SMALL SCALE PRODUCERS, MSMES AND AGRIFOOD CLUSTERS IN AFRICA AND LATIN AMERICA: COMPARATIVE EVIDENCE FROM TEN COUNTRIES

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ABSTRACT

This report uses harmonised household and enterprise microdata from six Sub Saharan African countries (Ethiopia, Ghana, Malawi, Nigeria, Tanzania, Uganda) and four Latin American countries (Chile, El Salvador, Mexico, Peru) to reassess the role of smallholders in agrifood transformation. We classify small scale producers (SSPs) by cultivated area and show that they are the dominant group of farm producers in all countries. SSPs account for most crop producers and for the bulk of crop production in our samples, including in several settings where medium and large farms are often seen as the main drivers of change. The analysis documents a strong market orientation among SSPs. A large majority of SSPs sell at least part of their harvest, many purchase modern inputs, and a nontrivial share participate in agrifood and other non-farm MSMEs. This connects them to both output and input markets rather than leaving them as mainly subsistence producers. We construct a Cluster Index to capture territorial agrifood dynamism and an Inclusion Index that combines monetary welfare, food security, resilience and women's empowerment. Results show that SSPs, and especially commercial SSPs, are concentrated in more dynamic agrifood clusters. Within these clusters, commercialization and MSME engagement are consistently associated with higher inclusion scores. Taken together, the findings show that smallholders remain central to food production, are deeply engaged with markets, and operate within spatial clusters that can support more inclusive agrifood transformation.

Keywords: Small-scale producers (SSPs), Agrifood transformation, Sub-Saharan Africa, Latin America, Market orientation, MSMEs, Cluster Index, Inclusion Index, Food security, Women's empowerment.

RESUMEN EJECUTIVO

Este informe utiliza microdatos armonizados de hogares y empresas de seis países del África subsahariana (Etiopía, Ghana, Malawi, Nigeria, Tanzania, Uganda) y cuatro países de América Latina (Chile, El Salvador, México, Perú) para reevaluar el papel de los pequeños productores en la transformación agroalimentaria. Clasificamos a los productores de pequeña escala (PPE) por superficie cultivada y mostramos que son el grupo dominante de productores agrícolas en todos los países. Los PPE representan a la mayoría de los productores de cultivos y el grueso de la producción agrícola en nuestras muestras, incluso en diversos entornos donde a menudo se considera a las medianas y grandes explotaciones como los principales motores del cambio. El análisis documenta una fuerte orientación al mercado entre los PPE. Una gran mayoría de los PPE vende al menos parte de su cosecha, muchos compran insumos modernos y una proporción no despreciable participa en MIPYMES agroalimentarias y otras no agrícolas. Esto los conecta tanto con los mercados de productos como con los de insumos, en lugar de dejarlos principalmente como productores de subsistencia. Construimos un Índice de Clústeres para captar el dinamismo agroalimentario territorial y un Índice de Inclusión que combina bienestar monetario, seguridad alimentaria, resiliencia y empoderamiento de las mujeres. Los resultados muestran que los PPE, y especialmente los PPE comerciales, se concentran en los clústeres agroalimentarios más dinámicos. Dentro de estos clústeres, la comercialización y la vinculación con las MIPYMES se asocian sistemáticamente con puntuaciones de inclusión más altas. En conjunto, los hallazgos muestran que los pequeños productores siguen siendo fundamentales para la producción de alimentos, están profundamente vinculados con los mercados y operan dentro de clústeres espaciales que pueden sustentar una transformación agroalimentaria más inclusiva.

Palabras clave: Productores de pequeña escala, Transformación agroalimentaria, África subsahariana, América Latina, Orientación al mercado, MIPYMES, Índice de Clústeres, Índice de Inclusión, Seguridad alimentaria, Empoderamiento de las mujeres.

1. INTRODUCTION AND OVERVIEW

Agrifood systems are at the center of how countries feed their populations, generate jobs, and structure opportunities for millions of rural and urban households. Globally, roughly one quarter of the labor force still works in agriculture, with much higher shares in low-income countries, particularly in Sub-Saharan Africa (World Bank, 2023). At the same time, food economies have become far more complex than the traditional image of farmers producing staples for self-consumption and local markets. Urbanization, income growth, and diet diversification toward higher-value and processed foods have expanded segments such as processing, transport, logistics, food retail, and food services, creating dense networks of firms and jobs that sit between farms and consumers (Reardon, 2015; Reardon et al., 2021). Understanding how small-scale producers connect to these transforming agrifood systems is central for any strategy that aims to achieve food security, decent rural employment, and inclusive development.

Small-scale producers (SSPs) remain numerically dominant worldwide. Recent global farm structure studies estimate that more than 80 percent of farms are smaller than 2 hectares, although they control a much smaller share of agricultural land and generate roughly one-third of global crop output (Lowder et al., 2021; Ricciardi et al., 2018). In poorer, more agrarian regions, including much of Sub-Saharan Africa, the share of production from these small farms is even higher. Far from being a residual group, SSPs still provide a large part of the food consumed domestically and remain a significant source of employment and income. Yet their position is changing. As markets deepen and value chains lengthen, the balance between own-consumption and sales has shifted steadily toward greater commercialization, while new opportunities and risks arise from closer integration into input and output markets (Carletto et al., 2017; Christiaensen & Demery, 2018).

This transformation affects rural spaces in ways that go beyond farming. The classic image of "rurality" as a primarily agricultural, male-dominant, and ageing world no longer fits the reality of many territories in Africa and Latin America. Since the 1990s, the literature on "new rurality" has highlighted stronger links between rural and urban areas, the rise of non-farm activities and commuting, and the growing presence of women and young people in rural labor markets and enterprises. In many places, this diversification is still rooted in agrifood systems, but it plays out in midstream and downstream segments rather than solely on the farm. For both regions, a central policy challenge is how to generate dynamic and attractive livelihoods in these rural territories so that structural transformation does not simply translate into large-scale, distress-driven rural-urban migration, but instead into more varied and better-quality opportunities where people live.

A key element of this story is the "hidden middle". Reardon (2015) and his subsequent work describe a quiet revolution in the midstream of agrifood value chains, where processing firms, wholesalers, logistics providers, and service enterprises now manage the bulk of marketed food and account for a sizeable share of value added and employment (Reardon et al., 2021, 2022). Much of this hidden middle consists of micro, small, and medium-sized enterprises (MSMEs) that are domestically owned, often informal, and densely clustered around small towns and secondary cities. These firms buy crops from SSPs, supply them with inputs and services, and move, process,

and sell food to rural and urban consumers. Evidence from Africa and Latin America shows that rural non-farm MSMEs are widespread and that many are owned by farm households, especially in trade, food processing, and basic services (Nagler & Naudé, 2017; Reardon et al., 2001). For public policy, this is a strategic sector: it concentrates a large share of national food economies, provides many jobs for women and youth, and often operates under the radar of conventional agricultural, territorial or industrial policies.

The central hypothesis guiding this report is that in both Africa and Latin America, commercial small-scale producers (cSSPs) and agrifood MSMEs form a dense and mutually beneficial web that connects primary production to consumption. In this view, cSSPs do not operate in isolation. Their ability to be commercial, to adopt technology, and to stabilize their incomes depends on an extensive network of midstream and downstream actors that supply inputs, credit, and information and that buy, transport, store, process, and retail their products. At the same time, these MSMEs rely on cSSPs as suppliers of raw materials and as customers for their services. This symbiotic relation is at the heart of what some authors refer to as a "silent revolution" in national food systems, where domestic farms and firms progressively build more sophisticated and spatially dense value chains that link rural territories to towns and cities (Reardon et al., 2021; Escobal et al., 2015). Strengthening smallholder agriculture in this setting cannot be reduced to farm-level interventions alone; it also means understanding and supporting the broader network of enterprises that surrounds it. Enhancing the symbiosis between SSPs and MSMEs in the hidden middle.

Sub-Saharan Africa (SSA) and Latin America and the Caribbean (LAC) provide an especially useful comparison for examining these dynamics. The six African countries in this study are low- and lower-middle-income economies where agriculture still contributes around a quarter of GDP and employs over half of the workforce, with large rural populations and high poverty rates. The four Latin-American countries are upper-middle-income economies where agriculture's share of GDP has fallen to low single digits and rural populations are smaller. Yet, agrifood systems remain central for employment, exports, and food security. On average, GDP per capita in the Latin-American group is several times higher than in African countries, and agriculture's share of GDP is three to seven times smaller. However, compared with high-income regions, Latin America still has a sizeable agricultural sector and a significant rural population. This suggests that LAC may offer a glimpse of a possible future for SSA: more urbanized and diversified economies in which agriculture contributes a smaller share of GDP, but where agrifood systems, particularly the hidden middle, continue to matter greatly for jobs and inclusion opportunities.

The two regions also differ in their integration into global food markets. Many SSA countries remain close to self-sufficiency in cereals, especially Malawi and Tanzania, although there is variation in import dependence and export performance across the sample. By contrast, the four LAC countries analyzed are much more reliant on cereal imports while earning substantially higher export revenues from higher-value crops and livestock products per capita. This pattern, documented in detail in subsequent sections, implies that Latin-American agrifood systems are more exposed to global price shocks and trade disruptions, even as they benefit from export opportunities. For SSA, where smallholders still supply most of the cereals consumed domestically, policies affecting cSSPs and their links to the hidden middle have direct implications for national food security; for LAC, where food imports play a bigger role, the resilience of

smallholders and domestic MSMEs is equally essential, but for somewhat different reasons (consumption of fresh food products, rural poverty, inequality, among others).

Within rural areas, the social profile of producers and entrepreneurs is also shifting. Most rural producer households in the African sample have relatively low levels of formal education and larger household sizes, but they are far from homogeneous. Women lead many, and a growing share of rural women and youth participate in non-farm MSMEs, and wage work linked to agrifood value chains. In Latin America, agriculture has become a niche activity for a minority of rural households, especially in Mexico and Chile. Still, those who remain in farming often combine it with small businesses or wage jobs in retail, food services, processing, or logistics. This diversification has important gender and generational dimensions: women own a substantial share of food-related MSMEs in both regions, and young people are more likely to find work at the mid- and downstream segments of the agrifood value chains than on farms. At the same time, inequality levels remain high in all ten countries, and many rural households still face structural barriers to market entry, and to access credit, land, and other key services. The question is not whether agrifood systems generate opportunities, but for whom and under what territorial conditions.

Against this backdrop, the report argues that it is both necessary and timely to update how policy debates conceive of "family farming" and smallholder agriculture. Traditional images of subsistence-oriented, isolated peasant households are increasingly at odds with the evidence. Across SSA and parts of LAC, SSPs still account for most farms and, in many cases, for most of crop production, but they are highly commercial: a majority sell at least part of their harvest, and many buy modern inputs (Carletto et al., 2017; Christiaensen & Demery, 2018). A sizeable share of smallholder households operates non-farm MSMEs that are connected to agrifood systems, and their livelihoods depend on a mix of farm income, wage work, and enterprise earnings (Nagler & Naudé, 2017; Reardon et al., 2001). Moreover, these activities are spatially clustered in territories with denser networks of farms and firms and higher jobs per enterprise (Escobal et al., 2015). If public policy continues to treat smallholders mainly as subsistence producers or social protection recipients, or concentrates only in supporting farm activities, it risks overlooking their actual economic roles and the potential of the hidden middle to support a more inclusive rural transformation.

Our Africa–Latin America report addresses this gap by bringing together comparable household and enterprise data from six SSA and four LAC countries to revisit conventional wisdom about small-scale producers and their role in transforming agrifood systems. The report asks four main questions. First, what are the characteristics of SSPs in terms of farm size and market orientation, and does the usual narrative about "subsistence farmers" still hold? Second, to what extent do SSPs remain central to food production and employment in the ten countries, and how does their role differ across regions and along the structural transformation path? Third, how are SSPs connected to agrifood MSMEs and to spatial clusters of agrifood activity, both as suppliers of raw materials and as owners of non-farm enterprises? Fourth, under which territorial conditions does participation in agrifood markets and non-farm MSMEs translate into higher inclusion outcomes for rural households?

To answer these questions, the report makes three main contributions. It offers a systematic cross-regional comparison of six SSA and four LAC countries using harmonized micro-data; it

analyses SSPs, non-farm MSMEs, and territorial clustering jointly rather than as separate topics; and it develops new synthetic measures of agrifood dynamism (the Cluster Index) and multidimensional inclusion (the Inclusion Index) to study how rural households engage with and benefit from transforming agrifood systems. These indices build on recent advances in measuring resilience, food security, and empowerment, and enable the report to examine how household-level market participation interacts with meso-level cluster conditions to shape inclusion.

In short, the report invites readers to reconsider the place of small-scale producers in contemporary agrifood systems in Africa and Latin America. Rather than treating smallholders as a "traditional" sector to be left behind by modernization, it views them as central actors, dynamically participating in evolving networks of farms and firms that stretch from rural fields to urban consumers. Strengthening family farming in this perspective means reinforcing the dense web of relationships between cSSPs and the hidden middle, paying attention to gender and youth, and recognizing the territorial patterns that shape the inclusivity of agrifood clusters. The following sections provide the empirical foundation for this argument and explore its implications for policy and future research.

1.1 Context

In this report we compare six African countries (Malawi, Ethiopia, Uganda, Tanzania, Ghana and Nigeria) with four Latin-American countries (El Salvador, Peru, Mexico and Chile) regarding an in-depth analysis of smallholder farmers and the conventional wisdom surrounding them. The data comes from the World Bank (Africa) and country-specific household and agricultural surveys (Latin America) and roughly covers 2010-2023. African countries are low- or lower-middle-income economies, whereas the Latin-American countries fall into the upper-middle-income group. Agriculture still plays a major role in African economies, contributing roughly a quarter of GDP and employing most of the population (roughly 52% in our six countries studied, ranging from 38% in Nigeria to 76% in Malawi as per World Bank, 2023), whereas in Latin America agriculture accounts for 3–7% of GDP and only a small minority of people live in rural areas (12% in Chile up to 29% in El Salvador in the last decade), but still remains a sector that is greatly important for employment, especially for rurality.

Table 1 below summarizes average macroeconomic indicators for each country over 2010-2023. The ranking reflects the level of development, from the poorest (Malawi) to the richest (Chile), and highlights the contrast between Africa and Latin America. The average over said period was chosen to smooth fluctuations and to more accurately reflect the macroeconomic trends of each country during the period under study.

Table 1. Macroeconomic and demographic indicators for the chosen countries.

