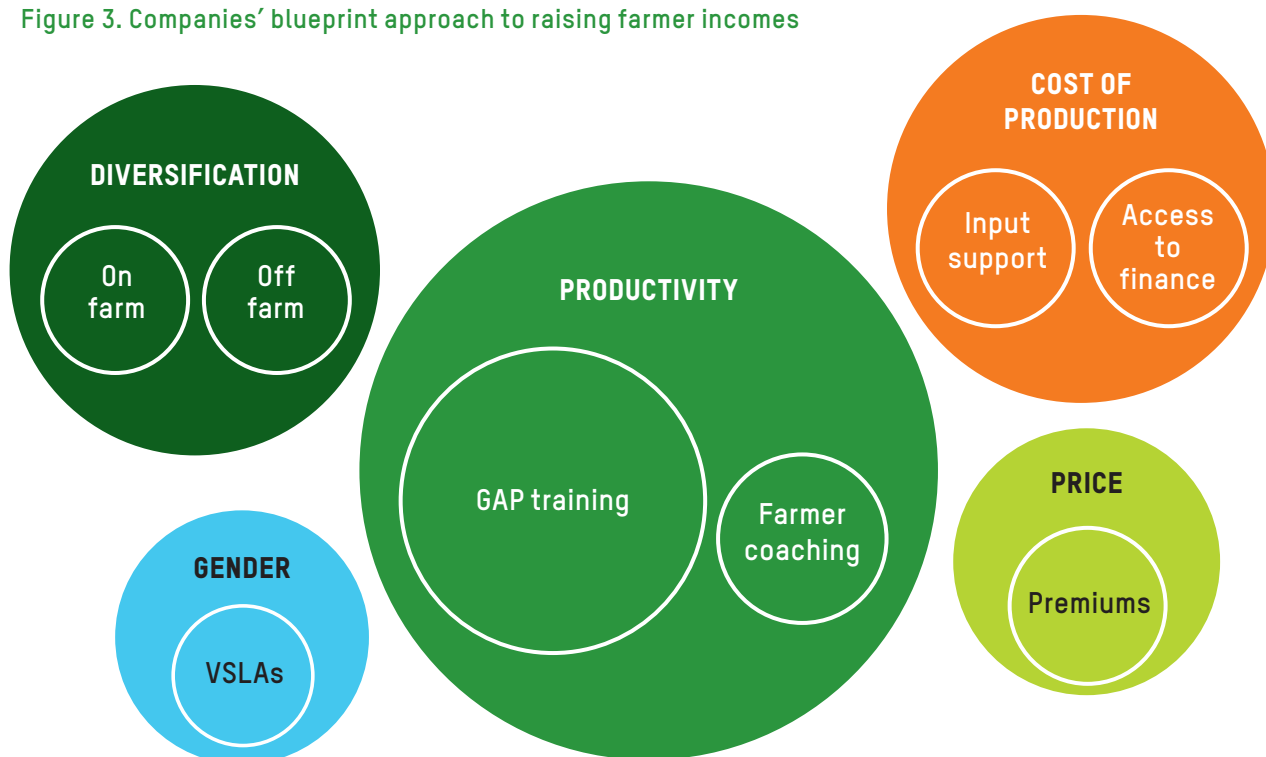
Raising farmer incomes (often also expressed as livelihoods) is one of the priority goals of the sustainability programs of all the companies assessed in this study. Most commonly, the economic pillar of raising farmer incomes is flanked by complementary environmental (e.g. deforestation, agroforestry, climate change) and social (e.g. child labor, community development, gender) priorities.

The boundaries between companies' sustainability pillars are somewhat artificial. For instance, there are clear income implications of companies' investment in agroforestry or climate-smart agriculture. Similarly, companies' programming around women's economic empowerment or village savings and loan associations (VSLAs) can affect incomes. However, these interventions generally sit under the environmental or community development pillar and are thus not labeled or assessed as income interventions. Overall, there is little evidence that companies are making income a cross-cutting performance indicator across intervention areas.

There is a high degree of similarity in how companies are approaching farmer income within their sustainability programs. Going beyond the distinctive branding of companies' sustainability programs and communication materials reveals a high level of congruence between companies' income interventions. Figure 3 outlines their blueprint approach.

Raising farmer incomes is one of the priority goals of the sustainability programs of all the companies assessed in this study.

Figure 3. Companies' blueprint approach to raising farmer incomes



● PRODUCTIVITY AT THE CENTER

Companies' interventions targeting farmer incomes have become more diverse over the years. However, raising productivity clearly remains the primary way through which companies work to increase farmers' incomes. This is not a surprise given the low yields of many cocoa farms in West Africa. Raising productivity has been a sector-wide priority (including for producing-country governments and donors) for many years.

The dominant position of productivity within companies' living income strategies is substantiated by several data points. First, companies (particularly suppliers) emphasize the importance of improving productivity to raise farmer incomes in their sustainability communication.²⁰ Sustainability reports use yield improvements as one of the key performance indicators and highlight success stories of individual farmers who were able to improve their cocoa yields significantly.

Second, interventions targeting productivity enhancements are companies' most frequently implemented activities. Of the farmers surveyed for this study, 98% had participated in productivity interventions, in particular training on good agricultural practices (GAPs). In fact, participation in GAP training is often a proxy for the reach of companies' sustainability programs (i.e. it is the same number). Provision of farm services and access to inputs and high-yield planting materials are other interventions that companies implement to help boost farmers' productivity (although much less frequently than GAP training).²¹

While productivity remains at the center, the way companies are promoting higher yields is evolving. One key development is the expansion of agroforestry approaches as a way of promoting more sustainable and productive ways of growing cocoa.

● DIVERSIFICATION ON THE RISE

There has been a growing emphasis by companies on supporting farmers in diversifying their incomes. Again, nearly all the companies mention diversification as a pathway to higher incomes in their sustainability strategies. The range of non-cocoa income-generating activities is vast, from supporting farmers in producing staple crops (e.g. cassava, rice and maize) to fruits and vegetables (e.g. peppers, tomatoes, onions and ginger) to off-farm activities, such as animal rearing, agro-processing (e.g. gari, palm oil), beekeeping and soap making.

It is difficult to capture the precise extent of diversification interventions as they are housed within other sustainability priorities than raising farmer incomes. Some are tied to agroforestry initiatives (e.g. growing shade trees), others to women's economic empowerment (e.g. support for income-generating activities, such as soap making). Overall, the percentage of farmers benefitting from interventions targeting diversification is much lower than interventions targeting productivity, with only 21% stating they had participated in interventions targeting diversification. It is important to note that not all companies appear to put the same emphasis on diversification, with farmer participation rates ranging from 8% to 39% across companies.²²

Training represents the primary avenue through which companies promote diversification. They also support diversification by providing farmers with inputs and raw materials to cultivate non-cocoa crops and providing additional off-farm skills and business start-up support. Companies also mentioned providing marketing support (e.g. market research, off-taking support) for farmers' diversification efforts.

All companies implementing diversification programs were promoting both on-farm and off-farm income-generating activities.²³ The results show variation in the type of off-farm diversification activities men and women are engaged in. There were more men (88.6%) than women (69.7%) in on-farm diversification, but slightly more women (36.4%) in off-farm diversification than men (34.1%). Furthermore, off-farm diversification interventions appear to be gender-specific. Women appeared to be mostly engaged in soap making and other self-employment activities, such as petty trading, whereas men were frequently engaged in agro-processing (such as *gari* processing and palm oil) and animal rearing.

● LIMITED SUPPORT ON COSTS OF PRODUCTION

Companies can support farmers in lowering their costs by either providing or subsidizing farm services and inputs, or supporting access to credit schemes (given the limited access to, and extremely high interest rates of, existing financing options). Cost of production and productivity interventions are closely intertwined, making it difficult to clearly distinguish them in practice.

We were able to find sparse evidence for companies supporting farmers to lower their production costs. Within companies' public sustainability communications, production costs were not mentioned as primary areas of intervention to raise farmers' incomes. Equally, only 21% of farmers stated that they had received support from companies to lower their costs of production through input provisions, access to credit, or provision of farm equipment and tools.

This finding aligns with responses in focus group discussions, where farmers across communities lamented the insufficient and declining support to access and afford inputs – not just by companies but also the government (i.e. COCOBOD). In fact, greater support around inputs and credit was the most frequently mentioned request by farmers.

As one farmer explained: “Money is at the center of all we do. Without money you cannot do pruning; you cannot buy spray; you cannot get fertilizers; you cannot pay for your labor costs. We need a lot of support, especially credit to be able to do all these things” (female participant, focus group discussion, Wawase, Ashanti Region).

The degree of production cost support by companies was quite varied, ranging from 39% of the farmers of one company to 4% of the farmers of another. This high level of variability was echoed by companies’ field agents. Two companies reported expanding their provision of farm services through the creation of pruning and spraying gangs, while the field staff of two other companies admitted to discontinuing efforts to provide credit inputs due to low repayment rates.

● PRICE PREMIUMS

Companies’ ability to affect the price farmers receive for their cocoa is limited in Ghana due to the price-setting power of COCOBOD. However, companies can intervene on farmgate prices by paying sustainability premiums, which can have different modalities (e.g. paid to the cooperative or paid to farmers) and purposes (e.g. raising incomes, loyalty payments, or smoothing income streams). More indirectly, companies can also affect the price farmers receive by supporting the government-imposed LID of \$400 per ton.

Overall, pricing did not appear to be a prioritized pathway that companies use to raise farmer incomes. All companies briefly mention premium payments and support for the LID in their sustainability reports, but with little detail on the reach, size and impact of these payments. While 77% of farmers stated that they had received premium payments during the last harvesting season, farmers across different programs also reported how premium payments had been disrupted during COVID-19 and were either never reinstated or significantly reduced.

Interviews with companies also offered a varied picture on pricing as income driver. A couple of companies considered price to be the most neglected piece of the income puzzle, without which meaningful income improvements would not be achieved. Other companies recognized that price needed to be part of the discussion and of a holistic approach to raising farmer incomes, but did not indicate a particular focus on addressing pricing issues. Most companies did not consider price to be a relevant lever to raise farmer incomes, citing arguments such as the risk of over-supply and its disproportionate benefit for high-production farmers.

● GENDER

Companies are increasingly mainstreaming gender within their sustainability programs, including the promotion of women as participants. While public data on the number of women and men in sustainability programs remains scarce, seven out of the ten companies submitted data on the percentage of women participants, which ranged between 28% and 40%.²⁴

Companies do not appear to have fully integrated gender into their income strategies. For almost all of the 10 companies, gender sits within the community pillar of their sustainability programs, not the livelihoods pillar. Interviews revealed a non-discrimination approach to integrating gender and income (i.e. interventions are 'open to women') and a focus on non-cocoa related interventions targeted at women participants.

When companies were asked how they are integrating gender in their income strategies, VSLAs were by far the most frequent response. Relatedly, some of the diversification activities that companies implement target women, especially interventions focused on growing food crops and off-farm income-generating activities, such as soap making. Instead of strengthening the position of women as cocoa farmers, companies are prioritizing a pathway towards women's economic empowerment focused on strengthening women's non-cocoa income.

SECTION 5

Assessing participating farmers' income trends

Given companies' central focus on raising the incomes of farmers in their supply chain, this study assessed the income trends of a sample of farmers participating across companies' sustainability programs using data collected through farmer surveys and focus groups. The results are summarized below.

