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Tracing the effects of good purchasing practices on income diversification by cocoa farmers in Ivory Coast

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The goal of enabling cocoa farmers to earn a living income has become main stream among industry, producer-country governments, and NGOs. Good purchasing practices by chocolate manufacturers and cocoa traders are considered one important component in reaching this goal. Yet even with improved purchasing practices, a significant share of farmers will not achieve a living income from cocoa alone and will require additional, diversified income opportunities. However, little research has so far been done to examine how purchasing practices influence income diversification. Using an in-depth case study research design, we trace the mechanisms through which the good purchasing practices of a European chocolate manufacturer affect income diversification by cocoa farmers in Ivory Coast. The results show that these practices positively influence income-generating activities by strengthening financial and human capital at the cooperative level and among a subset of member farmers. They also improve planning security and access to finance, but only at the cooperative level and not for individual farmers. Furthermore, good purchasing practices alone are insufficient to create the income-generating activities required for all cocoa-farming households to achieve a living income. Attaining this objective depends decisively on a broader structural transformation of Ivory Coast's rural economy. These insights contribute to improving good purchasing practices as part of smart mixes of measures to support living incomes.

KEYWORDS

corporate sustainability, global value chains, income diversification, living income, responsible business practices, sustainable cocoa

1 Introduction

While the global chocolate industry's revenue reached US\$ 186 billion in 2022 and is expected to grow further, about 90% of cocoa farmers in the main cocoa-growing countries in West Africa still do not earn a living income (Manu et al., 2024; Waarts et al., 2024). Some analysts attribute this persistent poverty partly to the concentration of market power in agri-food value chains (IPES-Food, 2017; Clapp, 2019; Oxfam België/Belgique, 2024). In a similar vein, retailers, chocolate manufacturers, and cocoa traders/grinders are increasingly called upon to adopt "good purchasing practices," that is, long-term buying contracts, direct supply chains, price increases, and shorter payment terms (Fountain, 2023). However, scientific evidence on the influence of good purchasing practices on income remains underdeveloped.

Despite decades of corporate and governmental programs for cocoa farmers in West Africa, their income situation has not improved at scale (Ruf et al., 2020; Waarts et al., 2024). On the contrary, the exhaustion of the forest rent in Ivory Coast and Ghana—i.e., the lack of pristine forest land for slash-and-burn cocoa cultivation—may have increased production costs, with adverse effects on net household income (Odijie, 2016, 2018, 2019; Amanor, 2021). Even under soaring global cocoa commodity prices since 2023, farm-gate prices in Ivory Coast and Ghana are not yet sufficient to enable all farmers to earn a living income (Manu et al., 2024).

Several factors contribute to the persistence of living income gaps among cocoa farmers in West Africa. These include large household sizes and high dependency ratios (Habracken et al., 2022; Van Vliet et al., 2021), small farm sizes (Kuit et al., 2021; Habracken et al., 2022), land tenure insecurity (Asaaga et al., 2020; Gneiting and Arhin, 2023; Bros et al., 2019), and a high dependency of household incomes on cocoa (Impact Institute, 2021). These factors are likely to persist even if higher global cocoa prices were fully translated into exceptionally high farm-gate prices in the long term. Households that are more vulnerable due to small farm sizes, many dependents, or insecure land tenure are therefore unlikely to reach a living income from cocoa alone, even at high prices. Moreover, prices are unlikely to remain high in the long run, given the structural oversupply in the global cocoa market (Oomes et al., 2016; Bensch et al., 2023).

Therefore, income diversification has become a crucial component of strategies to lift cocoa-farming households out of poverty. It may not be in the immediate self-interest of cocoa traders/grinders and chocolate manufacturers to promote income diversification among the farmers who supply them. This reluctance is not only due to the costs involved, but also because diversification may undermine productivity gains associated with household specialization in cocoa farming (Bymolt et al., 2018). Nonetheless, traders and manufacturers are increasingly recognizing the need to invest in income diversification as part of their living income and sustainability strategies, particularly for more vulnerable farming households (Waarts and Kiewisch, 2021). However, it remains unclear to what extent, and through which mechanisms, “good purchasing practices” by downstream actors in the cocoa supply chain can effectively contribute to generating and expanding alternative sources of income for more vulnerable cocoa-farming households.

In this context, the aim of this paper is to analyze the effects of purchasing practices on income diversification. We investigate the mechanisms through which principles of good purchasing practices influence the income diversification by particularly vulnerable cocoa farmers. To this end, we conducted a single-case study of a cocoa cooperative in Ivory Coast that supplies European and US chocolate manufacturers. We use process-tracing methodology to explore the multiple hypothesized causal mechanisms that explain how purchasing practices shape income diversification.

The article is organized as follows. Section 2 provides background on living income and purchasing practices and presents our hypothesized mechanisms; section 3 describes our methodology, followed by context and case study description in

Section 4. Our results are elaborated in Section 5 and discussed in Section 6.

2 Living income, purchasing practices and income diversification by cocoa farmers

2.1 Living income (gaps) and income diversification

This article focuses on income diversification as a key strategy used by resource-poor farming households to achieve a living income. A living income is defined as “the net annual income required for a household in a particular place to afford a decent standard of living for all members of that household. Elements of a decent standard of living include food, water, housing, education, healthcare, transport, clothing, and other essential needs including provision for unexpected events” (LICOP (Living Income Community of Practice), no date). The living income gap represents the difference between this benchmark and farmers’ actual income. In Ivory Coast and Ghana, the two largest cocoa-producing countries worldwide, only 13% and 9% of cocoa farmers, respectively, earn a living income, and the average living income gap is estimated at 43% and 53% (Impact Institute, 2025; Manu et al., 2024). The most representative study to date found that cocoa-farming households in Ivory Coast derive an average of 67% of their total net income from cocoa sales, 24% from the sales of other (food and cash) crops, 4% from small businesses or trade, and 6% from other sources (Bymolt et al., 2018). More than half of cocoa farmers rear livestock for domestic consumption, above all chickens and, to a lesser extent, goats and sheep (Habracken et al., 2023). These figures highlight that cocoa-growing regions are highly rural and offer their inhabitants few economic opportunities outside agriculture (World Bank, 2019). Even though current farm-gate prices leave most households below the living income benchmark, the majority of farmers in Ivory Coast’s cocoa-growing regions still depend primarily on cocoa for their livelihoods (Bymolt et al., 2018). Given this importance, the terms and conditions under which buyers source cocoa from farmers and farmer organizations—so-called purchasing or procurement practices—are essential for farmer incomes (Fountain and Huetz-Adams, 2022; DISCO (Dutch Initiative on Sustainable Cocoa), 2024; SWISSCO (Swiss Platform for Sustainable Cocoa), 2024).