Country (rank)	GDP per capita (US$)	Agriculture's share of GDP (%)	Poverty headcount at US$ 3/day (%)	Unemployment rate (%)	Total population (millions)	Rural population (%)
Malawi (1)	≈575.5	≈24.4	≈73.3	≈5.1	≈17.9 M	≈83.3
Ethiopia (2)	≈663.7	≈37.3	≈36.3	≈2.8	≈108.8 M	≈79.9
Uganda (3)	≈846.9	≈25.1	≈58.7	≈3.1	≈39.9 M	≈77
Tanzania (4)	≈1 002.5	≈26.1	≈51.4	≈2.7	≈55.0 M	≈67.3
Ghana (5)	≈1 988.8	≈20.6	≈40.4	≈3.9	≈29.6 M	≈45
Nigeria (6)	≈2 274.6	≈22.0	≈36.5	≈4.3	≈197.5 M	≈51
El Salvador (7)	≈4 029.4	≈5.6	≈6.3	≈4.1	≈6.2 M	≈29.3
Peru (8)	≈6 590.3	≈7.0	≈7.7	≈4.0	≈31.3 M	≈22.4
Mexico (9)	≈10 525.1	≈3.3	≈5.4	≈4.1	≈122.4 M	≈20.3
Chile (10)	≈14 749.2	≈3.7	≈1.0	≈7.7	≈18.5 M	≈12.5

Source: World Bank Data accessed through their API.

On average, the gap between Africa and Latin America is large: GDP per capita in the Latin-American countries is four to 25 times higher than Malawi's, and agriculture's share of GDP is three to seven times smaller. However, compared with the United States or Europe, where agriculture contributes less than 2% of GDP and the rural population is under 10%, Latin America still has a relatively large agricultural sector and a significant rural population. This suggests that Latin America may provide a glimpse of the next stage of structural transformation for Africa: greater urbanization and economic diversification, yet agriculture remains important for employment and food security.

Another important aspect to analyze between regions is inequality, measured through the Gini index. Across the ten countries in Table 2, inequality levels are consistently high. The latest World Bank Poverty and Inequality Platform data show Gini coefficients ranging from about 31 in Ethiopia to more than 43 in Ghana, Mexico and Chile. Malawi and Tanzania register Gini values just below and above 40 respectively; Uganda, Ghana, Mexico and Chile clearly exceed the World Bank's high-inequality threshold of 40; while Ethiopia and Nigeria, though lower, still display marked disparity. It should be noted that these estimates are not all based on the same welfare concept. The World Bank's measurement guidelines explain that disposable income is typically used in Latin America and other higher-income contexts, whereas consumption expenditure is used in lower-income African countries because income data are often unreliable (Haddad et al., 2024). Income-based Gini indices tend to be higher than consumption-based ones because incomes can be highly volatile or even negative, while households smooth their consumption over time; the methodological "smoothness argument" suggests that consumption provides a more

stable indicator of living standards over a year (Mancini, G., & Vecchi, G., 2022). Consequently, cross-country comparisons of inequality in this sample must account for whether the underlying survey measures income or consumption, as the former may overstate inequality relative to the latter.

Table 2. Gini index for the countries studied

Country (rank)	Gini index (latest available)
Malawi (1)	≈38.5 (2019)
Ethiopia (2)	≈31.1 (2021)
Uganda (3)	≈42.7 (2019)
Tanzania (4)	≈40.5 (2018)
Ghana (5)	≈43.5 (2016)
Nigeria (6)	≈33.9 (2022)
El Salvador (7)	≈39.8 (2023)
Peru (8)	≈40.1 (2024)
Mexico (9)	≈43.5 (2022)
Chile (10)	≈43.1 (2024)

Source: World Bank Data accessed through their API.

1.1.1 Research questions and contribution

This report addresses four main questions. Frist, what are the characteristics of small-scale producers (SSPs) regarding land size and market orientation, and does conventional wisdom still hold up? Second, to what extent are SSPs still central to food production and employment in the ten focus countries in Sub-Saharan Africa (SSA) and Latin America (LAC), and how does their role differ across regions? Third, how are SSPs linked to agrifood micro, small, and medium enterprises (MSMEs) and to spatial clusters of agrifood activity, both as suppliers of raw materials and as owners of non-farm enterprises? Fourth, does participation in agrifood markets (crop-selling) and MSMEs, and residence in more dynamic agrifood clusters, translate into higher inclusion outcomes for rural households, and under which territorial conditions?

The report contributes in three ways. It offers a systematic cross-regional comparison of six SSA and four LAC countries using comparable household and enterprise data; it jointly analyses SSPs, non-farm MSMEs and territorial clustering, rather than treating them as separate topics; and it

develops and applies new synthetic measures of agrifood dynamism (the Cluster Index) and multidimensional inclusion (the Inclusion Index) that can be used to study how rural households engage with transforming agrifood systems.

1.2 Data and methods

The data analyzed for this report comes from household surveys, which are described below:

Africa: Evidence comes from panel surveys in the *Living Standards Measurement Study–Integrated Surveys on Agriculture* (LSMS-ISA) for Ethiopia, Malawi, Tanzania, Uganda and Nigeria. Ghana has repeated cross-sectional household surveys rather than a panel. These datasets follow the same households over time and allow the study of changes in production, marketing and income diversification. These surveys usually cover the periods between 2009 and 2020, in survey rounds 2-3 years apart.

Latin America: In the absence of comparable agricultural panels, the analysis uses cross-sectional household surveys from national statistical institutes: CASEN (Chile), ENAHO (Peru), ENIGH (Mexico) and EHPM (El Salvador), with rounds between 2015 and 2023. Although not panels, they provide detailed information on incomes and agricultural production (in Peru and Mexico, which have dedicated agricultural survey modules, such as the LSMS-ISA). Because of this, most in-depth analyses are restricted to Peru and Mexico.

Regarding agricultural data, Latin American household surveys usually lack the modules with crop production and landholding data, with Peru and Mexico (minus the cultivated area question) being the exception. For this reason, some analyses in this region are restricted to these two countries only. Only Peru has enough data to be comparable to SSA LSMS-ISA surveys.

Methodology and key definitions

- **Small-scale producers (SSPs)**: Defined by cultivated farm size (ha), we classify as small-scale all those who fall below the 90th percentile in this metric, while in Mexico, because land-area data are lacking, producers are classified as SSPs when the value of their crop output is below the 90th percentile of the national distribution. We also present results using country-specific land thresholds to classify as small-scale, to provide comparison.
- **Commercial small-scale producers (cSSPs)**: SSPs who sell some of their crop harvest. This concept distinguishes market-oriented farmers from those producing only for home consumption.
- **MSMEs**: Micro, small and medium-sized enterprises operating in or out of the food value chain, either at midstream stages (processing, transport, logistics), downstream stages (retail, street food), or other services. Many SSPs operate non-farm MSMEs as part of their income generating and diversification strategies.
- **Cluster Index**: A composite measure of agrifood dynamism in a given territorial unit that combines (1) the share of farmland operated by cSSPs, (2) the density and revenue of agrifood enterprises per capita and (3) market participation indicators (crop sales per

capita and sales to traders by farmers). The index is normalised between 0 and 1, where 1 implies a high – dense - cluster and zero no cluster at all.

- **Inclusion Index:** PCA-generated index that combines the following variables: food consumption score (FCS, WFP), resilience index (RIMA-II, FAO), women's economic empowerment score (AWEAI), non-farm income and consumption expenditures. In LAC, the index is adapted to data availability: in Peru we combine the Food Consumption Score, a resilience measure, women's labour-force participation and log non-farm income and consumption expenditure; in Mexico we substitute the Food Consumption Score with the *Escala Mexicana de Seguridad Alimentaria* (EMSA), a food-insecurity scale, and use female labour-force participation as a proxy for women's empowerment.

These definitions set the stage for the key messages of the INCATA project. Subsequent sections analyze the contribution of small-scale producers to food production, their market engagement, the operation of non-farm MSMEs and the effects of regional clustering.

1.2.1 Defining the Cluster Index

To examine how commercial small-scale producers (cSSPs) and agrifood MSMEs are geographically concentrated, we constructed a Cluster Index which is used on this report for meso-level analyses on section 6 & 7. This composite measure combines several indicators capturing the dynamism and connectivity of local agrifood economies (based on Chaoran Hu et al., 2019):

- **Commercial farming:** the share of farmland cultivated by commercial smallholders (cSSPs).
- **Enterprise density:** the number of agricultural MSMEs (food retail, catering and/or food manufacture) per capita and their revenue per capita.
- **Market participation:** the volume of crops sold per capita and the number of cSSPs selling crops to traders per capita (as a proxy for trader density).

By normalizing and aggregating these variables, the index yields scores between 0 and 1, where higher values denote more active and connected agrifood economies. A companion typology divides regions into low-, medium-, and high-cluster terciles.

This index is built within geographical units that are representative enough to provide reliable estimates, and in the range of 25-35 unique observations to ensure variability. In some cases, it is the region and, in countries where the number of said administrative levels are too low, we lump counties together based on geographical adjacency and number of observations per unit. While, at first glance, it might seem that such observations are too broad (in area terms) to make sense, results using a Cluster Index built at smaller geographical units yield similar results.

In essence, the higher the Cluster Index, the more each territory has of each of the components, which is illustrated in Figure 1A (Annex), where the variables were min-max normalized, then summed across the tertiles, to ensure scale comparability. For example, in Uganda, there are 3 times more per capita retailers in high-cluster areas compared to low-cluster (real numbers are 0.03 retailers per capita in low-cluster zones and 0.1 in high-cluster).

In territories with a dense concentration of commercial small-scale producers and agrifood enterprises, local demand for SSPs' output tends to be stronger and more stable, particularly from food retailers, caterers, and small manufacturers. This "thickening" of local value chains can generate classic agglomeration and spillover effects: buyers have more substantial incentives to invest in product quality and coordination, while producers face lower search and transaction costs, benefit from more reliable input and output markets, and gain access to technical advice and tacit know-how through repeated interactions. Evidence from rural and agrifood settings shows that spatial clustering of farms and enterprises is associated with knowledge diffusion, input sharing, and higher market engagement, as producers learn from neighbors' practices and from the behavior of nearby commercial actors (Conley & Udry, 2010). These mechanisms provide the rationale for constructing a Cluster Index: higher index values capture not only greater physical density of cSSPs and agrifood MSMEs, but also the potential for localized economies of scale, learning spillovers, and stronger market linkages that can pull more small-scale producers into commercial circuits.

1.2.2 Econometric approach and limitations

To examine the association between participation in agrifood markets, territorial clustering and inclusion outcomes, we estimate household-level panel regressions of the form

$$Y_{it} = \alpha_1 + \beta_1 Part_{it} + X'_{it}\gamma_1 + W'_{kt}\varphi_1 + \delta_i + \tau_t + \varepsilon_{it} \quad (1)$$

In equation (1) Y_{it} denotes one of the inclusion outcomes for household i at time t, such as the resilience index score, food consumption score, empowerment binary, poverty binary, log non-farm income cash, or the inclusion index. The variable $Part_{it}$is a binary indicator equal to 1 if a household either sold any crops or operated an MSME at any time in year t and zero otherwise. The term $X_{it}$is a vector of time-varying control variables such as the household head's age and gender, workforce years of education, household size, dependency ratio, cultivated area (ha.) and its squared value, and the share of off-farm income (with the latter omitted when Y_{it} is log non-farm income cash). The vector W_{kt} captures the meso-level control for road density, which is calculated at the lowest administrative level possible k, in many cases, districts. The household fixed effects δ_i account for time-invariant characteristics unique to each household, and the time fixed effects τ_t capture common shocks affecting all households at each time period. Finally, ε_{it} is the idiosyncratic error term. As the model includes household fixed effects, we employed cluster-robust standard errors at the household level to assess inference.

These estimates should be interpreted as associations rather than causal effects. Participation in crop markets and non-farm MSMEs is likely endogenous to inclusion outcomes, because better-off and more empowered households may be more able to commercialize or start enterprises, and because success in such activities can in turn improve wellbeing. Likewise, residence in a highly clustered territory is not random: more dynamic households may choose to locate in or remain in such areas, while public and private investments may target places with higher initial potential. The interaction between participation and clustering therefore captures how inclusion varies

across different household and territorial profiles, but it does not identify the impact of policy-induced changes in participation or cluster conditions.

1.2.3 Measurement and comparability limitations

Two caveats about data and measurement are important for interpreting the results. First, LSMS-ISA and national household surveys do not fully capture medium and large commercial farms, especially corporate farms and plantations. Our estimates of the contribution of SSPs to national production are therefore likely to be upper bounds, particularly in countries with more concentrated farm structures such as Mexico. Second, the construction of the Cluster and Inclusion indices involves combining different indicators across countries. This improves cross-country coverage but limits strict comparability. Wherever relevant, we highlight these limitations when interpreting cross-regional differences.

1.3 Demographics of rural producers

We compared the characteristics of rural household heads. Table 3 summarizes their years of schooling, age, the share of female-headed households and household size. Figures are averages from all available survey rounds. Chile uses “any member self-employed in agriculture” as a proxy for being a producer household for this analysis.

Rural producer households in the African sample are both more numerous and more structurally diverse than in Latin America. In Malawi and Uganda, around three-quarters of households in the rural sample are engaged in crop production (76 percent and 79 percent, respectively), and the share is still above 60 percent in Ethiopia and Tanzania. Ghana and Nigeria have lower but still substantial participation, around 40 and 70 percent, respectively. In contrast, only about one quarter of households are crop producers in El Salvador and Peru, 10 percent in Mexico, and just 2 percent in Chile, where we use self-employment in agriculture as a proxy. This confirms that in LAC, especially in Mexico and Chile, agriculture is already a niche activity within the rural population, even though the sector still provides essential jobs.

These households also differ in human capital and demographic profile. Heads of producer households in Ethiopia average only 2 years of education, and between 4 and 5 years in the other SSA countries, compared with 6 years in Peru and 7 years in Chile. Age differences are modest, with most household heads in their mid-forties to mid-fifties, but gender and household size show stronger contrasts. Female headship is relatively common among rural producers in Malawi, Tanzania, Uganda and El Salvador, where about 26 to 32 percent of households are headed by women. In comparison, Nigeria and Mexico have much lower shares of female-headed households at about 16 percent, and Chile around 12 percent. Producer households in SSA tend to be larger, with an average of 5 to 6 members, compared with 3 to 4 in Mexico and Chile. These patterns help explain why small-scale producers play different roles in rural labor markets across regions and why their capacity to respond to shocks may vary.

Table 3. Demographic characteristics of rural producers.

Country	Share of sample engaged in crop production (%)	Years of education	Age of head (years)	Female-headed households (%)	Household size
Ethiopia	60	2	46	20	5
Malawi	76	5	44	30	5
Tanzania	62	5	47	26	5
Uganda	79	5	48	32	6
Nigeria	70	4	53	16	6
Ghana	40	5	48	21	6
El Salvador	25	4	52	30	4
Peru	25	6	54	29	4
Mexico	10	4	56	16	4
Chile*	2	7	56	12	3

(*) Note: no crop production data available for Chile. We used "any member self-employed in agriculture" as a proxy.
Source: National household surveys for LAC, LSMS-ISA for SSA.

