Cocoa pods harvested in Ghana (top) and coffee in Ethiopia (bottom)

Photo credit: World Agroforestry

CHAPTER 14

How much do cocoa and coffee contribute to livelihoods in Africa?

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Key highlights

1. Cocoa and coffee contribute significantly to economies of African countries and the livelihoods of smallholder farmers through revenues and employment;
2. Massive inequalities exist in the distribution of returns within the global value chains of cocoa and coffee. West African farmers only receive 7% of total global cocoa proceeds despite producing 75% of the world's cocoa beans. Coffee producing countries only receive 10% of aggregate coffee wealth globally. Value addition of these commodities within Africa is needed to tap into proceeds from processing and distribution as well;
3. Contributions of cocoa and coffee systems to human capital in terms of nutrition and health are mixed and context-specific. Pesticides and fungicides pose a severe threat to human health from these systems. Contributions to human nutrition largely depend on the farm's diversity and incomes from commodities produced. Freeing the cocoa industry of the negative stigma of child and enslaved labour remains a challenge;
4. Sustainable intensification and diversification through agroforestry are needed to combat the negative impacts of cocoa and coffee production growth in forest frontiers. There is evidence that some of these are beginning to take root;
5. Production, market and policy innovations will be needed to improve cocoa and coffee contributions to livelihoods in Africa, especially in terms of financial, human, natural and social capital.

1. Introduction

Cocoa and coffee are tree commodities essential to West and East African economies. In West Africa, smallholder farmers produced an estimated 73% of total cocoa production as of 2015, with the average farm size being around one to four hectares (Wessel and Quist-

Wainaina P, Minang PA. 2021. How much do cocoa and coffee contribute to livelihoods in Africa? In: Minang PA, Duguma LA, van Noordwijk M, eds. 2021. Tree commodities and resilient green economies in Africa. Nairobi, Kenya: World Agroforestry (ICRAF)

Wessel 2015). These farmers rely heavily on cocoa production, and it constitutes a significant proportion of their household income (Bymolt et al 2018). Since the 1930s, West African farmers have been world leaders in cocoa production led by Côte d'Ivoire, Ghana, Nigeria, and Cameroon, competing with Southeast Asia and small volumes from the Latin American countries of origin. Cocoa is relevant to the economies of several countries (Figure 14.1). In Cote d' Ivoire, although the cocoa contribution to the national GDP has been fluctuating over the years, it peaked at 10% in 2003 and was about 7% as of 2013. For Ghana and Cameroon, cocoa contributes approximately 2-4% to the respective countries' GDP. Similarly, cocoa exports constituted about 40% of Cote d' Ivoire's total export value as of 2016, the highest over the last three decades. Cocoa's contribution to Ghana's exports has however, been on a decline over the years, from 52% in 1987 to about 10% in 2016[1].