2.2 Good purchasing practices

Purchasing practices of manufacturers and traders/grinders are an important lever for social and environmental upgrading in global value chains (Rossi, 2019; De Marchi et al., 2019; Rogers and Jenkins, 2021). Because procurement departments primarily focus on the cost and quality of supply, aligning purchasing practices with living income targets may often not be high on the agenda of cocoa traders/grinders and manufacturers (Gneiting and Arhin, 2023; Sustainable Trade Initiative IDH, no date). Nevertheless, some chocolate companies implement “good” purchasing practices. We

selected one such company, which is widely regarded as an industry leader, to study the mechanisms through which its purchasing practices may influence income diversification.

For the purposes of this study, we focus on the following aspects that are often considered as key components of “good” purchasing practices in the chocolate industry: long-term buying commitments of manufacturers/traders and partner cooperatives (5 years in the case of this study), traceability to the farmer level, capacity building for partner cooperatives, the promotion of good agricultural practices among farmers, and the payment of price premia such as certification premia or even Living Income Reference Prices (LIRP).

2.3 Hypotheses

Following a theory-testing process-tracing approach (Beach and Pedersen, 2016, 2019), this study develops hypotheses (H1a–H2g) about the mechanisms linking good purchasing practices (GPP) and income diversification that can be evaluated against within-case evidence. We draw on research on rural livelihoods, global value chains, and cocoa sector sustainability to identify the main causal pathways through which buyer practices are expected to shape farmers’ income strategies (e.g., via liquidity, access to credit, cooperative services, and investment decisions).

The objective of this study is not to provide an exhaustive explanation of all determinants of income diversification in the study area, but rather to assess whether, and through which mechanisms, GPP contribute to diversification in our case. Other known drivers of income diversification—such as farmer demographics, local non-cocoa market opportunities, or national policy reforms—are therefore treated primarily as contextual conditions that enable, constrain, or interact with the mechanisms we focus on, rather than as rival explanations that we seek to eliminate.

Analytically, we distinguish between mechanisms influencing a) farmer investments in alternative income sources (farmer-level) and b) diversification support offered to farmers by the cooperative (cooperative-level), following Ruf et al. (2021). Furthermore, we specify the conditions under which investments in alternative income sources lead to higher net farmer income.

At the farmer level, access to financial and non-financial resources determines whether GPP facilitate income diversification (Tokou et al., 2025). Price premia provide liquidity that can trigger investments in alternative income sources, although this effect is likely to be stronger among farmers who already possess a certain degree of financial resilience (defined in this study as farmers above the median farm size), whereas those with fewer resources may allocate premia primarily to immediate consumption needs (H1a) (Bymolt et al., 2018; Habraken et al., 2022, 2024). Long-term buying commitments may enhance planning security and encourage investments in non-cocoa activities, but their effectiveness depends on whether farmers are well informed about contract terms and perceive these commitments as reliable (H1b) (Gneiting and Arhin, 2023). Furthermore, since financial institutions often recognize purchase contracts as collateral (cf. GIZ (Gesellschaft für Internationale Zusammenarbeit) and DevImpact, 2017), such contracts can lower the cost of credit and enable farmers to

finance alternative income-generating activities (H1c) (Balineau et al., 2016). In addition, GAP training offered by cooperatives and buyers may provide farmers with skills that are transferable to other crops and IGAs (e.g., shade management, composting, fertilizer and pesticide application, financial literacy), especially when training is hands-on and repeated (H1d) (Bymolt et al., 2018; Mattalia et al., 2022). Yet the relative attractiveness of cocoa farming may remain a decisive factor: higher premia and greater stability within the cocoa sector may discourage diversification efforts by raising the opportunity cost of time and capital devoted to IGAs (H1e) (Oomes et al., 2016). This effect may be particularly pronounced among farmers with scarce labor and capital and poor market access for non-cocoa products.

At the cooperative level, GPP shape income diversification through financial stability and institutional capacity building. Price premia may be partially reinvested by cooperatives into diversification support for their members (such as training, inputs, or grants and loans for IGAs), although this depends on cooperative governance, competing claims on premia (e.g., for operations and compliance), and financial management structures (H2a) (Waarts et al., 2021). Long-term buyer commitments can provide cooperatives with greater planning security, allowing them to invest in programmes that promote farmer diversification, provided that governance challenges do not impede such efforts (H2b) (Bymolt et al., 2018). When such contracts strengthen a cooperative’s financial standing—for example, if lenders view stable offtake and traceability as risk-reducing signals—they may also improve the cooperative’s access to credit, enabling further investments in farmer loans and diversification initiatives (H2c) (Ruf et al., 2020). Beyond direct financial support, GPP-driven organizational capacity building (e.g., in marketing, quality control, and logistics) can help cooperatives establish sales channels for non-cocoa crops, including food staples for local and national markets or international markets for commodities such as rubber or palm oil (H2d) (Waarts and Kiewisch, 2021; Ingram et al., 2017). Such efforts are constrained, however, by factors such as the existence of downstream buyers, the perishability of alternative products, and transport infrastructure. GPP-driven capacity building may also enable cooperatives to intensify their support for Village Savings and Loan Associations (VSLAs), which enhance farmers’ access to microfinance for diversification investments (H2e) (Aston, 2019; Steinert et al., 2018). Nonetheless, the effect of these VSLA-driven investments on household income levels appears modest due to the relatively small volumes of capital involved (Marguerie and Premand, 2023). Some cooperatives directly implement income diversification projects funded by buyers, thereby providing farmers with structured opportunities to develop non-cocoa income-generating activities (H2f) (Habraken and Kuijpers, 2025). At the same time, GPP may also have unintended consequences: by making cocoa cultivation relatively more attractive through price incentives and improved stability, they may reduce a cooperative’s motivation to explore alternative sources of income and thus crowd out diversification initiatives (H2g) (Waarts and Kiewisch, 2021).