1.4 Structure of the report

The report is organized as follows: section 2 reviews the global and regional literature on agrifood systems and small-scale producers (SSPs), with special attention to the roles of SSPs, non-farm MSMEs and territorial clustering in SSA and LAC. Sections 3 to 7 present the core empirical results around five key messages. For each message, we first develop the narrative for Sub-Saharan Africa, using the LSMS-ISA panel data as the main empirical base, and then "check the story" in Latin America by examining whether similar patterns appear in El Salvador, Peru, Mexico and Chile, or whether structural change in that region has altered the role of SSPs and agrifood MSMEs. Section 3 shows that SSPs remain the backbone of food production; Section 4 documents their high levels of commercialization; Section 5 analyses SSPs' ownership and use of non-farm MSMEs in the agrifood system; Section 6 introduces and validates the Cluster Index to study the territorial concentration of commercial SSPs and agrifood enterprises; and Section 7 links clustering to inclusion outcomes through an Inclusion Index and econometric analysis. Section 8 then draws the comparative synthesis between SSA and LAC, summarizing where the African narrative holds in Latin America, where it diverges, and what this implies for policy, while Section 9 presents the references.

1.4.1 Key messages and main findings

The analysis is structured around five key messages. First, SSPs remain the backbone of food production in the six SSA countries and in Peru, although their contribution is much smaller in Mexico. Second, SSPs are highly commercial in both regions, with a clear majority selling crops

and many also purchasing modern inputs. Third, SSP households frequently operate non-farm MSMEs that are tightly linked to agrifood value chains and provide an important share of household income. Fourth, commercial SSPs (cSSPs) and agrifood MSMEs are spatially clustered in more dynamic territories, which host denser networks of farms and firms and create more jobs per enterprise. Fifth, clustering is broadly associated with higher inclusion, especially for households that engage in markets and MSMEs, though in some contexts, clusters mainly benefit participants while leaving non-participants behind.

In brief, we find that: (1) in SSA and Peru SSPs still account for most crop production, while in Mexico they contribute only a small share of national output; (2) in all countries most SSPs sell some crops and many also buy inputs, with only a small minority remaining fully as subsistence farmers; (3) between one fifth and one third of SSP households run non-farm MSMEs, and these enterprises generate a sizeable share of income and wage jobs, often with strong female ownership; (4) cSSPs and agrifood MSMEs are concentrated in territorially clustered agrifood economies where jobs per MSME are higher, especially in Mexico and Chile; and (5) rural households that sell crops or operate MSMEs tend to score higher on the Inclusion Index than similar non-participants, and in several countries living in more clustered territories is itself associated with higher inclusion, although in Ethiopia and Peru the gains are concentrated among participants.

2. LITERATURE REVIEW: GLOBAL AGRIFOOD SYSTEMS AND SMALLHOLDERS

Agrifood systems remain a core pillar of livelihoods and food security in low- and middle-income economies, even as structural transformation shifts labor out of agriculture. Globally, about one quarter of the labor force still works in agriculture, with shares far higher in low-income countries and in Sub-Saharan Africa (SSA) in particular (IFAD, 2016; World Bank, 2023). Recent evidence on farm structures highlights that more than 80 percent of the world's farms are smaller than 2 hectares, yet they control only a small share of land and produce roughly one third of global crop output (Lowder et al., 2021; Ricciardi et al., 2018). These small-scale producers (SSPs) and family farms are therefore numerically dominant and still very important for food supply, even if large farms capture increasing shares of land and output as countries grow.

At the same time, food system transformation is reshaping where value and jobs sit along value chains. Urbanization, income growth and diet change toward higher value and processed foods have expanded the role of storage, processing, logistics and modern retail, especially in Africa, Asia and Latin America (IFAD, 2016; Schneider, 2016). Reardon (2015) characterizes these midstream activities as the "hidden middle," showing that processing, wholesale and logistics account for 30 to 40 percent of agrifood value added in many developing countries and handle the bulk of marketed food. More recent work documents a "quiet revolution" driven by domestic small and medium enterprises (SMEs) in this midstream across regions, linking millions of SSPs to growing urban food markets (Reardon et al., 2021; Reardon et al., 2022; AGRA, 2024).

Within this global context, SSA and Latin America and the Caribbean (LAC) occupy different positions along the structural transformation path. In the six SSA focus countries, agriculture still accounts for a large share of employment and rural households remain predominantly farm based, while in the four LAC countries agriculture is a smaller share of GDP and jobs, though still central to rural livelihoods and food systems (Christiaensen & Demery, 2018; IFAD, 2016). The literature reviewed below connects these global debates to this Africa–LAC comparison, with a focus on five themes from the INCATA work: the centrality and commercialization of SSPs, their links to non-farm MSMEs in the hidden middle, and the spatial clustering of farms and firms and its implications for inclusion.

2.1 SSPs as the backbone of food production

As mentioned before, global farm structure studies show that small farms (under 2 hectares) represent around 84 percent of farms but operate only 12 percent of farmland and generate about 30–34 percent of the food supply, with higher shares in poorer, more agrarian regions (Ricciardi et al., 2018; Lowder et al., 2021). In SSA, LSMS-based analysis confirms that rural households are overwhelmingly engaged in crop production and that smallholder farms dominate the cultivated area (with the caveat that these surveys do not typically capture medium and large farms) in countries such as Ethiopia, Malawi, Tanzania and Uganda (Christiaensen & Demery, 2018). AGRA (2024) similarly stresses that micro and smallholder farms supply most domestically consumed staples in Africa, even as larger commercial farms expand in some zones. These findings are

consistent with the INCATA evidence that SSPs are the majority of producers and provide most crop output in the six SSA countries, particularly for maize and other cereals.

The literature also stresses the need to distinguish land distribution from output shares. In many SSA settings, smallholders cultivate most plots, and land is relatively less concentrated than in LAC, so their contribution to staple production is very large even when yields are modest (Christiaensen & Demery, 2018; IFAD, 2016). In LAC, Schneider (2016) reports that family farming accounts for about 40 percent of agricultural output and over 60 percent of agricultural employment in LAC, but with substantial heterogeneity: family farms dominate domestic food production in Andean countries such as Peru, while large farms have greater weight in Chile, parts of Mexico and Brazil.

These patterns largely confirm the INCATA message that SSPs are the backbone of food production in SSA and remain central in parts of LAC, particularly Peru. At the same time, the LAC literature highlights stronger land concentration and a larger role of large-scale, high-value export farms. This fact supports the report's notion that LAC resembles a "future" SSA in which SSPs still matter for staples and local markets, but the relative weight of large, capital-intensive farms is higher in land and export earnings than in headcounts.

2.2 Smallholder commercialization and market integration

A large body of work now questions the view of African smallholders as largely subsistence-oriented. Using LSMS-ISA data from multiple SSA countries, Carletto et al. (2017) show that rates of crop market participation are high, often above 70 to 80 percent, even among poorer and smaller landholders, though volumes sold per farm remain modest. In the same LSMS-based volume, Christiaensen and Demery (2018) document widespread purchase of modern inputs such as fertilizer and improved seed, again with substantial heterogeneity by country, crop, and wealth group. Together, these findings support the INCATA result that roughly two-thirds or more of SSPs in the six SSA countries sell some crop output and that many also buy modern inputs: smallholders are neither fully commercial nor purely subsistence, but engage in both markets in diversified ways.

Commercialization is linked to income growth but not automatically to improved nutrition or resilience. Carletto et al. (2017) find little systematic evidence that higher commercialization rates translate into better child nutrition across three African countries, reflecting complex intra-household allocation and price risks.

For LAC, much of the literature predates the recent data revolution but still paints a picture of smallholders that are deeply embedded in markets. Reardon, Berdegué, and Escobar (2001) document that rural households in Mexico, Chile, and other LAC countries combine own-consumption farming with significant sales of crops and livestock, alongside non-farm income sources. Case studies from Peru and other Andean countries show high commercialization in coffee, horticulture and dairy among small family farms linked to dynamic domestic and export markets (Escobal et al., 2015; Schneider, 2016). However, LAC literature also stresses that commercialization is often more intensive for higher value crops and better-off farmers, while

staple producers in marginal areas may remain partly semi-subsistence.

Trade patterns amplify these differences. FAOSTAT trade data show that many SSA countries have remained relatively close to cereal self-sufficiency, with Malawi and Tanzania frequently net exporters of maize. In contrast, several LAC countries have become structurally dependent on cereal imports while exporting high-value agrifood products (FAO, 2025). Hellegers (2022) highlights how reliance on imports from a narrow set of suppliers creates vulnerability to external shocks, as illustrated by the Russia-Ukraine war. These patterns support the report's interpretation that LAC agrifood systems are more globally integrated and export-oriented, yet more exposed to cereal price shocks. In contrast, SSA's commercialization is more domestically oriented around staples.

2.3 SSPs, non-farm MSMEs and the hidden middle

Midstream and downstream segments of the agrifood value chain have become central nodes in the food systems of developing countries. Processing, wholesale, transport, and retail activities now account for much of the growth in food economies, are highly labor-intensive, and are often dominated by informal MSMEs that handle the bulk of food flowing from farms to towns and cities, invest in cold storage and logistics, and influence quality standards and price transmission. Evidence from Africa and Asia shows that these firms are predominantly domestically owned, densely clustered around medium and large cities, and generate substantial employment for women and youth (Reardon et al., 2021; Reardon et al., 2022). Building on this, AGRA (2024) argues that African agrifood MSMEs constitute the backbone of domestic food economies, managing a large share of rural and urban food consumption while linking small-scale producers (SSPs) to downstream markets. This set of midstream and downstream MSMEs has come to be conceptualized as the "hidden middle" of agrifood systems (Reardon, 2015; Reardon et al., 2021).

These MSMEs are closely tied to SSP households. In SSA, analysis of LSMS-ISA data shows that non-farm enterprises are common in rural areas and that many are owned by farm households, especially in trade, small-scale processing, and services (Nagler & Naudé, 2018, in Christiaensen & Demery, 2018). Such enterprises often rely on agriculture, either directly by processing or trading farm products, or indirectly by serving farming communities. In LAC, Reardon et al. (2001) document similar patterns, with rural non-farm employment and enterprises contributing a significant share of household income and often linked to agrifood value chains. The literature on family farming in LAC also underlines that smallholders diversify into small shops, food stalls, and processing units as a way to stabilize incomes and manage risk (Schneider, 2016).

2.4 Clustering, spatial dynamics and inclusión

Spatial clustering of farms and enterprises is a recurrent theme in both African and LAC literature. Escobal et al. (2015) analyze rural territories in Ecuador, Peru, and Chile and show that those better linked to dynamic markets through infrastructure, dense networks of producers and firms, and effective local governance enjoy higher productivity, more non-farm employment, and lower poverty. Their rural territorial development perspective draws on new economic geography and economic sociology to argue that agglomeration economies, learning, and coordination help

"thicken" value chains and can make growth more inclusive when combined with policies that ensure broad access to assets and information.

Similar mechanisms are observed in SSA. In the LSMS-based studies synthesized by Christiaensen and Demery (2018), households closer to towns and markets have higher rates of input use, commercialization and non-farm enterprise ownership, while remote areas face higher price volatility and lower access to services. AGRA (2024) notes that agrifood MSMEs tend to cluster around secondary cities and along transport corridors, where they can source from nearby SSPs and serve both rural and urban consumers. Micro-level work such as Conley and Udry (2010) shows how social learning within dense farmer networks speeds the diffusion of new technologies, illustrating one channel through which clustering can raise productivity.

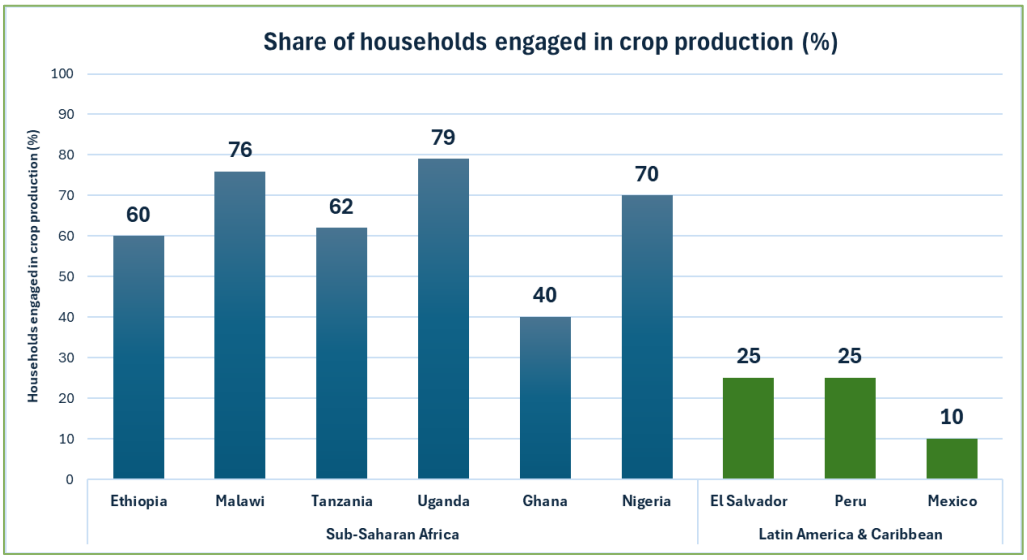
The link from clustering to inclusion outcomes is often assessed through multi-dimensional indices. FAO's RIMA-II provides a framework to measure household resilience capacity across pillars such as productive assets, access to services, social safety nets and adaptive capacity (FAO, 2016). WFP's Food Consumption Score and related indicators capture food security status (WFP, 2015; WFP, 2025). The WEAI offers a complementary metric of women's empowerment (Alkire et al., 2013).Studies using these tools, including case work underlying IFAD's Rural Development Report 2016, generally find that households in better connected territories and agrifood clusters have higher resilience, better food security and greater women's empowerment, although inequality within territories can persist (IFAD, 2016). This pattern is consistent with the INCATA Cluster and Inclusion Index results, which find that more clustered zones in both SSA and LAC tend to show better welfare and inclusion outcomes, while also revealing country-specific exceptions where clusters are exclusive or dominated by capital-intensive actors.

Overall, the literature supports the INCATA report's five messages. SSPs remain central to food production, are more commercial than the old subsistence image suggests, are deeply entangled with non-farm MSMEs in the hidden middle and tend to thrive in territorially clustered agrifood systems. At the same time, both African and LAC experiences underline that whether these dynamics lead to inclusive outcomes depends on how trade, territorial development and private-sector growth are governed, and on whether clusters are shaped to work for, rather than around, small-scale producers.