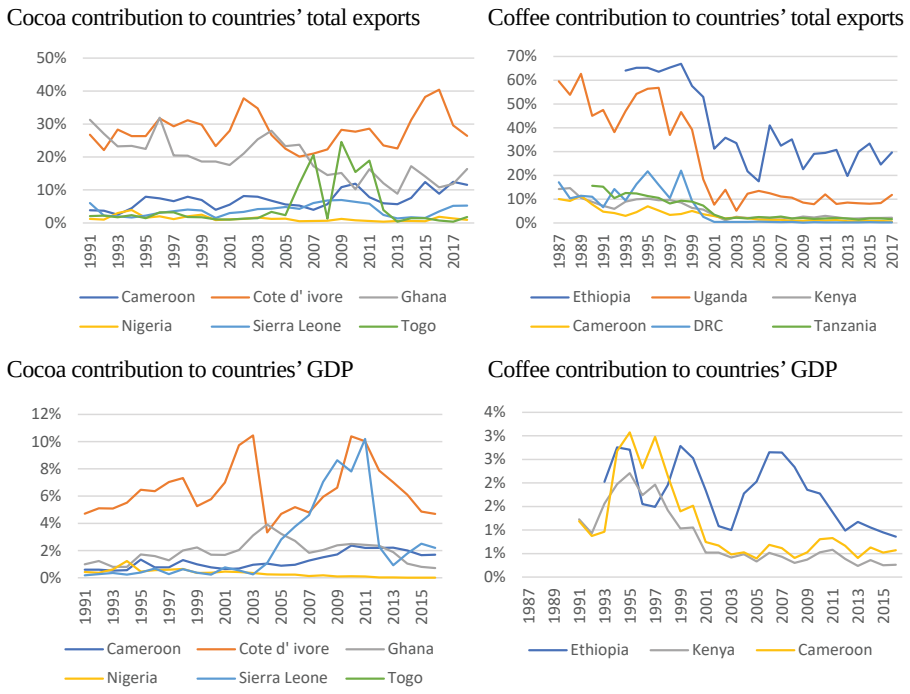

Figure 14.1: *Cocoa and coffee contribution to the export and GDP of lead producers in Africa*
Source; FAOSTAT database

For coffee, as of 2018, the three most significant coffee producing and exporting countries in Africa were Ethiopia, Uganda and Kenya. Globally, Ethiopia and Uganda are among the top ten coffee producers and exporters[2]. As shown in Figure 14.1, coffee's contribution to the economies of these countries has been on a decline. As of 2016, coffee contribution to these countries' GDP was less than 1%, with the highest being in Ethiopia estimated at 0.9% and accounted for about 30% of the total Ethiopian exports. For most coffee-producing African

countries (Kenya, Cameroon, DRC and Burundi), coffee production has declined over the last three decades. Coffee production in Uganda has remained relatively stable over the years. However, Ethiopia's coffee production has been rising continuously over the years, from approximately 180 million tonnes in 1993 to about 471 Million tonnes in 2017[1]. This increase is directly attributable to the increase in area under production as opposed to the increase in yield. At the micro-level, a significant number of households, most of them being smallholder farmers, derive their livelihood from the cocoa and coffee sector. Table 14.1 summarizes the households or farmers that depend on these commodities.

Table 14.1: *Households dependent on cocoa and coffee in Africa's lead producing countries*

Country	Cocoa	Coffee
Cote d' Ivoire	Directly employs about 1,000,000 farmers, and about 90% of the farmers' income is from cocoa (Waarts et al 2019)	
Ghana	Directly employs about 800,000 farmers, and about 80% of the farmers' income is from cocoa (Waarts et al 2019)	
Nigeria	About 30.000 farmers depend on cocoa (Cadoni 2013)	
Cameroon	Employs 400,000 households (Minader 2018)	
Togo	Cocoa provides a direct livelihood to about 11,000 households[3]	
Ethiopia		About 15 million households depend directly or indirectly on coffee for their livelihood, and about 25% of the population is engaged in the coffee value chain (ECTA 2018)
Uganda		Directly provides employment to about 500,000 smallholder farmers while about 3.1M households derive their livelihood from coffee-related activities[4]
Kenya		About 800,000 smallholder farmers produce 99% of coffee in Kenya (International Coffee Organization 2019)

To sustainably contribute to livelihoods, production systems must meet the needs of present and future generations with their products and services while ensuring profitability, environmental health and social and economic equity (FAO 2014). To understand cocoa and coffee contribution to livelihoods, we will discuss these commodities' impact on the various forms of capitals (natural, social, human, built-up and financial), as shown in Table 14.2. Underpinning the Five-Capitals approach is the belief that the greater a household's access to

livelihood assets, such as human, social, natural, physical and financial capitals, the higher its well-being and resilience (Donovan and Stoian 2012). Figure 14.2 presents an illustration of the Five-Capitals.

