1 NO POVERTY

RACE TO ONE:

Mobilizing Business Action on SDG 1

FARMER INCOME LAB

OXFAM

MARS

The **Farmer Income Lab** (the Lab) is a collaborative "think-do tank" founded in 2017 by Mars Inc. The Lab brings together businesses, governments, and civil society to identify and activate innovative solutions for improving smallholder farmer incomes in agrifood (the commercial production of food through farming) supply chains.

The Lab's mission is threefold: generate insights needed to boost the income of smallholder farmers; inspire action; and pilot the most effective approaches at scale. This cutting-edge agenda will deliver value to Mars and other global businesses, supporting the future-proofing of supply chains while empowering farming families to increase their income. The Lab brings together diverse partners with the shared goal of designing and activating supply chains that enable farming families and businesses to truly thrive.

This report was originally prepared for the Race to One event that took place during the United Nations General Assembly (UNGA) 2019. It is co-authored by Oxfam America and Mars on behalf of the Lab. Its objective is to frame a number of critical questions and to promote a rich and productive dialogue. It is being shared confidentially with event participants. Following the event, this public version was generated and posted on the Lab's website. Questions and comments are welcome and can be directed to Uwe Gneiting at Oxfam (uwe.gneiting@oxfam.org) and Heather Pfahl at Mars (heather.pfahl@effem.com).

Mars would like to thank the United States Agency for International Development (USAID) for its generous support of the work of Mars and the Lab and our ongoing partnership.

EXECUTIVE SUMMARY

The Sustainable Development Goals (SDGs) require unprecedented collaboration and innovation. These bold ambitions assume a substantial role for business, but as they are adopted by governments, it has become clear that the SDGs lack guidance on the exact role business can play in catalyzing and contributing to specific targets. This lack of guidance is particularly true for SDG 1, which few global companies have prioritized as an area for engagement.[1]

SDG 1, "End poverty in all its forms, everywhere," is a central ambition of the 2030 Agenda and interconnects with the other goals. But, collectively, the world is not on track to meet SDG 1. The world has made significant progress over the past three decades in reducing the proportion of the global population living in extreme poverty (less than $1.90 per day) from 36 percent[2] (1990) to approximately 7.9 percent to 8.6 percent (2018).[3] However, current forecasts project that around 6 percent (or 480 million people) will still be living in extreme poverty by 2030,[4] illustrating that more needs to be done if the global community are to meet this ambitious global goal. Furthermore, poverty trap dynamics make the remaining extreme poverty more intractable and difficult to address.

Considering that an estimated two billion to three billion lives are linked to small-scale agriculture, most of the progress needed to achieve SDG 1 must come from rural poverty alleviation. Given the prevalence of poverty in rural areas and a reliance on agriculture for livelihoods, a concerted effort to meaningfully improve farmer incomes would be a powerful contributor to meeting SDG 1. Our estimate suggests that up to 24 million smallholder farmer households (or 122 million people) living in poverty could have ties to agrifood supply chains using a poverty line of $3.10, or up to nine million households (or 47 million people) using a poverty line of $1.90.[5] Although these estimates should be treated with caution due to methodological limitations (see Appendix B), they represent a useful foundation upon which to build a future research agenda.

Global food and agriculture businesses can play a catalytic role in boosting progress toward SDG 1 if they take greater action on farmer poverty in their agrifood (commercial production of food by farming) supply chains. Because of their unique, interdependent relationship with farmers, global agribusinesses—defined for the purposes of this report as food retailers, manufacturers, and agricultural commodity traders and suppliers—have the opportunity and responsibility to address smallholder farmer poverty through improved procurement practices and new stakeholder partnerships. Many companies recognize moral, business, and food system imperatives and have begun to address poverty in agrifood supply chains. However, a lack of alignment regarding which interventions work best and under what conditions, how to tackle barriers faced by women, which targets to pursue, and clarity on roles have hindered progress toward successful individual and collective action.

Mapping "poverty-commodity hotspots" in agrifood supply chains provides the early insights needed to jumpstart prioritization and partnerships. This report includes a high-level scan of select commodities produced by smallholder farmers using two approaches to identify where business could focus its efforts. Both approaches look at impoverished countries that have significant exports of commodities. However, one starts with poverty levels, and the other starts with the commodities. The results provide illustrations for potential country-commodity pairings for the Farmer Income Lab and others to further investigate.

Without a concerted effort to act on poverty in agricultural supply chains around the world, the global community is unlikely to meet SDG 1 by 2030. To unlock new business commitment and action, the Farmer Income Lab has identified a critical set of questions to contend with: What is the role and responsibility of business? How can business prioritize and focus efforts? What might a commitment to act consist of? What are the key barriers to collective action? What are the most promising strategic levers at business's disposal? How can business address barriers faced by women in their supply chains? And how can farmers directly engage in co-creating solutions?

The Farmer Income Lab held a Race to One dialogue concurrently with the United Nations General Assembly in New York in September 2019. Global food and agriculture companies and other key stakeholders discussed whether (and how) a major step-up in business commitment and action on SDG 1 could deliver significant value to companies and farmers.

1. THE CHALLENGE: THE WORLD IS NOT ON TRACK TO ACHIEVE SDG 1

While adopted by governments, the Sustainable Development Goals (SDGs) assume a substantial role for business and its ability to contribute to achieving the SDGs. The SDGs build on the work of the Millennium Development Goals (MDGs), which, for the first time, galvanized a global campaign to reduce poverty in all its forms. While the MDGs focused on governments, the global community recognized the need for a more active role by nongovernment stakeholders, particularly business, to drive collective SDG action.

SDG 1—end poverty in all its forms, everywhere—is a central ambition of the 2030 Agenda. Recognizing the multiple levels of poverty, SDG 1 includes eradicating extreme poverty and halving the number of people living below their country's national poverty line.[6] SDG 1 includes seven targets that look at different aspects of poverty (see details in Appendix A). The first is eradicating extreme poverty, which is now defined by the World Bank as those living on less than $1.90 per day.[7] The second target recognizes that leaving extreme poverty is not enough, and it sets a goal to reduce by at least half the number of men, women, and children of all ages living in poverty (defined as below the national poverty line). Finally, additional targets for SDG 1 aim to ensure all people have equal rights to economic resources and access to basic services through policies that are "pro-poor" and strong social protection systems.

Poverty is not gender neutral. Women are 4 percent more likely to live in extreme poverty, and the poverty gap is particularly acute between the ages of 25 and 34, due to unequal burdens of care.[8] Discrimination faced by women means they are more likely to live in poverty than men due to unequal access to economic resources, including lower wages, the lack of property and inheritance rights, and the burden of trying to balance paid work with care for children and other dependents. Between the ages of 25 and 34, for every 100 men, 122 women live below the extreme poverty line.