Decline in cocoa production

Across the surveyed communities, farmers reported an overall decline in cocoa production over the past three harvesting seasons (2019/20, 2020/21, 2021/22). During the 2021/22 season, farmers on average produced 10.33 bags of cocoa.²⁵ Compared with three years ago, the average number of bags produced by farmers had decreased by 23.9%, from 13.57 bags. This finding aligns with aggregate figures for cocoa production in Ghana over the past three harvesting seasons²⁶ although the decline between 2019/20 and 2021/22 is more pronounced in this study's survey results. While the decline in production is consistent for women and men farmers, the results show a significant difference in the average number of bags produced by male and female farmers, with male farmers reporting almost double the quantity of cocoa (6.98 bags for women, and 13.16 bags for men in 2021/22).

Women's lower cocoa production levels have several well-documented causes, including their limited access to land, financial services, training, cooperatives and inputs.²⁷ During interviews, several women lamented differences in labor capacity between men and women, and women's lack of resources to invest in higher productivity as factors. As one female participant from Wawase, Ashanti Region, explained: "Women are very hardworking, but the truth is they do not have much of the physical strength like men. They may also not always have the money to pay for labor, chemicals, fertilizers and all the things we need to do to improve productivity. This explains why in several cases the yields of women are lower compared to men."

Production declines depressed yield levels. For the farmers in this study, farm productivity per hectare was found to have reduced by 24.5%, from 372.66kg/ha in 2019/20 to 281.22kg/ha in 2021/22 (Table 2). Women cocoa farmers experienced a greater decrease (27.7%) than their male counterparts, who reported a decrease of about 22% from three years ago.

The yield levels found in this study are significantly below what has been reported for Ghana elsewhere.²⁸ Average cocoa yields in Ghana are estimated to typically range between 400kg/ha and 530kg/ha.²⁹ The same is true for the farmers' yield levels reported by companies.³⁰

Compared with three years ago, the average number of bags produced by farmers had decreased by 23.9%.

Table 2. Changes in cocoa production between 2019 and 2021

Gender of respondent	Cocoa produced in 2019/20 (kg/ha)	Cocoa produced in 2021/22 (kg/ha)	Percentage decrease
	Mean	Mean	
Male	407.89	316.38	22.43
Female	331.5	239.52	27.74
Total	372.66	281.22	24.54

Source: Field survey, 2022.

Farmers mainly reported bad weather (66%) and their inability to purchase inputs (49%) as the reasons why production has decreased over the years. High levels of disease, pests, and a lack of labor support were also frequently reported as factors that have affected crop production.

Rising production costs

Production costs are a key determinant of household incomes. However, costs are notoriously difficult to measure. They span different activities and items, which are used in different periods during the season and are paid differently. Cost calculations are also complicated since farmers often have free or subsidized access to key inputs due to COCOBOD programs such as mass spraying and subsidized fertilizer programs. They thus might pay different prices depending if they purchase items through COCOBOD or on the free market.³¹

This study relied on recall data as the primary source of data on farmers’ estimated production costs. Considering that costs are rarely tracked in detail as part of farmers’ record-keeping, we asked farmers to estimate the cost they spent on three key production items: hired labor, fertilizer and chemicals. These data findings were triangulated through multiple sources, such as input dealers, chief farmers and company representatives, to establish their validity.

Overall, farmers reported significant increases in their expenditure on labor, pesticides and fertilizer. Most farmers (96.3%) reported that they are spending more on cocoa production than they did three years ago, with the most significant increase being the cost of fertilizer.

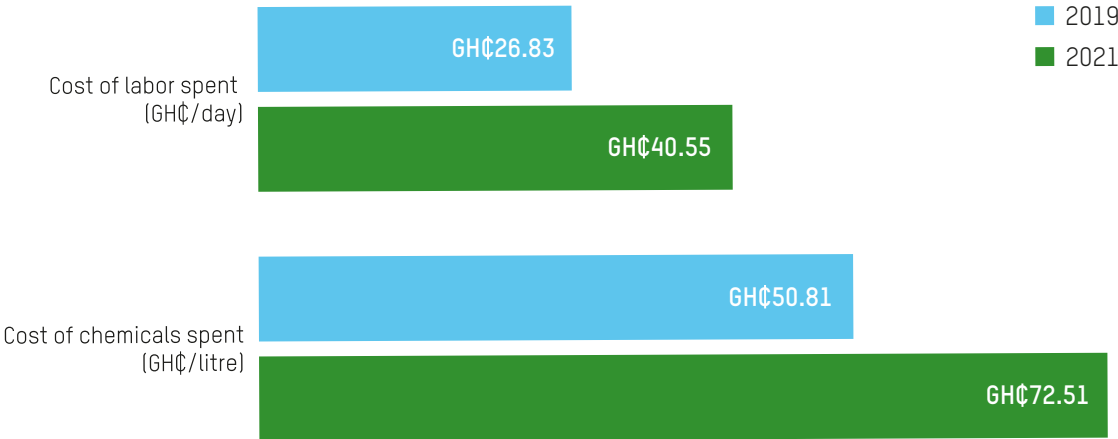
For many respondents (65%), hired labor was regarded as the main source of expenditure in their cocoa production. The cost usually varies depending on the activity (weeding, spraying, harvesting, gathering of pods, etc.) with weeding being the most significant activity that farmers hire laborers for. The average cost of labor (per day) increased by 51.1%, from GHC 26.83 to GHC 40.55 over the past three harvesting seasons, with no variation between what men and women farmers reported (Figure 4).

Farmers reported an average unit cost increase of 43% for agrochemicals, 51% for hired labor and more than 200% for fertilizer.

Regarding pesticides, farmers reported increasing pressure to use herbicides to control weeds, and pesticides and fungicides to control pests and diseases. On average, cocoa farmers were paying 42.7% more for pesticides compared with 2019, with the average cost per liter increasing from GHC 50.81 in 2019/20 to GHC 72.51 in 2021/22.³² As one farmer explained: “Cost of things keep increasing. The agrochemicals are very expensive these days. In this time of the season, we are supposed to spray the farms, but we can’t afford petrol and agrochemicals” (female participant, focus group discussion, Gyereso, Ashanti Region).

A major concern shared by farmers was that they have had to deal with these high increases in input prices with little or no support from government or companies. Access to input credit was non-existent in most communities. Some farmers who previously had access to such arrangements even reported that companies had discontinued their provision of input credit to farmers.

Figure 4. Average labor cost

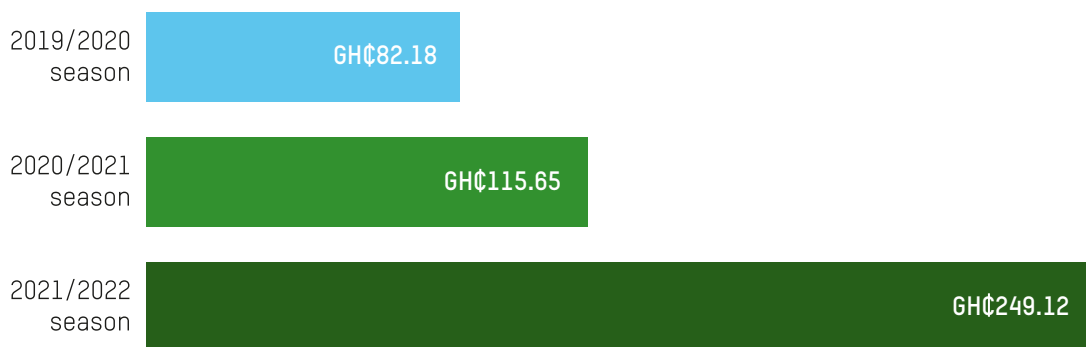


Source: Field survey, 2022.

Another concern highlighted by farmers across the surveyed communities was their access to, and the cost of, fertilizers. Focus group discussions showed significant need for granular fertilizer and liquid fertilizer to boost yields due to perceived declining soil fertility. While farmers underscored the importance of fertilizers in their production, almost all saw their access to, and the cost of, fertilizers as a major challenge. The COCOBOD programs, designed to provide subsidized fertilizer to many households, were perceived to be not working well. Fertilizers were reported to often arrive late, when they were no longer needed. As a result, farmers were increasingly reliant on purchasing fertilizer on the open market.

Survey data confirmed the high rate of increase in the average cost of fertilizers for the participating farmers. Between 2019/20 and 2021/22, the average cost of a bag of fertilizer (bought on the open market) increased by about 203% (from GHC 82.18 to GHC 249.12) with some farmers reporting costs up to GHC 400 to GHC 500 per bag (Figure 5).

Figure 5. Average cost (GHC per day) of a bag of fertilizer bought by farmers



Source: Field survey, 2022.

The LID buffers net income decline

Given the decline in production and the increase in costs, it is not surprising that farmers’ net income from cocoa has decreased over the past three harvesting seasons (Table 3). The study estimates an average net cocoa income decline of 16.38% (from GHC 5,897.80 in 2019/20 to GHC 4,931.99 per farm in 2021/22). Average net income declines were more pronounced for women farmers (a 21.44% decrease for women, and 14.15% for men). As a result, in 2021 men earned more than double the net income from cocoa than women (GHC 6,519 versus GHC 3,072).

The LID helped to buffer income declines. Average gross income from cocoa (i.e. number of bags produced x farmgate price) only decreased slightly (2.82% for women and 2.54% for men) between 2019/20 and 2021/22. The slight decrease in gross income, despite the significant decrease in production within the period, is mainly due to the 28% increase in producer price which was implemented for the first time during the 2020/21 cocoa season (Figure 6).³³

Figure 6. Trends in farmgate price per 62.5kg between 2019/20 and 2021/22 (GHC)



About 87% of farmers said that their household was worse off compared with three years ago. Most farmers expressed concern that while there has been an increase in the cost of all production inputs and general household goods, their revenues are declining and this has made it difficult for most farmers to meet their household's demands.

Table 3. Changes in cocoa net income (GHC, per farm) between 2019/20 and 2021/22

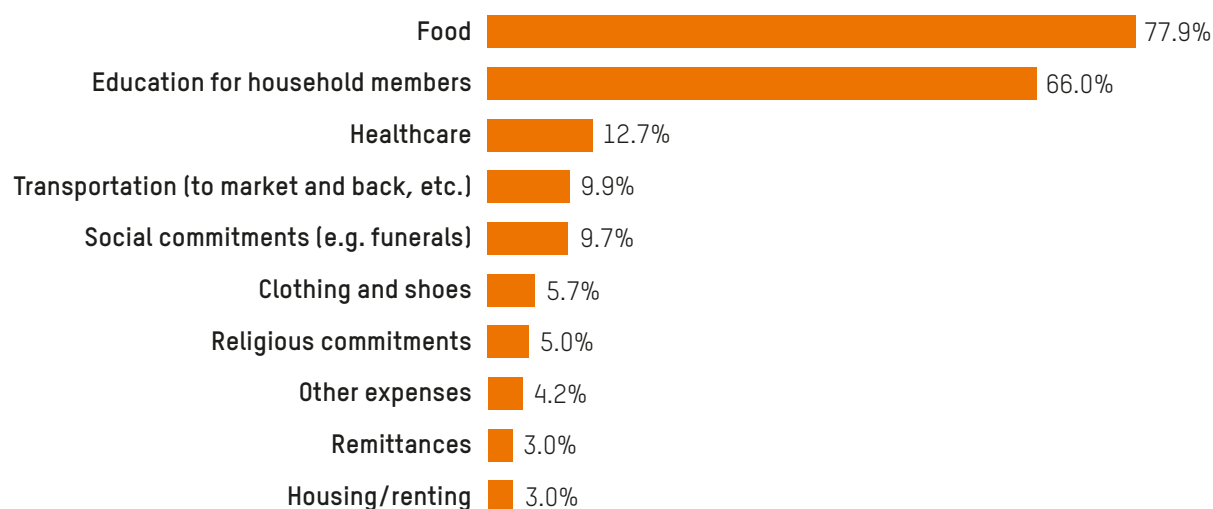
Gender of respondent	Cocoa income – 2019	Cocoa income – 2021	Percentage decrease
	Mean	Mean	
Male	7,593.61	6,518.98	14.15
Female	3,910.24	3,071.96	21.44
Total	5,897.8	4,931.99	16.38

Source: Field survey, 2022.