Taken together, these hypotheses suggest that GPP influence income diversification through financial incentives, institutional stability, and skill development. However, their success depends on key enabling conditions, such as financial literacy, cooperative

governance, and the existence of viable markets for non-cocoa products. The following sections empirically examine these mechanisms through a case study of a cooperative supplying cocoa to European and US manufacturers.

3 Methods and materials

We adopted an in-depth qualitative case study research design (Yin, 2009) using process-tracing methodology (Beach and Pedersen, 2019), because this approach allows analysts to assess a set of hypotheses about causal mechanisms of interest (ibid.). Process-tracing is based on a mechanistic understanding of causal effects and is therefore interested in the processes whereby X causes Y (Beach and Pedersen, 2019). This contrasts with a regularity approach to effects, which defines causality as the statistically regular association between X and Y controlled for other relevant possible causes, thereby largely black-boxing the underlying causal processes (ibid.). The purpose of process tracing is not to measure impact, but rather to increase confidence about whether, how and why an intervention had an impact (Befani and Mayne, 2014). It serves to identify likely pathways of change of interventions, especially in complex settings where multiple mechanisms could potentially influence the outcome (Aston, 2019). In the case of good purchasing practices, these interventions comprise several measures that could influence income diversification through various mechanisms (see Section 2.3). Process tracing is therefore well suited to identifying and empirically assessing these mechanisms in detail. The single case study generates knowledge claims that hold true for the specific case under study; more comparative or large-N research designs would be needed to generate representative or externally valid knowledge claims.

We selected the case of a supply chain between a medium-sized European chocolate manufacturer and a cocoa cooperative in Ivory Coast because their business partnership explicitly aims to promote income diversification among cooperative members through good purchasing practices. This setting facilitates the identification and empirical testing of the hypothesized mechanisms. We focused on one cooperative with which the manufacturer had collaborated for seven years, as the effects of good purchasing practices may require time to materialize. Among the cooperative's members, we selected farmers who (a) had supplied cocoa to the manufacturer for at least three harvest seasons (to ensure reliable accounts of experiences while still allowing comparison with earlier buyers and thus reducing recall bias) and (b) cultivated relatively small landholdings, in order to prioritize economically more vulnerable farmers who face larger living income gaps. The research included a consultation phase with cooperative representatives, field technicians, and the manufacturer to validate the research questions and align the design with local circumstances at both ends of the supply chain. Because many steps in the hypothesized mechanisms unfold within households and are not routinely documented (e.g., how premia are allocated, how planning security shapes investment decisions, or how training is applied), we relied primarily on semi-structured interviews (Helfferich, 2011) as our main source of causal-process observations on these mechanisms.

We complemented these accounts with document analysis (e.g., the manufacturer's sustainability reports, the cooperative's project documentation and relevant gray and scientific literature) and triangulated farmer narratives with cooperative staff accounts to increase confidence in the inferred sequences. For each mechanism linking purchasing practices and income diversification (Section 2.3), we specified expected observable implications and used targeted interview questions to elicit temporally sequenced accounts of decision points and intermediate outcomes. Moreover, we asked the interviewees counterfactual questions and prompted them to consider alternative explanations (see the interview guides for the cooperative representatives and for the farmers in the [Supplementary material](#)). We also report negative evidence where predicted implications were absent.

Data collection at the cooperative took place between 9 October and 4 November 2023. Interviews were conducted in French or in local languages, depending on interviewees' language skills. In line with process-tracing methodology, our design prioritized high information power to achieve saturation: given our narrow aim, specific sample, and theoretically anchored hypotheses, a relatively small N can be sufficient (Malterud et al., 2016). Empirical work suggests that thematic/code saturation often occurs around 9–12 interviews, while meaning saturation is typically reached at around 16–24 interviews in focused designs (Guest et al., 2006; Hennink et al., 2017). For each hypothesized mechanism, we considered saturation reached when additional interviews no longer added information or changed our confidence in that mechanism. In total, we interviewed 25 cocoa farmers as well as the cooperative's board director, managing director, and sustainability manager. Wherever possible, farmers were interviewed outside the presence of family members to reduce social desirability bias. These interviews were complemented by informal exchanges with representatives of the chocolate manufacturer and a cocoa trader who provides trade support in the supply chain.

The interviews were transcribed manually and analyzed using qualitative content analysis with MaxQDA 2024 software (Mayring, 2000). We initially developed a coding frame based on the main categories derived from our hypotheses. We iteratively refined the coding frame inductively by regrouping and splitting up categories to arrive at a sufficiently granular yet uncluttered frame that appropriately captured both evidence related to the hypothesized mechanisms and additional contextual factors (Kuckartz and Rädiker, 2019). This allowed us to systematically compare the empirical material with the expected "fingerprints" of the GPP-based mechanisms, while also remaining open to indications of alternative or complementary mechanisms. Where the empirical material pointed to non-GPP influences on specific observations (for example diversification projects initiated by NGOs or public programs), we considered these as alternative mechanisms and assessed whether they provided a better fit to the evidence than the GPP-based mechanisms.

4 Context and case study

Ivory Coast is the world's largest producer of cocoa, accounting for over 40% of global cocoa exports and supporting nearly

8 million people (FAO and BASIC (Bureau d'analyse sociétale pour une information citoyenne), 2020). However, only 13% of Ivorian cocoa farmers earn a living income, with an average living income gap of 43% (Impact Institute, 2025). Farmers cultivate an average (mean) of 5.3 hectares of land, but many own less than 3 hectares, which makes it difficult to achieve financial sustainability (Bymolt et al., 2018). Gender disparities further shape the sector, as women have more limited access to land, credit, and farming inputs than men. The social structure within cocoa-growing regions includes indigenous people, internal migrants, and foreign migrants, particularly from Burkina Faso (Ruf et al., 2020). Land tenure is influenced by historical migration patterns and the *tutorat* system, which facilitated land access for migrants in exchange for labor obligations.