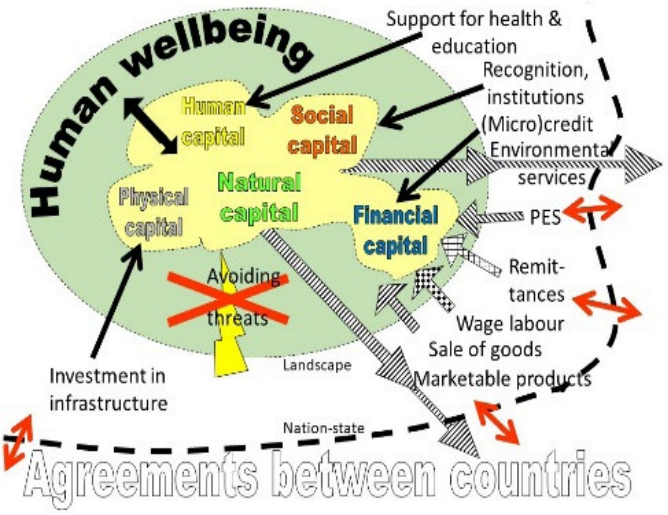

Figure 14.2: *Illustration of the Five-Capitals*

Table 14.2: *Cocoa and coffee contribution at different capitals*

	Examples of cocoa contribution to;	Examples of coffee contribution to;
Physical and financial capital	• Contributes to improved livelihoods through employment, incomes and to countries' GDP and exports (+++) • Distribution of proceeds along the global cocoa value chain (---)	• Contributes to improved livelihoods through employment, incomes and to countries' GDP and exports (+++) • Distribution of proceeds along the global cocoa value chain (---)
Human capital	• Contribution to human health and nutrition (++/--) • Employment and contribution to capacity building (+++) • Agrochemical use effect on human health (--)	• Contribution to human health and nutrition (++/--) • Employment and contribution to capacity building (+++) • Impact of processing waste on human health (---)
Natural capital	• Deforestation due to expansion in area under cocoa (---) • With sustainable production, ecosystem services can be realized (+++)	• Deforestation due to expansion in area under coffee (---) • With sustainable production, ecosystem services can be realized (+++)

	Examples of cocoa contribution to;	Examples of coffee contribution to;
Social capital	• Youth and gender involvement (++) • The cultural value of coffee, especially in Ethiopia (+++) • Farmer groups and co-operatives (+++)	• Youth and gender involvement (++) • Use of child labour in cocoa production (---) • Farmer groups and co-operatives (+++)

+++, ++, + indicates a very strong, strong and weak positive impact, respectively, while ---, --, -indicates a very strong, strong and weak negative impact, respectively.

2. Contribution to physical and financial capital

Physical capital incorporates all manufactured capital, the knowledge and intellectual capital embedded in, and financial capital.

2.1. African countries within the global cocoa and coffee value chain

Figure 14.3 presents specific African countries' contribution to worldwide cocoa and coffee production. Owing to the significance of these African countries within the global cocoa value chain, changes in world cocoa prices directly affect cocoa prices in these countries, particularly Cote d' Ivoire and Ghana. There are efforts to ensure that the farmers receive a relatively fair farm-gate cocoa price within the countries by setting price ceilings. For example, farmers in Ghana receive at least 70% of the total cocoa Free on board (FOB) price in Ghana, and, for the 2017/2018 season, the producer price was set at 72% of net FOB price (Bymolt et al 2018). Within Cote d' Ivoire, the farm gate price is fixed at around 60% of the value that the national cocoa marketing board makes (Cocoa Barometer 2018). These price controls aim to protect farmers against fluctuating prices, thus encouraging more cocoa production. However, this still does not cushion farmers from fluctuating world cocoa prices. There are also concerns about the proportion of FOB price the producing countries through their respective boards retains, about 30-40% of the FOB prices; the question remains whether the services they offer to the farmers are worth that value.

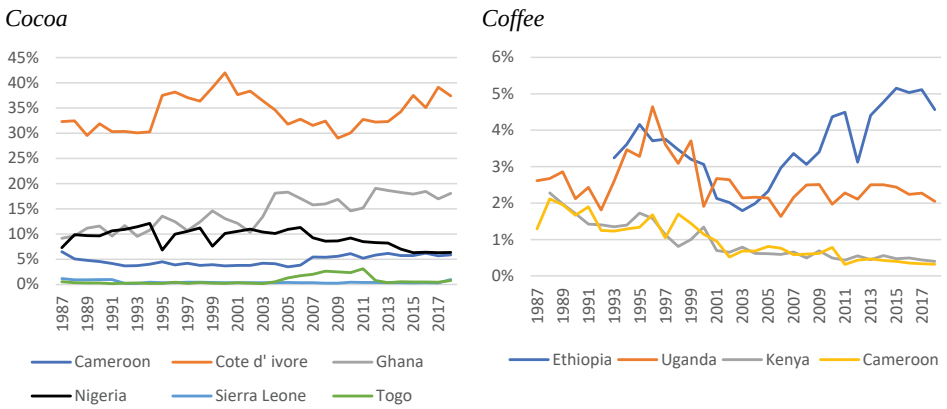

Figure 14.3: *Africa's contribution to total world's cocoa and coffee production*