Household expenditures also on the rise

The study also analyzed households' main expenditure sources. Respondents were asked to enumerate items that they regarded as top-most expenditure within their households, and then discussed how much they recall having been spent on each item a month prior to the survey, compared with same period three years ago when the LID was introduced. The results show that food and education were by far the most frequently named household expenditure items, followed by healthcare, transportation and social commitments, with no variation between men and women (Figure 7). This is consistent with Bymolt et al.,³⁴ who found education, food and healthcare to be among the top four sources of household expenditure.

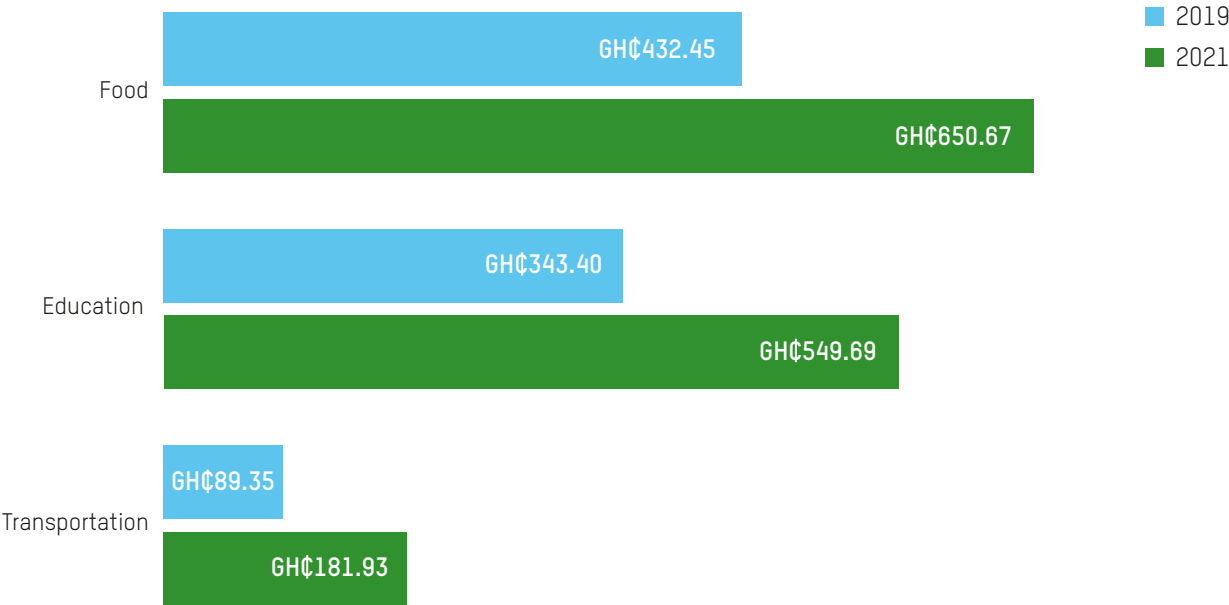
Figure 7. Primary source of household expenditures



Source: Field survey, 2022.

Similar to production costs, household expenditure was also found to have increased between 2019/20 and 2021/22 (Figure 8). About 94% of farmers reported that they are spending more on expenses related to their households’ upkeep than they did three years ago. When respondents were asked to estimate their spending on their households’ upkeep in the month prior to the survey, compared with the same period three years ago, the results show at least a 50% increase in key household expenditure, such as food, education, and transport. Average monthly expenditure on education for household members increased by 60%, from GHC 343.40 in 2019/20 to GHC 549.69 in 2021/22. In the same period, the amount farmers spent on transportation has more than doubled (by 103.6%, from GHC 89.35 in 2019/20 to GHC 181.93 in 2021/22). These findings align with broader macro-economic trends in Ghana, including a 50% inflation rate in 2022.³⁵

Figure 8. Changes in household expenditure between 2019/20 and 2021/22



Source: Field survey, 2022.

SECTION 6

Analyzing the effectiveness of current income strategies

The previous two sections have mapped companies' existing income strategies and interventions, and assessed the income trends of farmers benefitting from these interventions. This section brings the two sections together by analyzing the disconnect between companies' existing efforts to raise farmer incomes and the prevalent finding of farmer income decline.

The income data challenge

Linking companies' income strategies to detected income trends is complicated by the fact that robust public data on the income effects of companies' sustainability programs are virtually non-existent. Only two companies have published income data for Ghana, only one of which has published data over time (the other published a one-time income assessment comparing sustainability program participants with non-participants).

While the data points from the two companies report modest income improvements (15% net income increase; reduction of living income gap from 52% to 44%), the meaningfulness of these data points is limited without more detail regarding the farmer population, the methodologies employed and longer-term analyses.

Companies are clearly still in the early stages of raising farmer incomes. In interviews, companies recognized the limitations when it came to measuring impact. Statements like "we have lots of data but not a lot of insights" or "we have focused a lot on implementation but had little time to reflect on the so what" are indications of companies grappling with how to move beyond measuring their activity levels only.

Part of the problem is that – contrary to reporting requirements around child labor or deforestation – companies are not publicly reporting their progress on farmers' actual income levels and any changes. Instead, companies report on existing key performance indicators (KPIs) in their publications, including items such as the number of farmers trained and the number of high-yield seedlings distributed.

The challenge is not necessarily that companies are not collecting data, but that measuring farming households' incomes (and companies' influence on them) is notoriously difficult. Regular monitoring data are often not sufficient to reliably capture income levels and changes. Companies' annual surveys often capture income components, such as yield, but are not comprehensive enough to accurately capture net household incomes.

Robust public data on the income effects of companies' sustainability programs are virtually non-existent.

Even reliably measuring the yield levels of individual farmers has significant challenges, which is why many companies are struggling with this essential element of calculating income levels. While companies' efforts to map the farm size of farmers in their supply chain has helped with one side of the equation to estimate yields, assessing production levels has remained difficult. Farmers' production levels are generally captured by the LBC purchasing clerks who off-take farmers' cocoa beans. However, their ability to do so accurately is complicated by the fact that farmers often sell to more than one LBC. Furthermore, the tendency of farmers to switch LBCs frequently (e.g. in the event of higher premiums) makes it difficult for LBCs to track individual farmers' yield levels over time.

If assessing cocoa income is already a challenge, estimating the size of non-cocoa income sources of cocoa farmers has proven even more difficult for companies. Companies acknowledge that it is still significantly easier (and more common) for them to calculate cocoa income than it is to calculate net household incomes, especially for larger farmer populations.

Collecting income data is often undertaken by suppliers, who are increasingly asked to collect more comprehensive data points for a larger population of farmers. Since collecting income data at scale is resource-intensive, suppliers tend to resort to doing shorthand surveys, which means they collect primary data for some indicators (e.g. yield, farm size) and use modeling and proxy indicators for others (e.g. costs) to develop income estimates. The reliability of these income estimates is unclear since they are generally not publicly shared.

Despite our repeated requests (and our assurance to treat the data confidentially), companies were hesitant to share income data with us. This hesitance might be rooted in the absence of readily shareable analyses or in a reluctance to share evidence of a lack of impact. Regardless, it makes a robust assessment of companies' income impacts difficult.

Lastly, companies are struggling with the challenge of assessing and isolating their own contributions to farmer income changes. Since farmer incomes are affected by many factors outside of companies' direct control, broader income trends can obscure the actual effectiveness and impact of a particular intervention. This challenge is also applicable to this research, where broader income trends risk brushing over the positive income impacts of some effective interventions. However, without better data and greater transparency it is impossible to identify these interventions.

Raising productivity: the ever-looming challenge

Productivity enhancements are at the crux of companies' income strategies. Low and volatile productivity remains a central living income challenge for cocoa farmers in Ghana. It is difficult to imagine a successful pathway towards a living income without enhancing farmers' productivity. Although companies have implemented productivity interventions for years and the practices and elements necessary for achieving higher productivity levels are well known, low productivity has remained a somewhat intractable challenge for companies, as our survey results show. What explains this apparent paradox?

Reliably assessing yield levels and changes of cocoa farmers participating in companies' sustainability programs remain a challenge for both companies and stakeholders due to measurement challenges and limited public data. Representatives across companies recognized their struggles of measuring yields reliably (especially over time) due to high yield volatility, fluctuating farmer populations and challenges with accurately recording farmers' production levels.

The yield data collected are most often not disclosed publicly. Only one company in our study reported average yield data for Ghana across multiple years. These data highlight the high level of yield volatility even within the same farmer population. One other company reported yield data through a one-time impact assessment, another only reported yield changes (but not levels), and two others provided yield data in interviews, without documenting them.

Overall, the yield levels reported by companies (550–650kg/ha) are significantly higher than what this assessment found (300–400kg/ha) and most other yield estimates over the past decade,³⁶ posing questions about assessment methodologies, data reliability and sample selections.³⁷ Without more public data and a standardized way of assessing yield, proper evaluation and comparisons will remain difficult.³⁸

Companies also risk skewing reported yield levels upwards, as they tend to 'cherry pick' yield data in their sustainability communication by either by pointing to yields of demonstration plots, highlighting yield increases as part of individual farmer profiles/stories, or showing the potential of particular interventions or practices, such as pruning, in raising productivity.

In interviews, companies clearly recognized the unresolved productivity challenge. Several companies admitted to not meeting their productivity targets and highlighted the uphill battle of merely stabilizing yields given ageing farms, changing weather patterns and risks of disease. Companies also emphasized the challenge of high yield volatility, even for individual farmers, which makes it difficult to both sustainably improve productivity levels and reliably measure progress over time. Companies also emphasized that yield improvements are possible for some segments of farmers, but that the success of productivity interventions is far from universal and that yield levels are always at risk of sudden declines.

Company representatives displayed a healthy level of critical self-reflection on the effectiveness of existing productivity interventions, in particular GAP training, by far the most frequently implemented intervention.

Adoption challenges were most frequently mentioned by companies regarding their efforts to raise farmers' productivity through GAP training. Companies recognized that the focus on knowledge transfer through training alone is insufficient in triggering behavior change at scale. Unfortunately, only one company reported adoption rates (although for Côte d'Ivoire, not Ghana), which were very low at 18%. This supports our survey results, which found that only 27% of farmers said they had been able to adopt and apply all recommended practices (54% of farmers stated they had tried to adopt some of the practices). It also aligns with existing literature that has documented low adoption rates around GAPs, such as pruning.³⁹

Companies recognized the unresolved productivity challenge and highlighted the uphill battle of merely stabilizing yields given ageing farms, changing weather patterns and risks of disease.

There are several reasons for low adoption rates. One potential reason could be that farmers do not see the benefits of adopting certain practices. However, companies have invested a lot in demonstrating the benefits of GAPs (e.g. demonstration plots, pruning parts of farms for free). Our survey findings confirmed the perceived utility of productivity training by farmers. Almost all farmers (96%) who participated in yield improvement interventions indicated that these interventions were useful or very useful (rating them 4 or 5 on a scale of 1 to 5).

Based on our conversations with companies and farmers, the more significant factor causing cocoa farmers to not adopt GAPs lies in the significant investment many of these practices require. Implementing GAPs requires both farm inputs and labor – with cost implications that often go beyond the resource capacity of individual farmers. In our survey, notwithstanding the perception of usefulness of the training received and its impact on yields, 80% of farmers stated that applying GAPs also increased their production costs.

