Farmer segmentation

How companies can effectively target support for smallholder farmers in global supply chains

A guide for procurement professionals

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BUSINESS FIGHTS POVERTY

FARMER INCOᴍE LAB

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We need to push the boundaries of our thinking – because poverty won't be solved with the same approaches that perpetuated it.

01.
Introduction

Purpose and scope of this paper

Smallholder farmers play a critical role in providing the raw materials for companies' global agricultural supply chains. Despite this crucial function, these farmers often live in poverty and continue to face a wide variety of challenges that hold them back from reaching their full potential.

The Farmer Income Lab (FIL) was established in 2017 to identify and promote the most promising approaches to improving smallholder farmer incomes. Its work analyzing smallholder sourcing strategies and practices has demonstrated that global companies can make mutually beneficial changes to their procurement practices that can also help farmers to improve their income. One key success factor in these initiatives is building a better understanding of smallholder farmer challenges and needs to inform more targeted, effective solutions.[1]

Farmer segmentation is the practice of placing farmers into distinct groups to enable a deeper understanding of their challenges and needs in order to develop more targeted, effective solutions. Segmentation has emerged as a valuable approach that can improve the effectiveness and impact of sourcing strategies and farmer support programs, delivering better results for all.

This toolkit for procurement teams provides:

1 an explanation of **what farmer segmentation is** and how it can benefit both farmers and businesses

2 an overview of the **basic steps that any company would take** to get started with farmer segmentation

3 **examples of how segmentation has been applied** to help businesses reach their objectives, while helping improve smallholder livelihoods.

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1   Farmer Income Lab (2018). What Works to Increase Smallholder Farmers' Income (AGRA example p. 26).

Context

Smallholder farmers make an essential contribution to global food supply chains, producing a third of the food consumed worldwide and 80 percent of the food consumed in large parts of the developing world, particularly Southern Asia and sub-Saharan Africa.[2] Many large companies rely on these same smallholder farmers for a secure supply of agricultural raw materials for their products.

Despite this key contribution, 80 percent of the world's extreme poor (living on less than two US dollars a day) live in rural areas and mainly work in farming.[3] They also face numerous interconnected challenges, including difficulties accessing agricultural

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inputs, finance, and markets, which prevent them from achieving their full potential as farmers. Being a smallholder farmer is inherently risky, with limited protection against market fluctuations or personal and family crises. At the same time, farmer incomes and resilience are further threatened by the impacts

of a changing climate. All these factors mean that it is difficult for smallholders to reach a Living Income,[4] the level at which they can enjoy a "decent" standard of living.

Sourcing from smallholder farmers can also be challenging for procuring companies, as dealing with large numbers of small suppliers can lead to inefficiencies and issues of reliability and quality. At the same time, regulators and consumers are increasingly expecting companies to address the environmental and human rights risks in their supply chains, where failure to act can lead to sanctions, reputational risks and a loss of sales.

To ensure the future security of supply and mitigate against such risks, companies are starting to take a long-term, more strategic view of their key smallholder supply chains and build sustainability considerations into procurement strategy and decision-making. These considerations include how the company can best play a role in addressing critical issues that impact smallholder supply chain sustainability, including issues such as poverty and climate change.

As noted in the FIL *Disrupting Commodities* report, procurement practices have the power to significantly affect smallholder farmers' incomes – whether by helping to increase them or inadvertently keeping them low. Procurement teams play a critical role in delivering corporate sustainability and responsible sourcing strategies.

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2   FAO (n.d.). Small family farmers produce a third of the world's food and IFAD (2013). Smallholder farmers key to lifting over one billion people out of poverty.

3   The World Bank (2022). Agriculture and Food Overview and Castaneda, A. et. al. (2016). Who Are the Poor in the Developing World? The World Bank Group Poverty and Equity Global Practice Group, Policy Research Working Paper 7844.

4   The Concept (2021). The Living Income Community of Practice.

Key Definitions

Smallholder farmer:

The definition of 'smallholder farmer' varies across countries and regions. However, according to the World Bank Group, "A smallholder farm is widely defined as a family-owned enterprise that produces crops or livestock on two hectares or less." A key part of the categorization is that a smallholder has few assets, family members provide most of the farm labor, and the farm provides the main means of support – although some smallholders' income may be earned from multiple sources.[5]

Living Income:

The Living Income Community of Practice defines 'Living Income' as:

"The net annual income required for a household in a particular place to afford a decent standard of living for all members of that household. Elements of a decent standard of living include: food, water, housing, education, healthcare, transport, clothing, and other essential needs including provision for unexpected events."[6]

They are increasingly experimenting with different approaches, including adjusting procurement models to long-term contracting to distribute risk and value more fairly. Procurement teams can also invest in programs and partnerships with suppliers to support smallholder farmers in their extended value chains to increase their incomes and strengthen their resilience, health, and livelihoods. This might include providing agricultural training, diversified livelihood activities or innovative financing schemes.

Often, these types of interventions have tended towards a one-size-fits-all approach. However, smallholder farmers are a highly diverse group, who face different barriers and challenges. There is no standardized solution to help vulnerable smallholder farmers. They require targeted approaches, which segmentation can help to identify and inform.

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There is no standardized solution to help vulnerable smallholder farmers. They require targeted approaches, which segmentation can help to identify and inform.

5   International Finance Corporation. 2019. Working with Smallholders: A Handbook for Firms Building Sustainable Supply Chains. Washington, DC: World Bank Group. doi:10.1596/978-1-4648 -1277-4.

6   The Concept (2021). The Living Income Community of Practice.

02.
How farmer segmentation helps smallholder farmers and procuring businesses

What is farmer segmentation?