The cocoa sector underwent liberalization in the 1990s but was re-regulated in 2011 with the establishment of the Conseil du Café-Cacao (CCC), a governmental body responsible for regulating, stabilizing, and developing Ivory Coast's cocoa sector. The CCC sets a minimum farm-gate price through a forward auction system, ensuring price stability within a season but exposing farmers to inter-seasonal volatility. The introduction of the Living Income Differential (LID) in 2019 by the Ghanaian and Ivorian governments aimed to improve farmer incomes, although external pressures from cocoa buyers and fluctuating global prices pose challenges (Boysen et al., 2023; Adams and Carodenuto, 2023). Despite efforts to organize farmers into cooperatives, only 21–37% are members of such groups, and many cooperatives are affected by financial mismanagement (Bymolt et al., 2018; Ruf et al., 2021). The sector is dominated by multinational traders, with six major companies controlling 72% of cocoa exports in 2022 (Trase Earth, 2024). Although the CCC fixes farm-gate prices, cocoa buyers are allowed to pay certification or other price premia to producers on top.

This study focuses on the purchasing practices of a European chocolate manufacturer and one of its partner cooperatives in Ivory Coast. The set of interviewed member farmers of the cooperative consists of 17 men and 8 women (32%). In line with our focus on economically more vulnerable farmers, women are overrepresented compared with their share in the cooperative's total membership (18% women). Furthermore, the interviewees' total farm size (median 2.8 ha) is below the national average (median 4.1 ha) (Bymolt et al., 2018). The interviewees' median household size is eight members, of whom six contribute to the household's income. It is therefore reasonable to assume that these interviewees depend on non-cocoa income sources to reach a living income for their families, even under favorable cocoa-buying conditions. At the time of fieldwork, interviewees' ages ranged from 24 to 77 years (median 41), and they had been working as cocoa growers for between 4 and 49 years (median 15). The interviewees also displayed considerable experience with other buyers. Before joining the cooperative, 11 of them had sold exclusively to *pisteurs* (informal local cocoa traders), 10 reported having sold exclusively to one or several other cooperatives (sequentially), and four had sold to both a cooperative and *pisteurs*.

Cocoa dependency is relatively high among our farmer interviewees: 10 farmers stated that all their income came from cocoa, five derived 70–90% of their revenue from cocoa,

seven derived 50–60%, and only two reported 30–40%. The most common non-cocoa income-generating activities are the cultivation of rubber and staple crops (mostly rice, yam, maize, and cassava), animal husbandry (mostly chickens), and small-scale trade. On average, 44% of the cocoa delivered to the cooperative by the interviewed farmers was sold to the case-study manufacturer and yielded the corresponding premia (compared with a cooperative average of 47%). The interviewed farmers live in seven out of the cooperative's 24 geographic and organizational sections, and the average road distance between their land plots and the cooperative's headquarters in the nearest city is 19 km.

5 Results

The results show that good purchasing practices influence income diversification in partly unexpected ways at both the farmer level (Section 5.1) and the cooperative level (Section 5.2).

5.1 Effects of good purchasing practices on income diversification at the producer level

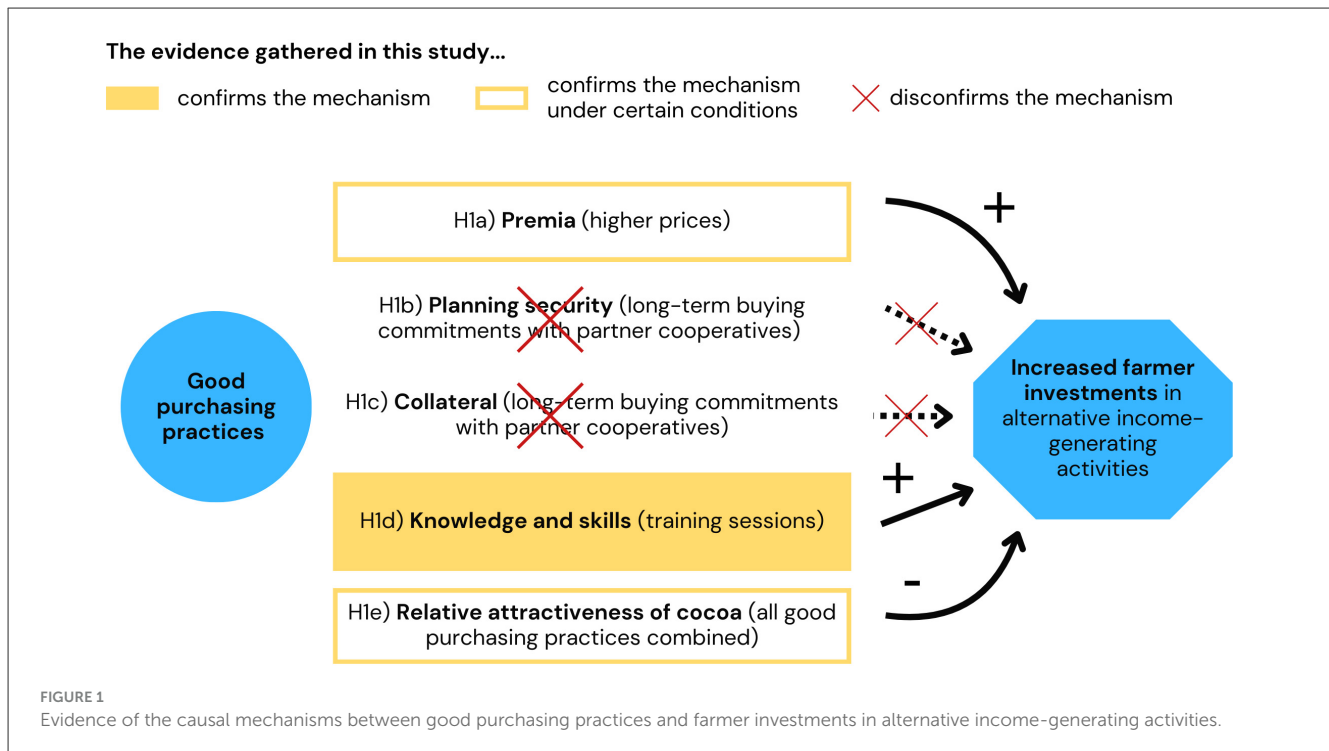
Figure 1 summarises and illustrates the results on the hypothesized mechanisms between GPP and income diversification through farmer investments in non-cocoa income-generating activities (IGAs).