As a multidimensional problem, poverty is highly interconnected with the other SDGs. Three goals are particularly relevant to agribusiness: "zero hunger" (SDG 2), "reduce inequalities" (SDG 10), and "climate action" (SDG 13). Poverty is a multifaceted issue with multiple causes and complex consequences. Tackling poverty requires working closely with initiatives to address rising inequality that hampers farmers' ability to capture their fair share of value created in agrifood supply chains, as well as efforts to secure the food system and deliver on SDG 2. With 75 percent of extremely poor people depending on climate-sensitive livelihood activities, poverty is also intertwined with climate action.[9] Aligned approaches across these three goals are necessary to meet SDG 1.

In addition, slower growth and increasing inequality mean more needs to be done to achieve SDG 1. While the world has made significant progress over the past three decades, current forecasts project that 6 percent of the global population will still be living in extreme poverty by 2030.[10] People who continue to live in extreme poverty face deep, entrenched deprivation often exacerbated by violent conflicts and vulnerability to disasters.[11] With global economic growth rates projected to slow[12] and the impact of growth increasingly benefiting the wealthy disproportionately to those in poverty, achieving SDG 1 will require more than relying on economic growth.[13]

FIGURE 1:
Snapshot of global poverty

- Just **over a quarter of a century ago, 36 percent of the global population lived in extreme poverty** (defined by the World Bank as living on less than $1.90 per day 2011 purchasing power parity).[14]
- In **2018, 593 million to 647 million people lived in extreme poverty**. This equates to 7.9 percent to 8.6 percent of the world's population.[15]
- Globally, **more than 60 percent of poor people today live in five countries**, with four of the five being the lower-middle-income countries of India, Nigeria, Ethiopia, and Tanzania.
- Much of the progress since 1990 has been influenced by China's economic rise, which has helped lift millions of people in the East Asia and Pacific region out of poverty.
- In contrast, **the number of people living in extreme poverty in sub-Saharan Africa increased** from 276 million to 413 million between 1990 and 2015.[16] By 2030, the region could contain 90 percent of people living in extreme poverty.[17]
- However, even above the extreme poverty line people can live in deprivation and be unable to meet their basic needs: **Approximately one-quarter of the world's population is living on less than $3.20 per day** (poverty line typical for lower-middle-income countries as defined by the World Bank), and nearly half the world is living on less than $5.50 per day (poverty line typical for upper-middle-income countries).[18]
- Extending poverty beyond income level, the global Multidimensional Poverty Index (MDPI) looks at a person's deprivation across 10 indicators in health, education, and standard of living. The 2019 MDPI report estimates that across the 101 countries monitored, **1.3 billion people live in multidimensional poverty.**[19]

With nearly two-thirds of people living in extreme poverty and more than half of those in moderate poverty engaged in agriculture, a dedicated focus on smallholder farmers is required. A comprehensive demographic profile review of extreme and moderate poverty by the World Bank highlights that about 65 percent of those living in extreme poverty and over 50 percent of the people considered to be moderately poor (between $1.90 and $3.10 per day) engage in agricultural activities.[20] Importantly, not all rural people who are poor are smallholder farmers, and not all smallholder farmers are poor.

Of the more than 500 million small farms (most less than two hectares in size),[21] approximately 22.3 percent are estimated to be extremely poor and 44.1 percent to be extremely or moderately poor.[22] Considering that an estimated two billion to three billion lives are linked to small-scale agriculture,[23] most of the progress needed to achieve SDG 1 must come from rural poverty alleviation.[24]

What is the size and scale of the farmer poverty challenge across agrifood supply chains?

To enable business action, it is important to ascertain the size and scale of the challenge across agrifood supply chains. Comprehensive data currently do not exist on the number of smallholder farmers connected to supply chains. Data also does not exist on the number of smallholder farmers living in poverty who are connected to these chains. As a starting point, this report uses available proxy data to estimate the prevalence of poverty in agrifood supply chains (see Figure 2). Our estimations are based on several key data sources: global and commodity-specific estimates of the number of small-scale farmers participating in agrifood supply chains, country-level poverty data, and a limited number of studies assessing prevalence of poverty in a single commodity/country context.

The simplicity of this approach has inevitable limitations, but it does provide an indicative range of the size of the challenge. Subsequent research will further elaborate on this report's analysis.

The level of commercialization of small-scale farmers varies widely. While most farmers participate in markets (estimates are up to 90 percent)[25], a much smaller number of farmers participate in formal agrifood supply chains linked to food companies.

A study by the Consultative Group to Assist the Poor (CGAP) further segments the 500 million smallholder households into three tiers: noncommercial smallholders, commercial smallholders in loose value chains, and commercial smallholders in tight value chains.[26] Based on estimates of country averages taken from reports by CGAP[27] and the World Bank,[28] the CGAP study finds that only approximately 7 percent of smallholder farmer households, or 35 million, are in what CGAP refers to as a tight value chain relationship—an organized supply chain with a contract to supply. Smallholder farmers in loose value chains generate some level of surplus to sell in informal local or regional markets and are estimated at 33 percent of the total (or 165 million).[29] Across both loose and tight value chains, women play significant roles in production and post-harvest processing that are often key determinants of the size and quality of the final commodities produced. Yet, these roles are often informal, unacknowledged, or underresourced.[30]

For the purpose of this initial rapid analysis, it is prudent to take a conservative approach (recognizing where businesses have most leverage) and focus on those households in a tight value chain relationship (or the estimated 35 million). Smallholder farmers are a heterogeneous group and range from predominantly engaging in subsistence farming, to participating infrequently in commercial markets, to being entirely dedicated to commercial farming. Drawing on CGAP's research,[31] the crop mix of commercial smallholders in loose value chains typically focuses on staple crops and could also include some higher-value export crops (e.g., sugar, tea, and coffee). The commercial smallholders in tight value chains, however, typically take a more businesslike approach to farming and have the capacity to generate reliable, high-quality outputs that are sold on a contract basis through relatively highly organized value chains.

The lack of reliable and comprehensive data prevents robust insights into poverty levels of farmers participating in agrifood supply chains at a global scale. Our best (albeit crude) guess is to extrapolate the findings from existing studies of individual commodity and country contexts. Out of the limited number of studies estimating poverty levels of farmers participating in global value chains, data on cocoa farmers in West Africa appears most robust and comprehensive. Data from two detailed studies on poverty rates among cocoa farmers in Ghana and Côte d'Ivoire suggest a wide span of 24 percent to 69 percent of smallholder farmers live under the median poverty line of less than $3.10 a day, with 7 percent to 26 percent living under the extreme poverty line (less than $1.90 a day).[32]

Notwithstanding the significant limitations of assuming that cocoa farmers' experience in two countries is representative of all farmers working on all commodities, applying this range of percentages to the estimated 35 million smallholder households in tight value chains suggests that nine million to 24 million households (43 million to 122 million people) experience poverty even though they are linked to an agrifood supply chain, with three to nine million of these households (or 13 million to 47 million people) living in extreme poverty. This initial analysis implies that as many as 6 percent of all people living in moderate poverty (and as many as 8 percent of all people living in extreme poverty) may be linked to agrifood supply chains.[33]

Extending the estimate to include farmers in loose value chains increases these figures significantly. Applying the poverty rates above to the total estimated 203 million smallholder farmers operating in a commercial capacity, thereby including those loosely linked to supply chains as well as those in tight supply chains, increases the estimate of households living under the median poverty line to 50 million to 139 million (248 million to 695 million people), with 15 million to 54 million (77 million to 268 million people) of those living in extreme poverty. Figure 3 presents a summary of how these estimates differ depending on which segment of smallholder farmers is the focus and which poverty line is used.