During the focus group discussions, farmers further mentioned that the high cost of adoption meant that adoption is sometimes limited to just a portion of their farms where they could afford it. Farmers advocated that GAP training should be complemented with financial support such as input provision or loans for labor to accelerate their rate and extent of adoption.

Adoption barriers through resource constraints are particularly high for women farmers who might be able to implement some practices themselves (e.g. weeding) but who are not able to purchase inputs or hire labor. Women farmers might have more urgent household-related cash needs and perceive significant risk in investing in practices to boost productivity. Given uncertain weather conditions, risk of pests and disease, rising food prices and uncertain future cash flow, farmers might opt to not invest in GAPs even if they have the resources to do so.

Risks are particularly high for farmers when it comes to rehabilitating their farms, which for older farms is often the only way to meaningfully boost productivity. However, rehabilitation implies significant costs and a decrease in household revenue for several years. Furthermore, farmers are disincentivized to rehabilitate their farm since they are at risk of losing access to their land. Once a farmer cuts down the original cocoa trees, the land reverts to the traditional owners and use of the land has to be renegotiated.

Despite the importance of farm rehabilitation, companies are currently not making a concerted effort to support farmers in the process. The likely reason is the significant costs associated with farm rehabilitation, in particular compensating farmers for lost income, and the long time period before cocoa production can recommence.⁴⁰ Instead, COCOBOD has been the main actor supporting farmers in rehabilitating their farms. However, even COCOBOD's support of GHC 1,000 per hectare was considered by most farmers as wholly inadequate compensation for their income loss.⁴¹

On a positive note, companies are actively thinking about new ways to enhance the effectiveness of their productivity interventions. The most pronounced evolution in companies' thinking of how to strengthen adoption rates has been the gradual transition from one-size-fits-all training towards

more tailored and individualized coaching approaches and farm development plans. Many companies interviewed for this research supported this evolution from an exclusive focus on knowledge transfer towards addressing the behavioral issues around adoption. In practice, however, the number of farmers reporting having a farm development plan (15%) remains relatively low.

A second area of innovation is the promotion of agroforestry approaches to boost yields (and incomes) in a more sustainable way. While nearly all companies claim to be active in agroforestry projects, many unanswered questions remain, including the lack of shared agroforestry definitions and clearer insights into the relationship between agroforestry, cocoa yields and agrochemical use.⁴²

Production costs remain sidelined

Cutting costs is the first thing most companies do when trying to increase their profitability. However, when it comes to the profitability of farming households, production costs have remained sidelined in companies' income strategies.

There are both direct and indirect motivations for elevating production costs as a pathway towards higher incomes. First, production costs directly affect net income calculations and can eat up between 15% to 30% of farmers' income.⁴³ The relevance of production costs in shaping farmer incomes is even more pronounced given the current escalating input costs.

Second, production costs also have a more indirect effect on farmer income by shaping productivity levels and the capacity of farmers to invest in their farms. This is true for both cocoa and non-cocoa production, since farmers' ability to diversify into other crops can be significantly hampered by high input costs.

Considering the significant cost implications of raising farmers' productivity, the level of support companies are offering to help lower these costs as part of their farmer income strategies is insufficient. Exploding production costs further reinforce the urgency of supporting farmers in their farm investments. However, reducing production costs did not emerge as a priority in companies' sustainability communications, interviews, or from the perspective of farmers.

There are precedents of companies implementing interventions to lower farmers' production costs. However, companies' field agents were skeptical of these past efforts. Giving out inputs for free was perceived to be too costly, creating dependencies or not being valued by farmers. Credit scheme inputs had been plagued by low repayment rates. Nevertheless, at least a couple of companies reported the renewed launch of interventions targeting increased labor support for farmers (e.g. through organizing and training pruning and spraying gangs).

Overall, the perception remained that input support was the responsibility of COCOBOD, which every year provides farmers with subsidized fertilizer and mass spraying programs. However, due to the late arrival of inputs at the community level, inadequate quantities to cover entire farms, or missed distribution or operations schedules, farmers have often had to find

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alternative, more expensive means of acquiring these items. COCOBOD's support has declined over the past couple of years, but companies have not yet stepped in, leaving farmers in dire need of support.

Exploding costs are exacerbating the existing farm investment gap in Ghana. During interviews, some companies recognized that the level of farm investment has remained too low and that a multiple of current investment is required to meaningfully and sustainably raise farmers' yields. One company estimated that the average investment is currently around \$80 per hectare, but that it would take \$400 to \$500 annually to sustainably raise incomes through productivity enhancements. The big question companies face is – who should pay for this?

Unpacking diversification

There has been a lot of emphasis by companies on the need for cocoa farmers to diversify their incomes in order to reduce the dependence on cocoa and foster additional income sources to reach a living income.⁴⁴ Companies have embraced the need for income diversification as a central element of their sustainability strategies, linking diversification to sustainability (agroforestry), food security (food crops), women's empowerment (VSLAs) and living income.

Cocoa and chocolate companies encouraging farmers to invest in crops and activities other than cocoa seems counterintuitive at first. A scalable shift of farmers away from cocoa could create supply risks and increase the price of cocoa. There are important assumptions and nuances to unpack on why, when and how companies can effectively support the diversification of incomes of farmers in their supply chains.⁴⁵

Companies have a nuanced interest in diversification. First, diversification does not necessarily conflict with companies' interest in sourcing cocoa, as more diversified farming households can strengthen their financial resilience, environmental sustainability and food security, and thus ensure their long-term production of cocoa (given it is a seasonal crop). Second, companies have a particular interest in those farmers who have low production levels and are furthest away from earning a living income from cocoa diversifying their incomes.

The nuanced motivations of companies for supporting diversification makes this a complicated area for interventions, which helps to explain the mixed track record to date. Importantly, progress towards living income is only one of several ways of assessing the success of diversification initiatives. Success diversification can also mean better food security, greater household resilience, less income volatility, or women's economic empowerment.

Evaluating the success of companies' diversification strategies is hampered by a lack of available data. Only three of the ten companies published or shared selective data regarding the impact of their diversification interventions on farmer income. While these few data points indicate a positive contribution of diversification to farmers' incomes (e.g. 20–30% income gains, and higher-income farmers being less dependent on cocoa income), they do not allow for generalizations due to a lack of detail on methodology, data quality and farmer sample.

Other observations paint a less convincing picture of the impacts of diversification interventions that companies have implemented to date. Representatives across companies expressed humility when asked about the impact of their interventions. Besides their inability to make definite statements on impact due to a lack of data, they recognized the vast range of support that must be in place in order to successfully grow and market alternative crops.

Contrary to cocoa, there are many factors beyond companies' control regarding alternative income-generating activities, including the absence of a guaranteed off-taker and fluctuating market demand. Guaranteeing the success of diversification projects can require much investment and accompaniment by companies. Companies are clearly grappling with their role in providing this range of support for crops they neither purchase nor necessarily know well.

Companies also expressed skepticism regarding their ability to scale diversification initiatives. Given the significant costs of supporting diversification, companies often only train and support a small number of farmers. Companies not only lack the expertise but also the leverage to get other actors on board and put off-taking arrangements in place.

Adoption was equally a challenge as for cocoa, in part because of companies' limited approach. Based on farmers' feedback, the primary support provided by most companies to help farmers diversify their incomes was start-up support (e.g. training, provision of seedlings). Companies were less frequently providing inputs and marketing support.

Marketing is a critical success factor for diversification strategies. Market demand is not only key for farmers to be incentivized to invest in non-cocoa income-generating activities, it also determines the financial success of these investments. However, local market demand is often very regionally specific and very volatile.⁴⁶ This makes it difficult for companies to implement the same diversification strategy across communities or even over time (in fact, it would be counter-productive) or to leave farmers to deal with market dynamics on their own.

Some companies have started to invest more in doing their own marketing research and support in order to ensure that diversification activities have the potential to generate additional income. One company is even experimenting with off-taking and marketing food crops and other goods themselves (one company was buying the soap women were making to use in their own offices). This implies risks of dependency on companies, but also the risk that diversification strategies will be decided by companies, not by farmers.

Diversification initiatives in their current form are no panacea for cocoa farmers to raise their incomes and there can be significant risks associated with them.⁴⁷ Households do not automatically benefit financially from diversification, and might in fact be worse off when shifting their limited resources (e.g. land, capital and labor) away from cocoa. Contrary to cocoa, most other crops lack the same infrastructure (e.g. price guarantees, subsidized provision of inputs, guaranteed off-take arrangements). Especially for high-input and perishable goods, diversification can be a risky endeavor for farmers.

Contrary to cocoa, there are many factors beyond companies' control regarding alternative income-generating activities, including the absence of a guaranteed off-taker and fluctuating market demand.

Pricing remains a neglected income lever

Pricing arguably remains the biggest blind spot in companies' current farmer income strategies. We observed a significant gap between the elevation of the topic in global fora and the current state of companies' implementing pricing interventions in their supply chains. Apart from hypothetical treatments of the potential impact of prices on farmer incomes⁴⁸ and the launch of some living income pilot projects with a pricing component,⁴⁹ there is limited evidence of how companies' pricing interventions have affected farmer incomes to date.

Underlying the debate about price is a shared recognition that the current pricing mechanism for cocoa is inadequate to reflect and cover the cost of producing cocoa sustainably and guaranteeing a decent standard of living for cocoa farmers. Considering how much work, energy and time goes into filling a 62.5kg bag of beans for the meager farmgate price of \$60 to \$80 (depending on the exchange rate), it is no surprise that cocoa farming has been described as 'a poor man's crop'.⁵⁰ While perspectives on cocoa farming are diverse in Ghana (cocoa remains a key economic engine for many rural regions), there is widespread recognition that cocoa farming is not as profitable as it once was due to lower prices and higher costs.

The urgency of low cocoa prices is particularly acute in the current situation of escalating costs, which is why farmers have been demanding a higher farmgate price from the Ghanaian government ahead of the 2022/23 price announcement.⁵¹ Due to COCOBOD's financial position, which limits its ability to respond to these demands, the agency only raised the farmgate price for the 2022/23 season to GHC 800, which represents a 21% increase in Ghanaian cedis, but a de facto decrease in dollar terms.⁵²

The primary way companies currently support higher farmgate prices (apart from their obligation to pay the LID) is through voluntary price premiums. Premium payments have evolved significantly in the past decade.⁵³ While initially implemented in niche markets as part of certification programs, such as Fairtrade, they have been increasingly managed under the umbrella of individual companies' sustainability programs as companies have de-emphasized the role of certification as their primary sustainability strategy.

The mainstreaming of premiums within companies' sustainability programs has had several implications. First, the number of farmers receiving sustainability premiums has expanded significantly to include most farmers that participate in these programs. Second, premiums have lost some of their incentive power, as it is now the expectation rather than the exception for LBCs to pay a premium to farmers who they buy from.

That said, farmers are acutely aware of premium levels. It shapes their loyalty to a certain LBC and might also contribute to them 'shopping around' if they hear of another LBC offering higher premiums. Nevertheless, their knowledge of who is paying the premiums is limited: 89% of farmers did not know who was responsible for paying the premium (beyond the LBC) or why they received it.

There are several shortcomings of the current way companies are intervening on price. First, there is a lack of transparency of premium payments. While five companies publicly report the amount of total premium payments,

the value of this number is limited without knowing how many farmers it has been distributed to. Only one company publishes the amount of premium it pays per ton. When prompted, three more companies disclosed their premium amounts per ton (the others refused to confirm and/or emphasized the confidentiality of this data). For all four companies this is between \$50 and \$80 a ton, a small percentage of the farmgate price.⁵⁴

Second, there is a discrepancy between the premiums that companies report they are paying and the amounts farmers receive. Companies disclosing their premium payments most commonly cited a figure of \$70 per ton. However, farmers reported receiving average premiums of GHC 16.4 per bag, ranging between GHC 9 and GHC 25 per bag sold in the last harvesting season (2021/22).⁵⁵ The majority of farmers stated that they had received between GHC 13 and GHC 15 per bag, which translates into \$35 to \$40 per ton. Only one company appeared to consistently pay GHC 25 per bag, which comes close to \$70 per ton.