3. KEY MESSAGE 1 – SSPS ARE THE BACKBONE OF FOOD PRODUCTION

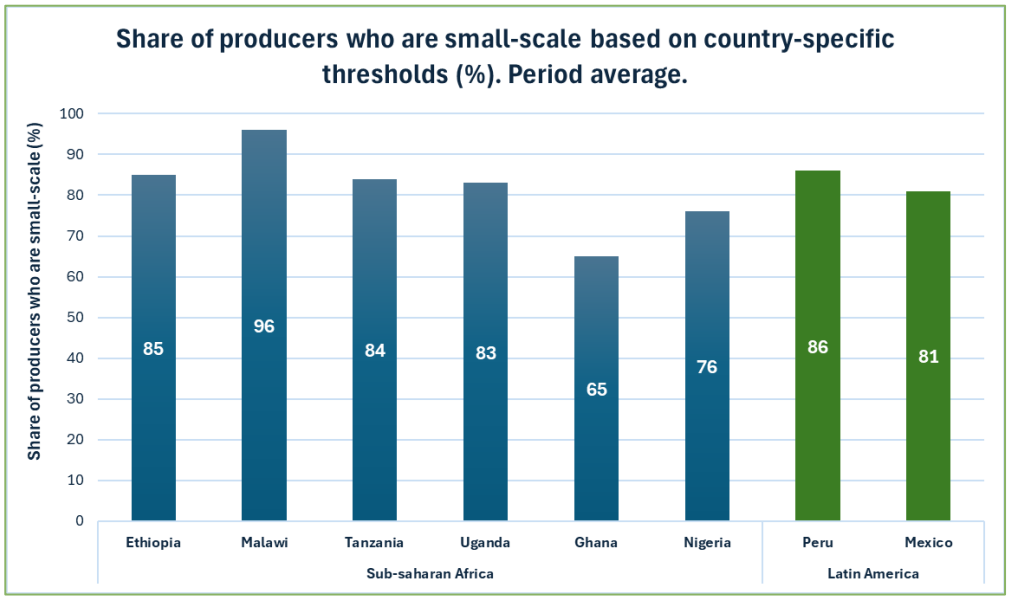
The three opening figures clearly show that small-scale producers underpin crop production. A large share of households in sub-Saharan African countries still farm, whereas only a minority do so in the Latin American cases. Among those who farm, smallholders dominate: they account for about 96 % of crop producers in Malawi and roughly 85 % in Ethiopia, Tanzania and Uganda, and even in more urbanized Ghana and Nigeria they still make up 65–76 % of producers. Their importance is not just numeric; small farms supply most of the food. When commercial and non-commercial small-scale producers are combined, they generate around 79 % of total crop output in Ethiopia, 73 % in Malawi, 72 % in Tanzania, 87 % in Uganda, 62 % in Ghana and 75 % in Nigeria. Peru exhibits a similar pattern: about 75 % of Peruvian farmers cultivate less than two hectares, roughly 86 % farm less than five hectares, and these smallholders produce about 70 % of national crop output. Together these findings highlight that small-scale farms are numerous, they contribute most of the food, and they do so while operating on very small plots.

Figure 1. Share of all households that are engaged in crop production, by country (%).



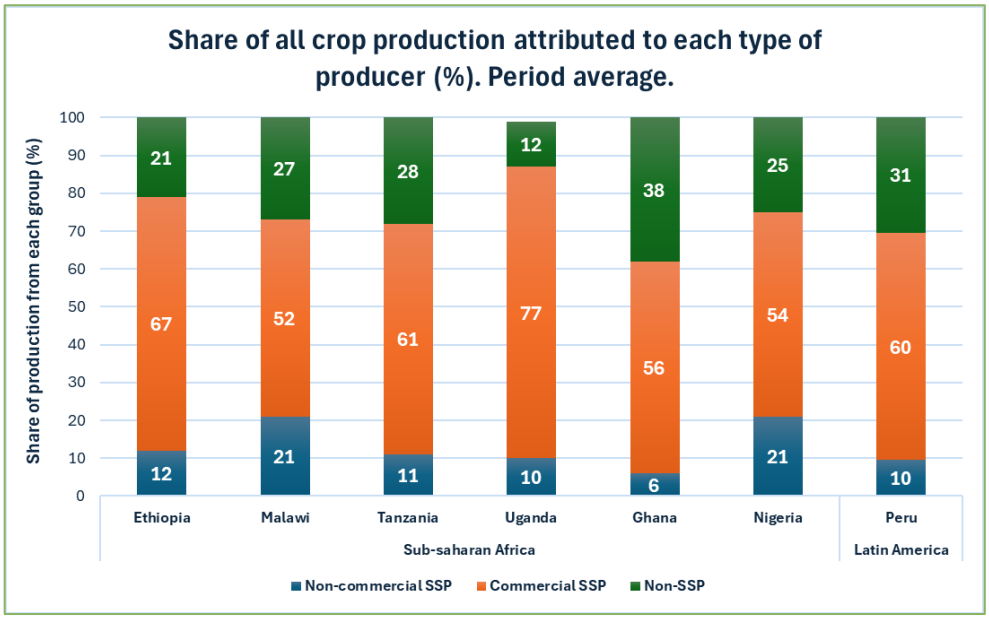
Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

Figure 2. Share of crop producers who are small-scale, by country (%).



Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and ENAHO 2015–2023 (Peru), and data for Mexico comes from INEGI, 2024.

Figure 3. Share of all crop production that is attributed to producers based on scale and market orientation, by country (%).



Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and ENAHO 2015–2023 (Peru).

3.1 Evidence from Sub-Saharan Africa

Survey evidence from six Sub-Saharan African countries shows that small-scale producers (SSPs), defined using country-specific land thresholds in Figure 2, typically around 2 hectares of cultivated land, account for most crop producers. They represent 96 percent of crop producers in Malawi and about 85 percent in Ethiopia, Tanzania, and Uganda. Even in more urbanized countries such as Ghana and Nigeria they still make up 65 and 76 percent of producers, respectively. On average, more than four out of five crop producers in the African sample are small-scale.

SSPs also generate most of the region's crop output (Figure 3). Combining non-commercial and commercial SSPs, they account for about 79 percent of total crop production in Ethiopia, 73 percent in Malawi, 72 percent in Tanzania, 87 percent in Uganda, 62 percent in Ghana, and 75 percent in Nigeria, which is roughly three-quarters of all output across the six countries. Larger non-SSP farms contribute the remaining quarter, with their share ranging from only 12 percent in Uganda to 38 percent in Ghana.

Within the smallholder sector, commercial SSPs are the leading suppliers of food. Non-commercial SSPs, who do not sell crops, contribute only between 6 and 21 percent of total production by country, while commercial SSPs alone account for between 52 percent of total output in Malawi and 77 percent in Uganda. Put differently, commercial SSPs generate around 80 percent of all smallholder production, and close to 90 percent in Ghana and Uganda. These figures confirm that African food systems are built on small family farms and that most of what they produce already enters markets.

3.2 Checking the Narrative in Latin America

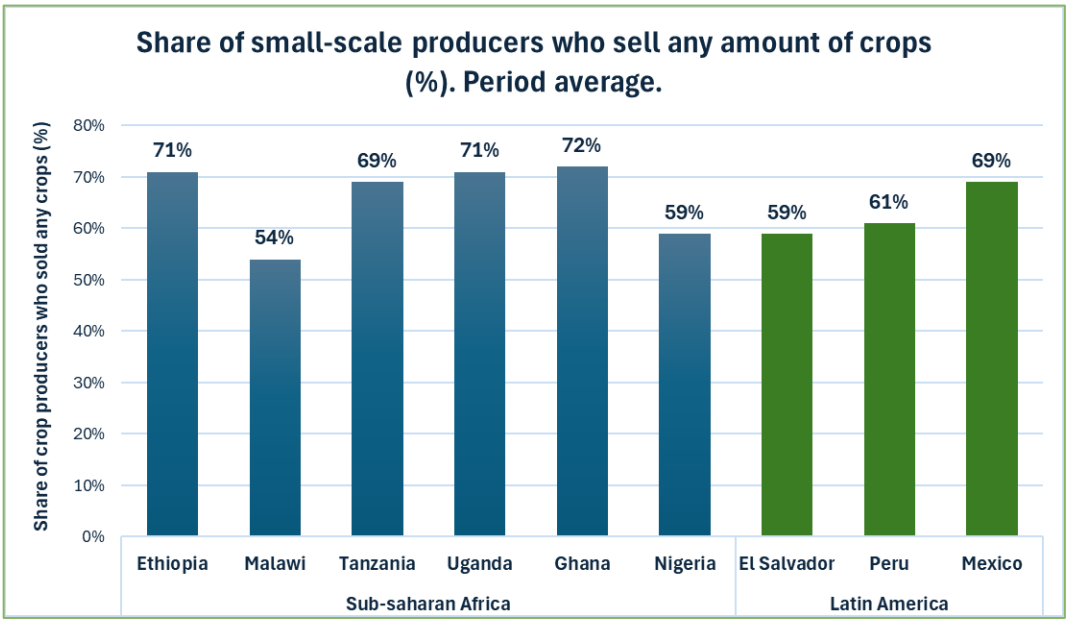
In Latin America the picture is different in scale but similar in structure. Detailed land-holding information is available only for Peru, where roughly 75% of producers cultivate less than two hectares and 86% farm less than five hectares (Figure 2). These smallholders dominate production: small-scale farms produce about 70% of all crop output in Peru (Figure 3) and account for about 86% of all producers under the country-specific definition of less than five hectares. In Mexico, the lack of data on cultivated land area makes classification not comparable. However, using the 2019 National Agricultural Survey, Ibarrola-Rivas et al. (2023) estimate that Mexican small farms, defined mainly as those with less than 5 hectares of cropland, account for 19 percent of total agricultural production and 15 percent of the domestic agricultural supply. Limited evidence may suggest a rapid transition into a food-production, large-scale-dominated landscape in Latin America.

It is important to remember the fact that our surveys (LSMS-ISA, GLSS and ENAHO) do not likely capture the entirety (if not any) of the largest farms so that results may be skewed in favor of smaller farms.

4. KEY MESSAGE 2 – SSPS ARE HIGHLY COMMERCIAL

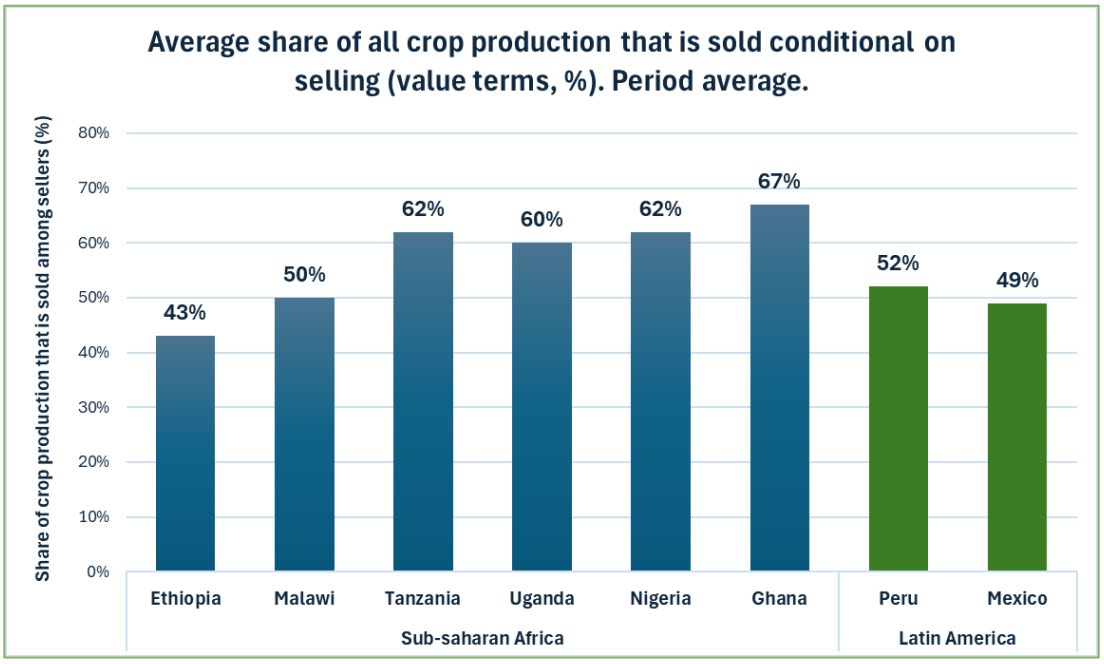
Figure 4–6 show that small-scale producers in both regions are far more commercially engaged than conventional stereotypes suggest. In Africa, survey data reveal that a clear majority of smallholders sell some of their crops; even in the lowest-selling country, more than half of farmers participate in output markets. Among those who do sell, they typically market around half or more of their harvest, with somewhat lower shares in the poorest countries and higher shares in more diversified economies. Market engagement also extends to the input side: more than half of smallholders simultaneously buy agricultural inputs and sell crops, and only a small minority remain autarkic. These patterns hold in Latin America, where roughly two-thirds of smallholders sell part of their harvest and where most sellers market about half of what they produce. Across the board, small-scale farmers are therefore active participants in both input and output markets, rather than subsistence-oriented producers.

Figure 4. Share of all SSPs that sell any amount of crops, by country (%).



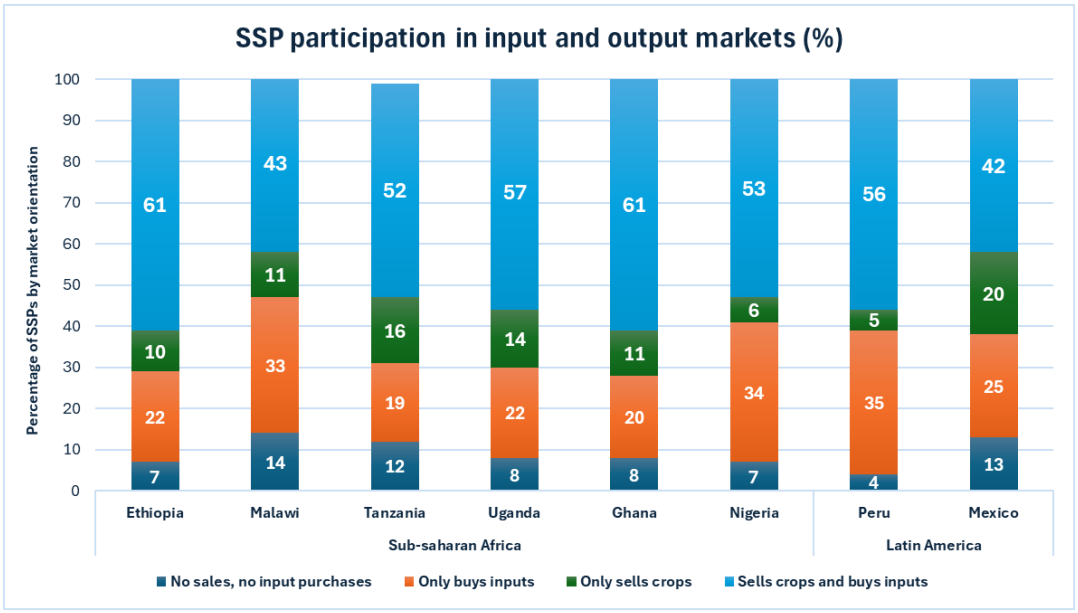
Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

Figure 5. Share of all crops produced that are sold (in value terms), by country (%).



Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

Figure 6. Distribution of SSPs based on input purchases and crop sales, by country (%).



Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

4.1 Evidence from Sub-Saharan Africa

Contrary to the conventional wisdom of smallholders as subsistence farmers, the African data reveal a high degree of market engagement among SSPs. Based on Figure 4, at least two-thirds of small-scale farmers sell some of their crops in every country analyzed. The proportion of SSPs that sell harvests ranges from 54% in low-income countries such as Malawi to 72% in higher-income Ghana. In Ethiopia, Tanzania, and Uganda, the ratios are similar (71%), and in Nigeria, we observe 59%. We do not see a clear pattern along income strata, but most countries have consistently high shares of SSPs engaged in output markets.

While the average commercialization rate is high, the intensity of market participation varies significantly by country context. According to Figure 5, in lower-income economies like Ethiopia and Malawi, commercial SSPs sell roughly 43% and 50% of their output value, respectively. This suggests that even among sellers, a significant portion of production is retained for home consumption. In the middle-income stratum, Tanzania and Uganda sell around 61% of their total production. Finally, in the more diversified economies of Nigeria and Ghana, commercial SSPs market 62% and 67% of their total production value.

This intensity of commercialization has increased over time, especially in low-income countries, suggesting a gradual catching-up. Market connectedness goes beyond selling. Approximately 56% of SSPs both buy agricultural inputs and sell crops at the same time (Figure 6), forming a fully connected group, whereas fewer than 14% neither purchase inputs nor sell output. Farmers who do not engage with markets – the subsistence group – cultivate smaller holdings and tend to be poorer; in Malawi, for example, subsistence SSPs are about 20 percentage points more likely to be poor than their fully connected counterparts.

The depth of market integration, defined as simultaneously selling crops and purchasing modern inputs is most pronounced in Ethiopia and Nigeria, where 61% of small-scale producers interact with markets on both sides. This challenges the stereotype of the autarkic farmer; the majority are buying agricultural inputs such as seeds, fertilizers and pesticides, whilst also selling crops. Malawi is the country with the highest rate of autarky (14%) and lowest SSPs in the fully connected group (43%), where 33% only buy inputs with no sales.

4.2 Checking the Narrative in Latin America

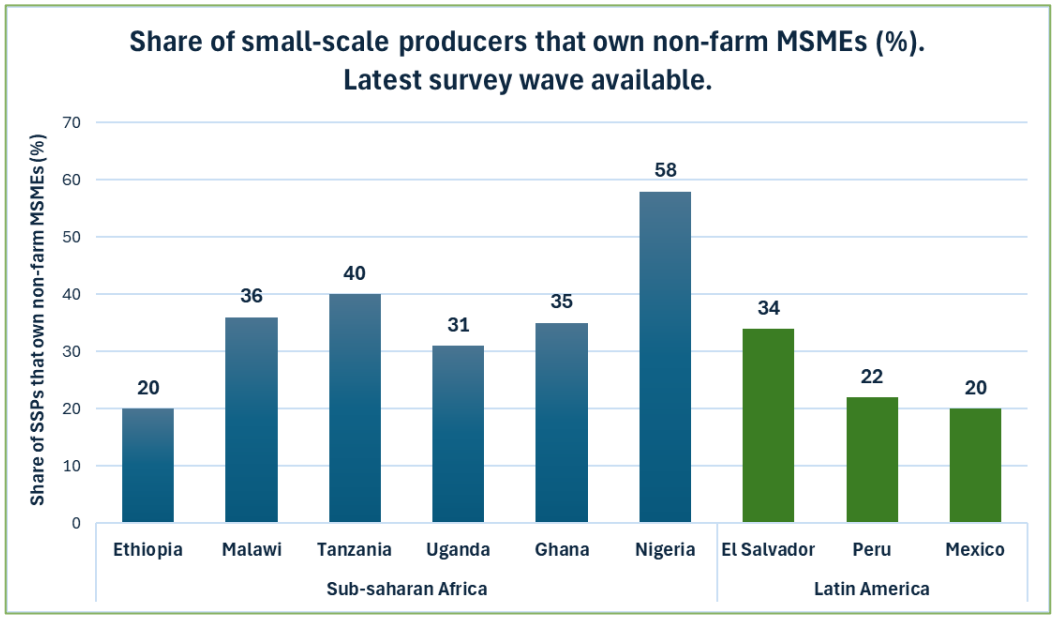
The patterns observed in Latin America are very similar. Roughly two-thirds of crop producers in the analyzed countries sell some of their harvest based on Figure 4 (59% in El Salvador, 63% in Peru and 69% in Mexico), and these shares have remained relatively stable since the mid-2010s. The commercialization intensity among sellers is comparable to Africa: in Peru, crop sellers' market about 52% of their total production value, while in Mexico, the corresponding share is around 50% (Figure 5). Market engagement also extends to the input side. In both Peru and Mexico, about 56% and 42% of producers simultaneously purchase agricultural inputs and sell crops, respectively, 35% and 25% buy inputs without selling, a small share sells without buying, and only a tiny minority in Peru neither buys nor sells (4%). Still, this value goes up to 13% in

Mexico, highlighting differences among these two economies (Figure 6). These distributions mirror the African evidence and show that, across regions, small-scale producers are far more integrated into markets than conventional wisdom suggests.

5. KEY MESSAGE 3 – SSPS OPERATE NON-FARM MSMES

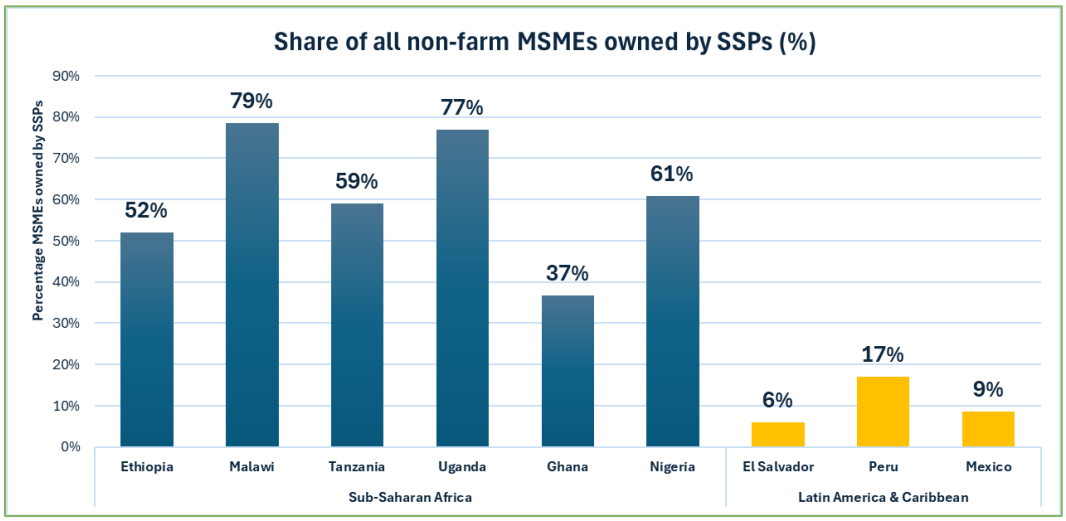
Figures 7–10 highlight that smallholders are not only farmers but also entrepreneurs. A sizeable share of small-scale producers operate non-farm micro-, small- and medium-sized enterprises (MSMEs), with roughly one-fifth to one-half doing so in the African countries studied. These households own a large share of rural non-farm MSMEs—often the majority—meaning that crop-producing smallholders are central players in local economies. Income data show that non-farm businesses provide a meaningful share of household resources: MSME earnings account for a sizeable portion of total income and complement crop and livestock revenue, while wage employment and remittances also play important roles. Gender patterns matter too: male-owned firms are more likely to hire workers, but women own a large share of food-retail and agri-midstream enterprises and contribute significantly to rural employment. Latin American evidence mirrors these themes—around one-fifth to one-third of smallholders run non-farm businesses, their enterprises make up a noticeable share of all MSMEs, and these activities form an important part of household income. Together, the figures underscore that small-scale farmers engage deeply with markets and operate diverse non-farm enterprises, reinforcing their central role in both the production and business sides of rural economies.

Figure 7. Share of SSPs that operate non-farm MSMEs, by country (%).



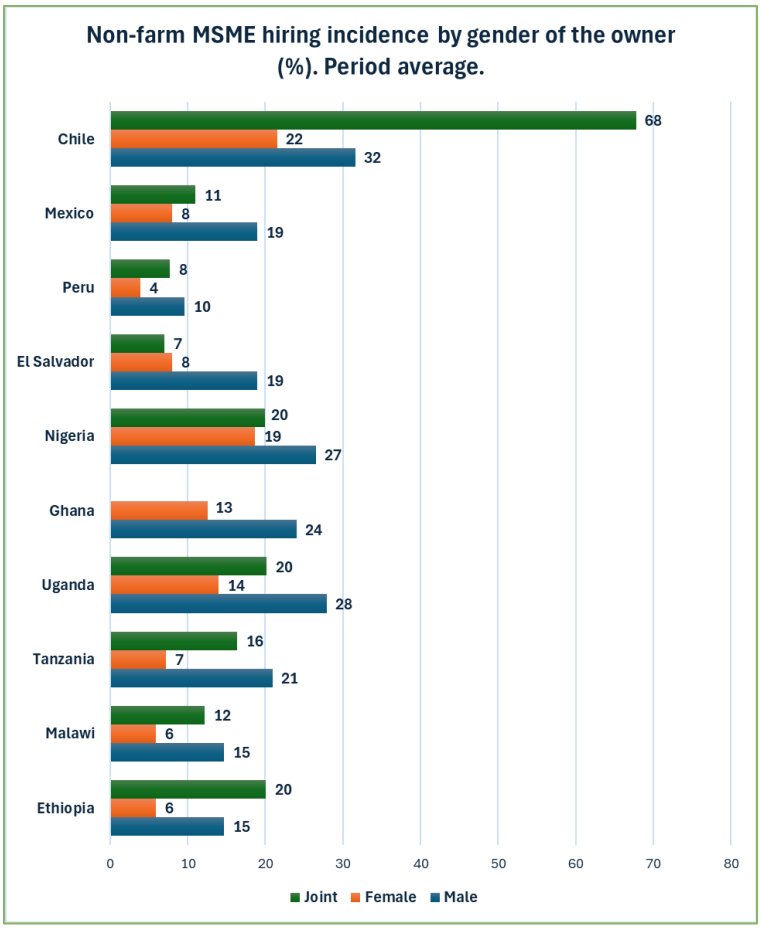
Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

Figure 8. Share of all non-farm MSMEs operated by SSP households, by country (%).



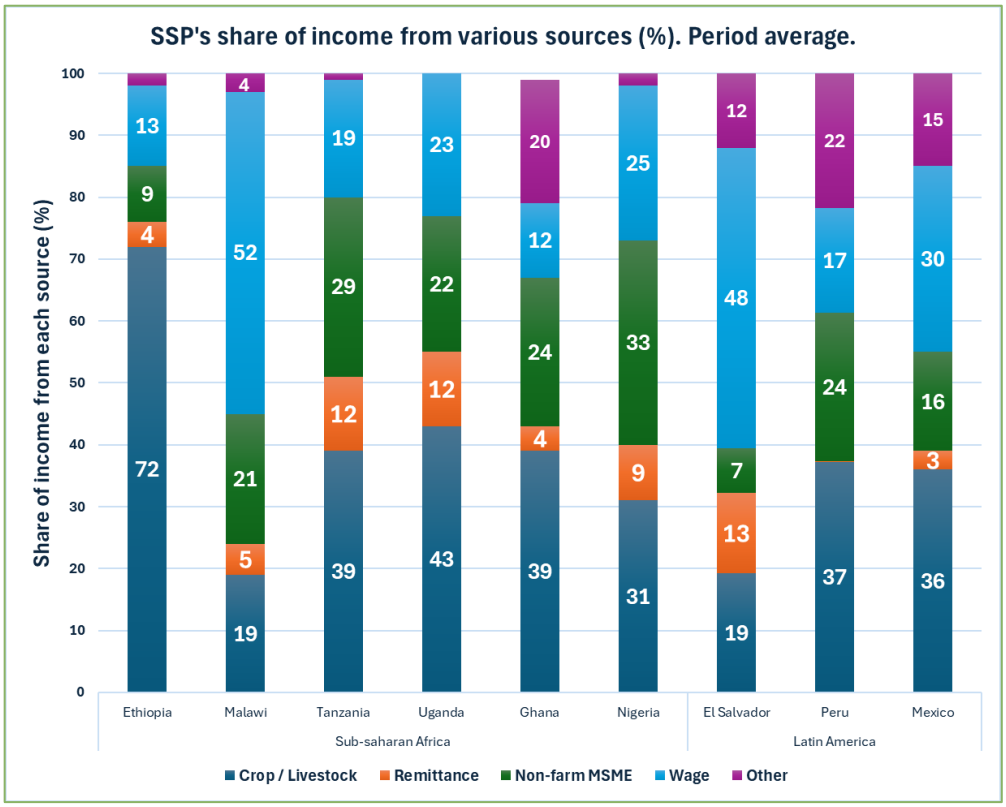
Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

Figure 9. Non-farm MSMEs in the agrifood value chain that hire any external labor based on gender of the owner (%).



Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

Figure 10. SSPs' income distribution, by country (%).



Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

5.1 Conceptual Background and Definitions

In developing countries, the term midstream and downstream micro-, small- and medium-sized enterprises (MSMEs) refer to the position of businesses within the food value chain. Reardon and colleagues (2021) define *midstream* MSMEs as business-to-business (B2B) entities such as food processors and wholesale firms that buy crops or livestock products from producers and sell them to other businesses (in reality, they also market to final consumers). In contrast, *downstream* MSMEs are business-to-consumer (B2C) enterprises such as vendors at traditional markets, street-food sellers or small retailers who sell food directly to consumers. Midstream operators may also engage in retailing, while downstream firms sometimes do light processing (e.g., preparing street food before sale). The Africa Agriculture Status Report adds that the value chain can also be divided into *lateral* segments—services such as logistics, packaging, or equipment repair that support both midstream and downstream stages (AGRA, 2024). Among *small-scale producers* (SSPs), many farmers in Africa and Latin America operate non-farm MSMEs either to process and sell their own produce or to diversify their income.