Data source; FAOSTAT Database

However, despite the significant role that African cocoa producers play within the global cocoa market and the domestic efforts to fairly compensate farmers, there are massive imbalances within the global cocoa value chain. Cocoa and chocolate companies and retailers take up the bulk of the share-35% and 42%, respectively- while West African farmers take up only 6.6% (Cocoa Barometer 2015). The share of revenue to farmers within the global value chain fell from 16% in the 1980s to 6% in 2015 (Sommeregger and Wildenberg 2016). Despite being the largest cocoa producers, Côte d'Ivoire & Ghana process only around 25% of their production, missing out on the more significant value from the value chain. These inequalities highlight the need to promote cocoa value addition within Cote d' Ivoire, Ghana, and the other cocoa-producing countries. Most of the cocoa processing and manufacturing companies are in the USA and Europe, especially in the Netherlands, Germany, UK & Switzerland, indicating their dominance in the chocolate value chain.

These inequalities are also experienced within the coffee-producing countries. In the global coffee industry, coffee producers in developing countries get the least share of the actor's coffee value. Ethiopia and Uganda are among the top ten coffee producers and exporters globally. Although Africa's coffee contribution to the world is not as massive as cocoa, it is still substantial; in 2018, Ethiopia contributed 4.6%, Uganda 2.1%, and other coffee-producing countries contributed <1% (Figure 14.2). Thus, world coffee prices directly affect farmers' incomes in these countries. According to the Coffee Barometer (2018), even though the global coffee industry is increasingly lucrative with a retail value of USD 200 billion as of 2015, only less than 10% of the aggregate wealth stays in the producing countries. Whereas coffee companies are busy conquering markets, cutting costs and driving efficiency, coffee farmers on their end are struggling to get their fair share of the total value added in the coffee industry.

The economic inequality is rising, as prices paid to farmers have been falling for decades, often reaching levels well below the poverty line. The coffee sector needs fair prices for farmers, for their livelihoods and for investments to ensure the long-term viability of their farms. Coffee's image as a poverty crop will not help to attract rural youth as they aspire a better future and seek employment outside the coffee sector (Coffee Barometer 2018).

Box 14.1

The livelihoods of cocoa farmers from a living income approach

Despite past and current interventions to lift smallholder African cocoa farmers out of poverty, most live below the living income standards. Approximately 80% and 75% of cocoa farmers in Ghana and Cote d' Ivoire, respectively, live below the living income standards for the specific countries (Waarts et al 2019). Living income is the net income a household would need to earn to enable all household members to afford a decent standard of living. For more than half of the cocoa-growing households, household income would need to double for them to earn a living income (Waarts et al 2019). For cocoa-growing households in SSA, an increase in income can be achieved either through; 1) increasing the cocoa farm gate prices, 2) improving cocoa productivity, 3) diversification with other crops and off-farm activities and/or, 4) value-adding cocoa at the small-scale level. Increasing farm-gate prices for these commodities is necessary but not sufficient to lift smallholder farmers out of poverty. Even if farmers' incomes from these commodities were to directly increase – for example, through increased farm gate prices –small farm sizes and low productivity levels lead to only a few farmers moving to another income group (Waarts et al 2019). Evidence shows that improving cocoa yields should be the first and necessary step in lifting most smallholder farmers out of poverty. These smallholder farmers are characterized by small farms, low yields, lack of capital to invest in better varieties, low levels of training and knowledge on good agricultural practices, among others. Hence, to achieve an increase in yield, there is a need for policies and practices, including capacity building programs and improved access to finance to help these farmers overcome these challenges. Together, increasing yields and producer prices can help lift smallholder farmers out of poverty. Thus, there is a need for appropriate boards in the respective countries to negotiate for better farm-gate prices. Global negotiations for better cocoa prices are achievable since most of it is sourced from two countries- Cote d' Ivoire and Ghana. There are already efforts by the governments of Ghana and Cote d' Ivoire to increase the farmers' income. In 2019, Ghana and Cote d' Ivoire introduced a surcharge of $400 a tonne above the futures price of cocoa called living income differential (LID) — meant to benefit cocoa farmers and is to be effective as from 2020/21[5]. Funds raised by the (LID) are expected to increase payments to farmers. The LID replaces an earlier proposal for a floor price for cocoa contracts, which is part of a broader plan to combat poverty among farmers in Cote d' Ivoire and Ghana. Income diversification also can be an essential way to improve farmer resilience by reducing reliance on a single crop or enterprises while increasing their total income. A large proportion of farmers' income is from cocoa production in Ghana (about 80%) and Cote d' Ivoire (about 90%) (Waarts et al 2019). Hence, there is potential for income diversification among the cocoa farmers to other crops or off-farm activities.