Third, the amount of premiums paid by companies are too low to make a significant contribution to closing farmers' living income gaps. A farmer producing 10 bags of cocoa receives between \$20 and \$42 in total, but the average living income gap per household in Ghana is more than \$2,600 a year.⁵⁶ As a result, close to two-thirds (65%) of farmers who received premiums indicated that they did not increase their income levels.

Fourth, there are significant gaps in premium payments. Almost a quarter of farmers (23.4%) reported not receiving premiums during the last harvesting season. This aligns with the feedback from companies, where only three could confirm that all the farmers in their sustainability program are receiving premiums. During focus group discussions, farmers across different company programs reported how premium payments had been disrupted during COVID-19 and were either never reinstated or significantly reduced.

Farmers' testimony regarding irregularities in premium payments included: "We understand COVID-19 has affected abilities to pay premiums" (female participant, focus group discussion, Tei Mensah, Eastern Region); "Some of us don't receive bonuses [premium] at all. They only give us one bottle of Confidor"⁵⁷ (male participant, focus group discussion, Anwianfu, Ashanti Region); "We were paid premiums but we weren't paid for all the bags we sold" (female participant, focus group discussion, Anwianfu, Ashanti Region).

Some farmers also complained that premiums were received too late (i.e. between July to September) as they wished they were paid earlier (May to July) when they need money the most to cover farm costs and household expenditures.

Companies have also been supporting higher farmgate prices in Ghana through their payment of the LID. Compared with voluntary premium payments, the LID has had a more pronounced impact on cocoa farmers' incomes in Ghana. Not only is the premium farmers receive much higher (\$400 versus \$50 to \$80), but also the number of farmers receiving it (i.e. all Ghanaian cocoa farmers, rather than only farmers participating in companies' sustainability programs).

The amount of premiums paid by companies are too low to make a significant contribution to closing farmers' living income gaps.

Nine out of the ten companies have made public statements in support of paying the LID. However, a lack of transparency makes analyzing companies' practices around the LID difficult. There are no data available on the total additional amount each company has to pay due to the LID. Furthermore, companies have tools at their disposal to limit the financial impact of the LID through their purchasing practices. Their ability to negotiate down export prices by refusing to pay the origin differential for Ghana has led to significant controversy in Ghana recently.⁵⁸

The joint shortcoming of existing premium payments and the LID is that they are implemented within (and under the pressure of) the wider pricing system without being responsive to it. The fixed nature of voluntary premiums means they cannot react to highly volatile global market prices. A more flexible architecture could share price risks more equally between farmers and companies and better protect farmers against price volatility.⁵⁹ Similarly, the LID's ability to deliver for farmers is contingent on sufficiently high world market prices. Otherwise, the LID is merely a stabilization tool, with COCOBOD footing the bill by effectively subsidizing the farmgate price.⁶⁰

Shortcomings in integrating gender and income

Women play a central role in cocoa production. They run around 25% of cocoa farms in Ghana and are engaged in most of the steps of cocoa production, from pre-harvest activities to marketing of the beans.⁶¹ Recognition of their central role is increasingly reflected in companies' sustainability strategies, which have adopted a stronger gender focus over the years (e.g. gender action plans, women-focused interventions, etc.).

Yet, three main shortcomings remain. First, despite their central role in cocoa production, companies have largely targeted women's non-cocoa roles by making them the focus of interventions related to child labor, VSLAs and income diversification. While women are not prohibited from participating in cocoa-related interventions, such as training, companies do not consistently assess if and how women participate and benefit from these interventions, compared to men. This finding aligns with other research which found that the industry takes a predominately accommodating approach to integrating gender in its income interventions.⁶²

Second, women's critical contributions within male-headed households continue to remain invisible. The labor they contribute to pre- and post-harvest activities is not recognized or remunerated, but largely accounted for as support to male household heads who are often the registered farmers.

Third, companies are not consistently collecting and disclosing gender-relevant data. Only one company publishes gender-disaggregated yield and income data. The few data points available from companies' evaluation data confirm the additional barriers for women farmers to reach a living income (e.g. lower yield, higher costs, smaller land size). Our survey results confirmed the existence of these barriers.

The popularity of VSLAs illustrate the dominant approach companies take to linking gender and income. VSLAs have been companies' primary vehicles to support non-cocoa income-generating activities targeted at women.

Despite their central role in cocoa production, companies have largely targeted women's non-cocoa roles in their income interventions.

Close to half (48%) of the women interviewed were members of VSLAs. VSLAs can be a good starting point to integrate gender and income and to shift more cocoa income from men to women.

VSLAs' ability to generate income for women requires further analysis. Comments by companies indicate that a significant portion of the fund taken out by VSLA members is spent on income-generating activities (both on- and off-farm). However, it is unclear to what extent VSLAs have contributed to closing women's income gaps. While there is solid evidence of the benefits VSLAs offer their members (e.g. year-round access to finance, empowering women financially), their income-generating power is limited due to the limited size of loans and savings members can generate on a yearly basis.⁶³ Companies recognized the need to expand the VSLA model and link women to formal financial institutions, and there are indications that this is also happening to some degree in practice.⁶⁴

Modes of implementation: fragmentation and competition

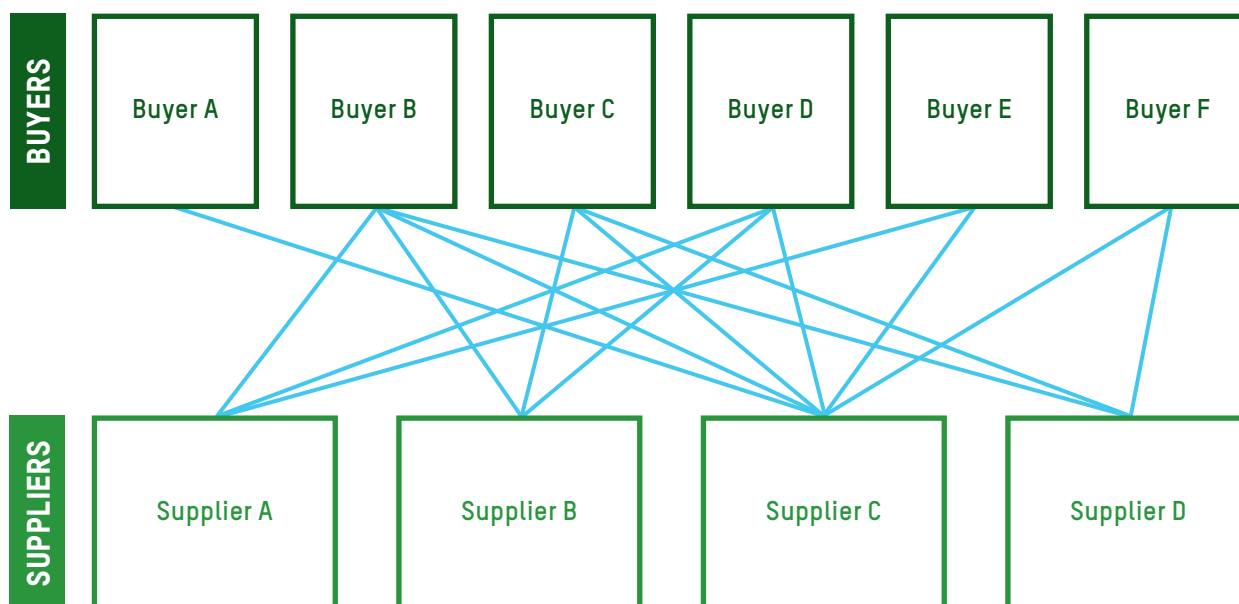
The effectiveness of interventions targeting farmer incomes is not only shaped by the strategies underpinning them, but also by the way they are implemented. Interviews with company representatives and observations at the community level highlighted how the actor constellation between buyers and suppliers shape the degree to which income strategies are designed and coordinated. They also help to explain why the income strategies of companies are very similar.

It is worth emphasizing that there remains a significant distance between buyers (as the lead actors of cocoa supply chains) and the farmers participating in these supply chains. This is highlighted by the fact that only 11% of farmers interviewed were aware of and could correctly name the company that buys or uses their cocoa beans. While this was not necessarily surprising, since farmers interact mostly with LBC agents (and not buyers), it highlights the lack of direct interaction, insights, and information buyers are able to get on an ongoing basis.⁶⁵

Supply chain relationships are also not exclusive, but all buyers sourced from several of the suppliers (or LBCs) that were included in this study (Figure 9). This helps to explain the uniformity in approach we witnessed at the community level. Contrary to the higher visibility of buyers' sustainability programs, it is the supplier who designs and 'sells' its sustainability priorities (including its strategy to raise farmer incomes) to buyers. Stakeholders repeatedly mentioned the 80–20 rule: 80% of the sustainability interventions are the same across buyers, while only 20% differ. In other words, at the community level the question of which supplier implements the program is more important than who the buyer is.

Despite the need for greater collaboration to achieve a living income, suppliers generally do not collaborate at the community level.

Figure 9. Buyer–supplier linkages in the Ghanaian cocoa sector



The important role of suppliers in designing and implementing interventions also helps to explain the prevalent focus on productivity interventions. While buyers and suppliers have both prioritized the issue of low farmer incomes in recent years, there are important differences in their motivations, priorities and approaches. Buyers are more reputationally motivated, which translates into greater emphasis on issues, such as child labor. In contrast, suppliers are more operationally motivated. They thus seek to align farmer income strategies with their imperative of securing cocoa supply, which results in greater emphasis on productivity enhancements.

What unites buyers and suppliers is the incentive to work with better-off farmers. For suppliers, working with better-off farmers is the more efficient way to secure cocoa. For buyers, it makes it easier to demonstrate that farmers are reaching or close to the living income benchmark. Yet, it is arguably thanks to buyers that an inclusion lens has remained in sustainability programs. One field agent of a supplier company stated that the only reason they keep working with low-performing farmers is because of the pressure from buyers.