5.2 Evidence from Sub-Saharan Africa

Analysis of recent LSMS-ISA data shows that non-farm entrepreneurship is widespread among African smallholders, though its intensity varies by country. Among small-scale producers (Figure 7), 20 percent in Ethiopia, 36 percent in Malawi, 40 percent in Tanzania, 31 percent in Uganda, 35 percent in Ghana, and 58 percent in Nigeria own at least one non-farm MSME. On average across the six countries, roughly one-third of producers operate a non-farm enterprise. These same households also own a large share of all non-farm MSMEs active in rural areas (Figure 8): small-scale producers account for 52 percent of non-farm MSMEs in Ethiopia, 79 percent in Malawi, 59 percent in Tanzania, 77 percent in Uganda, 37 percent in Ghana, and 61 percent in Nigeria. Except in Ghana, more than half of non-farm MSMEs are therefore owned by crop-producing smallholders.

These businesses are central to household livelihoods. Figure 10 shows that, when combining crops and livestock, farm production accounts for an average of about 41 percent of total household income across the six African countries. Still, with substantial variation: the farm share is 72 percent in Ethiopia, 43 percent in Uganda, 39 percent in Tanzania and Ghana, 31 percent in Nigeria, and only 19 percent in Malawi. Income from non-farm MSMEs contributes 9 percent of household income in Ethiopia, 21 percent in Malawi, 29 percent in Tanzania, 22 percent in Uganda, 24 percent in Ghana, and 33 percent in Nigeria. Wage employment, which includes both agricultural and non-agricultural work and casual farm labor, adds a further 13 percent in Ethiopia, 52 percent in Malawi, 19 percent in Tanzania, 23 percent in Uganda, 12 percent in Ghana, and 25 percent in Nigeria. Remittances range from 4 percent of income in Ethiopia and Ghana to 12 percent in Tanzania and Uganda, with Malawi at 5 percent and Nigeria at 9 percent. Other income sources remain small in most countries. Within the combined crop-livestock category, crop sales represent around 90 percent of income in all countries except Ethiopia, where crops and livestock each contribute about 36 percent of total household income. In Malawi, almost 80 percent of wage earnings for small-scale producer households come from casual “ganyu” work on other farms, underscoring the importance of labor markets for these households.

There are also marked gender differences in MSME operations, as seen in Figure 9. Across the African countries, the share of male-owned MSMEs that hire paid workers ranges from 15 percent in Ethiopia and Malawi to 21 percent in Tanzania, 24 percent in Ghana, 27 percent in Nigeria and 28 percent in Uganda. Hiring incidence is consistently lower among female-owned firms: 6 percent in Ethiopia and Malawi, 7 percent in Tanzania, 13 percent in Ghana, 14 percent in Uganda and 19 percent in Nigeria. Jointly owned MSMEs fall in between, with hiring rates of 20 percent in Ethiopia, 12 percent in Malawi, 16 percent in Tanzania, 20 percent in Uganda and 20 percent in Nigeria. In Nigeria and Ethiopia, however, the female-owned firms that do hire workers account for a sizeable share of wage jobs, roughly 18 percent and 35 percent of all workers in MSMEs in each country. Looking across value chain segments, women own around 68 percent of food-retail MSMEs and about 75 percent of agrifood-midstream MSMEs in the six African countries. Female-owned enterprises generate about 52 percent of food-retail wage jobs and 47 percent of agri-midstream jobs. In Ghana and Nigeria, female-owned businesses clearly dominate: they provide about 62 percent of food-retail jobs and around 69 percent and 60 percent of midstream jobs, respectively. Malawi also shows a strong female presence in midstream, with women owners

creating roughly 59 percent of agri-midstream jobs, although their share in food retail is lower at about 37 percent. In contrast, in Ethiopia and Uganda female-owned firms generate only about 28 and 32 percent of food-retail jobs and about 20 percent of agri-midstream jobs in each country, pointing to a more male-dominated ownership and employment structure in those segments.

5.3 Checking the Narrative in Latin America

Data from Central American and Andean countries point to related patterns. In El Salvador, 34 percent of crop-producing households operate a non-farm MSME. The corresponding shares are 22 percent in Peru and 20 percent in Mexico, so roughly one in five to one in three smallholders in these countries are also non-farm entrepreneurs (Figure 7). Small-scale producers own a non-negligible share of all non-farm MSMEs: 6 percent in El Salvador, 17 percent in Peru and 9 percent in Mexico (Figure 8).

Household income is also highly diversified, as presented in Figure 10. Crop and livestock income accounts for 19 percent of total income in El Salvador, 37 percent in Peru, and 36 percent in Mexico. Non-farm MSME activities contribute 7 percent of income in El Salvador, 24 percent in Peru, and 16 percent in Mexico. Wage employment is the single largest income source in El Salvador at 48 percent of household income, and it also plays a vital role in Mexico (30 percent) and Peru (17 percent). Remittances bring in 13 percent of income in El Salvador, are essentially zero in Peru, and represent about 3 percent in Mexico. Other income sources, such as transfers and rentals, account for 12 percent in El Salvador, 22 percent in Peru, and 15 percent in Mexico. Overall, this means that in El Salvador, more than four-fifths of income comes from non-farm sources, while in Peru and Mexico, farm income accounts for about one-third of household resources, with the rest coming mainly from wage work and non-farm MSMEs. These patterns confirm that high commercial engagement and non-farm business activity among smallholders are not specific to Africa.

Gender patterns in MSME activity in Latin America are also heterogeneous. Based on Figure 9, Male-owned firms are more likely to hire paid workers than female-owned firms in all four countries with hiring data. Among male-owned MSMEs, 19 percent in El Salvador and Mexico, 10 percent in Peru, and 32 percent in Chile employ at least one paid worker. Among female-owned MSMEs, the corresponding shares are 8 percent in El Salvador, 4 percent in Peru, 8 percent in Mexico, and 22 percent in Chile. Jointly owned enterprises are less likely to hire in El Salvador, Peru, and Mexico, with hiring incidences of 7, 8, and 11 percent, but much more potential in Chile, where 68 percent of joint firms have paid employees. Pooling Mexico, Peru, El Salvador and Chile, women own about 73 percent of food-retail MSMEs and 63 percent of agri-midstream MSMEs. Female ownership in food retail is particularly high in Peru (about 86 percent of firms) and El Salvador (around 80 percent), remains strong in Mexico (roughly 66 percent), and is closer to parity in Chile (about 55 percent). In the agri-midstream segment, women still hold most firms in all four countries, with female shares of roughly 71 percent in Peru, 75 percent in El Salvador, 61 percent in Mexico, and about 55 percent in Chile.

If we look instead at employment generated by those firms, female-owned enterprises account for about 51 percent of food-retail jobs and 35 percent of agri-midstream jobs across LAC. Again, the

pattern differs by country: female-owned food-retail firms generate around 53 percent of jobs in Mexico and Peru, about 71 percent in El Salvador, and about 44 percent in Chile. In the agri-midstream, women's role as employers is more modest than their ownership shares would suggest: female-owned firms create only about 32 percent of midstream jobs in Mexico, 30 percent in Peru, 56 percent in El Salvador, and 35 percent in Chile, indicating that male- and jointly owned enterprises tend to be larger employers on average in this segment, especially in Mexico and Peru.

6. KEY MESSAGE 4 – CSSPS AND MSMES ARE CLUSTERED

6.1 cSSPs and MSMEs are Clustered

To assess how concentrated, dynamic and interconnected the agrifood actors are within each territory, we developed a robust Cluster Index. The technical construction and validation of this index are detailed in the Annex (section titled "Cluster Index). In essence, the index combines several indicators to gauge the density and dynamism of the agrifood value chain in each territorial unit.

For this section, we use the Cluster Index to group territories within each country into three weighted tertiles (low, medium and high clustering). The Cluster Index ranges from 0 to 1 and is defined at territorial units that are between a county and a region in size. For each tertile, pooling all survey waves and using survey weights, we sum the total number of jobs in non-farm MSMEs and divide this by the total number of non-farm MSMEs in that tertile. This gives a jobs-per-MSME ratio for low, medium and high cluster territories, which we then use to test whether more dynamic and connected agrifood regions generate more jobs per non-farm enterprise.

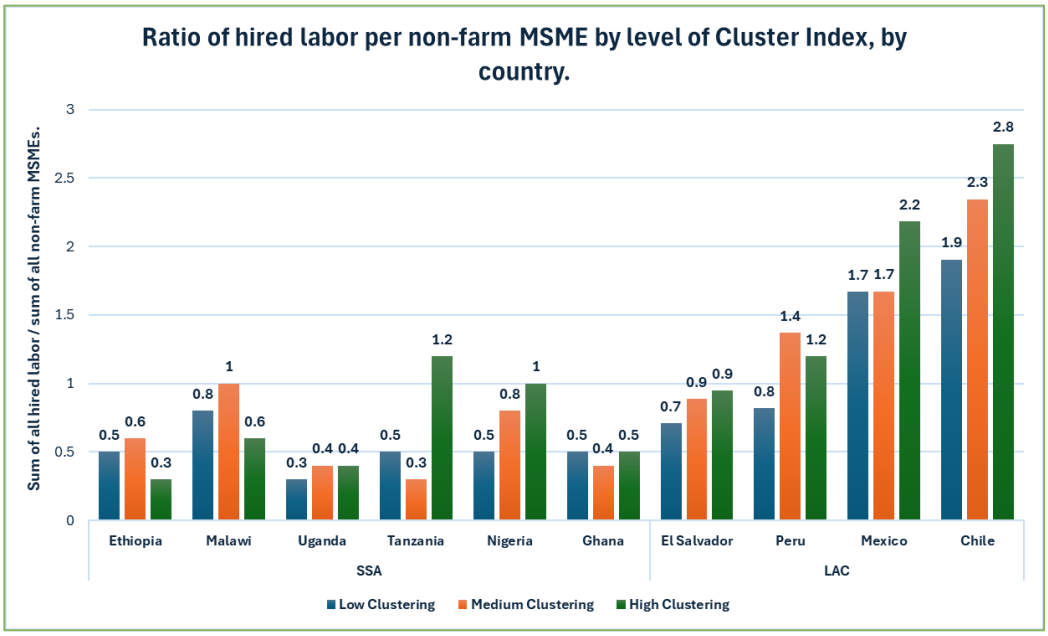
6.2 Job Creation in Agrifood Clusters

Across our ten countries (Figure 12), non-farm MSMEs located in more dynamic and connected agrifood regions generate more jobs per MSME (in most cases, either medium- or high-clustering). In low-cluster areas of SSA, each non-farm MSME employs roughly half a worker on average (about 0.3–0.8 jobs per firm across Ethiopia, Malawi, Uganda, Tanzania, Nigeria and Ghana), and moving to high-cluster regions only modestly raises this ratio in most cases, with clearer jumps in Tanzania and Nigeria, and observe an inverted U-shape in Ethiopia and Malawi (lowest income countries), where medium clustering observes most jobs per MSME.

In LAC, by contrast, both the overall level and the gradient are steeper: in El Salvador and Peru, the ratio rises from about 0.7–0.8 jobs per MSME in low-cluster regions to around 0.9–1.4 in medium and high clusters, while in Mexico and Chile it climbs from roughly 1.7–1.9 to 2.2–2.8 jobs per MSME as we move from low- to high-cluster regions. These patterns are consistent with broader evidence that spatial agglomeration and clustering of enterprises are associated with higher employment, productivity and growth for small firms, as firms benefit from shared infrastructure, denser input and output markets, and knowledge spillovers (Bolter & Robey, 2020; Timmis, J. et al., 2021; Nathan & Overman, 2013). Studies of agrifood service MSMEs and rural

non-farm enterprises similarly show that "spontaneous clusters" of agrifood firms and service providers can create substantial local employment multipliers and facilitate the expansion of commercial smallholders and value-chain linkages (Nagler & Naudé, 2017; Reardon, 2007; Reardon et al., 2024; World Bank, 2014; Wu et al., 2021).

Figure 12. Jobs generated per non-farm MSME by tertile of Cluster Index at the national level.