3. Contribution to human capital

The effect of tree commodities on human capital includes the impact on aspects such as improved nutrition & food security, increased skills, and reduced occupational health. Incomes from cocoa and coffee also positively contribute to human capital in the form of re-investments into schooling and training and other forms of education and capacity building. Similarly, employment gains from these commodities, both directly and indirectly, build into the human capital. However, some African countries exploit forced and child labour, a major social issue; we discuss this in detail in the next section under social capital. For this section, we will discuss the effect of cocoa and coffee production on food security and nutrition.

3.1. Tree commodities and household food security

Despite continued efforts to promote cash crops as a means of reducing rural poverty and food insecurity, the contribution of cash crops such as coffee and cocoa to food security has been an issue of ongoing food policy debate (Kuma et al 2019). On the one hand, cash crops contribute positively via any of these three channels (Kuma et al 2019). First, specialization in a commodity provides a higher return, allowing farm households to buy food and non-food consumption goods, thereby achieving a higher level of welfare, including food security. Second, the benefits arising from cash cropping also accrue to non-cash crop producers through increases in labour opportunities since their production is often labour-intensive. Third, cash income relaxes liquidity constraints, thus facilitating improved inputs. This cash income ultimately offers farmers opportunities to invest and improve their farm's management, thus stimulating agricultural innovation and increasing yields.

On the other hand, some studies have pointed to a negative relationship between cash crop farming, including cocoa, coffee and oil palm and overall household food security (Anderman et al 2014). They have argued that production diversity is a more definite indicator of household food security compared to the income effect. For example, Anderman et al (2014) found that cultivating cocoa in Ghana was negatively associated with all the three dimensions of food security- availability, accessibility and utilization. Farmers dedicating a higher proportion of their land to oil palm or cocoa production had more trouble finding enough food to eat (availability). At the same time, they also employed more intense coping strategies to obtain food (accessibility). Food utilization was more constrained by the lack of micro-nutrients in the diets among cash crop farmers compared to more diversified subsistence farmers. Cash crop farmers are likely to rely more on purchasing food items than mixed-crops farmers and thus could be more affected by increasing commodity prices. The price of cocoa and that of inputs

play a significant role in local food access and availability; income from cocoa production is sometimes not enough to meet household expenditure on food and other necessities, especially as profits are highly seasonal. Thus, the gap between farm-gate prices and international cocoa prices, which can create a decreased purchasing power for cocoa farmers, as well as an increase in the price of essential household commodities, could explain one aspect of the significant negative relationship between levels of cocoa and the ease with which smallholders in Ghana were able to buy food.

Similarly, Jemal (2018) study on the effect of cash crop farming on micronutrient deficiency among coffee farmers in Ethiopia found that compared to subsistence farmers, coffee farmers suffer from lack of micro-nutrient, mainly iron. The study assessed the role of local agroforestry practices toward food and nutrition security (FNS) within the coffee landscape of Yayu, south-west Ethiopia, through survey data collected from 300 households. The study found that, in general, the farming communities of Yayu are hunger-free. However, about 20% of the households face moderate to severe food insecurity through limited access to food, regardless of seasons, and there was a prevalence of wasting, underweight and stunting, which indicates certain forms of hidden hunger, such as iron deficiency. They found that seasonal food insecurity and eventually hidden hunger (iron deficiency) were more prevalent within coffee-growing areas compared to other farms, e.g. teff-growing households.

Most tree commodities farmers exclusively cultivate cash crops at the expense of other food crops, thus worsening food security, particularly micro-nutrients deficiency. Also, other factors can make cash cropping ineffective at achieving food availability, food access and food utilization at the household level. These include vulnerability to changes in food markets, increased dependence on local markets, frequency of household incomes, and other social factors such as spousal control of household income shift (Anderman et al 2014).