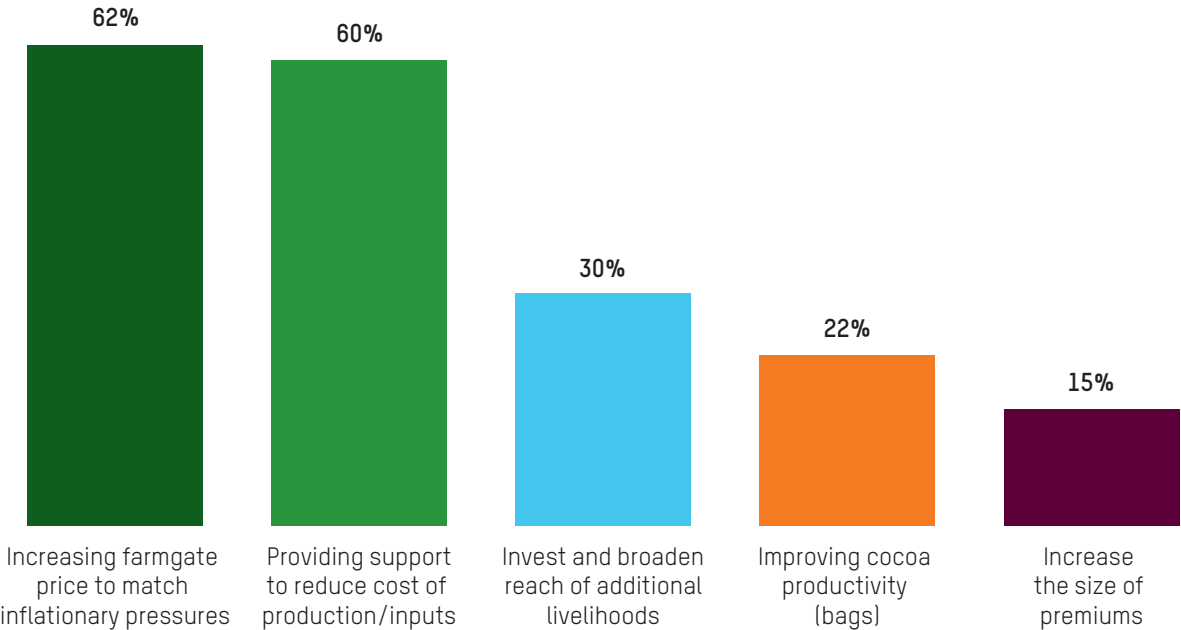
Another implication of the current implementation model is the fragmentation of efforts due to competition between suppliers at the community level. Despite the need for greater collaboration to achieve a living income, suppliers generally do not collaborate at the community level. In Ghana, due to the absence of strong farmer organizations, large suppliers in their role as LBCs are omnipresent actors at the community level. It is not uncommon for several LBCs to operate side-by-side within the same communities – each working with a separate group of farmers but implementing similar interventions. While farmers can benefit from the competition between LBCs (e.g. going with the LBC that pays higher premiums), it makes for highly transactional farmer–LBC relationships, which prevent long-term support and accompaniment for individual farmers.

A final observation on the current implementation model concerns the superficial level of engagement with farmers. In an effort to fulfil their commitment of sourcing 100% from farmers in their sustainability program, buyers have spread out their sustainability interventions without necessarily matching their investment. The result is highly stretched company field agents, often responsible for more than 50 farmer groups. Their ability to offer in-depth support to individual farmers is limited as they often are only able to visit a particular community once a month.

What do farmers want?

Finally, this study was interested in farmers' views on what companies should focus on to raise their incomes. Figure 10 highlights farmers' preferences and illustrates the gap in companies' existing priorities. Increasing producer prices to match inflationary pressures and providing support to reduce production costs were ranked as the top two factors that government and companies' interventions to increase cocoa farmers income should focus on. Farmers explained that increasing producer prices and input support will reduce the cost of production, enhance their ability to apply good agronomic practices, and increase their productivity, leading to an increase in their net cocoa income.

Figure 10. Farmers' preferences for company support



SECTION 7

Implications and takeaways

This research's findings present a sobering but not necessarily surprising picture: despite significant efforts by companies to raise the incomes of cocoa farmers in their supply chains in Ghana, there is little evidence that farmer incomes have increased over time. In fact, this research found that farmer incomes have been declining over the past three harvesting seasons – primarily as a result of higher costs and lower production levels.

The findings indicate the need for a new approach to raising the incomes of cocoa farmers in an inclusive, sustainable and meaningful manner. Without more pronounced and ambitious efforts by companies, a living income will remain an illusion for most farmers across companies' cocoa supply chains. This section lays out a set of recommendations for companies to rethink their approach.

From farmer income to living income

This research revealed the important differences between raising farmer incomes and achieving a living income. While all efforts by companies to raise farmer incomes contribute towards the goal of achieving a living income, they are not necessarily sufficient.

For living income to become a core priority for companies, we need to move beyond an experimental approach (often focused on pilot projects) that is neither fully embedded in companies' sustainability programs nor linked to their cocoa-sourcing strategies.

Elevating and mainstreaming living income requires concrete policy commitments that set out a clear pathway and progress markers. To date, only one of the ten companies in this study has made a commitment to living income. At the sector level, only Beyond Chocolate has a concrete living income commitment, while the three other European ISCOs have vaguer statements.⁶⁶

For living income to become a core priority for companies requires strong commitments at both company and sector levels. At the company level, commitments to living income are an important signal to both internal and external stakeholders that farmer poverty is a material issue to be addressed. At the sector level, a commitment to living income is an important tool to align companies' efforts and create space for collective action on living income.

Living income commitments are also an important accountability tool. As seen in this study, accountability mechanisms are virtually absent for living income. The lack of transparency, reporting standards and feedback mechanisms make living income a discretionary issue in the control of

Elevating and mainstreaming living income requires concrete policy commitments that set out a clear pathway and progress markers.

individual companies. It allows for ‘cherry picking’ of progress indicators and easily becomes deprioritized when financial pressures or other sustainability issues enter the agenda.

Companies have been hesitant to make concrete commitments to a certain number of farmers’ earning a living income by a certain year. While some of this hesitance is justified given the multiple factors that shape farmers’ income opportunities (many of which are outside the control of individual companies), there are smart ways of addressing them.

Living income should be the main but not the only target when it comes to improving the economic situation of farmers. In fact, over-prioritizing living income as the sole KPI can lead to the unintended consequence of companies prioritizing their investment in better-off farmers who can more easily reach a living income benchmark. In the short run it will be more important to track progress towards a living income (and by whom) rather than the attainment of the benchmark itself.

Relevant progress markers to assess companies’ progress should therefore include both relative and absolute income improvement metrics (e.g. a 50% income improvement for a vulnerable farmer is relevant even if they still have a long way to go towards a living income). Similarly, reduction of income volatility and income improvements for women and vulnerable farmers are other important progress criteria. Lastly, living income commitments focused on small-scale farmers should also consider the situation of sharecroppers and agricultural workers, and ensure that they are also earning a living wage.

From sustainability to procurement issue

This research found that companies’ primary vehicle to raise the incomes of cocoa farmers in their supply chains is through their sustainability programs. This approach is predicated on discrete interventions implemented at the farm and community levels. However, even the best-designed sustainability intervention is unlikely to address the structural barriers of raising farmer incomes, which sit beyond the individual farm or community levels.

It is understandable that sustainability programs (including living income pilot projects) are a preferred vehicle for companies. They are fully within their control, are easily marketable, and allow companies to leave their core business practices related to sourcing cocoa largely unchanged. However, it is precisely this discrete intervention lens implemented separately by each company that impedes more structural changes and impacts.

This does not mean that companies should do away with sustainability programs. Given their significant reach, these programs remain important support instruments for Ghanaian cocoa farmers. However, sustainability programs should only be one element of companies’ holistic strategies to raise farmer incomes. The other key lever is procurement.

Despite increasing rhetoric on the critical role of procurement, the way companies source cocoa has been relatively unaffected by the elevation of living income as a sustainability issue. According to company representatives, the disconnect between sustainability and procurement

The way companies source cocoa has been relatively unaffected by the elevation of living income as a sustainability issue.

remains significant as procurement teams are still incentivized to ‘beat the market’ (i.e. cost continues to be a major determinant of sourcing decisions).

It is therefore no accident that high production costs and low farmgate prices are two of the living income elements that companies have paid least attention, to since addressing them would clash with their existing goal of minimizing sourcing costs. In the future, addressing the living income gaps of cocoa farmers in a meaningful way requires a procurement-oriented approach that aligns procurement goals with living income goals. This approach uses sourcing practices, such as higher prices, greater traceability, and long-term trading relationships with strong farmer organizations as levers for higher incomes. The example of Tony’s Choclonely has shown that it is possible for such an approach to work in practice.⁶⁷

From farm productivity to farm profitability

This report’s findings highlight companies’ reliance on productivity enhancements (and to a lesser degree diversification) as the primary income growth pathways. From a living income perspective, productivity is not an end in itself. Increasing productivity might lead to higher income, but it might also not.

Production costs are a critical intervening variable between productivity and profitability. Recent research has shown that higher yields do not necessarily lead to increased net income for farmers. This work has highlighted the complicated relationship between productivity and income increases of cocoa farmers by focusing on the labor cost increases that higher productivity requires.⁶⁸ The same is true for other inputs, such as fertilizer or agrochemicals.

Instead of focusing on productivity in isolation, companies should strengthen the profitability lens of their living income strategy. This includes expanding the promotion of individually tailored farm development plans, strengthening the financial literacy of farmers, and applying farm economic modeling as some companies are already doing.

Companies should also actively invest in effective solutions to reduce farmers’ costs around productivity and diversification investments. To date, companies’ experience in reducing farmers’ production costs have been quite disappointing. Providing farm inputs free of charge or on credit have so far not yielded the expected results, which is why several companies have discontinued this type of intervention. New approaches are needed to break the ever-rising production costs that farmers face.

Recent efforts to professionalize labor support for farmers appear to be a more promising avenue. The expansion of accessible and low-interest financing mechanisms in order to reduce the risks around farmers’ investment in their farms is another key area that requires further investment. Joint learning on how to make these services work for farmers is needed.

Beyond reducing costs, companies should place much more emphasis on increasing farmgate prices in order to increase farmers’ profitability. This study found that most (although not all) companies acknowledged that price

Instead of focusing on productivity in isolation, companies should strengthen the profitability lens of their living income strategy.

should play a bigger role in their living income strategies. The key question on price is thus not if prices should be used as a lever to raise farmer incomes, but how to best implement price interventions.

In the current debate on prices, concerns about unwelcome side effects of price interventions abound – from the limitations posed by competition law to the risk of triggering over-production. While price interventions require careful consideration, the overemphasis on their potential negative impacts is not always justified.⁶⁹

In fact, the evidence base for the potential of higher prices to raise farmer incomes is becoming increasingly strong. The 2022 Cocoa Barometer highlights how increasing the farmgate price for cocoa to \$3 per kilo would move the average farm household in Ghana to either earning a living income or coming very close to the benchmarks.⁷⁰

The starting point for elevating price as part of companies' living income strategies should be to honor the LID. The last couple of years suggest that companies' public statements of support for the LID have not been shared by their procurement teams, highlighting the often-cited disconnect between sustainability and procurement goals within companies. As the LID made cocoa from Côte d'Ivoire and Ghana more expensive, companies have used their bargaining power to offset these higher costs (e.g. by negotiating down the origin differential for both countries).⁷¹

A second price intervention that companies can engage with is the Fairtrade Living Income Reference Price (LIRP) model for cocoa.⁷² In this model, additional payments to farmers are added to the market-based farmgate price to enable farmers to earn a living income. Despite its potential to bridge the living income gap, uptake of the LIRP model by companies has been limited. Tony's Chocolonely is the only company to date that has adopted it at large scale.⁷³

Companies are admittedly more likely to pay higher prices if they are not the only ones doing so. A level playing field can make a world of difference when it comes to reducing the competitive disincentives of paying higher prices. Building price into legislation, such as the EU Corporate Sustainability Due Diligence Directive, is therefore critical. The technical working group on pricing mechanisms convened by the Côte d'Ivoire – Ghana Cocoa Initiative (CIGHCI) is an important forum for companies to engage in collectively, while the ISCOs offer another critical space for companies to jointly develop interventions to achieve higher prices for cocoa farmers.

From sourcing costs to supply chain investment

Paying higher prices is not the only way companies should invest in cocoa farmers. There is also an urgent need for broader investments in cocoa supply chains and the Ghanaian cocoa sector. The structural reforms needed in the sector – ranging from investments in better infrastructure, replacement of the country's tree stock, to expansion of irrigation systems and more sustainable and efficient production methods – all require the contributions of companies who rely on Ghana as one of their primary cocoa-sourcing countries.

Investments in sustainable supply chains are part of the cost of doing business and should be integrated into procurement costs and budgets.