There also are important multiplier effects resulting from smallholder farmers escaping poverty. When smallholder farmers earn more, they raise the demand the demand for additional farmworker labor (both more days of employment and often better wages and working conditions) and for local nonfarm goods and services provided by poor rural households that themselves aren't a part of agrifood supply chains.[34] Agrifood supply chains can thus be used to boost many more people out of poverty than just farmers (e.g., workers in transport, processing, storage, etc.). The number of workers along the value chain post-farmgate far outnumbers the number of farmers.

For agribusiness to meaningfully engage, further research must significantly refine these initial and roughly calculated estimates. Research can also reveal nuances regarding how poverty rates differ between men and women farmers, and across commodities and geographies, and it can explore the extent to which farmers in loose value chains are connected to global buyers. With this Information, business will gain a clearer understanding of the size of the problem and the strength of smallholder connections to existing operations.

Global agribusinesses have a critical role to play in driving progress toward SDG 1—they can use their purchasing power and leverage in their supply chains to drive increasing incomes for smallholder farmers. Companies that buy, sell, and trade agricultural commodities can significantly impact the incomes and livelihoods of smallholder farmers that produce them. The size and influence of business on agrifood supply chains provide the opportunity to effect change with directly and indirectly linked smallholder farmers. In close collaboration with governments, business can change its purchasing practices, invest in what works in increasing farmer incomes, and work with partners to catalyze stronger market systems that enable meaningful change for smallholder farmers.

FIGURE 3: Range of estimates of people connected to global supply chains living in poverty based on smallholder household segment type and poverty line

	Below extreme poverty line (less than USD $1.90)		Below median poverty line (less than USD $3.10)	
Segment type of smallholder households	Smallholder farmer HH (million)	People (million)	Smallholder farmer HH (million)	People (million)
Commercial smallholders in tight value chains	3 to 9	13 to 47	9 to 24	43 to 122
Commercial smallholders in loose and tight value chains	15 to 54	77 to 268	50 to 139	248 to 695

Notes: These estimates take the number of smallholder farmers in tight or loose value chains (per Robert Peck Christen and Jamie Anderson, Segmentation of Smallholder Households: Meeting the Range of Financial Needs in Agricultural Families, Focus Note 85 [CGAP, 2013]), assume an average household size of five, and apply the high and low ends for median and extreme poverty based on Roger Bymolt, Anna Laven, and Marcelo Tyszler, Demystifying the Cocoa Sector in Ghana and Côte d'Ivoire (KIT, 2018) and tested in Sustainable Food Lab, Using the Progress Out of Poverty Index in Agricultural Value Chains: A Case Study in Kenyan Tea (2014). Numbers are not exact due to rounding.

2. THE OPPORTUNITY: BUSINESS HAS A RESPONSIBILITY AND AN INCENTIVE TO ACT

Business has made concerted efforts to improve farmer productivity, but few programs effectively increase farmer incomes at scale or address gender inequality. In 2018, the Farmer Income Lab examined the evidence base for what works to raise farmer incomes to lift them out of poverty. The review highlighted the absence of scaled interventions that reliably raise incomes in a meaningful, sustainable way. Most initiatives focused on increasing target crop productivity to lower unit costs of production. But research showed how the most successful examples needed to go further and rethink trading relationships, strengthen farmers' market power, and bundle interventions to drive impact. Further, women farmers continue to face specific constraints that limit their contributions. These constraints include limited access to inputs, finance, technology and markets; restrictions on land ownership and tenure; gender-based violence; and discrimination and unequal household roles,

What are the incentives for business to do more?

The moral imperative: **Supply chains that include farmers living in poverty run counter to the values of many companies and to the widely accepted norms outlined in the United Nations Guiding Principles on Business and Human Rights (UNGPs).** In an age where environmental and social responsibility is increasingly recognized as central to delivering on core business objectives, addressing the precarious situation of farmers in poverty is a growing priority for business leaders. The UNGPs highlight the expectation that businesses do no harm to people in their supply chains, assess the risks faced by people in their supply chains, and take appropriate action when they have caused, have contributed to, or are linked to harm. These principles are valuable guidelines for business action on poverty.

The business imperative: **Ensuring a stable, high-quality supply of agricultural raw materials requires farmers who thrive.** Farmers living in poverty are a major supply risk for food and agriculture companies. They have fewer resources and incentives to invest to enhance productivity, quality, and resilience. They are more likely to abandon their farms for non-agricultural income opportunities, or to grow and sell crops for the domestic market rather than for export. This presents risks to global business in terms of ability to secure required volumes at reliable prices and of consistent quality.

The food system imperative: **Improving the future viability of smallholder agriculture is necessary to ensure a productive and sustainable food system.** The challenge of farmer poverty goes beyond individual groups of smallholder farmers. The food system is strained due to the competing demands of biofuel, land, and other resources, and due to poor soil quality and productivity. To deliver a sustainable, productive, and fair food system, it is necessary to rethink how farming is performed. And as economies develop, smallholder farms are required to professionalize, grow, organize, and diversify or transition out of agriculture. Unless the precarious income situation of farmers, particularly women farmers, is tackled, related food system challenges—from nutrition and climate resilience to environmental stewardship—will remain unaddressed.

Shared responsibility toward a shared approach: **The responsibility to address poverty does not belong to business alone. It is shared with governments as primary duty bearer.** While companies play an influential role in reducing poverty through sourcing practices and investments, they do not shoulder sole responsibility. Governments are responsible for playing the lead role in protecting the rights and well-being of their people. It is their responsibility to support, protect, and invest in smallholder farmers through policies, infrastructure, agricultural extension services, and social protection services. Globally and locally, international institutions and civil society also play a valuable role. The interrelated responsibilities of government, civil society, and business sit at the heart of tackling poverty in agrifood supply chains.[35] By understanding these roles, business can identify where to lead, what to leverage, and how to influence.

3. FOCUSING EFFORTS ON A SHARED APPROACH: POVERTY-COMMODITY HOTSPOTS

Identifying "poverty-commodity hotspots" can guide a shared approach toward individual and collective action. Robust data exist on agricultural export commodities, their primary countries of origin, and poverty levels in those countries. But accurate information is missing regarding how and where commodity-growing regions most strongly overlap with farmer poverty.

These areas of overlap are considered "poverty-commodity hotspots"—a newly developed concept being initially explored and tested through this report. To mobilize stakeholders—specifically global food and agriculture companies—to contribute toward SDG1, a rapid analysis was performed on potential hotspots based on a methodology applied by others, such as the Tropical Forest Alliance on deforestation.[36] This report's resulting analysis provides the basis for initial conversation and future research that informs strategic business action.