4. Contribution to social capital

Contribution to social capital refers to cocoa and coffee contribution to cultural aspects and social aspects such as gender equality. It also entails safety nets, trust relationships (e.g. with buyers and service providers), effective links with political decision-makers, and other social relations of mutual benefit (such as farmer groups and co-operatives). While employment is mostly a human capital issue, forced and child labour directly affects a household and community's social capital. For this chapter, we discuss the use of child labour in the production of these commodities in Africa.

4.1. Child labour in tree commodities and livelihoods in Africa

The production of some of the tree commodities, mainly cocoa, is highly labour intensive and sometimes involves child labour. The use of child labour in cocoa and oil palm production has become a global issue. For example, in cocoa production in West Africa, children aged 5-12 years mainly engage in weeding, gathering and carrying pods to pod-breaking points, carrying water for on-farm spraying, and carting fermented cocoa beans to drying points. Older children (15-17 years) are involved in additional tasks of harvesting pods, pod breaking and mistletoe cutting (Thorsen 2012). A study by Tulane (2015) conducted in the cocoa producing areas of Cote d' Ivoire and Ghana showed that the proportion of children involved in child labour within cocoa production in Ghana decreased between 2008/09 and 2013/14. However, it increased in Cote d' Ivoire. The percentage of child labourers among children aged 5-17 years working in the cocoa production in Ghana decreased from 44% in 2008/09 to about 41% in 2013/14, and those involved in hazardous work dropped from 43% in 2008/09 to approximately 39% in 2013/14. In Cote d' Ivoire, the proportion of children engaged in child labour was about 32% in 2013/14 from 23% in 2008/09 while the percentage involved in hazardous work was estimated at 31% in 2013/14 from 22% in 2008/09. The increase in child labour in Cote d' Ivoire over the last decade can be attributed to the rise in medium and large cocoa plantations.

The common assumption in the literature is that child labour in developing countries is driven by income poverty. However, household decisions for or against child labour are rarely the consequence of one single factor (for example, monetary poverty) or event (for example, an income shock) (Krauss 2013, Berlan 2013). Instead, in the case of African countries, they are often related to a set of circumstances and factors, which include:

- The structure of the economy (which is primarily led by family farming),
- Cultural influences (social norms viewing child labour as part of socialization),
- Occupational choices (with no higher reported economic returns to primary education in rural areas),
- Low government priority and capacity (to enforce anti-child labour laws),
- The seasonal demand for agricultural work and,
- Demographic variables (such as low parental education and children's 'economic value' increasing with age).

Approximately 10% of child labourers in Ghana's cocoa farms do not attend school, violating the International Labour Organization's (ILO) Child Labour Standards. Depriving these children of an education has many short-term and long-term effects. Without an education, cocoa farmers' children have little hope of ever breaking the cycle of poverty; also, children

working in the cocoa sector experience some injuries and adverse health conditions. In some extreme situations, cases of forced labour and child slavery within cocoa plantations have been reported.

However, not all forms of child labour are detrimental; the effect of child labour use depends on the scale of production, e.g. in smallholder versus plantation or medium-scale cocoa systems. Within smallholder systems that mostly involves family farming, involvement in the day to day cocoa production activities involves children assisting in lesser tasks in the farms. In most cases, family farming does not impede children from attending school since they only work after school or during school holidays. Involving them is part of these communities' social and cultural norms and has mainly been viewed as part of socialization. On the other hand, children's involvement is a major concern in medium or large plantation since most children are hired for cheap labour without rights to protection. In such cases, the children's education is affected, particularly during high labour seasons, and some of them are deprived of education completely. Additionally, children ought to be spared from applying agrochemicals and involving them in other hazardous or physically difficult work.