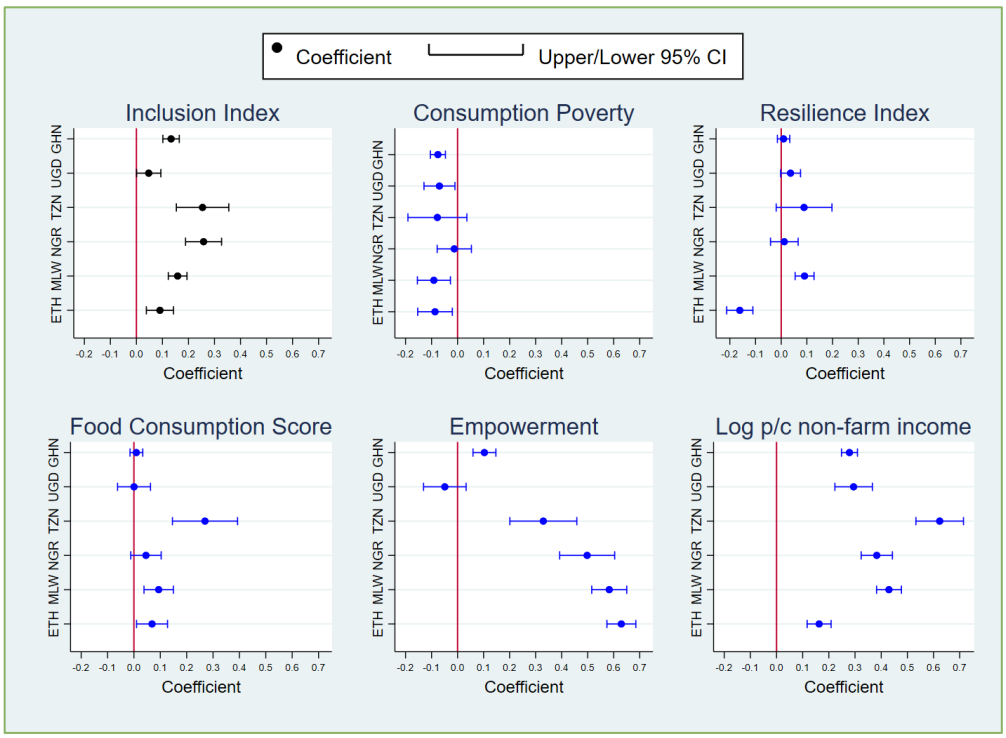


Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

7. KEY MESSAGE 5 – CLUSTERING BENEFITS: WELLBEING AND OPPORTUNITIES FOR CSSPS

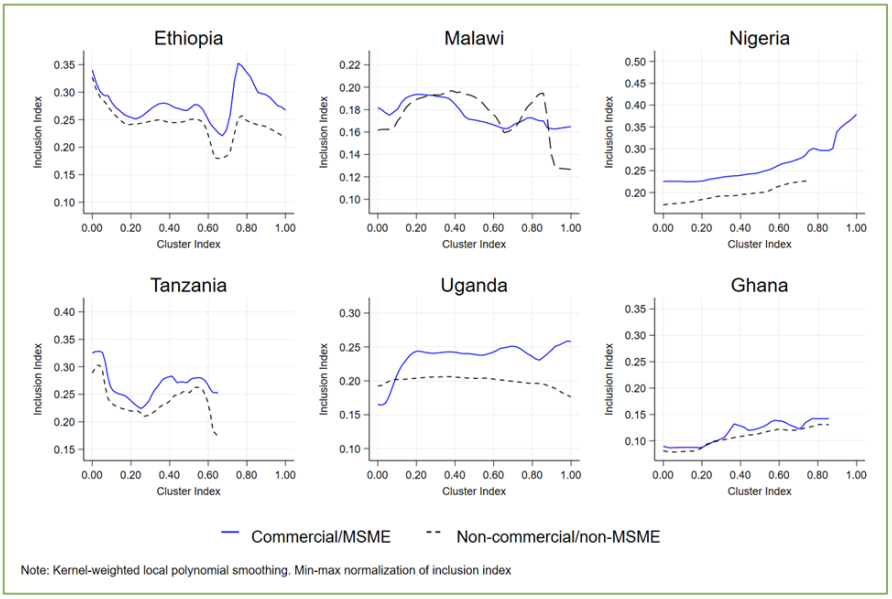
To assess whether clustering translates into better livelihoods, we construct an Inclusion Index. In sub-Saharan Africa, this index combines six indicators: the Food Consumption Score, the Women's Empowerment in Agriculture Index (AWEAI), a resilience index developed by the FAO, and the natural logarithms of farm income per capita and consumption expenditures per capita (which we use to measure monetary poverty). The Food Consumption Score is a composite indicator of household food security; it measures dietary diversity, consumption frequency, and the relative nutritional value of eight food groups (WFP, 2025). The AWEAI captures women's decision-making power and access to resources (Alkire, S., et al., 2013), while the resilience index reflects households' ability to cope with shocks (FAO, 2016). Each indicator is standardized and combined using principal-component analysis to produce a single measure of inclusion (with KMO values above 0.6 on average).

Figure 13. Coefficient plots of two-way FE regressions with six inclusion outcomes in SSA.



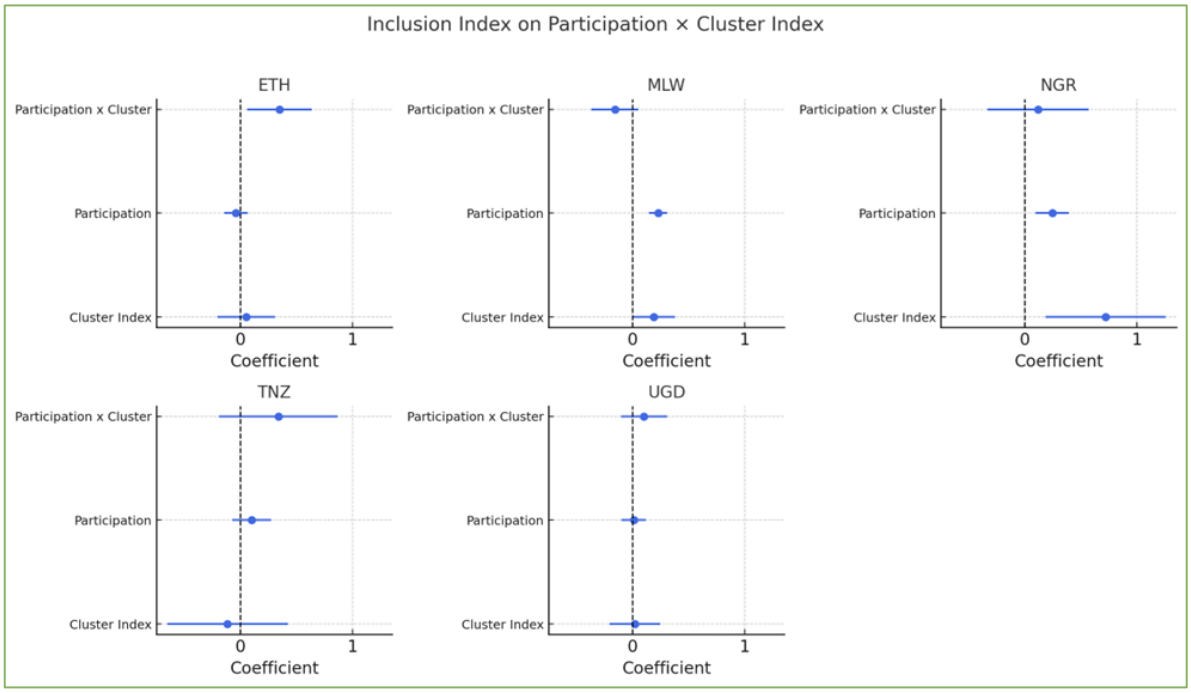
Note: Source: Authors' own regressions based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico).

Figure 14. Non-parametric correlations between Cluster Index (meso-level) and Inclusion Index (household-level)



Note: Source: Authors' own results based on LSMS-ISA panel data (rounds 1–4) for SSA countries (GLSS for Ghana).

Figure 15. Coefficient plots of two-way FE regression: Inclusion Index on Participation and Cluster Index.



Note: Source: Authors' own regressions based on LSMS-ISA panel data (rounds 1–4) for SSA countries (GLSS for Ghana).

7.1 Evidence from Sub-Saharan Africa

Based on INCATA'S Working Document "Welfare and Opportunities for Small-Scale Producers and MSMEs in Rural Africa: An Econometric Analysis" by Trivelli et al. (2025), across the six African LSMS countries, two way fixed effects regressions confirm that households who either sell crops or operate a non farm MSME have higher Inclusion Index scores than otherwise similar non participants. Standardised coefficients range from about 0.06 to 0.08 standard deviations in Ethiopia and Uganda, 0.14 to 0.16 in Malawi and Ghana, 0.19 in Tanzania and 0.31 in Nigeria. In other words, commercialisation and MSME engagement move households roughly a fifth to a third of a standard deviation up the inclusion distribution in the more dynamic settings.

Decomposing the index shows that the largest gains come through empowerment and non farm income. Participation is associated with increases in the empowerment score of about 0.63 standard deviations in Ethiopia, 0.59 in Malawi, 0.50 in Nigeria and 0.36 in Tanzania, with a smaller but positive effect in Ghana and no clear effect in Uganda. The log of per capita non farm income rises by 0.16 standard deviations in Ethiopia, 0.43 in Malawi, 0.38 in Nigeria, 0.62 in Tanzania, 0.30 in Uganda and 0.28 in Ghana. Improvements in the food consumption score and the resilience index are more modest and in some cases mixed, but the direction is generally positive, and the standardized poverty indicator falls by around 0.07 to 0.09 standard deviations in Ethiopia, Malawi, Uganda and Ghana.

Territorial conditions shape these gains. When participation is interacted with the Cluster Index, the interaction term is positive and significant only in Ethiopia, at about 0.35 standard deviations, while the Cluster Index on its own is strongly positive in Nigeria and Malawi, at about 0.72 and 0.19 standard deviations respectively. This pattern suggests that in Ethiopia clustering mainly amplifies the benefits for households that already participate in commercial agriculture or MSMEs, whereas in Malawi and Nigeria living in a highly clustered territory is associated with higher Inclusion Index scores for both participants and non participants. Non parametric plots of the Inclusion Index against the Cluster Index confirm that in Nigeria and Uganda inclusion scores rise steadily with clustering for all households, with the gap between participants and non participants widening at higher cluster values. In Malawi the gap is smaller and less systematic, while in Tanzania the curves are relatively flat, pointing to weaker links between clustering and inclusion there.

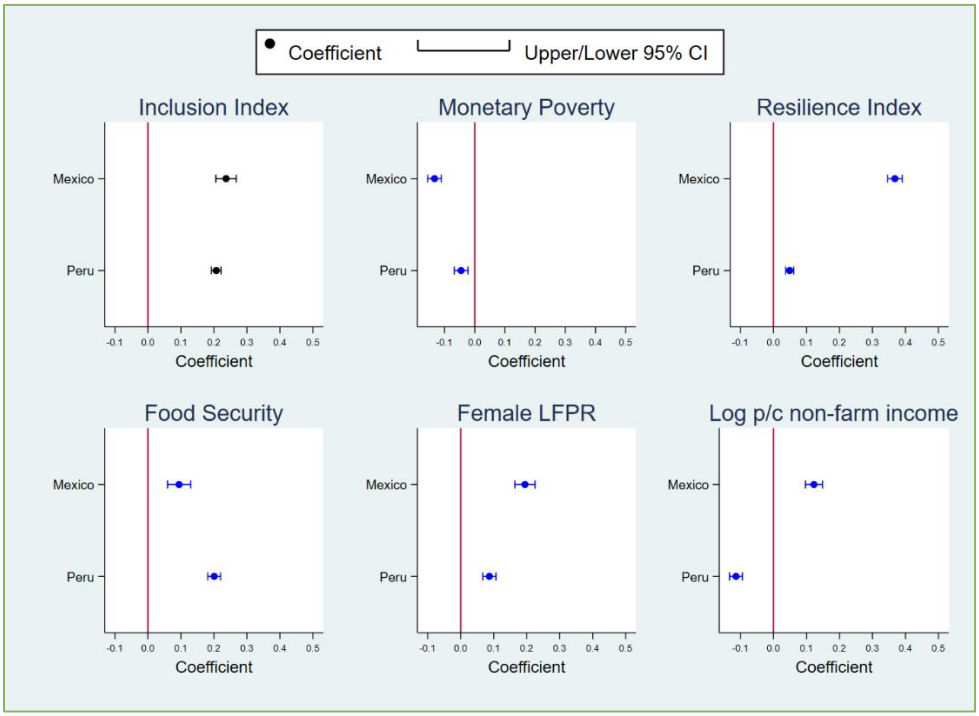
7.2 Checking the Narrative in Latin America

In Latin America, the Inclusion Index is adapted to data availability. In Peru, it includes the Food Consumption Score, a resilience measure, women's labor force participation (proportion of working-age women engaged in economic activities) and log farm income and consumption expenditures (used to estimate monetary poverty). Mexico substitutes the Food Consumption Score with the *Escala Mexicana de Seguridad Alimentaria* (EMSA), a food-insecurity scale. Women's empowerment is proxied by the household female labor force participation rate, which reflects the share of women in the household who are active in the labor market. These adaptations ensure comparability across contexts while capturing core aspects of food security, empowerment, and economic wellbeing.

Using similar regressions (county and year-month fixed effects) specification for the two Latin American countries, Mexico and Peru, the results also show clear inclusion boosts from commercialization and MSME engagement. Households that either sell crops or operate a non-farm MSME have higher Inclusion Index scores than otherwise similar non-participants in both countries. In standardized terms the coefficients are positive, statistically significant around 0.22 and 0.25 SD in Peru and Mexico, respectively. This implies that commercial and MSME households in these two countries are shifted noticeably upward in the inclusion distribution relative to comparable non-commercial households.

Decomposing the Inclusion Index into its components points to similar mechanisms as in Africa. Participation is associated with lower monetary poverty, higher resilience, better food security and higher female labor force participation rate (LFPR) in both countries: the poverty coefficient is negative and significantly different from zero, while the coefficients on the resilience, food-security and female LFRP scores are positive and significant. Commercial and MSME households have substantially higher log per capita non-farm income in Mexico, and negative in Peru, and female labor force participation is higher among commercial households in both countries. Taken together, these results show that market engagement in rural Mexico and Peru improves both monetary and non-monetary dimensions captured by the Inclusion Index, mainly by raising non-farm earnings and strengthening women's participation in the labor market, while also reducing poverty and improving food security.

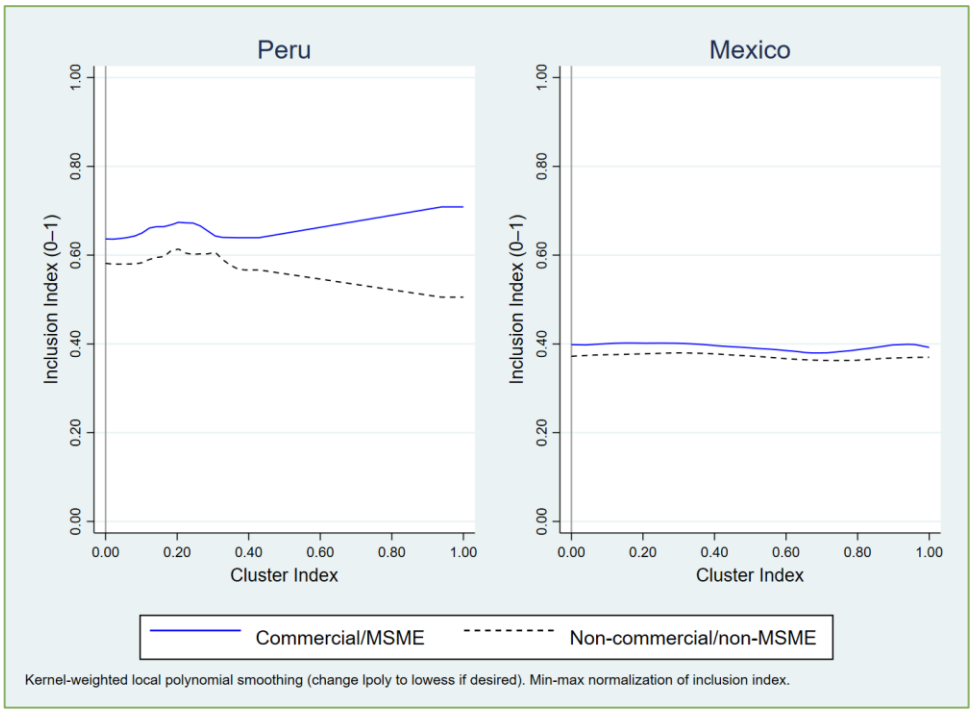
Figure 16. Coefficient plots of two-way FE regressions with six inclusion outcomes in LAC.