The analysis begins with a preliminary list of eight leading commodities based on global magnitude of export value and relevance to smallholder farmers: cashew nuts, cocoa, coffee, cotton, palm oil, rice, sugarcane, and tea. Because no comprehensive database exists on the number of smallholder farmers linked to agrifood supply chains by commodity, review of select reports helped ascertain which commodities are predominantly farmed by smallholder farmers.[37] As a result, the eight commodities mentioned were selected for rapid analysis. It is important to note that the commodities exhibit diverse levels of export orientation (vs. domestic consumption), differentiation (vs. standardization), global trade volumes, geographic concentration of production, and relative relevance of smallholder farmers (vs. larger-scale operators). This initial list will be added to and adjusted through future research.

The second part of the analysis starts with high-poverty countries. High-poverty countries can be identified based on poverty rates or the number of people living in poverty. This report focuses on absolute numbers (not percentages) to provide an initial picture of where to focus efforts to maximize impact. In a second step, this research also includes a snapshot of the situation based on poverty rates (Figure 5).

The analysis provides a first illustration of how to start linking data on global poverty with data on agrifood supply chains. There are many ways this analysis could be complemented in the future. For instance, the selection of eight commodities is by no means exhaustive and could be expanded to include other commercial crops (e.g., fruits and vegetables, dairy, sorghum) often grown by small-scale farmers. The analysis could also select countries based on their poverty levels (instead of absolute numbers) because prevalence could be a useful predictor to companies of the likelihood of encountering poverty in supply chains. For instance, the fact that 27 of 28 countries with the highest poverty prevalence are in Africa means that companies operating on this continent are particularly vulnerable to encountering poverty in their supply chains.

Analysis 1. Applying a poverty-first lens

The top 10 countries with the highest number of people living in extreme poverty were identified through the World Bank PovcalNet.[38] Those countries that annually export more than $100 million of at least one of the eight commodities per the Food and Agriculture Organization Statistical Database (FAOSTAT) were then selected. Appendix C provides additional data on the top five export commodities for each of the 10 countries.

Analysis 2. Applying a producer-first lens

Excluding high-income economies,[39] the top three export countries of each of the eight commodities were identified. Next, a poverty filter was applied by selecting only those countries in which at least 20 percent of the population lives in extreme poverty.[40] Unlike Analysis 1, which uses absolute poverty numbers, Analysis 2 uses the percentage of the population living in poverty in order to include smaller countries with high poverty rates. Appendix D provides additional data on the poverty rates for each of the leading export countries.

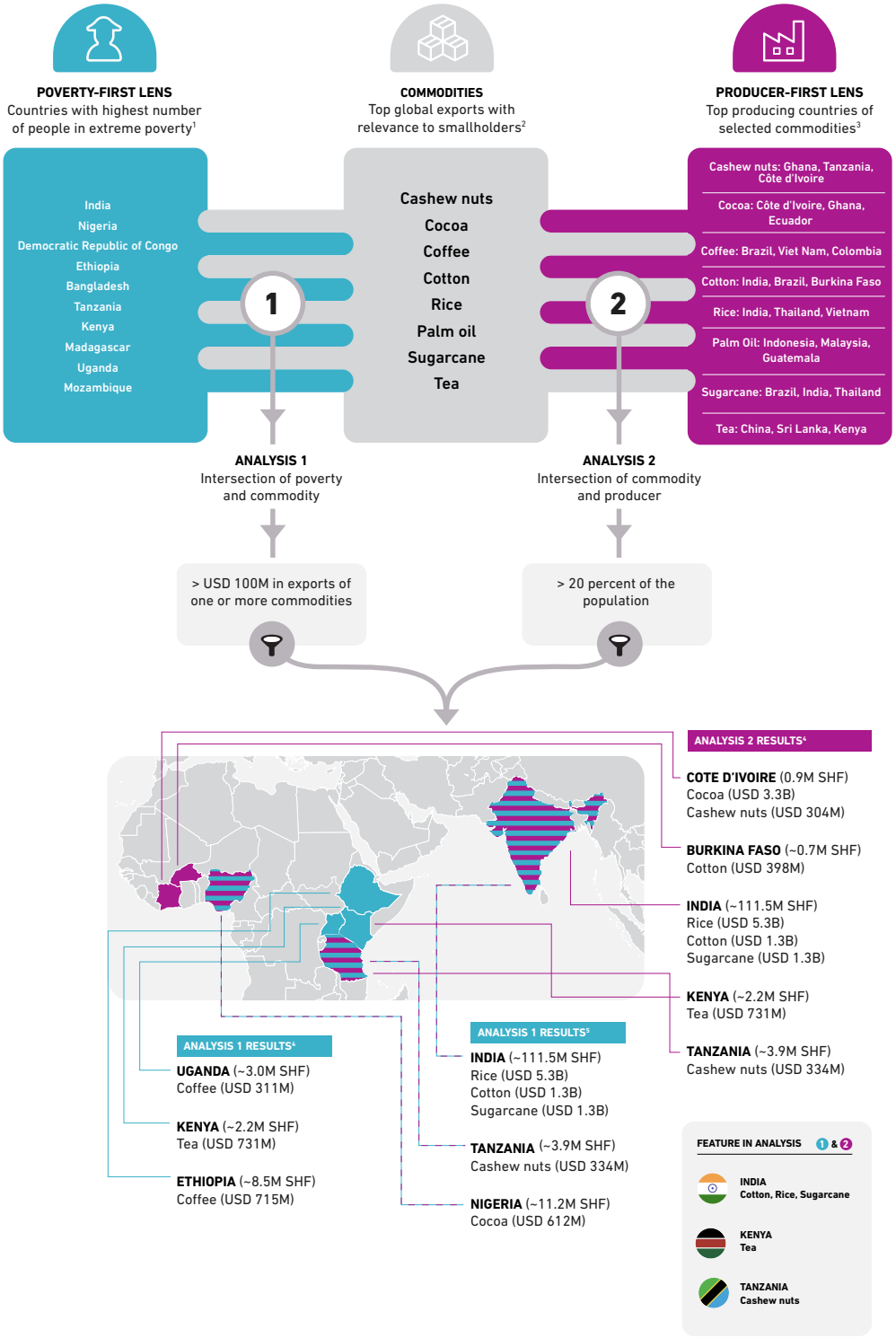
The poverty-first lens shines a spotlight on six countries—Ethiopia, India, Kenya, Nigeria, Tanzania, and Uganda—countries that have the largest number of people living in extreme poverty and that are leading exporters of the eight commodities from a sizable smallholder farmer base. This initial analysis indicates where a collective action approach could impact the greatest number of people. Across these six countries, nearly 450 million people are living in extreme poverty,[41] which is approximately 70 percent of the global total.[42] The analysis is limited in its ability to discern the link between extreme poverty and production of the commodities to assess the scale of potential change in the six countries. The poverty-first lens also risks missing smaller, high-poverty countries with dominant export commodities, such as Côte d'Ivoire and its cocoa exports, or Burkina Faso and its cotton exports.