Segmentation is not a new concept for businesses. Customer segmentation is a standard practice among most companies' sales and marketing teams, narrowing a broad consumer or business market into sub-groups to enable more targeted, relevant engagement. For example, businesses use segmentation throughout the product lifecycle to:

■ Create branding and messaging that is often diffused through personalized or targeted marketing

■ Develop new products that specifically appeal to the needs and wants of a particular segment of the population

Likewise, farmer segmentation is already commonly used by organizations working with smallholders in the international development sector. Tailored assistance that meets identified groups' needs has been shown to improve interventions' effectiveness. For example, segmentation can be used to:

■ Design market opportunities and financial solutions that correspond precisely to smallholder farmers' requirements

■ Create technical assistance and training plans tailored to farmer needs

■ Prioritize geographies or target populations for programmatic investments and interventions

The same rationale and principles can also apply to procuring companies sourcing materials from smallholder farmers. Segmenting farmers to design targeted engagement strategies can improve the effectiveness of their sourcing strategies and increase the support systems' likelihood of adoption. Ultimately, when managed well, such an approach delivers better results for both the farmers and the business.

Why use segmentation?

More targeted approaches are more effective at improving farmer livelihoods

Farmer segmentation can be used by procuring companies to inform and enhance strategies to improve the livelihoods of the smallholder farmers they rely on for raw materials.

The evidence from the FIL publication '*What works to increase smallholder farmers' income?*' confirms that segmentation can lead to more effective interventions if well-designed and utilized. The evidence review found that the interventions that performed better, on average, tend to involve a much more systematic diagnosis of the critical issues facing farmers in their local contexts; they are also much more tailored to specific segments of farmers, based on their capabilities and resources.

This is especially true for the most vulnerable within smallholder supply chains, including women, whose challenges and needs are often more complex and less visible.

Of course implementing segmentation presents challenges. For example, segments of farmers may be spread out geographically, meaning higher costs and more complex logistics for targeted programs. Additionally, businesses often have no direct contact with farmers in their supply chain, so the segmentation process should include supply chain stakeholders who are closest to farmers.
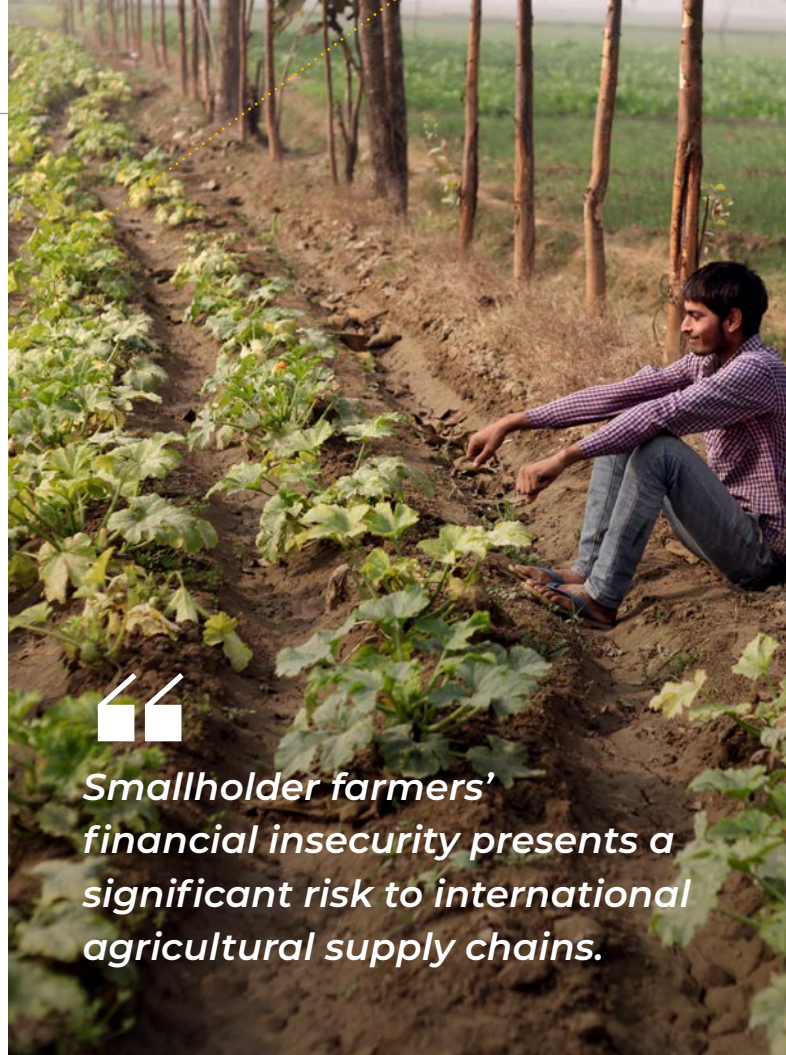
> "
> *Smallholder farmers' financial insecurity presents a significant risk to international agricultural supply chains.*

Supporting smallholder farmers helps to secure global supply chains

Smallholder farmers' financial insecurity presents a significant risk to international agricultural supply chains. This is even more pressing given the ongoing trends of worldwide population growth, climate change, and rising urbanization, leading to more people to feed and fewer people growing food.

When smallholder farmers make insufficient profit from farming, they are unable to reinvest in their farms or support their families and communities. This can potentially lead to cost and quality implications, as well as reputational risk, for buyers.

Better use of finite company resources enhances return on investment

Company resources to support smallholder farmers are finite. Using a segmentation approach allows a procuring business to prioritize and target its resources in ways that maximize its return on investment and drive the most impact for farmers. A deeper understanding of farmer challenges, motivations, and attitudes also enables the procuring company to frame and communicate messages to farmers that achieve greater resonance, engagement, and action.