5.1.1 Price premia

The test of hypothesis H1a reveals that price premia only contribute to income diversification by relatively better-off farmers (defined as farmers with farm sizes above the median value of 2.8 ha). Although most farmers expressed interest in investing in non-cocoa IGAs, the majority use the premium to cover their basic needs (mainly food, schooling, health) rather than to make investments.

The price premia added 78% to the 2022/2023 main-crop farm-gate price (the season to which our data refer) and 63% to the mid-crop farm-gate price. Our interviewees used these premia for diverse purposes, including investments in cocoa production, schooling, food, and health. On average, they reported using about one fifth of the price premium for investments in IGAs. However, variation among farmers is substantial: while 15 out of 25 farmer respondents stated that they do not use premia for investments in non-cocoa IGAs at all, 10 reported that they do. Among this latter group, roughly half indicated that they would have invested in IGAs even without receiving the premium but that it facilitated and accelerated their investment. They emphasized that their hard work, multiple existing IGAs as well as their saving skills would have enabled them to invest anyway. The other half, by contrast, stated that it would not have been possible to make those investments without the premium.

Cooperative managers underlined that most member farmers ate only one meal a day before the cooperative entered into partnership with the chocolate manufacturer. Since then, food



shortages have largely disappeared and most farmers now eat three meals a day. Farmers particularly appreciate being able to pay school enrolment fees and stationery for their children, support family members in need, and cover healthcare, food, and other basic expenses.

In sum, farmers' accounts suggest that most use the premium primarily to improve their standard of living and therefore do not invest it in IGAs. By contrast, better-off farmers are able to invest part of their premium in IGAs, which confirms the presence of this causal mechanism for farmers with more favorable conditions and its absence in the case of more vulnerable farmers.

5.1.2 Planning security and collateral

Our tests of the mechanisms related to planning security (H1b) and collateral for farmers (H1c) suggest that the interviewed farmers are not aware of the buyer's long-term purchasing commitment toward the cooperative. Consequently, this long-term commitment does not directly increase farmers' planning security and does not serve as collateral in loan negotiations with potential creditors such as informal lenders, savings and credit cooperatives, or commercial banks.

Regarding planning security, one farmer explained that he is more reluctant to invest in IGAs because he does not know how high his premium will be. This uncertainty is linked to bean traceability: the buying company does not pay premiums evenly to all cooperative farmers, but in proportion to the volume each individual delivers to the manufacturer. If a farmer happens to supply beans during a period when the manufacturer is not purchasing from the cooperative, they receive no premium. According to this farmer, this situation creates planning insecurity and reduces his ability to invest in IGAs.

Taken together, without farmers' knowledge of the buyer's long-term purchasing commitments, this element of good purchasing practices cannot directly influence their planning security or access to credit.

5.1.3 Knowledge and skills

Over a third of interviewees reported having received formal training from the cooperative on income diversification. Half of these described general training on diversification and alternative sources of income such as small-scale trading and animal husbandry. The other half had received specific training on alternative crops such as cassava, yams, maize, and rice.

Another third of farmers indicated that they had (also) received informal encouragement from cooperative staff to diversify their income. Several explicitly mentioned that the cooperative president promotes diversification in a WhatsApp group chat in which roughly 30% of cooperative members participate. The interviewees find it helpful that the president reminds them not to "play with their money" but to invest in IGAs to improve their livelihoods in the long term. Cooperative staff reiterate this message when farmers collect their premium at the cooperative's headquarters. One female farmer explained that the president's inspirational talks during meetings motivate women to become entrepreneurs, start their own businesses, and become financially independent. For her, this was a decisive factor in engaging in small-scale trade despite having limited starting capital.

We found evidence for knowledge spillovers. A few farmers reported that they were able to apply knowledge acquired in cocoa-specific training on good agricultural practices (GAP) provided by the cooperative to other crops, such as rubber, cassava, and aubergines, whereas one farmer stated that she could not

transfer this knowledge to other crops. The cooperative's head of sustainability confirmed that many skills taught in GAP training—such as identifying suitable land, preparing the soil, weeding, and applying fertilizer—can be transferred to other crops. He also estimated that about 80% of all members have received training in simplified accounting, which is particularly useful for IGAs.

A third of interviewees reported not having received any training from the cooperative on IGAs. However, the head of sustainability emphasized that training sessions offered by the cooperative are open to all community members, with a particular focus on youth and women.

Taken together, the evidence confirms the presence of a mechanism linking support for farmer training to improved investments in IGAs (H1d). Through its GPP, the manufacturer enables the cooperative to offer more training in diversification, alternative IGAs, and simplified accounting to its members. In addition, farmers acquire skills in cocoa-focused training that they can transfer to alternative crops.

5.1.4 Relative attractiveness of cocoa for farmers

Our evidence nuances the expected substitution effect between GPP and IGAs through the increased attractiveness of cocoa (H1e). Eleven farmers confirmed that the premium incentivises them to boost their cocoa production, either by applying fertilizer, replacing old cocoa trees, or (where possible) expanding the area under cocoa cultivation. However, the premium does not appear to disincentivise interviewees from investing in alternative IGAs. Instead, they view boosting their cocoa production as a way to generate money for such investments, as well as for household expenses. This interpretation was confirmed by the cooperative's head of sustainability, who underscored that farmers continue to value growing food crops and raising animals—the two most important non-cocoa IGAs—because this allows them to save on food purchases. At the same time, he was unsure whether the manufacturer's premium might discourage investments in other IGAs such as small-scale trade. Overall, the premium also seems to have a positive influence on farmers' general work morale.

5.2 Effects of good purchasing practices on income diversification at the cooperative level

Good purchasing practices may influence farmers' income diversification indirectly by strengthening the cooperative's ability to support members in developing alternative income sources. Among the seven hypothesized mechanisms at cooperative level outlined in Section 2.3, we find supporting evidence for the mechanisms related to price premia, planning security, support for village savings and loan associations, and direct diversification projects. By contrast, we find disproving evidence for mechanisms involving collateral, new sales channels for alternative crops, and the relative attractiveness of cocoa (Figure 2).