The commodity-first lens seeks to address some of these limitations and apply a poverty filter to countries that dominate global exports of the eight commodities included in this analysis. This approach highlights commodities produced in Burkina Faso, Côte d'Ivoire, India, Nigeria, and Tanzania as high potential entry points for collective action based on high prevalence of poverty in the country of origin. This approach, however, risks missing countries with large populations with lower poverty prevalence but a high absolute number of people living in extreme poverty. It also misses geographies that are tied to agrifood supply chains through commodities other than the eight selected for this study.

Of note, both analyses surfaced commodity-country combinations of large numbers of people living in extreme poverty along with leading global exporter status: cotton, rice, and sugarcane in India; tea in Kenya; and cashew nuts in Tanzania. An initial scan of research on these commodity-country pairings provides insight on the scale of the challenge. Over six million smallholder farmers are involved in the sugarcane industry in India, with women doing more than 60 percent of the work.[43] In Kenya, 49 percent of smallholder farmers live below the national poverty line.[44] Those smallholder farmers who grow tea produce approximately 60 percent of the country's total crop, and more than three million Kenyans are indirectly involved.[45] In Tanzania, more than 85 percent of cashew nuts are produced by smallholder farmers (500,000-700,000 farmers), primarily in the south.[46] Although not specific to cashew nut farmers, 39 percent of Tanzanian smallholder farmers live below the national poverty line.[47]

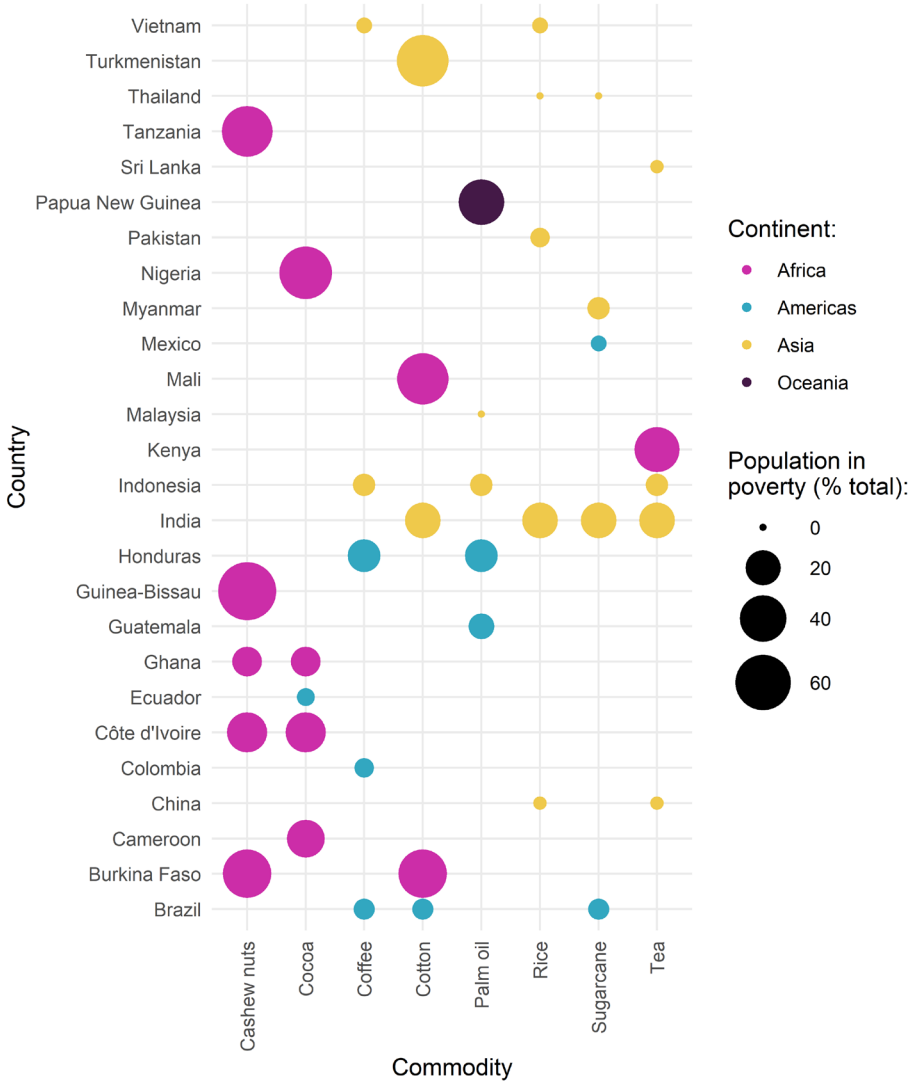
Further investigation is required to develop these approaches, evaluate and adjust the initial filters applied, and dig deeper into the data. This analysis is an initial, rapid assessment to stimulate conversation and provoke questions that will guide the detailed research that will follow. As part of this future research, it will be important to understand the structure of each supply chain, the global commodities with the highest rates of smallholder farmer participation, the characteristics and gender dynamics of smallholder farmers involved, and the respective poverty rates. The Farmer Income Lab and others plan further research to test and explore these areas.

FIGURE 4: High-level analysis of potential poverty-commodity hotspots based on poverty-first and commodity-first lens



1 "PovcalNet," World Bank, accessed August 28, 2019, http://iresearch.worldbank.org/PovcalNet/povOnDemand.aspx. The most recent year available based on $1.90/day PPP.
2 Commodities are specified in FAOSTAT as cashew nuts with shells, cocoa beans, coffee (green), cotton lint, palm oil, rice (total), sugar (refined), and tea. Because no comprehensive database exists on the number of smallholder farmers linked to agrifood supply chains by commodity, a review of select reports helped ascertain which commodities are predominantly farmed by smallholder farmers. For more, see this report's endnote 37.
3 FAOSTAT 2016 top three developing countries by export value.
4 Analysis 1: This map shows the intersection of the poorest countries (by absolute number of people in extreme poverty) and the top export commodities (by value in US dollars). It highlights which of the top commodities the poorest countries produce, excluding those with export values under $100 million.
5 Analysis 2: The map highlights countries that are in the top three producers of a global export
commodity and have 20 percent or more of their population living under $1.90/day. Smallholder farmer figures are taken from taken from analysis conducted by Dalberg Advisors revised Inflection point figures, except for Nigeria, which is taken from Sarah K. Lowder et al., "Transformation in the Size and Distribution of Farmland Operated by Household and Other Farms in Select Countries of Sub-Saharan Africa," 5th International Conference, African Association of Agricultural Economists (2016). Numbers are not exact due to rounding.

FIGURE 5: High-level analysis of potential poverty-commodity hotspots based on poverty prevalence



Notes: Commodities specified in FAOStat as: cashew nuts with shells, cocoa beans, coffee green, cotton lint, palm oil, rice total, sugar refined,tea; export values based on 2016 data in FAOSTAT; percentage of population living in extreme poverty based on World Bank PovCalNet for $1.90 per day PPP

4. PROVOCATIONS: FOCUSING OUR ATTENTION FOR COLLECTIVE ACTION

Without redoubled business action as part of a concerted effort across sectors to act on poverty in agricultural supply chains around the world, the global community is unlikely to meet SDG 1 by 2030. If as many as 6 percent (122 million) of all people living in moderate poverty, and as many as 8 percent (47 million) of all people living in extreme poverty may be linked to agrifood supply chains, then this—at a minimum—is the size of the prize.[48]

To unlock new business commitment and action, the Farmer Income Lab believes the following critical questions must be considered.