As noted by the International Finance Corporation, "There is mounting evidence that carefully designed programs can deliver enhanced quantity and quality of supply, at lower procurement cost."[7] Hence, investing in segmentation enables a procuring business to optimize its smallholder procurement strategy by maximizing smallholder sourcing opportunities. For instance, in the short-term, off-takers and processors can source more production from an area with better quality and more efficient logistics. Over time, it can also lead to reduced environmental and social risk.[8]

> **Segmentation can lead to more effective interventions if well-designed and utilized.**

Engaging the right partners maximizes efficiency and impact

A segmentation approach also helps businesses understand when specific farmer segments' needs fall beyond their ability to address. In these cases, it is important for business to work with the right partners to reach the desired outcomes.

The FIL report *Enabling Smallholder-Based Agricultural Transformation* stresses the need for different sectors to work together to alleviate rural poverty effectively, and identifies the comparative advantage each brings to the table. Governments, for instance, are best placed to improve the enabling environment, particularly in the beginning to invest in core public goods and developing markets. Non-Government Organizations (NGOs) are well suited to convene all involved actors in multistakeholder platforms and act as an honest broker to develop a strategic plan for rural poverty reduction. With these actors in place, businesses can then intervene more effectively by providing training, mechanization services, finance, etc.

7 International Finance Corporation. 2019. Working with Smallholders: A Handbook for Firms Building Sustainable Supply Chains. Washington, DC: World Bank Group. doi:10.1596/978-1-4648 -1277-4.

8 Ibid.

Focus:
Segmentation and gender

Segmenting farmer groups by gender to better understand the needs of female smallholder farmers is essential, as the challenges they face are often hidden and extend beyond farming activities.

Women account for nearly half of the world's smallholder farmers. However, they are often "invisible" economically, meaning they do not own their land titles, lack economic agency, and have limited time to farm, given that they are also responsible for the bulk of the household care and domestic work. Moreover, in many cases, women disproportionately lack access to education, finance, and training, and are often subject to discriminatory attitudes in property, marital, and inheritance laws.

As a result, women can be unintentionally and unknowingly overlooked by smallholder support initiatives, further exacerbating the cycle of poverty and discrimination in which they are trapped.[9]

FIL's research has found that higher levels of gender equality are important for improved productivity, competitiveness and economic growth, and that there is a strong business case for investing in gender equality in agricultural value chains.[10] Ensuring women have equal access to resources and facilitating the removal of barriers for them can increase their yields by 20-30 percent, raising total agricultural production in developing countries by at least four percent.[11] This increase could reduce the number of undernourished people globally by 12 to 17 percent, accounting for about 100-150 million people, according to FAO estimates.[12]

Applying a gender lens to farmer segmentation is essential for ensuring that women are included, as services and strategies are often by default designed for men. Instead, when conducting a farmer segmentation exercise, it is critical to understand the role of women in the value chain, the specific challenges they face, and their needs, to ensure they are addressed when designing each segment's support strategies.

At a minimum, all segments should be disaggregated by gender to allow for a more detailed analysis of the different challenges and opportunities men and women have.[13] This ensures that segmentation approaches account for the differences between genders and are also adapted to women's needs.[14] Depending on the situation, it might

9   Business Fights Poverty (2021). Hidden Women in Supply Chains.

10   Farmer Income Lab (2022). Enabling Smallholder-Based Agricultural Transformation.

11   See Rubin et al. 2019; Njuki et al. 2019 in Ibid. (Pg. 14).

12   Ibid.

13   Gray, B. et. al. (2018). Digital Farmer Profiles: Reimagining Smallholder Agriculture. USAID Feed the Future.

14   Sriram, V. (2018). How to do: Design of gender transformative smallholder agriculture adaptation programmes. IFAD.

> ❝ *Certain tailored interventions can help female smallholders improve their livelihoods.*

Examples of interventions specifically targeting women:

- Design projects and programs with women's specific needs in mind - for example, holding trainings in locations and at times that are accessible for women

- Build the leadership skills of women and engage the whole community on gender equality

- Promote the participation of women in company supply chains by facilitating access to financial services

- Directly contract women without the need to own land

- Promote the participation of women in village savings and loans groups

Examples of interventions where an effort should be made to include women:

- Increase financial services' penetration in rural communities

- Expand the reach of extension services into new areas

- Provide demonstration plots to encourage the uptake of good agricultural practices

- Improve farmers' access to markets

be appropriate to include the creation of a women-only segment, for example "women entrepreneurs," who may face different barriers to accessing credit than their male counterparts.

Ideally, however, segmentation should critically examine gender norms and dynamics to make interventions more equitable.[15] To do so, segmentation must consider the gendered aspects of the supply chain, rather than simply compare male and female farmers or male- and female-headed households. This can provide more insights into household members' behaviors and access to or control of productive resources, to shed light on decision-making power and potential intervention strategies.[16] Mars' Resilience Journey, in partnership with the KIT Royal Tropical Institute, highlights some of these issues in its latest report.

Based on the segmentation method and female farmers' identified needs, certain **tailored interventions** can help female smallholders improve their livelihoods:

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15   Ibid.

16   Gray, B. et. al. (2018). Digital Farmer Profiles: Reimagining Smallholder Agriculture. USAID Feed the Future.

03.
How to get started with farmer segmentation

> " *There is no single approach to segmenting a farming population – such a heterogenous group can be divided in various ways.*

The following section is intended to help procurement teams understand how the segmentation process works when applied to smallholder farmers in their supply chains. This overview is not a comprehensive step-by-step guide to segmentation. Instead, it includes the main steps to take, the important questions to consider, and where to find further information and resources on segmentation.