5.2.1 Price premia at cooperative-level

We find evidence that confirms a price-premium effect on the cooperative's ability to support members' income diversification (H2a). The cooperative retains three types of price premium: part of the Fairtrade premium, part of the buyer's living income premium (roughly 20% in our case), and US\$50 per metric ton of cocoa to finance operations (e.g., transport for farmer coaches) and cover potential losses. According to the cooperative, parts of both the Fairtrade and living income premia have been invested in the income diversification among member farmers.

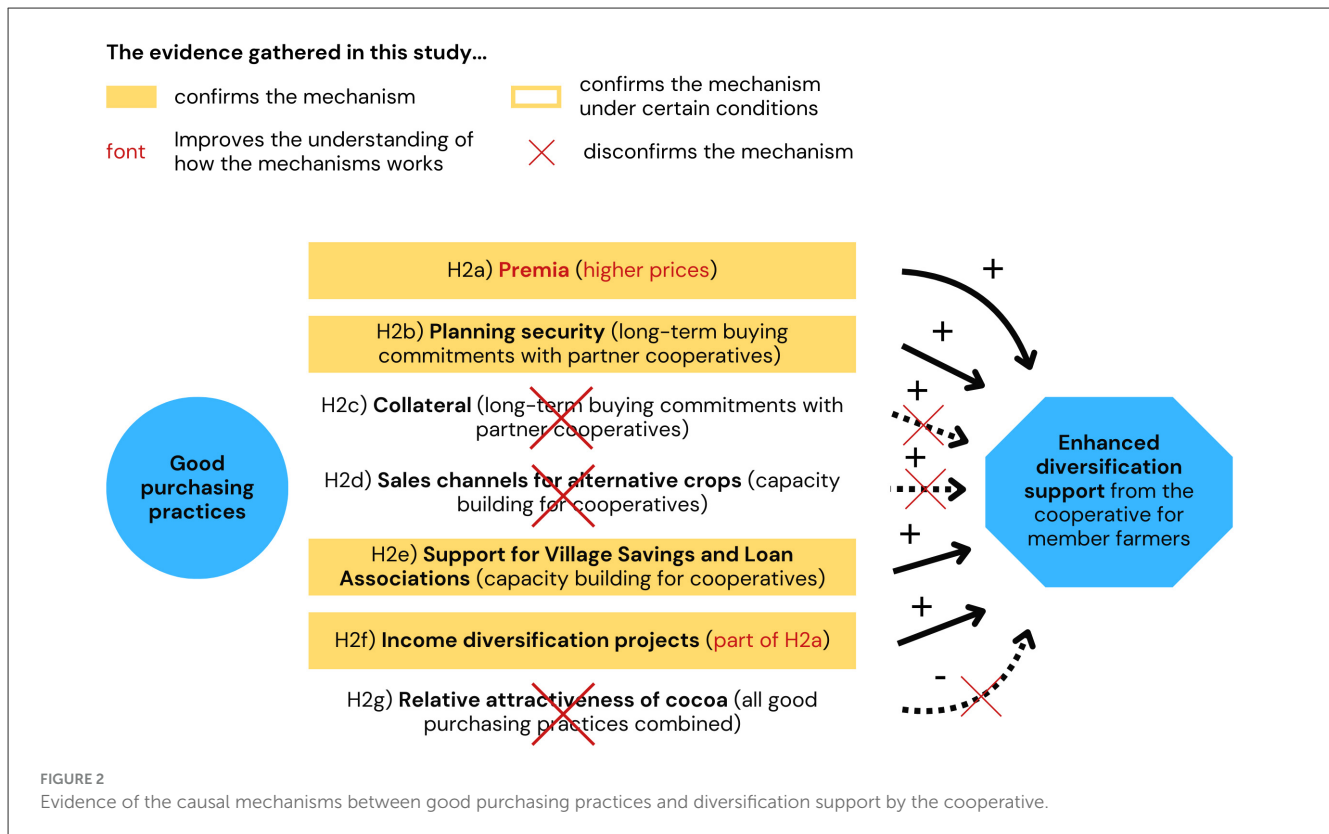
The cooperative uses part of the buyer's premia to establish and run a chicken farm near its headquarters. Member farmers who wish to raise chickens can attend hands-on training there and gain initial practical experience. To strengthen women's economic livelihoods, the cooperative sells eggs to female members and to the wives of male members at below-market prices so that they can resell them and earn a margin. Some eggs are also donated to school canteens built by the cooperative to improve the quality of children's diets. To further increase the benefits of the farm for members, the cooperative plans to use it to mass-produce organic compost to replace costly synthetic fertilizers.

5.2.2 Planning security for the cooperative

The cooperative's general director and its sustainability manager underscored the positive influence of the buyer's long-term commitment on the cooperative's investments in income diversification, in support of H2b. Specifically, the manufacturer's guarantee enables the cooperative to launch more diversification projects and reach a larger number of farmers, because managers can be confident that they will have the necessary means to complete these projects. They highlighted how the cooperative's income security is protected even in the event of logistical disruptions: in the 2022/2023 season, a temporary cessation of cocoa exports from Ivory Coast to Europe prevented many cooperatives from selling their cocoa, as exporters refused to buy it for the duration of the interruption. In contrast, the manufacturer's supplying exporter was obliged to purchase the harvest due to the long-term commitment, thereby enabling the cooperative to continue its work. The chairperson of the cooperative's board of directors also emphasized the benefits of the manufacturer's long-term commitment, which goes hand in hand with its assistance, understanding, and sharing of knowledge and experience with the cooperative. She appreciated that the manufacturer did not cease its support in difficult times, citing the example of the Covid-19 period.

5.2.3 Facilitated access to credit

Good purchasing practices have only had a limited influence on the cooperative's ability to support diversification through improved access to credit (H2c). Access to finance is a major challenge for the cooperative during the main harvesting season, but since 2018 it has taken an annual loan from a social enterprise and an additional loan from another buyer to pre-finance the harvest. The cooperative's sustainability manager emphasized that the organization already enjoyed a good reputation among creditors independently of the partnership with the case-study



manufacturer. Even so, the partnership further increased its credibility with banks and other creditors, as the manufacturer acts as a guarantor for sales volumes (1 year ahead) and prices (5 years ahead).