A. **Defining the responsibility of business.** The United Nations Guiding Principles on Business and Human Rights place responsibility on companies for addressing poverty in their supply chains. Yet, business does not carry the sole burden, relying also on other actors, particularly governments, to fulfill the governments' duty. Furthermore, business's direct influence on farmers is limited by fragmented supply chains and the fact that export commodities have varying significance for individual farmer household incomes. As a result, businesses need to interpret the UN Guiding Principles from a poverty perspective to understand where business should lead, where it can use its leverage, and where it can influence to align with governments and deliver shared impact through shared accountability.

What is the role and responsibility of a global business in acting to address poverty in its agricultural supply chains?

B. **Prioritization and focus.** Business efforts to tackle poverty in supply chains require strategic choices. Companies can focus on where their footprint is broadest (the commodity-first lens) or where smallholder farmers are the poorest (the poverty-first lens). They can focus on engaging core suppliers in tight value chains, or they can seek to make supply chains more inclusive. They can set objectives to eradicate extreme poverty or seek a much longer-term goal of a living income for all smallholder farmers.

How can global businesses prioritize and focus efforts to balance the desire for low-risk sourcing with the desire to fulfill responsibilities to act on poverty?

C. **A commitment to act on poverty.** Meaningful change starts with ambitious and clear commitments, such as those seen on climate change where some of the world's most influential companies set science- based emissions reduction targets.[49] It is critical to establish similar commitments on poverty that elevate SDG 1 on the radar of global food and agriculture companies—commitments to act that are easy to understand and measure, and that serve as a rallying cry.

Based on learnings from other sectors, what might a commitment to act consist of for the agribusiness industry to meaningfully contribute to SDG 1?

D. **Enabling collective action against poverty.** Working collectively is a precondition for meaningful change that allows the pooling of resources and risks, and delivering impact at scale. Yet, few collective initiatives have gone beyond rhetoric or sparked meaningful collaboration. We need to be honest about the hesitations and constraints that prevent effective collaboration and openly address the issues together.

What are the key barriers we need to remove to enable collective action?

E. **Strategic pathways for impact.** Research by the Farmer Income Lab highlights the scarcity of effective approaches to meaningfully and sustainably raise smallholder farmer incomes. It confirms that collectively we face a limited tool kit of existing supply chain interventions and are challenged by a lack of sustainability, a lack of system-level change, and an inability to engage governments. However, there are a handful of positive outlier success stories that strongly illustrate how to reshape and re-envision actions for the greatest impact.

What are the most promising strategic levers at our disposal to effectively raise the incomes of smallholder farmers living in poverty?

F. **Barriers faced by women.** Women are as critical a part of agricultural production as smallholder farmers and other agricultural actors (laborers, entrepreneurs, and unpaid family workers). It is vital to understand their involvement in agrifood supply chains and how business can lower the barriers women face. These barriers include lower access to key resources, exclusion from commercial negotiations, and discrimination due to restrictive social and legal norms. Overcoming these obstacles requires going beyond isolated interventions. It means making broader investment in women's collective voices and influence, and tackling adverse social norms and legal rules (e.g., land ownership).

How can companies address gender inequality by tackling barriers women face in participating in agrifood supply chains when the reality is that many barriers are systemic and sociocultural?

G. **Smallholder farmers as agents of change.** Too often business and other stakeholders debate issues, design interventions, and anticipate outcomes without taking seriously the perspectives and realities of smallholder farmers themselves. Smallholder farmers are not passive recipients or a homogeneous group. They are strategic business partners and must be active participants in the decisions that affect them.

How does business and its partners elevate the voices and preferences of smallholder farmers and directly engage them in co-creating solutions?

5. NEXT STEPS: STARTING THE JOURNEY TOWARD 2030

We believe that now is the time for global food and agriculture businesses to commit to taking action on poverty in global agricultural supply chains. Companies relying on smallholder farmers for their success have both an incentive and a responsibility to help achieve SDG 1, supporting the lead role of governments as they seek to deliver on this crucial global development goal.

We believe that we need to look more critically at our individual roles, get smarter at leveraging our complementary strengths, and be more ambitious and coordinated in our approach. On the road to 2030, we have a historic opportunity to step up individual and collective efforts to address poverty in global agricultural supply chains. Our hope is that this report and related dialogues begin to raise and address some of the key open questions we need to consider, and spark interest in a truly new and more ambitious effort on this issue.

Appendix A: SDG 1 Targets

Goal 1: End poverty in all its forms everywhere

1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day*

1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

1.A Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions

1.B Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions

**The definition of extreme poverty is now defined by the World Bank as those living on less than $1.90 per day at US dollar 2011 purchasing power parity (PPP).*

Source: United Nations Sustainable Development Goals, https://www.un.org/sustainabledevelopment/sustainabledevelopmentgoals/.

Appendix B: Methodological limitations

The information presented for this report is based on a desk review of existing data relevant to the topic. It is important to highlight that there are significant methodological limitations to estimating the number of poor farmers engaged in global value chains:

1. The estimate of 35 million smallholder households in tight value chains is an extrapolation of a study of only seven countries; they were not systematically chosen to be statistically representative.
2. The estimate of the number of those 35 million households that are poor is based only on two studies, focused on only a single commodity (cocoa), and in only two countries. Extrapolating from this to draw conclusions about all countries and all commodities is limited in its accuracy.
3. The two studies show a large spectrum of results (suggesting between 24 percent and 69 percent of farmers live below the median poverty line), suggesting that even within this limited context there are substantial unknowns and, therefore, our extrapolations should be interpreted with care.

The estimates presented in this report should, therefore, be utilized with caution.

Appendix C: Top five export commodities by value for the countries with the highest number of people living in extreme poverty

Country	People living in extreme poverty in millions	Top export commodities
India	268	rice, cotton, sugar, cashew nuts shelled, ground nuts shelled
Nigeria	85	cocoa, sesame seeds, cocoa butter, cashew nuts, rubber
Democratic Republic of Congo	53	cocoa, coffee, bran, palm oil, rubber
Ethiopia	28	coffee, vegetables, sesame seeds, beans, goat meat
Tanzania	24	cashew nuts, cotton seed, coffee, sesame seeds, tea
Bangladesh	24	jute, vegetables, sesame seeds, pastry, potatoes
Kenya	18	tea, coffee, green beans, avocados, nuts, beans
Madagascar	17	vanilla, cloves, essential oil, beans, cocoa
Uganda	17	coffee, cocoa, maize, sugar, sorghum
Mozambique	17	peas, sugarcane, sesame seeds, cashew nuts shelled, cashew nuts

Notes: The number of people in extreme poverty is calculated using World Bank PovcalNet for $1.90 per day PPP; the top five commodities by 2016 export value are based on all commodities included in FAOSTAT data. These data excludes crude materials, tobacco, and canned pineapple. Variants of commodities included are as follows (unless specified): beans, dry; cashew nuts with shells; cocoa beans; coffee is green; cotton lint; peas, dry; rice, milled equivalent; rubber, natural dry; sugar, refined; sugarcane; sugar, raw centrifugal; vegetables, fresh.