Examples of objectives include understanding:

- How can agricultural and financial services be designed for maximum uptake by farmers?

- How can agricultural extension programs best meet the different needs of farming households?

- How should companies purchase from different groups of farmers, depending on their level of commercialization (e.g., how much of the crops they grow are sold vs. consumed)?

- Who are the most promising farmers to target for investment to help secure the supply base?

- How can companies maximize resource efficiency via providing specialized types of assistance to different groups of farmers?

- What are the needs of various groups of farmers in achieving a Living Income?

- What additional support beyond farming will the most vulnerable segments of the population need?

i. Clarify your objectives and scope

There is no single approach to segmenting a farming population – such a heterogenous group can be divided in various ways. Therefore, a critical first step is to clarify the objective of segmenting smallholders in the supply chain. This is important, as different segmentation approaches are better placed to respond to distinct objectives.

At this point, it is also important to identify the geographic area(s) and farmer populations that will be included in the segmentation exercise.

ii. Define segmentation methods

There is a range of segmentation methods available to procurement teams, each helping to build a complete picture of the farmers' different demographic characteristics, current farming performance, situational contexts, attitudes, and mindsets. Each segmentation method focuses on a different set of variables for identifying how to differentiate sub-groups within the farming population.

Determining which segmentation approach to use depends on the objectives identified, as specific approaches and their corresponding variables will be more or less relevant to achieving a specific objective. However, no individual segmentation method can completely explain a group as diverse as smallholder households. That's why a procuring company should consider using a combination of segmentation methods to build a more complete picture of farmer challenges and needs.

Four of the leading segmentation approaches are introduced below:

1. Household & Demographic

What: Divides the farmer population into smaller categories based upon demographic factors such as age, gender, literacy, educational attainment, and household structure.

How it can be used:

- Basic demographic information is often the first step in categorizing farmers. It has become established practice to disaggregate data on a target population by these characteristics, as they are often linked with many of the challenges farmers face in accessing inputs, credit, information, etc.

- Sometimes segments are created based entirely on demographic information to further investigate a defined group's trends. For instance, a segment for female-headed households would focus on their specific challenges (as noted in the section on segmentation and gender) and develop tailored interventions.

- At other times, demographic information is directly integrated into another method, to allow for data disaggregation within segments. This helps to create a more complete view of the farmers that fall into each segment, by identifying any trends that may emerge by age, gender, etc.

> *Consider using a combination of segmentation methods to build a more complete picture of farmer challenges and needs.*

2. Farmer attitudes, beliefs, and values

What: Primarily differentiates farmers by their attitudes, beliefs, and/or values to determine their reluctance or openness to change. The rationale for this approach is that farmers' motivations are at least equally important as their actual behavior. Farmers' attitudes towards change are often influenced by factors that go beyond the incentive of potential income gains; these can include economic risks and social and cultural factors such as the importance of providing for the next generation, aversion to risk, etc.[17]

> " *Farmers' attitudes towards change are often influenced by factors that go beyond the incentive of potential income gains; these can include economic risks and social and cultural factors*

How it can be used:

- To influence farmers' behavior, for instance, to increase the uptake of new technology, pay for new services, or adopt climate-smart agricultural practices.

- To identify which farmers are most open to change and improvement, to select them as the most promising suppliers to target for investment to help secure the supply base.

- To determine which interventions would be more difficult to implement as they challenge farmers' attitudes and, therefore, would be more resource intensive for the company to propose.

- To segment farmers without imposing pre-conceived types of what is 'good' or 'bad' management, to ensure that the company is not imposing activities that are not contextually or culturally relevant.[18]

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17   Waters, W., Thomson, D., & Nettle, R. (2009). Derived attitudinal farmer segments: a method for understanding and working with the diversity of Australian dairy farmers. Extension Farming Systems Journal, 5(2), 47-57.

18   Ibid.

Example: IITA & Olam

Segmentation to support climate-smart agricultural practice adoption[19]

Objective:

Determine how to best promote adoption of climate-smart agricultural (CSA) practices amongst different groups of farmers to help build their resilience, while maximizing resource efficiency.

Approach:

Olam International, a leading food and agri-business, worked with the International Institute of Tropical Agriculture (ITTA) to improve its support for Ugandan coffee farmers. As the target farmers had not widely adopted CSA, Olam focused on encouraging uptake via targeted investments based on farmers' needs and motivations, rather than inefficiently spreading resources equally across all farmers.

This approach led to farmers being segmented into distinct groups based upon their level of entrepreneurship, willingness to invest in coffee, and their assets, which together indicated the likelihood of the farmer adopting new CSA practices. IITA identified six segmentation categories of farmers:

1. **Entrepreneurs:** Farmers earning money from coffee, possessing relatively more assets and ambitious about increasing their coffee production

2. **Trapped:** Very poor farmers relying significantly on off-farm labor; often less involved in planning coffee-related activities

3. **Survivors:** Farmers better off than the trapped, but still highly reliant on diversified income sources for survival, and investing little in coffee

4. **Employed:** Farmers growing coffee, who might be looking to increase investment in coffee, but have larger off-farm income through employment

5. **Satisfied:** Older generation of farmers with sufficient resources and food security, lacking incentive or motivation to invest in coffee

6. **Dependents:** Younger generation of farmers, with high motivation to grow coffee, yet no resources (especially land)

Outcomes:

Segmentation helped ease new CSA practice adoption and mitigate climate-related risks by aligning farmer trainings with farmers' resources, entrepreneurial characteristics and motivations. Farmers with fewer resources or less motivation to invest in CSA practices could begin with low-cost practices, gradually moving to higher-cost interventions as they were able to increase their returns.