A major shortcoming of companies' current funding approaches is their focus on sustainability budgets alone. Companies have received much publicity for their announcements of new sustainability investments. However, these announcements often conceal the actual level of investments that arrive at individual farms and communities, since a lot of the resources are captured as operating costs by suppliers and other implementing partners.

Company representatives recognized the high level of investment needed to make a living income for cocoa farmers a realistic opportunity. The growing number of farmers covered by companies' sustainability programs, combined with the more holistic set of interventions being implemented, means that program costs are increasing exponentially. Without a substantial increase in funding, there is a risk that companies will either focus their investment on a small subset of farmers or that their investment in farmers will be spread more thinly.

Investments in sustainable supply chains are part of the cost of doing business and should be integrated into procurement costs and budgets. Companies have the resources available to channel investments in their supply chains as they have benefitted from low market prices for cocoa and consistent consumer demand.⁷⁴

There are four ways that companies should channel their investments:

1. Increase the investment in farm services, with a focus on lowering production costs.
2. Provide farmers with more resources directly to invest and attain a decent standard of living, either through paying higher prices or through cash transfers.
3. Extend their support of financing options and access to credit for farmers, which remains a significant challenge for farmers.
4. Ensure that producer-country governments have the resources to make broader investments in their agricultural sectors (e.g. pay fair share of taxes, honor the LID).

From data secrecy to income transparency

Data availability and quality remain major challenges to making progress on living income. The problem is two-fold. First, companies for the most part are still not collecting robust data that would allow them to track and analyze farmer income trends. Second, companies are not sharing the income data they are collecting or engaging with other companies in standardizing income data collection approaches.

There is evidence that it is possible for companies to be more transparent on farmer incomes. Across relevant data points, this research found that one or two companies were publishing relevant data, but the majority were not. Examples include the number of farmers in a company's sustainability program or supply chain (country-by-country); the amount of cocoa sourced from Ghana; the level of sustainability investment in Ghana; the size of the

There is evidence that it is possible for companies to be more transparent on farmer incomes.

premium paid; and disaggregated yield and income data by country and year. The fact that at least some companies publish and/or share these data means that there are no legal or methodological justifications not to do so.

Income data quality and utility is a major problem that companies need to tackle. Income data are highly fragile and can easily become unreliable if data are not collected and analyzed in a robust manner. Companies need to adequately resource the collection of high-quality income data by their suppliers (e.g. expertise and tools) and invest in understanding the income effects of certain farmer characteristics, including gender, productivity, farm size, and level of income diversification.

This does not mean that companies have to spend disproportionate amounts on data collection and measurement (e.g. collect annual income data from all the farmers in their supply chain). Well-designed sampling approaches to assess income levels can generate valuable insight from a small number of farmers. In addition, data collection tools, such as farmer financial diaries, can be very expensive to roll out to large farmer populations but work well for smaller samples.

Beyond collecting robust income data, there is an urgent need for greater data sharing to get a more accurate sense of the income situation of farmers across supply chains. Pooling income assessments and data can also help to ensure methodological consistency and thus comparability. This entails the need for more coordination with COCOBOD in data collection and sharing.

From fragmentation to collective action

Nearly every debate in the cocoa sustainability space emphasizes the need for more partnerships and greater collaboration to make living income a reality for West African cocoa farmers. However, living income efforts in Ghana remain marked by fragmentation, competition and a lack of coordination.

The research findings highlight the fragmented and competitive landscape of companies' sustainability interventions to support farmers in raising their incomes. Companies continue to design and implement their own sustainability initiatives with little to no coordination with their peers. This both creates inefficiencies in implementing sustainability interventions and also sidelines more collective approaches to address sector-level obstacles to higher farmer incomes, such as collectively paying higher prices or lowering costs for farmers.

Pre-competitive collaboration around living income is critical since cost-benefit calculations of particular strategies pose a different set of (dis)incentives depending on if they are implemented by an individual company or by the sector as a whole. Furthermore, significant efficiencies could be gained if suppliers were not forced to segment their programs based on buyer preferences, which often only affect program designs at the margins. The same is true for data sharing (e.g. on yield and income) and joint learning on commonly implemented interventions (e.g. GAP training).

Pre-competitive collaboration around living income is critical since cost-benefit calculations of particular strategies differ depending on if they are implemented by an individual company or by the sector as a whole.

The contentious relationship between COCOBOD and companies remains a major barrier to more concerted action on living income in Ghana. Given the central role of both COCOBOD and companies in supporting farmers and marketing cocoa, there is no alternative to joint government and private sector action to reform the sector to enable a living income for cocoa farmers in Ghana.⁷⁵ The areas needing public-private sector collaboration are vast, ranging from data sharing to joint infrastructure and sustainability investments, the provision of farm services and extension programs, and pricing reform.

Creating new multi-stakeholder venues for engagement on living income is one critical step towards greater collaboration. While companies, governments and civil society have created joined platforms for engagement on living income within consumer-country contexts (i.e. the ISCOs), such platforms are missing within producer-country contexts, such as Ghana.

From land size to land tenure

Of the immediate income drivers, land has had the least attention from companies to date. The primary way land is currently included in companies' farmer income strategies is by making land ownership a pre-condition of participating in sustainability programs, and by mapping farm sizes (which can be misunderstood by farmers as land registration).

Land size is also an often-mentioned topic in living income debates, based on the notion of a 'minimum viable farm size' to achieve a living income.⁷⁶ Importantly, the relevance of land in relation to farmer income is not limited to land size (or even access). Land-related strategies should rather focus on land tenure and titling. Oxfam's current research in Ghana shows that 83% of cocoa farmers have no land documentation. Of the farmers who have some type of land documentation, for the vast majority (97%) this is incomplete (it lacks formal endorsement and recording).⁷⁷ The increasing threats on land used for cocoa, in particular the spread of *galamsey*, make insecure land tenure an even more relevant issue.⁷⁸

Companies are increasingly recognizing the importance of land as a factor influencing incomes. However, companies have so far largely shied away from engaging on land in a concerted way because of a perceived lack of responsibility and leverage, but also the perceived complexity of the issue. As a result, land issues remain one of the least popular work streams within companies' efforts to raise cocoa farmer incomes.⁷⁹

Companies should make land a central element of their living income strategies. Supporting the formalization of land ownership can be a powerful tool to incentivize farm investment and attract finance opportunities. In reverse, farmers have been hesitant to rehabilitate their farms or even cut down disease-infested trees because of a fear of losing their land.

Grappling with land ownership also means acknowledging the complicated ownership arrangements of Ghanaian cocoa farmers and the differences between landowners, sharecroppers and caretakers. Without this awareness,

Supporting the formalization of land ownership can be a powerful tool to incentivize farm investment and attract finance opportunities.

companies can even unwittingly exacerbate land tenure issues since the formalization of land rights can also generate tensions and trade-offs, including reinforcing inequalities between powerful and vulnerable groups.⁸⁰

Land is also an opportunity for companies to strengthen the gender focus of their living income strategies since women's access to, and tenure of, land is more limited. In one example mentioned by a company representative, women could not continue their diversification activities because the land where they produced additional crops was taken away from them.

From gender as an add-on to gender mainstreaming

Cocoa and gender inequality have historically gone hand in hand. Cash crops like cocoa risk contributing to gender income gaps because of prevailing gender norms that limit women's ability to manage the sale of these crops and benefit from the proceeds.⁸¹ Sustainability initiatives should provide a correction for this inequity and promote the role of women in managing the financial resources generated by cocoa within a household.

In their current form, companies' living income strategies are unlikely to substantially improve women's positions as cocoa farmers due to the absence of gender-transformative income strategies and the prevalent focus on strengthening women's non-cocoa roles. There is even the risk that companies' approaches of focusing living income efforts on better-off farmers will have a negative impact on women, who on average have less land and lower yield than men.

Without a purposive gender-inclusive design, living income strategies are likely to benefit men rather than women. A gender-inclusive design should not only include tailoring income interventions to women farmers, but also strengthening the position of women at the household, community and sector levels, including their unpaid care duties, land rights, access to finance, market participation and decision making.

Women's active participation in living income strategies should start at the analysis and design stage. Income strategies should consider the diversity of women in cocoa (e.g. age, land ownership, family status) and their roles (cocoa, other income-generating activities, care duties). Identifying women's particular risks, vulnerabilities and needs will ensure that interventions meet women's needs, that training events are held at a time and in places suitable for women, and that farm services are accessible and beneficial for women farmers. Collecting gender-disaggregated data is also critical to better understand the income situation of women and to tailor interventions to their needs. Progress towards greater gender equality should be a key performance indicator within companies' living income strategies.

Without a purposive gender-inclusive design, living income strategies are likely to benefit men rather than women.

From weak to strong farmer organizations

Most cocoa farmers in Ghana are not organized: only a small proportion are organized into formal groups and only a small amount of cocoa is sold to cooperatives each year.⁸² The low level of farmer organization is a key hinderance to their ability to earn a living income since their bargaining power and access to support programs is limited as a result.

The way the cocoa sector is governed in Ghana helps to explain the low level of farmer organization. First, as COCOBOD guarantees the price and offers extension services, the benefits of collective action (e.g. on price negotiation or access to inputs) might be mitigated. Second, commercial LBCs are the primary interlocutors between COCOBOD, cocoa farmers, and global cocoa buyers. These LBCs form their own groups of farmers as participants in their sustainability programs.

Companies have taken the absence of strong farmer organizations as a given rather than as an issue to be addressed. Strengthening farmer organizations has not received significant emphasis in their living income strategies. Instead, the commercial LBC model has been the preferred sourcing method, sidelining farmers' collective agency and bargaining power as many farmer groups have little agency and autonomy outside of companies' sustainability programs.

The potential benefits of strong farmer organizations are well-established and include better access to and lower costs of inputs, easing of the labor burden on individual farmers, and better bargaining position vis-à-vis buyers. Strong farmer organizations have also been shown to offer benefits to members by offering fair and prompt payments and facilitating access to certification premiums.⁸³

There is an urgent need for more farmer-centric and farmer-led approaches to achieving living incomes. Companies can support farmer organizations in several ways, including engaging in long-term trading relationships, investing in their leadership (especially women), strengthening their governance and operational structures, and investing in members' capacity.

The low level of farmer organization is a key hinderance to farmers' ability to earn a living income since their bargaining power and access to support programs is limited as a result.

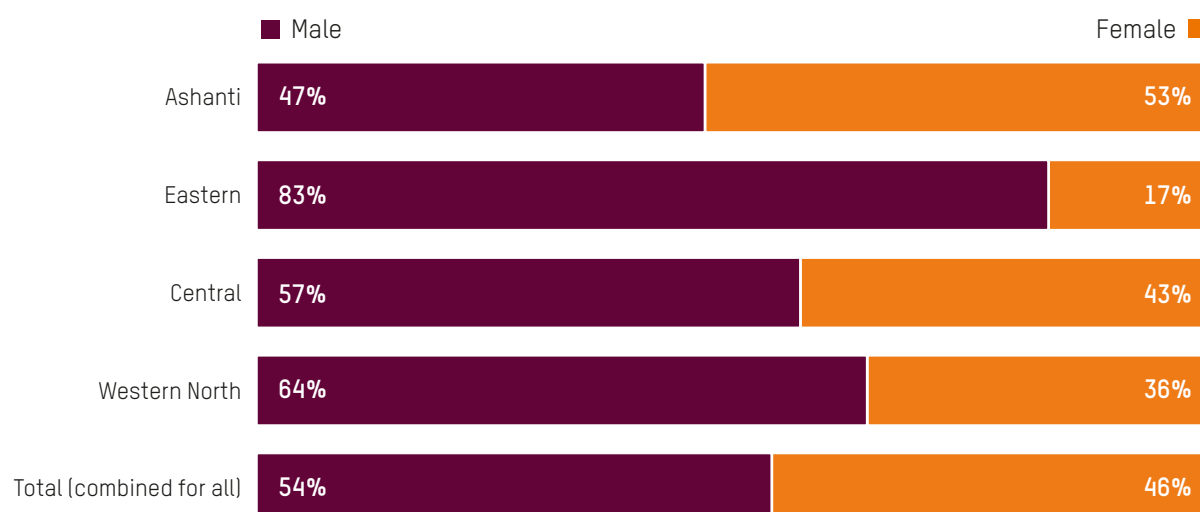
ANNEX

Farmers' socio-economic characteristics

Gender of respondents

Due to historical gender inequalities in the cocoa sector, the gender dimension of cocoa farming has been central to several cocoa studies, including Oxfam's.⁸⁴ The total number of respondents interviewed and included in the analysis was 404, of which 218 (54%) are males and 186 (46%) are females (Figure 11). Women participants are usually farmers registered by companies to have cocoa farms, that they manage themselves or through sharecroppers.