Appendix D: Top five countries by export value for the eight commodities selected

Commodity	Top five countries by export value (percentage of population living in extreme poverty shown in parentheses)
Cashew nuts	Ghana (13%), Tanzania (49%), Côte d'Ivoire (28%), Guinea-Bissau (67%), Burkina Faso (44%)
Cocoa	Côte d'Ivoire (28%), Ghana (13%), Ecuador (3%), Nigeria (53%), Cameroon (24%)
Coffee	Brazil (5%), Vietnam (2%), Colombia (4%), Indonesia (6%), Honduras (17%)
Cotton	India (21%), Brazil (5%), Burkina Faso (44%), Turkmenistan (51%), Mali (50%)
Palm oil	Indonesia (6%), Malaysia (0%), Guatemala (9%), Papua New Guinea (38%), Honduras (17%)
Rice	India (21%), Thailand (0%), Vietnam (2%), Pakistan (4%), China (1%)
Sugarcane	Brazil (5%), India (21%), Thailand (0%), Myanmar (6%), Mexico (2%)
Tea	China (1%), Sri Lanka (1%), Kenya (37%), India (21%), Indonesia (6%)

Notes: Commodities specified in FAOSTAT as cashew nuts with shells, cocoa beans, coffee (green), cotton (lint), palm oil, rice (total), sugar (refined), and tea; export values are based on 2016 data in FAOSTAT; percentage of population living in extreme poverty is based on World Bank PovcalNet for $1.90 per day PPP.

ENDNOTES

[1] Ruth Mhlanga, Uwe Gneiting, and Namit Agarwal, *Walking the Talk: Assessing Companies' Progress from SDG Rhetoric to Action*, Oxfam Discussion Papers (Oxfam, 2018), https://oxfamilibrary.openrepository.com/bitstream/handle/10546/620550/dp-walking-the-talk-business-sdgs-240918-en.pdf.

[2] World Data Lab, World Poverty Clock, accessed August 28, 2019, https://worldpoverty.io/.

[3] Global poverty estimates diverge due to varying methodologies and data sources. The World Bank estimates global extreme poverty for 2018 at 647 million. The World Poverty Clock estimates 593 million. Sources: World Bank, *Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle* (2018), and World Data Lab, World Poverty Clock.

[4] Francisco H.G. Ferreira et al., *A Global Count of the Extreme Poor in 2012: Data Issues, Methodology and Initial Results*, Policy Research Working Paper 7432 (World Bank, 2015), http://documents.worldbank.org/curated/en/360021468187787070/pdf/WPS7432.pdf.

[5] See Section 1 of this report for details on how the estimate was generated.

[6] United Nations, "Goal 1: End Poverty in All Its Forms Everywhere," Sustainable Development Goals, accessed August 30, 2019, https://www.un.org/sustainabledevelopment/poverty/.

[7] The extreme poverty line is currently set at $1.90 a day at 2011 international prices based on purchasing power parity (PPP).

[8] Ana Maria Munoz Boudet et al., *Gender Differences in Poverty and Household Composition Through the Life-Cycle: A Global Perspective*, Policy Research Working Paper 8360 (World Bank, 2018), http://documents.worldbank.org/curated/en/135731520343670750/pdf/WPS8360.pdf.

[9] Food and Agriculture Organization of the United Nations (2017). Leaving No One Behind: Addressing climate change for a world free of poverty and hunger, accessed August 27, 2019, http://www.fao.org/3/i6371en/I6371EN.pdf

[10] Ferreira et al., *A Global Count*.

[11] United Nations, "Progress of Goal 1 in 2019," Sustainable Development Goals Knowledge Platform, accessed August 27, 2019, https://sustainabledevelopment.un.org/sdg1.

[12] "GDP Long-Term Forecast" (indicator), Organization for Economic Cooperation and Development (OECD), 2018, accessed August 27, 2019, https://doi.org/10.1787/d927bc18-en.

[13] World Bank, "Ending Poverty Requires More Than Growth, Says WBG," press release, April 10, 2014, https://www.worldbank.org/en/news/press-release/2014/04/10/ending-poverty-requires-more-than-growth-says-wbg.

[14] World Data Lab, World Poverty Clock.

[15] Global poverty estimates diverge due to varying methodologies and data sources. The World Bank estimates global extreme poverty for 2018 at 647 million. The World Poverty Clock estimates 593 million. See World Bank, *Poverty and Shared Prosperity 2018*, and World Data Lab, World Poverty Clock.

[16] World Bank, *Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle*. Washington, DC: World Bank.

[17] Homi Kharas et al., "Global Poverty Reduction Has Slowed Down—Again," *Future Development* (blog), Brookings, May 23, 2019, https://www.brookings.edu/blog/future-development/2019/05/23/global-poverty-reduction-has-slowed-down-again/.

[18] World Bank, *Poverty and Shared Prosperity*.

[19] United Nations Development Programme and Oxford Poverty and Human Development Initiative, *Global Multidimensional Poverty Index 2019: Illuminating Inequalities* (2019), http://hdr.undp.org/en/2019-MPI.

[20] Andrés Castañeda et al., "A New Profile of the Global Poor," *World Development* 101 (2018).

[21] Castañeda et al., "A New Profile of the Global Poor."

[22] Calculations are based on data presented in Ana Paula De La O Campos et al., *Ending Extreme Poverty in Rural Areas—Sustaining Livelihoods to Leave No One Behind* (Food and Agriculture Organization of the United Nations [FAO], 2018).

ENDNOTES

[23] World Bank, *World Development Report 2008: Agriculture for Development* (2007), https://openknowledge.worldbank.org/handle/10986/5990.

[24] Robert Townsend, *Ending Poverty and Hunger by 2030: An Agenda for the Global Food System* (World Bank, 2015), http://documents.worldbank.org/curated/ en/700061468334490682/Ending-poverty-and-hunger-by-2030-an-agenda-for-the-global-food-system.

[25] A 2017 study in three African countries highlights the commercial orientation by even the poorest and smallest landholders, with rates of market participation as high as 90%. See Carletto C, Corral P, Guelfi A. Agricultural commercialization and nutrition revisited: Empirical evidence from three African countries. Food Policy. 2017;67:106-118.

[26] In its 2013 note, the Consultative Group to Assist the Poor (CGAP) defines a number of characteristics of smallholder farmers in loose and tight value chains. Farmers in loose value chains share the characteristic that "their crop mix usually focuses on staple crops and could also include some higher-value crops (e.g., sugar, tea, coffee, oilseeds, fibers, energy crops) … [and they] generate some level of surplus to sell, usually in informal local or regional markets." Characteristics of smallholder farmers in tight value chains include their "capacity to generate reliable, high-quality outputs that are sold on a contract basis through relatively highly organized value chains."