With the growing number of medium and large cocoa plantations in West Africa, there is a need to ensure the enforcement of country-level regulations on child labour and the ILO regulations on child labour. Certification premiums paid to farmers for producing child-labour free cocoa would also help in reducing child labour use. Luckstead et al (2019) found that eliminating the worst forms of child labour in Ghana would require a cocoa price premium of 2.8%. Additionally, eradicating child labour on regular work (non-hazardous work but over the maximum hours allowed for a child) would require a premium of about 11.8%, which could be paid through the already established Cocoa Marketing Boards in the respective countries. In addition to the premiums, ensuring traceability of the certification standards that prohibit child labour in cocoa production is also essential in reducing child labour, especially in plantations. There are also efforts by the Governments to address child labour. One new policy in Ghana that was implemented to minimize child labour use is offering free primary and secondary education, which started in 2017. This would ensure all the children aged 5-17 years attend school, reducing the availability of child labour for exploitation, whether in cocoa production or otherwise.

5. Tree commodities and natural capital

Natural capital refers to how cocoa and coffee production systems interact with the environment, including the effect of production on ecosystems, habitat quality, deforestation, greenhouse gases emissions, pollution, among others. This chapter discusses deforestation and sustainable intensification within cocoa and coffee production systems.

5.1. Sustainable intensification within cocoa and coffee production

Global demand for both cocoa and coffee has been growing over the years. By 2020-2025, one million additional tonnes of cocoa will be required to meet demand. Therefore, a high risk of a shortage by 2030 or a 500-600% increase in cocoa prices, hence, an urgent need to increase production in the long term (Witjaksono 2016). Similarly, coffee consumption and production increased by an average of 2% per year between 2012 and 2017. Consumption levels have been rising outside the traditional EU and USA markets, especially in Southeast Asia. If this pace of growth continues, the coffee sector will need 300 million bags of coffee by 2050, which means doubling or even tripling the current annual world production (World Coffee Research 2017).

Over the decades, increases in cocoa and coffee production in Africa has been achieved through increasing the land under cultivation and has been a significant driver of deforestation and poverty (Alemagi et al 2014). According to FAOSTAT[1], the area under cocoa in Cote d' Ivoire increased from 1.23M ha in 1987 to 4.14M ha in 2017. Similarly, the area under cocoa in Ghana increased from 730,000ha to about 1.69M ha between 1987 and 2017. A similar rising trend in cocoa areas was observed in other cocoa-producing countries in Africa. However, except for Ethiopia, coffee production and area under coffee in other African countries has either stagnated or declined. In Ethiopia, the area under coffee increased from approximately 263,000 ha to 694,000 ha between 1987 and 2017.

These increases in land under tree commodities have been a significant driver of deforestation in these countries. The loss of forests and shadow trees amplify the impact of climate change, especially in West Africa, where natural forest cover in Ghana, Cote d' Ivoire and Burkina Faso has declined by more than 70% in the past three decades (Cocoa Barometer 2018). To sustainably meet the growing demand, there is consensus that sustainable intensification, a key component of climate-smart agriculture, is necessary to minimize further deforestation. Climate-smart agriculture (CSA) aims to meet the triple challenge of raising agricultural productivity and farm incomes, enhancing adaptation and resilience to climate change, and reducing greenhouse gas emissions from agriculture. In addition to achieving the three objectives of CSA, agroforestry can also directly benefit forest conservation (Ngoma et al 2018). Thus agroforestry systems are increasingly being viewed as sustainable and environmentally preferable to other forms of agricultural activities in tropical forest regions. Agroforestry has been shown to increase both the productive and ecosystem function outputs of the cocoa and coffee farming systems (Ngoma et al 2018).

Agroforestry systems lead to increased output per unit of land since the farmer has multiple income streams on the same piece of land resulting in an increase in income and a reduction in the demand for land, thereby reducing deforestation (Minang et al 2014). To illustrate this, Figure 14.4 shows a graphical comparison of provisioning services among three commonly practised coffee production systems in Ethiopia; semi-forest coffee, garden coffee and plantation (highly intensive) coffee systems. We also compared three cocoa production systems in Ghana; shaded cocoa, full-sun (unshaded) and high-tech (plantation) cocoa systems. Production data was sourced from different studies conducted in Ethiopia and Ghana and valued at the prevailing market price; a detailed breakdown is provided at Wainaina et al (2020). Compared to other production systems, coffee and cocoa yields were lower in the agroforestry systems. However, considering other provisioning services, there are trade-offs between cocoa/coffee yields and other provisioning services such as timber, wood fuels and non-timber forest products (NTFPs). Although the cocoa yields are lowest within agroforestry systems, the total provisioning services are highest in agroforestry systems compared to full-sun and plantation cocoa.