Additionally, segmentation helped Olam benefit from a more cost-effective investment. For example, savings were generated importing fertilizer (which is expensive in Uganda) by only providing fertilizer to the segments identified as needing and willing to use it.

19   IITA & Olam (2019). Improving coffee sector climate-smart awareness and decision-making. Key lessons for private sector engagement in the USAID learning community for supply chain resilience, CGIAR (2017) Taking life step-by-step: incrementally adopting climate-smart agricultural practices, and Sustainable Food Lab (2019). OLAM and IITA Join Forces to Help Ugandan Coffee Farmers Build Long-Term Climate Resilience.

3. Income Potential

What: Group farming households based on their estimated potential of making a profit through their farming activities. This is estimated by considering criteria such as:

- ***Productive resources:*** Focusing on land size and asset base (e.g., equipment and manpower)

- ***Performance/productivity:*** Yields of the target crop, and income from other on-farm or off-farm activities

- ***Potential pricing and potential for upgrading quality/price received:*** Whether there's an opportunity for farmers to receive a higher price for their target crop via certification premiums or higher prices for better products, etc.

- ***Access:*** E.g., to transport, inputs, fertilizer, etc.

- ***Constraints:*** Factors that detract from any of the elements above, such as limited capital, information, markets, infrastructure, or technologies; poor soil; low rainfall; high temperatures; remote location; high population density; etc. As noted in the section on segmentation and gender, gender can also be a significant constraining factor to these elements, so a gender lens is necessary to develop a complete understanding of income potential.

How it can be used:

- To understand a farming household's potential to reach a Living Income through the target crop.

- To identify interventions to improve income earned through the target crop.

- To determine if there are potential opportunities for the farmer to diversify and tap new market opportunities within and beyond agriculture.

- To establish which farmers lack the productive resources to achieve a Living Income and need additional support.

- To identify which farmers are the most financially resilient and, therefore in the most promising situation to help secure the supply base.

Example: LEAP (Mars, Fairtrade, and ECOOKIM)

Using segmentation to design a pathway for achieving Living Incomes[20]

Objective:

Identify how to best bundle interventions to meet farmers' needs, while maximizing cost-efficiency.

Approach:

The Livelihoods Ecosystem Advancement Programme (LEAP) is an US$11 million, five-year cocoa program in Côte d'Ivoire, intended to help 30 percent of farming households to reach a Living Income (LI) by 2025, and 75 percent to reach a Living Income by 2030. Segmentation is carried out according to the amount of land (resources) that smallholders farm, and the yield they achieve on each unit of land (productivity).
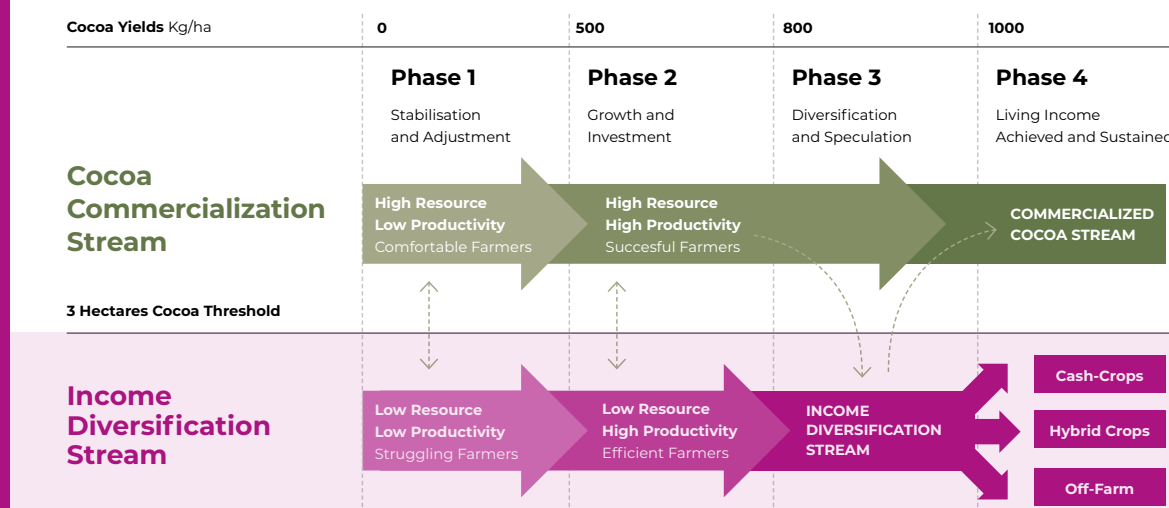
Four segments were identified:

- **High Resource, Low Performance (Comfortable)** - sufficient resources but inefficient in utilizing them

- **High Resource, High Performance (Successful)** - well-positioned for growth with the highest chances of reaching LI

- **Low Resource, Low Performance (Struggling)** - vulnerable, requiring a diversified strategy to achieve a LI

- **Low Resource, High Performance (Efficient)** - high productivity, despite low resources. LI requires a diversified strategy.

Outcomes:

The program is based on the idea that LI Pathways must consider where farming households start, what they need, where they want to go, and resources available.

The program uses a phased "Graduation approach" to inform the bundling, sequencing and time horizons of this journey. Through Income Diversification and Cocoa Commercialization strategies, LEAP customizes support for each segment of farmers to reach a Living Income.