5.2.4 Sales channels for non-cocoa crops

We did not find evidence for the mechanism relating to non-cocoa value chains (H2d). Although the manufacturer finances and provides training for cooperative staff and members, it is not involved in capacity building to establish alternative sales channels for non-cocoa crops. The creation of a sister cooperative for collecting and selling rubber from its members—more than 20% of whom produce both rubber and cocoa—was an initiative of the cooperative itself.

5.2.5 Income diversification projects and VSLAs

We find affirmative evidence for H2e and H2f regarding the cooperative's support to income diversification through Village Savings and Loan Associations (VSLAs) and diversification projects. The manufacturer maintains a foundation that funds projects contributing to decent livelihoods in cocoa-growing communities in West Africa. The case-study cooperative participates in a project that supports 46 IGAs: 17 animal husbandry ventures (chickens, bees, and pigs), 16 small businesses (such as fishmongers and other traders), and 13 vegetable plots for household consumption. The credits must be repaid by farmers from the profits of their IGAs and cocoa sales. Farmers

received technical training from an external consulting firm tailored to their specific IGAs, as well as training on business plan design, accounting, and marketing. Furthermore, mostly female project participants receive literacy classes, as more than half of cooperative members can neither read nor write, with this share being higher among female members. These classes lay the foundation for participants to benefit from the training on business skills, which presumably enables them to increase the effectiveness and profitability of their IGAs. According to the cooperative's management, the biggest challenge consists in finding profitable markets for the products that farmers grow, make, or trade. Consequently, none of the supported farmers has been able to repay their loan so far. The cooperative assists project participants in setting up outlets, mainly by using its different communication channels to promote farmer products. For instance, cooperative representatives present farmer products whenever they are invited to official events such as local or regional cocoa seminars. Furthermore, board members of the cooperative purchase some of the products themselves—particularly vegetables—and use their personal networks to find customers for project participants. Finally, some products are bought directly by the cooperative to supply school canteens in its communities.

The manufacturer supports the cooperative in setting up VSLAs through training and a project financed with price premia and resources from its foundation (H2e). The project provides women with US\$8 per week for 100 weeks to stimulate productive investments and give them an opportunity to increase their income sustainably, including through investments in non-cocoa IGAs. Beneficiaries meet in groups every week to discuss their finances.

The manufacturer also assisted the cooperative in opening VSLAs for men in order to broaden the initiative's reach. As a result, around 80% of VSLAs are now mixed, and some have been established exclusively for men.

5.2.6 Relative attractiveness of cocoa vs. non-cocoa crops

Cooperative representatives repeatedly emphasized their intrinsic motivation to promote income diversification at both cooperative and farmer level. They therefore maintain that the increased attractiveness of selling cocoa to the case-study manufacturer has not led to a stronger focus on cocoa at the expense of alternative IGAs, which supports hypothesis H2g.

6 Discussion

6.1 Good purchasing practices and income diversification

Good purchasing practices by chocolate manufacturers and traders are currently discussed as one of the key levers for promoting more sustainable cocoa (Fountain, 2023). This study contributes to understanding how such practices by downstream actors in the cocoa supply chain shape the income diversification by smallholder cocoa farmers in Ivory Coast. Overall, our results indicate that GPP can promote income diversification through multiple mechanisms, but that they do so in partly unexpected ways and are subject to important preconditions for effectiveness.

A key finding is the uneven distribution of benefits at the farmer level. Although price premia enhance household liquidity and enable some farmers to invest in alternative non-cocoa IGAs, more vulnerable households often rely on these payments to meet basic needs. This pattern aligns with previous studies showing that wealthier cocoa farmers typically capitalize on new opportunities first, while poorer farmers struggle to translate additional income into transformative investments (Bymolt et al., 2018; Habraken et al., 2022).

A second key finding concerns planning security and access to credit. Many farmers, being unaware of the long-term purchasing commitments, cannot leverage guaranteed off-take agreements as collateral. While previous scholarship suggests that stable buyer relationships can boost smallholders' creditworthiness (Balineau et al., 2016; Van Vliet et al., 2021), the lack of transparent communication along the supply chain undermines this potential. Providing farmers and local lenders with clearer information about buyer-cooperative arrangements could reduce perceived lending risks and unlock capital for IGAs.

At the cooperative level, multi-year buyer commitments provide valuable predictability, enabling the organization to offer members services such as training, VSLAs, and diversification projects. This finding illustrates how GPP can empower cooperatives to act as local development agents and thereby indirectly influence farmer livelihoods. However, limited market linkages for non-cocoa products continue to constrain the profitability of IGAs, echoing longstanding evidence on infrastructural and demand-side constraints in Ivory Coast (World

Bank, 2021; Waarts and Kiewisch, 2021). The cooperative's main strategic goal is to diversify vertically—engaging in additional activities within the cocoa supply chain—by transforming 10% of its cocoa production into cocoa butter and powder and producing cocoa-based products such as soap and chocolate.

Another nuanced effect concerns how GPP alter the relative attractiveness of cocoa. Premia do not necessarily crowd out non-cocoa IGAs; in many cases, farmers view cocoa as a stepping stone to finance ventures in livestock or small-scale trade. This challenges a strict substitution logic (Oomes et al., 2016) and suggests that stable cocoa income can underwrite diversification in contexts where alternatives remain underdeveloped. However, any substantial increase in cocoa production could aggravate supply gluts and depress prices, highlighting the ongoing need for supply management (Fountain, 2023).

The findings also speak to broader theoretical and policy debates. In the global value chain and corporate social responsibility literature, buyer-driven interventions are often criticized for focusing on short-term gains and neglecting the wider social and infrastructural context in which production is embedded (Barrientos and Bobie, 2016; Krauss and Barrientos, 2021). Our results confirm the partial effectiveness of GPP: while they can reconfigure incentives and resources for cooperatives and farmers, long-term structural change—such as improved roads, robust rural finance markets, and social assistance programmes for the most vulnerable households—is essential (Waarts and Kiewisch, 2021; Gneiting and Arhin, 2023). In effect, GPP can function as a catalyzing force within a broader “smart mix” of policy and market interventions, but they cannot fully offset entrenched issues such as poor infrastructure, insecure land tenure, limited government support, and the historical overreliance on single export cash crops.