Figure 11. Gender of respondents by region



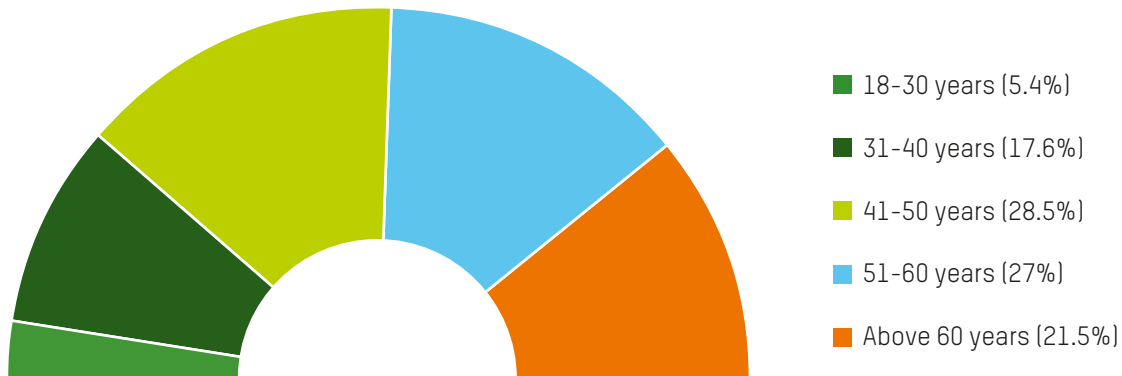
Source: Field survey, 2022.

Age of respondents

The mean age of cocoa farmers is relevant as it influences their ability to adopt cocoa technologies.⁸⁵ The average age of the respondents was 51 years, with no significant difference between men and women, although women (52.3) were about two years older than men (50.1). This finding is fairly consistent with other studies.⁸⁶ Around 23% of respondents were 40 years or younger (Figure 12), while close to half (48.5%) were above 50 years. This underlines concerns that cocoa production in Ghana is largely dominated by older people. Indeed, this concern was emphasized by most participants in the qualitative interviews. Participants believed that most youth are not attracted to cocoa farming since they do not find it profitable in the short

term compared with other ventures such as cultivating food crops or other occupations. Participants also emphasized that the increasing cost of establishing and maintaining cocoa farms due to increased input and labor costs has accounted for this.

Figure 12. Age of respondents

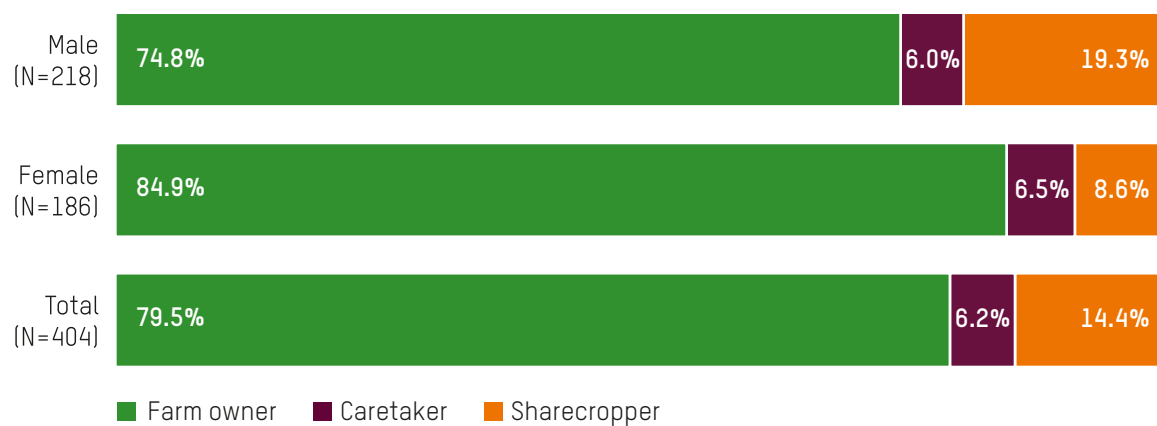


Source: Field survey, 2022.

Status of respondents

The survey respondents can be categorized into three cocoa farming arrangements: farm owners, caretakers, and sharecroppers (Figure 13). Eight out of ten respondents self-identified as farm owners. When disaggregated, most men (74.8%) and women (84.9%) identified as farm owners. The high percentage of farm owners could be explained by the fact that most companies typically only register people who have their own farms, while these farms are often operated by sharecroppers and caretakers.

Figure 13. Status of respondents



Source: Field survey, 2022.

Household size

The survey explored the nature of respondents' households and their roles within their households. The structure and size of households have implications for decision making, particularly among farm households. For instance, household size could serve as a potential indicator for the adoption of improved agricultural practices, labor supply and resource allocation. Table 4 presents the average household size across the regions.

Table 4. Average household size

Region	Mean	Standard deviation
Ashanti	5.6	2.292
Eastern	5.2	2.467
Central	5.6	2.396
Western North	6.0	3.000
Total	5.6	2.413

Source: Field survey, 2022.

The average household size was about 5.6 persons per household. To be consistent with most other household surveys, the head of the household was determined by the respondents and not the researchers. Among the male farmers interviewed, 98% self-identified as the head of the household, while 58.1% of women indicated they were household heads.

Average cultivated land size

The average acreage used by farmers to cultivate all crops was 3.34 hectares (8.25 acres) (based on farmer estimates). Out of the total cultivated land size, farmers had allocated close to 77% (2.57 hectares) to the cultivation of cocoa. Our finding is lower than 4.77 hectares reported by Bymolt, et al.⁸⁷ While men had 3.83 hectares cultivated for all crops and had allocated 2.95 hectares to cocoa, women farmers had an average cultivated size of 2.77 hectares and 2.11 hectares allocated to cocoa. Although there was a significant variation in the average farm sizes of men and women, there was no difference in their percentage allocation of cultivated farm size to cocoa production. Farmers also typically cultivated 'food crops' (e.g. cassava, plantain, maize, vegetables) that can be profitably marketed or used mainly for household consumption on their plots.

ENDNOTES

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- 17
$$n = \left\lceil \frac{N}{1 + N(0.05^2)} \right\rceil$$

Where:
n is the sample size
N is the population of cocoa farmers
(0.05²) is the 5% error margin;
n = 800000/1+800000 (0.0025)
n = 800000/2001
n = 400
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- 19 These numbers are based on companies’ self-reporting. Companies were asked to report the number of farmers participating in their sustainability program in Ghana and what percentage of their supply chain their sustainability program currently covers.
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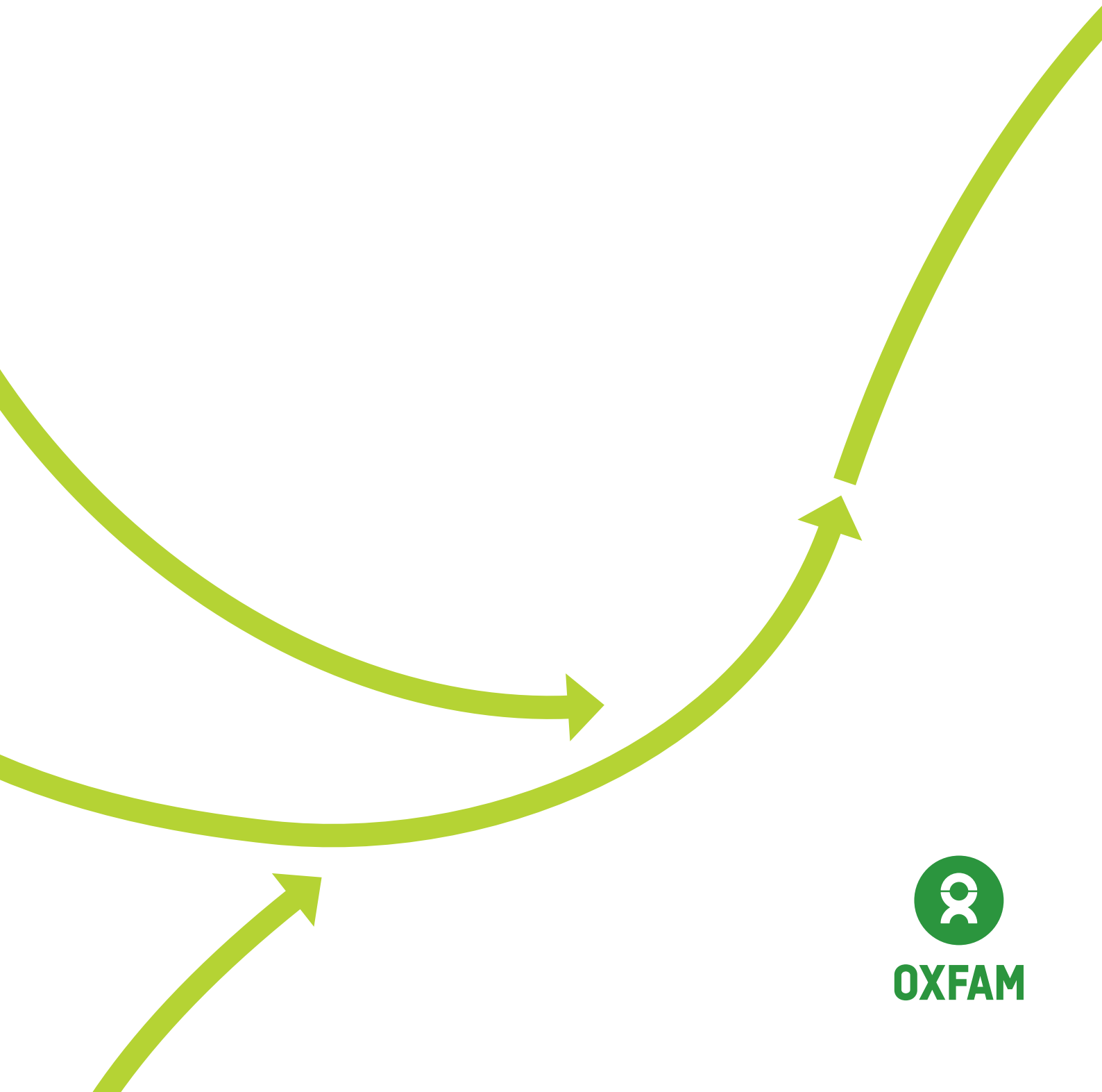
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- 54 Six of the ten companies mentioned the Rainforest Alliance sustainability differential of \$70 per ton as their reference for paying premiums. No company referenced the Fairtrade standard, which comes with a \$240 per ton premium, or the Fairtrade Living Income Reference Price as their benchmark for setting premiums.
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