Figure 1: LEAP Farmer Development Pathways

Cocoa Yields Kg/ha	0	500	800	1000
	Phase 1 Stabilisation and Adjustment	**Phase 2** Growth and Investment	**Phase 3** Diversification and Speculation	**Phase 4** Living Income Achieved and Sustained

Cocoa Commercialization Stream
- High Resource Low Productivity — Comfortable Farmers
- High Resource High Productivity — Succesful Farmers
- COMMERCIALIZED COCOA STREAM

3 Hectares Cocoa Threshold

Income Diversification Stream
- Low Resource Low Productivity — Struggling Farmers
- Low Resource High Productivity — Efficient Farmers
- INCOME DIVERSIFICATION STREAM
- Cash-Crops
- Hybrid Crops
- Off-Farm

Diagram: Based on Fairtrade Foundation Slide

20 Mars (2022). Mars, Incorporated supports 5,000 cocoa farmers on a path to a sustainable Living Income by 2030, Fairtrade (N.d.) Fairtrade and Mars – Livelihoods Ecosystem Advancement Programme (LEAP), and Fairtrade PowerPoint "Livelihood and Ecosystem Advancement Programme (LEAP)," n.d.

4. Degree of Farmer Professionalization

What: Classifies farming households based on where they are on the pathway from subsistence to commercial farming. This is determined by looking at criteria such as:

- ***Level of Commercialization:*** The proportion of the crop sold to the total produced

- ***Level of Income Diversification:*** The proportion of income from non-target crops compared to total income. It also considers the types of crops produced (staple crops, cash crops) and their contribution to the farming household's income or food security

- ***Level of Market Access:*** How farmers engage with markets (buyers, sellers, or both), and how the markets are organized (local spot markets, export markets, etc.)

How it can be used:

- To determine the types of services (extension, financial) to provide to farmers to help them become commercial farmers.

- To understand the probability that farmers will adopt new practices/services.

- To highlight the risks that different types of farmers can handle and what risk mitigation resources they have.

> "
> *Each segmentation method focuses on a different set of variables for identifying how to differentiate subgroups within the farming population.*

Example: CGAP

Using levels of commercialization to target financial services support to smallholder farmers[21]

Objective:

Determine how financial service providers, governments, and other agricultural development partners can better support smallholder farmers to reduce costs and scale up the use of financial products.

Approach:

CGAP is a think-tank that focuses on how financial services can better serve the poor. In 2019 they released their own guidance on how to segment a farmer population, based on their experience using national surveys to develop a deep, data-led understanding of smallholder household livelihood profiles. Farmers were segmented based on: location, sources of income, agricultural production, and financial inclusion.

As a result, CGAP identified three main segments, their main needs, and how to best address the needs of each segment.

Outcomes:

SEGMENT 1: COMMERCIALIZING

Description: Farmers with relatively successful agricultural businesses who consider agriculture their main source of income. They tend to be better connected to value chains and reinvest more in their farms.

Key needs and how to address them: The primary market for financial solutions for agricultural goals. These smallholders need one or more products tailored to on-farm investments (e.g., asset financing, layaway), risk mitigation and income protection (e.g., crop insurance), and more efficient payments, both from agricultural buyers and to suppliers of inputs and labor (e.g., mobile wallets).

SEGMENT 2: DIVERSIFYING

Description: Farmers in transition, often with a multidimensional livelihood strategy. Generally, they do not see farming as their primary source of income. Some may move from agriculture to nonfarm employment in peri-urban and urban areas, while others may expand into agriculture after working in other sectors.

Key needs and how to address them: Given their diverse needs, this group would benefit from a wide-array of support for both their agricultural and off-farm activities

SEGMENT 3: SUBSISTING

Description: The poorest and most vulnerable segment, subsisting smallholders primarily rely on agriculture for their livelihoods, which may be complemented by income from casual labor.

Key needs and how to address them: Subsisting farmers require comprehensive support, including from governments and NGO partners, for basic needs and to build resiliency. This can include social safety net programs and cash transfers to protect them from shocks and crises, as well as financial services such as savings and credit groups, pay-as-you-go financing models, mobile wallets, and financial literacy training.

Conclusion:

CGAP's findings emphasize the importance of both agricultural and non-agricultural income-generating activities, as well as a range of financial and non-financial services, for all three segments. Farmers, in short, are generally also a lot more than farmers.

21   Jamie Anderson et. al., (2019). Smallholder Households: Distinct Segments, Different Needs. CGAP, No. 111.

iii. Collect data

The selected segmentation approach will inform what data needs to be collected, and how. Each approach focuses on different key variables to collect per farmer / farming household, as identified in the previous examples. Still, most will collect information on both structural indicators (land, labor, etc.) and functional indicators (motivations, training, etc.), via both qualitative and quantitative methods. Collecting enough information to fully tailor the intervention to each farmer segments' needs and constraints is essential.

Identifying a strategy for data collection is key to ensuring an efficient process. This includes deciding if the company can collect information on all farmers in the supply chain or target population, or if a sample is more appropriate. Next, an assessment should be made of what information already exists and where other available data sources might be used to fill any gaps. When collecting data on the farmer population, there are four primary sources to consider:

> **Identifying a strategy for data collection is key to ensuring an efficient process.**

- **Traceability system data** – most companies will already have detailed information on the farmers in their supply chains from procurement databases.

- **Farmer surveys** – a household survey of all farmers or the heads of farming households in the target population. This is the primary method for collecting quantitative data not already included in the company's traceability system.

- **Focus groups** – a small group discussion (about ten people) to ask open-ended questions. It collects additional qualitative information to fill in the gaps and confirm findings from other data sources.