6.2 Policy and action recommendations

Based on our findings, we formulate the following recommendations to strengthen the positive contribution of good purchasing practices to income diversification among cocoa-farming households.

First, Ivorian cocoa cooperatives can support farmers by communicating transparently about the long-term buying commitments that traders and manufacturers make through their good purchasing practices. Clear communication can enhance farmers' planning security for future investments. Second, chocolate manufacturers and cocoa traders or grinders can promote income diversification through several measures. Farmer accounts indicate that limited financial resources remain a key obstacle to investing in alternative income-generating activities. To increase the funds available for such activities, living income prices or premiums could be paid on top of certification and verification premiums—a share of which currently finances cooperative activities—and be passed on to farmers in full. Given that most farmer interviewees (including the more vulnerable individuals) expressed a strong interest in further diversifying their income sources, they will likely use higher premia for this purpose once their basic needs are met. To increase the impact

of premium payments on income diversification, part of the cash premium could be directed to the wives and partners of the largely male cooperative members. Beyond advancing gender equity, female household members are often more inclined to invest cash premiums in non-cocoa income-generating activities, thereby strengthening diversification at the household level. Additional funds could be earmarked for diversification projects at the cooperative level. Village savings and loan associations (VSLAs) could be linked to formal financial institutions, such as social impact lenders, to expand the capital available for farmers' investments in additional sources of income, as some industry actors already do.

Strengthening cooperative capacity, especially in developing diversified marketing channels beyond cocoa, is an area in which collaboration between industry, governments, and NGOs could facilitate large-scale professional diversification (Grabs et al., 2024). Moreover, good purchasing practices alone do not address the low level of processing and manufacturing in origin countries, even though increasing local processing has substantial potential to raise value capture at origin. The case study cooperative, like many other cocoa cooperatives in Ivory Coast, is genuinely interested in value-chain upgrading. It would therefore be worthwhile to explore how chocolate manufacturers and cocoa traders or grinders could use their expertise and market power to relocate suitable stages of value creation and capture—particularly grinding and conching—to origin countries.

The Ivorian government has made substantial efforts to boost economic growth since 2011. However, much of the resulting wealth remains concentrated in the capital, Abidjan, while rural areas lag behind. It is therefore crucial that policies designed to expand and improve livelihood opportunities—such as the US\$3.4-billion Extended Fund Facility and Extended Credit Facility arrangements with the International Monetary Fund—also benefit rural dwellers.

7 Conclusions and outlook

Our results highlight the nuanced ways in which good purchasing practices can both enable and constrain farmers' strategies for achieving a living income through income diversification, drawing on a single case-study design. In our case, premiums provide useful liquidity but often primarily benefit better-off farmers who already have the capacity to invest in new income-generating activities. Limited communication about multi-year purchase arrangements makes it difficult for farmers to leverage buyer-cooperative relationships when seeking credit. At the cooperative level, good purchasing practices provide some planning security and enable targeted investments in services such as village savings and loan associations and training programmes. However, these benefits are frequently undermined by weak market linkages for non-cocoa products and by broader structural constraints, including inadequate infrastructure and land tenure insecurity.

Several limitations need to be considered when interpreting these findings. First, process tracing does not confirm or reject hypothesized mechanisms with complete certainty; instead, it increases confidence in their presence or absence

by closely examining processes within a single case (Beach and Pedersen, 2019). Much of our evidence consists of semi-structured interviews with farmers and cooperative staff. Such accounts can provide highly probative evidence when they yield specific, temporally ordered “fingerprints” that are unlikely under alternative mechanisms, but they can also be affected by imperfect recall. We therefore treat different pieces of evidence as having different inferential weight—ranging from weaker “straw-in-the-wind” indications to stronger necessary-condition (“hoop”) tests (ibid.). A lack of secondary data on the hypothesised causal mechanisms in the selected contexts constrained our ability to triangulate self-reported interview data. Second, a case-study design inherently limits external validity, as the inferences are made within one specific context. Finally, the set of interviewees is not intended to be statistically representative, including in terms of social difference dimensions such as gender. Rather, the results provide in-depth qualitative evidence that reached saturation in relation to the hypothesized causal mechanisms linking purchasing practices and income diversification.

These findings can inform future research that uses comparative designs across multiple cooperatives, regions, and buyer models to examine why specific good purchasing practices resonate more strongly with certain farmer segments. Rigorous quantitative methods—potentially including randomised or quasi-experimental designs—could complement our comprehensive process-tracing approach and strengthen selected insights. Further research could also investigate how farmers' demographic factors (e.g., age, gender, or education level) shape the uptake and success of non-cocoa income-generating activities, thereby informing more inclusive strategies for achieving living incomes. In addition, analyses of the interaction between good purchasing practices and complementary interventions—such as land tenure reforms, village savings and loan associations, and government subsidies—would clarify the broader institutional frameworks required for sustainable rural transformation.

Overall, the evidence suggests that good purchasing practices alone cannot deliver living incomes for the most vulnerable cocoa-farming households. Instead, such practices function as one lever among many in a broader “smart mix” of solutions that must involve supply management to avert price collapses, government interventions for rural development, and social support targeting the poorest households. Rather than displacing cocoa as a principal source of income, good purchasing practices can facilitate a more flexible livelihood portfolio—especially when premiums and technical assistance explicitly support farmers' non-cocoa ventures. The study thus underscores both the value and the limitations of market-based interventions. Deeper stakeholder collaboration, transparent communication channels, and strong national policies remain pivotal if good purchasing practices are to tangibly increase the incomes of cocoa-producing communities in Ivory Coast.

Data availability statement

The datasets presented in this article are not readily available because the interview transcripts and field notes cannot easily be

anonimised. Requests to access the datasets should be directed to David Bugmann, david.bugmann@gmx.ch.

Author contributions

DB: Conceptualization, Funding acquisition, Investigation, Methodology, Writing – original draft, Writing – review & editing. AA: Supervision, Writing – review & editing. CB: Conceptualization, Supervision, Writing – review & editing. CO: Conceptualization, Funding acquisition, Methodology, Project administration, Supervision, Writing – original draft, Writing – review & editing.

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