See Robert Peck Christen and Jamie Anderson, *Segmentation of Smallholder Households: Meeting the Range of Financial Needs in Agricultural Families*, Focus Note 85 (CGAP, 2013).

[27] Christen and Anderson, *Segmentation of Smallholder Households*.

[28] World Bank, *Rural Transformation and Late Developing Countries in a Globalizing World: A Comparative Analysis of Rural Change* (2011), http://documents.worldbank.org/curated/en/230701468192566535/pdf/779720ESW0v10P0lStruc0ExecSum0Final.pdf.

[29] Jamie Anderson and Danielle Sobol, *Executive Summary: CGAP National Surveys of Smallholder Households* (CGAP, 2018), https://www.cgap.org/sites/default/files/publications/Executive-Summary-CGAP-National-Surveys-of-Smallholder-Households-Nov-2018_1.pdf.

[30] Nathalie Hoffmann and Alexa Roscoe, *Investing in Women along Agribusiness Value Chains* (International Finance Corporation [IFC], 2016), https://www.ifc.org/wps/wcm/connect/02c5b53e-420f-4bf4-82bb-6f488ff75810/Women+in+Agri+VC_Report_FINAL.pdf?MOD=AJPERES&CVID=m0JfSbv.

[31] Christen and Anderson, *Segmentation of Smallholder Households*.

[32] The estimate takes the number of smallholder farmers in tight value chains, per CGAP 2013, and applies the high and low ends (24.44 percent and 68.50 percent) using $2.50 PPP 2005 and $3.10 PPP 2011 for median poverty as defined by the Royal Tropical Institute (KIT) and tested by the Sustainable Food Lab. See Roger Bymolt, Anna Laven, and Marcelo Tyszler, *Demystifying the Cocoa Sector in Ghana and Côte d'Ivoire* (KIT, 2018), and Sustainable Food Lab, *Using the Progress Out of Poverty Index in Agricultural Value Chains: A Case Study in Kenyan Tea* (2014).

[33] For the 6 percent estimate, the numerator is 122 million and the denominator is the total number of people living in moderate poverty (< $3.20 per day), or 1.93 billion, as per World Bank, *Poverty and Shared Prosperity 2018*. For the 8 percent estimate, the numerator is the 47 million, and the denominator is the midpoint of the range of estimated number of people living in extreme poverty (593 million–647 million), or 620 million.

[34] John Mellor (2017). Agricultural Development and Economic Transformation Promoting Growth with Poverty Reduction. London: Palgrave Macmillan.

[35] World Economic Forum (WEF) Global Agenda Council, *Shared Responsibility: A New Paradigm for Supply Chains* (2015), http://www3.weforum.org/docs/WEF_GAC_Supply_Chains_%20A_New_Paradigm_2015.pdf.

[36] Tropical Forest Alliance (TFA), A "Commodity-First" *Approach to Identifying Landscapes for Private Sector Engagement* (2019), https://www.tropicalforestalliance.org/assets/Uploads/TFA-Commodity-First-Landscapes-April-2019.pdf.

[37] Reports and articles reviewed include the following:

United Nations Conference on Trade and Development (UNCTAD), *Cocoa Industry: Integrating Small Farmers into the Global Value Chain* (2016), https://unctad.org/en/PublicationsLibrary/suc2015d4_en.pdf;

ENDNOTES

Bas Bouman, "The Importance of Sustainable Rice Supply Systems," *Rice Today*, September 13, 2017, http://ricetoday.irri.org/the-importance-of-sustainable-rice-supply-systems/;

Food and Agriculture Organization of the United Nations (FAO), *Contribution of Tea Production and Exports to Food Security, Rural Development and Smallholder Welfare in Selected Producing Countries* (2017), http://www.fao.org/3/a-i4485e.pdf;

Jason Potts et al., *The State of Sustainability Initiatives Review 2014: Standards and the Green Economy (International Institute for Sustainable Development* [IISD], 2014), https://www.iisd.org/pdf/2014/ssi_2014.pdf;

UNCTAD, *Commodities and Development Report 2015: Smallholder Farmers and Sustainable Commodity Development* (2015), https://unctad.org/en/PublicationsLibrary/suc2014d5_en.pdf;

"Interview with Fairtrade: Assessing Coffee Farmer Household Income," Global Coffee Platform, September 13, 2017, https://www.globalcoffeeplatform.org/latest/2017/assessing-coffee-farmer-household-income#newsarticle;

"Sugarcane," Solidaridad, https://www.solidaridadnetwork.org/supply-chains/sugarcane; and

"RSPO Smallholders: Definition," Roundtable on Sustainable Palm Oil (RSPO), https://rspo.org/smallholders.

[38] "PovcalNet," World Bank, accessed August 28, 2019, http://iresearch.worldbank.org/PovcalNet/povOnDemand.aspx. The most recent year available based on $1.90/day PPP.

[39] Country classifications use data from "World Bank Country and Lending Groups," World Bank, accessed August 28, 2019, https://datahelpdesk.worldbank.org/knowledgebase/articles/906519.

[40] "PovcalNet,"

[41] "PovcalNet."

[42] The global total is calculated to be 620 million, or the midpoint of the range of estimated number of people living in extreme poverty (593 million–647 million), as per World Data Lab, World Poverty Clock, and World Bank, Poverty and Shared Prosperity 2018.

[43] Sebastian Teunissen and Mohd Dilshad, "Sugar, Water and Women: India's Changing Sugar Cane Industry," *Solidaridad*, March 15, 2019, https://www.solidaridadnetwork.org/news/sugar-water-and-women-indias-changing-sugarcane-industry.

[44] FAO, "Smallholders Dataportrait," Family Farming Knowledge Platform, accessed August 28, 2019, http://www.fao.org/family-farming/data-sources/dataportrait/indicator-details/en/?ind=83458.

[45] Lauren Shields, "Empowering Women in Kenya Tea Sector: Adapting HERproject to the Smallholder Farm Context" (working paper, BSR HERproject, June 2015), https://www.bsr.org/reports/BSR_HERproject_Empowering_Women_in_Kenya_Tea_Sector_2015.pdf.

[46] United Nations Industrial Development Organization (UNIDO), *Tanzania's Cashew Value Chain: A Diagnostic* (2011), https://open.unido.org/api/documents/4673799/download/Tanzania%E2%80%99s%20Cashew%20Value%20Chain%20-%20A%20diagnostic; and Paul Thangata, *Smallholder Cashew Business Model in Tanzania: Lessons from the Tandahimba Newala Cooperative Union (TANECU) Ltd.* (Pan-African Farmers' Organization, (2016), https://brusselsbriefings.files.wordpress.com/2016/09/tanecu_fo_business_model_final.pdf

[47] FAO, "Smallholders Dataportrait."

[48] See endnote 33.

[49] Through the We Mean Business Coalition, 253 companies set a science-based target that has been approved by the Science Based Targets initiative. See "Science Based Targets Initiative," We Mean Business, accessed September 6, 2019, https://www.wemeanbusinesscoalition.org/commitment/adopt-a-science-based-emissions-reduction-target/.