- **Publicly available data** – relevant information from the government, NGOs, researchers, or technical assistance/project management providers may also be available.[22]
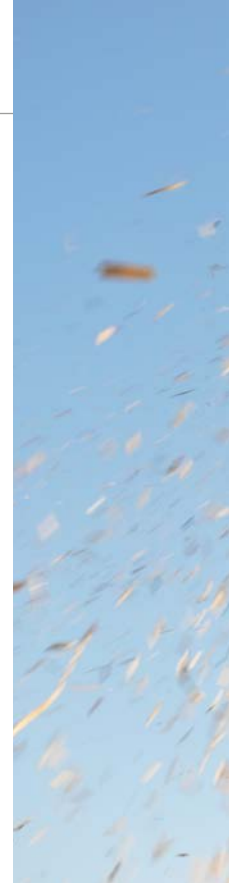
When collecting additional primary data, procurement teams should maximize the use of mobile technologies. As smartphones and connectivity are increasingly available in rural areas, data collection is becoming easier and faster, while it is also more feasible to provide farmers with access to their information in real-time.[23]

When collecting such primary data, it is important for those gathering data to be sufficiently aware of gender considerations, including relevant social norms or household and community dynamics, to ensure all voices are heard in a culturally appropriate manner.[24]

22   Gray, B. et al. (2018). Digital Farmer Profiles: Reimagining Smallholder Agriculture. USAID Feed the Future.

23   Ibid.

24   Ibid.

After defining the segments, it might be necessary to revisit the data collection process to collect supplementary data on specific groups, specifically the most vulnerable. Findings should be validated with key stakeholders such as farmer organizations or community leaders.

It is essential to ensure that there is no perception of unequal treatment across farming households and communities. Thus, communicating the program and its purpose to communities, local leaders and supply chain stakeholders is an essential step.

Once the segments are defined, it is sometimes helpful to create a *farmer persona/profile* to represent each farmer segment. These personas summarize the main characteristics of farmers in a specific segment and help represent their typical traits, needs, motivations, and goals, including both farm and non-farm aspects. Likewise, personas can be useful for understanding elements of financial and social inclusion or exclusion to build a holistic picture of each segment's opportunities and resilience.[26]

iv. Identify farmer segments

The collected data should be analyzed to determine the appropriate farmer segments. According to the defined objectives and key variables, trends within the data can be used to identify broad groupings of farmers with similar characteristics. This process is best handled by data analysis experts, such as a consulting firm or NGO/service provider with in-depth experience in farmer segmentation.

Segments should be clearly distinct from each other and large enough to be meaningful. However, they should also be specific enough to ensure that they are inclusive and responsive to the needs of the most vulnerable farming families, such as female-headed households.[25]

> **Trends within the data can be used to identify broad groupings of farmers with similar characteristics.**

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25   Jamie Anderson et. al., (2019). Smallholder Households: Distinct Segments, Different Needs. CGAP, No. 111.

26   Ibid.

v. Tailor solutions for each segment

Once the farmer segments have been determined, strategies should be developed to support each farmer segment.

Based upon each segment's unique needs, the most appropriate interventions should be chosen to address farmer challenges and barriers. This requires an in depth understanding of farmer communities and context. Thus, it is critical to work with local experts in sustainable agriculture and farmer communities, as they are best placed to define the customized interventions that best address the challenges faced by farmers.

Importantly, farmer segmentation should not be used as a basis to exclude the most vulnerable from a company's supply chain. Rather, as in the examples provided in this guide, all farmer segments should be supported – but with interventions customized to their specific needs. In addition, companies can apply safeguards along the way to ensure they are not leaving anyone behind – particularly by applying a gender lens to their segmentation approach and validating the findings with farmer organizations and community leaders.

Understanding where farmers' needs lie beyond the services the company is able to provide is crucial to supporting the most vulnerable farmers. Identifying and working closely with the right partners who have the capability to address each segment's needs is key to supporting farmers to move towards a Living Income.

Example: Nestlé and KIT

Segmentation to support pathways to a Living Income[27]

Objective:

Develop pathways to support a larger proportion of cocoa-growing household to achieve a Living Income (LI).

Approach:

In 2019, Nestlé commissioned the Royal Tropical Institute (KIT) to study its Elite Farmer program, which aimed to support the most promising cocoa farmers in Côte d'Ivoire to improve their incomes through intensive training and coaching. The purpose of the study was to learn from the Elite Farmer program to develop pathways towards a LI for all smallholders in the Nestle Cocoa Plan (NCP), the company's initiative for increasing cocoa productivity and quality.

KIT used a data-driven approach to create different segments, clustering cocoa farming households using a combination of segmentation strategies including demographic data, income potential, and aspirations/motivations. They analyzed four existing data sets, each with key drivers:

27   Laven, A. & Habraken, R. (2022). Pathways for closing the income gap for cocoa farming households in Côte d'Ivoire, a segmented approach. Royal Tropical Institute (KIT) and Royal Tropical Institute (KIT). Pathways for closing the income gap for cocoa farming households in Côte d'Ivoire, a segmented approach.

1. **Farmer or household characteristics:** gender, age, household size, marital status, psycho-social indicators, geographic location.

2. **Cocoa production:** land size used for cocoa, yield, Good Agricultural Practices (GAPs), input and labor usage.

3. **Income diversification:** cocoa importance to household income, land size used for non-cocoa products, and alternative income sources.

4. **Financial planning and business:** access to finance and business skills.

Outcomes:

This process led to identifying various segments, among which they focused on developing LI pathways for the following groups:

HOUSEHOLD SEGMENT:
ASPIRATIONAL ELITE

Typical Description: Existing Elite program farmer. Relatively young. Entrepreneurial attitude and high cocoa yields.

LI Pathway: Household participation in Elite program, including tailored training/coaching and commercial training on non-cocoa products/market linkages.

YOUNG, SINGLE AND AMBITIOUS

Typical Description: Relatively young, aspirational attitude and relatively higher education levels. Low productive assets and cocoa yields.