Similarly, within coffee production systems, in addition to coffee, the semi-forest and garden coffee systems yield other food products (honey, enset –'false' bananas, fruits, nuts) and products (e.g., timber, wood fuel, medicinal plants). The value of wood fuel and timber was higher within the semi-forest systems compared to garden coffee, but the value of non-timber forest products was higher within the garden systems compared to the semi-forest system. Cumulatively, the value of products was highest within the garden systems, followed by the semi-forest systems and was lowest within the plantation systems. In addition to these provisioning services, agroforestry systems yield a myriad of other ecological benefits, including biological pest & disease control, carbon sequestration, pollination services, soil erosion control, water regulation, and so on.

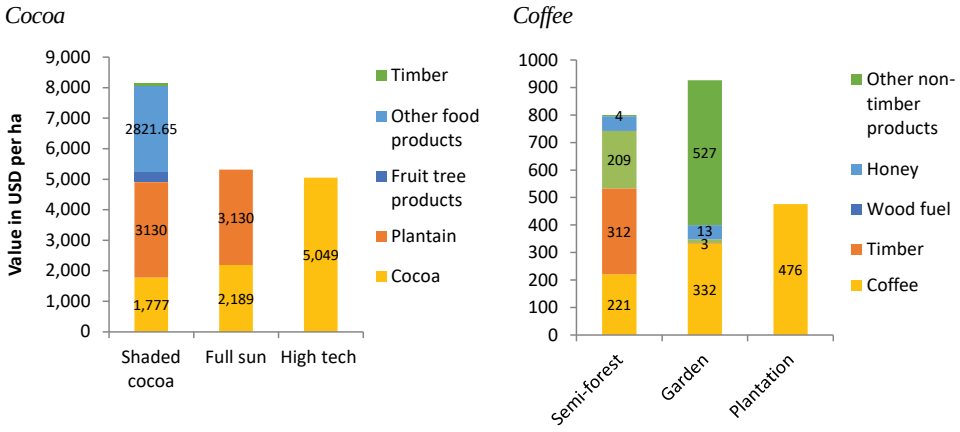

Figure 14.4: *Provisioning services across different cocoa and coffee production systems in Ghana and Ethiopia*

6. Conclusion

Tree commodities play a significant role in the livelihoods of African farmers and the economy of the countries producing these commodities. In this chapter, we discuss cocoa and coffee contribution to the livelihoods based on several capitals: physical, financial, human, social and natural capitals. Several policies and practices can be adopted to enhance the activities and reduce the challenges that positively or negatively impact these farmers' livelihoods. We highlight some of them in Table 14.3. However, to affect these practices and policies will require the collective effort of all the actors involved in the cocoa and coffee value chains.

Table 14.3: *Way forward; policies and practices to improve cocoa and coffee farmers' livelihoods*

Policies and Practices	Challenge addressed/ Impact enhanced
Increasing commodities' producer prices through better negotiations such as; • Enforcing the living income differentials (LID) in Ghana and Cote d' Ivoire • Cocoa and coffee-producing countries working together to ensure better negotiations, e.g. to increase the % of FOB price paid to farmers.	• Increase in living income among smallholder cocoa and coffee farmers. • Improve food security among farm households through the income effect.
Agroforestry and other sustainable intensification practices.	• Enhances sustainable increase in yield, especially increasing yields without deforestation. • Improve nutrition due to crop diversification and, in some cases, provision of micro-nutrients in diets.
Certification premiums.	• Promotes sustainable production by making ecologically produced commodities more financially attractive. • Discourages harmful practices, such as the use of child labour.
Value addition of commodities and by-products within Africa. This requires major investments in physical infrastructure and skills.	• Increase proceeds from the commodities value chains accruing to African countries.
Diversification with other crops or off-farm activities/	• Address the challenge of low living income among cocoa farmers, particularly those with small farms.
Improved access to (responsible) finance, capacity building (production and business skills).	• Improve farmers' accessibility to inputs, hence increasing their productivity. • Enhance human capital.
Farmers' organization to increase bargaining power (in-country), realize bulk purchases of farming inputs, and create safety nets for shared labour (e.g. in case of sickness).	• Address the challenges of living income as well as strengthening the social capital among the farmers.

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Endnotes

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