LI Pathway: Professionalization training and paid work force opportunities. Access to Elite Farmer program.

COCOA-DEPENDENT HOUSEHOLD

Typical Description: Largest segment- middle aged, married, uneducated. Average cocoa yields and highly experienced in cultivating cocoa.

LI Pathway: Household diversification and financial planning training. Financial incentives and access to labor services. Timely cocoa payments and education expense contribution.

DIVERSIFIED HOUSEHOLDS

Typical Description: Middle aged, average cocoa yields and relatively higher investment in non-cocoa activities. Relatively high income.

LI Pathway: Household income analysis, advanced diversification and business skills training. Access to professional labor services, affordable childcare. Timely cocoa payments and education expense contribution.

FEMALE ENTREPRENEURS

Typical Description: Relatively young, more entrepreneurial and motivated to becoming successful in business.

LI Pathway: Access to VSLAs, business coaching, processing equipment, markets, wholesale opportunities, childcare.

vi. Learn

Farmer segmentation is not a static process; households' situations constantly evolve, with changes in market conditions, the environmental and policy contexts. Farmers' economic situations are often in flux, and they might move from one segment to another. Thus, interventions should be consistently monitored during implementation to ensure that they have the desired impact and remain relevant for the target population.

Ongoing information collection is the foundation for learning and improving programming. An adaptive learning system will support companies in adapting their interventions or segments as needed, to best respond to farmers' changing needs.

> *Interventions should be consistently monitored during implementation to ensure that they have the desired impact and remain relevant for the target population.*

04.
Conclusion

To build a future where both businesses and small-scale farmers thrive, farmers must be placed at the center of business practices through new ways of working. Novel approaches, such as farmer segmentation can help improve the effectiveness of both sustainable sourcing strategies and smallholder support activities.

> ❝
> *Farmer segmentation can be a tool to help support the most vulnerable farmers in the supply chain.*

While there is no single approach to segmenting a farming population, there are basic steps and segmentation methods that can be relied upon to help structure a well-designed engagement strategy based on a more targeted understanding of farmer characteristics.

Segmenting farmers is meant to be a mutually beneficial exercise, as tailored and targeted assistance has proven to be more effective at increasing farmers' incomes while also allowing companies to maximize their return on investment.

Through working closely with farmer organizations, local experts, and supporting partners, companies can use segmentation to improve both their sourcing strategies and the quality of services they provide to smallholder farmers.

While farmer segmentation is a tool to help secure a sustainable supply for the future, it is also a tool to help support the most vulnerable farmers in the supply chain. Through developing a better understanding of different farmers' needs, segmentation can help businesses understand where supply chain stakeholders can intervene directly, and conversely, where they need to leverage and influence other partners, such as governments and NGOs, to take action.

We need to push the boundaries of our thinking – because poverty won't be solved with the same approaches that perpetuated it.

Annex

An overview of further farmer segmentation toolkits and resources, organized per segmentation methodology is provided below

1. Household & Demographic Segmentation Approach

Examples of Use:

Laven, A. & Habraken, R. (2022). Pathways for closing the income gap for cocoa farming households in Côte d'Ivoire, a segmented approach. Royal Tropical Institute (KIT).

See other examples below for how demographic information is incorporated.

2. Farmer attitudes, beliefs, and values Segmentation Approach

Toolkits:

CGIAR (2019). The Farmer Segmentation Tool: Understanding The Diversity Of Coffee Farmers.

IITA (2021). The Farmer Segmentation Tool.

Examples of Use:

IITA & Olam (2019). Improving coffee sector climate-smart awareness and decision-making. Key lessons for private sector engagement in the USAID learning community for supply chain resilience.

Wilson, P. et. al. (203). Explaining variation in farm and farm business performance in respect to farmer behavioural segmentation analysis: Implications for land use policies, Land Use Policy, 30(1), 147-156.

Waters, W., Thomson, D., & Nettle, R. (2009). Derived attitudinal farmer segments: a method for understanding and working with the diversity of Australian dairy farmers. Extension Farming Systems Journal, 5(2), 47-57.

3. Income Potential Segmentation Approach

Examples of Use:

Anderson, J. Learch, C.E., & Gardner, S.T. (2016). National Survey and Segmentation of Smallholder Households in Uganda. CGAP Working Paper.

Benjamine, H. M., Maxwell, M., Kefasi, N., & Paramu, M. (2017). Farmer segmentation for enhancing technology adoption and smallholder dairy development. African Journal of Agricultural Research, 12(45), 3221-3232.

McElwee, G. and Smith, R. (2012). Classifying the strategic capability of farmers: a segmentation framework. International journal of entrepreneurial venturing, 4(2), 111-131.

4. Type of Agricultural Livelihood Segmentation Approach

Toolkits:

Jamie Anderson et. al., (2019). Smallholder Households: Distinct Segments, Different Needs. CGAP, No. 111.

IDH Farmfit Toolkit (n.d.) Farmer Segmentation.

Kelly, C. et. al. (2016). Smallholder Farmer Market Segmentation Toolkit. Southern Africa Food Lab, University of Stellenbosch, Faculty of AgriSciences: SAFL's Supporting Smallholder Agriculture Programme.

Examples of Use:

Hanjani-Mlambo, B. et. al., (2017). Farmer segmentation for enhancing technology adoption and smallholder dairy development. African Journal of Agricultural Research 12(45):3221-3232.

Farmer Income Lab (2018). What Works to Increase Smallholder Farmers' Income (AGRA example p. 26).

Christen, R. P., & Anderson, J. (2013). Segmentation of smallholder households: Meeting the range of financial needs in agricultural families (Focus Note 85).

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