Note: Source: Authors' own regressions based ENAHO 2015–2023 (Peru), and ENIGH 2016–2022 (Mexico).

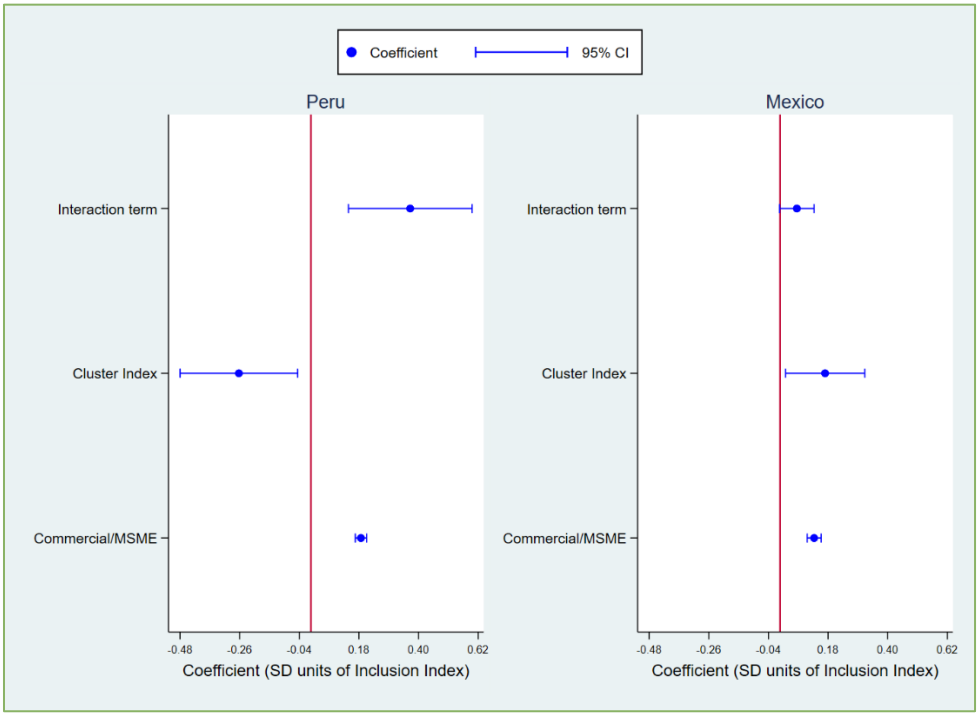
Figure 17 plots the relationship between the Cluster Index—which measures how dynamic and connected a territory's agrifood actors are—and the household-level Inclusion Index for two types of smallholders in Peru and Mexico. The solid line traces households that sell crops or operate a non-farm MSME, while the dashed line represents non-commercial/non-MSME households. In Peru, inclusion scores are consistently higher for commercial/MSME households and tend to rise slightly as clustering increases, with the gap between the two groups widening at higher cluster values. In Mexico, both curves are relatively flat across the cluster distribution, but commercial/MSME households still enjoy a persistent inclusion advantage at all levels. The figure therefore illustrates how market engagement and local agrifood dynamism together shape inclusive outcomes.

Figure 17. Non-parametric correlations between Cluster Index (meso-level) and Inclusion Index (household-level).



Note: Source: Authors' own results based ENAHO 2015–2023 (Peru), and ENIGH 2016–2022 (Mexico).

Figure 18. Coefficient plots of two-way FE regression: Inclusion Index on Participation and Cluster Index.



Note: Source: Authors' own regressions based ENAHO 2015–2023 (Peru), and ENIGH 2016–2022 (Mexico).

Territorial conditions also shape these gains, although in somewhat different ways than in Africa. When the Inclusion Index is regressed on commercial/MSME participation, the Cluster Index and their interaction, the coefficient on participation remains positive in both countries even after controlling for cluster conditions. The Cluster Index itself is positively associated with inclusion, especially in Mexico where the point estimate is around 0.18 SD (for both participants and non-participants, suggesting spillover effects), while in Peru the direct effect of clustering is slightly negative, and only positive (0.4 standard deviations) when interacted with participation, suggesting that SSPs who do not diversify into MSMEs and crop-selling are left behind in highly-clustered areas. Non-parametric plots of the Inclusion Index against the Cluster Index confirm these patterns: in Peru inclusion scores for commercial and MSME households increase slightly with clustering and the gap with non-participants tends to widen at higher cluster values, while in Mexico both curves are fairly flat but commercial households maintain a consistent inclusion advantage at all levels of clustering.

8. SYNTHESIS AND POLICY IMPLICATIONS

8.1 Does the African narrative hold in Latin America?

Across the ten countries studied, the five key messages travel quite well from Sub-Saharan Africa to Latin America, although they do so with different weights and in different parts of the agrifood system.

First, the idea that small-scale producers are the backbone of food production clearly holds in the African sample and in Peru, but shift in Mexico, where smallholders account just for a fifth of total national output (Ibarrola-Rivas et al., 2023). In Malawi, Ethiopia, Tanzania, Uganda, Ghana and Nigeria, small farms account for most producers and most crop output. In Peru and Mexico, even though considerably less households are engaged in crop production, a large majority of producers also operate small farms and contribute around 70% of crop production in Peru, but only 19% in Mexico (Ibarrola-Rivas et al., 2023). This confirms that the "African story" about the centrality of SSPs is valid for lower-income, more agrarian economies and for Latin American contexts that still fit that profile, but not for the region as a whole.

Second, the message that SSPs are highly commercial is remarkably consistent across continents. In both SSA and LAC, a clear majority of producers sell at least part of their harvest, and conditional on selling, they market about half of their output value. Input use and output sales also tend to go together. In all countries for which data is available, a sizeable share of producers both purchase inputs and sell crops, while a small minority remain fully autarkic. This convergence suggests that, once households are classified as producers, market engagement is the norm rather than the exception in both regions.

Third, the role of SSPs as owners of non-farm MSMEs also appears similar across regions, though with varying intensity. In Africa, roughly one-third of small-scale producers own a non-farm enterprise, and these households operate more than half of all non-farm MSMEs in most countries. In El Salvador, Peru, and Mexico, between one in five and one in three crop-producer households run a non-farm MSME, and these activities account for a meaningful share of total income. In both regions, crop production, wage work, and non-farm business income are combined in diverse portfolios, and smallholders are active on both the farm and the non-farm sides of the agrifood value chains.

Fourth, commercial SSPs and agrifood MSMEs are geographically clustered across all ten countries. The Cluster Index validates a standard latent dimension of local agrifood dynamism and shows that more dynamic territories host denser networks of cSSPs and enterprises. Jobs per MSME tend to be higher in more clustered zones, with steeper gradients in Mexico and Chile and more modest but still positive differences in most African countries. This supports the idea that agglomeration of farms and firms is a shared feature of rural transformation in both SSA and LAC.

Finally, clustering is broadly associated with better inclusion outcomes, but with essential nuances. In both regions, households that engage in commercial farming or in non-farm MSMEs

tend to have higher Inclusion Index scores than otherwise similar non-participants. In several African countries and in Mexico, living in a more clustered territory is itself associated with higher inclusion for both participants and non-participants, suggesting positive spillovers. In Peru and parts of SSA (Ethiopia), however, the benefits of clustering accrue mainly to households already participating in markets, and the gap between participants and non-participants widens as clustering intensifies.

Overall, the African narrative essentially carries over to Latin America in terms of commercialization, income diversification, MSME ownership and the role of clusters. Where it diverges is in the relative weight of SSPs in the agrifood system, which remains dominant in SSA and Peru but is clearly reduced in Mexico, given the sample size limitations of our household surveys.

8.2 Why do the regions differ? Structural and contextual drivers

Several structural and contextual factors help explain these points of convergence and divergence.

The first element is structural transformation and the size of the agricultural population. In the six SSA countries, agriculture still employs a large share of the workforce and most rural households are crop producers, which naturally magnifies the role of SSPs in production, employment and local demand. In Mexico and Chile, agriculture represents a small share of GDP and rural people are fewer and more diversified. Hence, SSPs matter more as one component of a wider rural economy than as the central pillar of national food production. El Salvador and Peru sit in between, which helps explain why their patterns often resemble African cases.

Infrastructure and connectivity provide a second explanation. The Cluster Index combines commercialization and enterprise indicators, but it also reflects underlying investments in roads, market facilities, and services, alongside a more urbanized landscape. In both SSA and LAC, more clustered areas generate more jobs per MSME and show higher Inclusion Index scores, which suggests that infrastructure and market access enable both firm growth and household welfare. The nature of this link, however, differs by context. In Nigeria, Malawi, and Mexico, clustering appears to benefit participants and non-participants alike, suggesting broad territorial spillovers. In Peru and Ethiopia, clustering mainly amplifies gains for already connected households, while others in the same territories benefit less.

Gender norms and roles in the hidden middle add another layer. In both regions, female-owned MSMEs are numerous, especially in food retail and parts of the midstream, but they are less likely than male-owned firms to hire external workers and often operate on a smaller scale. Women contribute a large share of wage jobs in food retail and midstream activities, yet gender gaps in hiring and profits persist. These patterns arise within different gender regimes. In some African countries and in El Salvador and Peru, female ownership rates in food retail are very high. In Mexico and Chile, female participation in ownership is closer to parity, yet the probability of hiring remains lower for women.

Finally, data and measurement issues shape what can be observed and compared. In Africa, the LSMS-ISA panels offer detailed plot-level data and repeated observations, which allow precise identification of SSPs, tracking of commercialization over time, and two-way fixed-effects analysis of inclusion. In Latin America, comparable panel data are not available, and most household surveys lack complete agricultural modules, except in Peru and, to a limited extent, in Mexico. As a result, SSPs in LAC must sometimes be defined by output value rather than land size, agricultural income must be inferred from partial information, and causal claims about clustering and inclusion are less firm. These limitations probably lead to conservative estimates of SSPs' contributions and of the strength of cluster effects in LAC, especially in countries where producer households are relatively few in standard surveys.

8.3 Implications for policy and research agendas

Taken together, the comparative results point to several broad areas that policy debates may need to consider to support inclusive agrifood transformation in both regions.

First, the evidence confirms that SSPs and their links to non-farm MSMEs remain central for food production, employment, and income diversification, even in more urbanized economies. This suggests that policies focused on food security, rural jobs, and resilience are likely to pay close attention to how small producers and their enterprises participate in value chains, rather than focusing solely on large farms or on urban segments of the food system. The relative weight of SSPs differs across countries, so the balance between farm-level, territorial, and value-chain instruments will naturally vary. Still, the underlying role of small producers does not vanish with structural transformation.

Second, the importance of clustering in both SSA and LAC highlights the territorial dimension of agrifood development. Since more dynamic clusters tend to generate more jobs per MSME and higher inclusion scores, policy discussions may focus on strengthening productive linkages in rural areas, while also monitoring participation in these clusters. This points to the value of approaches that consider not only where enterprises and cSSPs are located but also which groups of households can enter and benefit from these local economies.

Third, persistent gender gaps in hiring in both regions indicate that gender relations are a core part of hidden-middle dynamics. Women own a large share of food-related MSMEs and generate an essential share of wage jobs, yet their firms are less likely to expand through external hiring and may face tighter financial and social constraints. Future policy and research discussions may therefore pay particular attention to how agrifood clusters and value chains shape opportunities for women-owned enterprises, and how changes in the hidden middle feed back into women's economic empowerment and bargaining power at home.

Fourth, the comparison reveals the importance of better data on small-scale producers, especially in Latin America. In several LAC countries, standard household surveys do not fully capture landholdings, crop production, or detailed enterprise characteristics (as is the case in Chile and El Salvador), making SSPs nearly invisible in some statistics. Strengthening data systems so that small producers and their MSMEs can be identified more precisely would help refine analysis and

inform national debates about agrifood strategies, social protection, and rural investment.

Finally, the cross-regional perspective suggests scope for mutual learning between SSA and LAC. African countries can look to Latin America for examples of how agrifood systems evolve once urbanization and agro-export development advance, including the opportunities and vulnerabilities associated with deeper integration into global markets and greater dependence on imported cereals. Latin-American countries, in turn, can draw lessons from African experiences on managing rapid commercialization among numerous smallholders and on building inclusive clusters at earlier stages of structural transformation.

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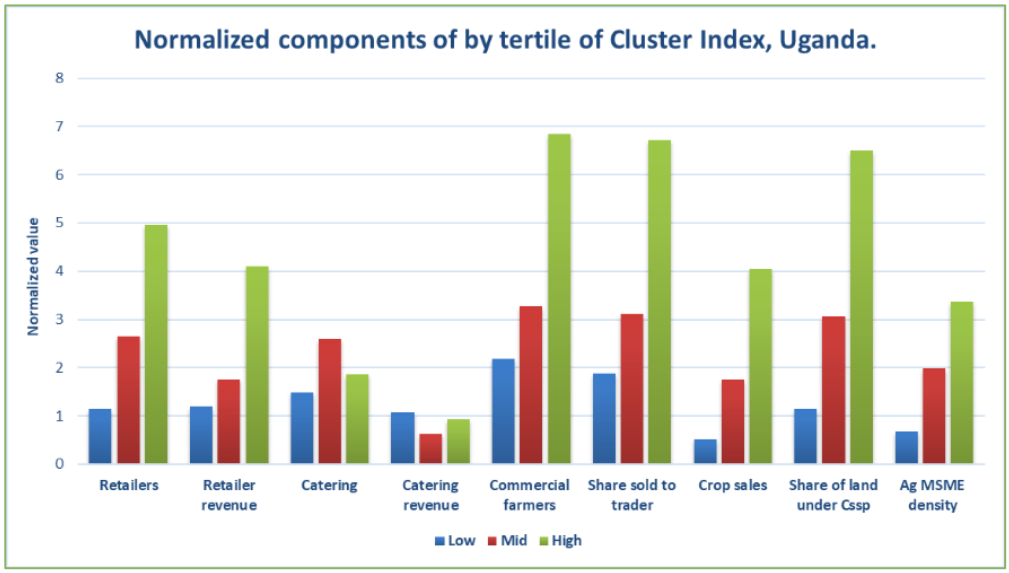
10.ANNEX

Figure 1A. Cluster Index's components by clustering level, Uganda (min-max scaling).



Note: Source: Authors' calculations based on LSMS-ISA panel data (rounds 1–4) for SSA countries and CASEN 2015–2022 (Chile), ENAHO 2015–2023 (Peru), EHPM 2015–2022 (El Salvador) and ENIGH 2016–2022 (Mexico)

Cluster Index

Across countries (Table 4), the Kaiser–Meyer–Olkin (KMO) statistics for our Cluster Index inputs range from about 0.51 in Ghana to 0.75 in El Salvador and Mexico, with most values clustered around 0.60–0.72. These scores fall within the range typically considered "mediocre" to "middling/good" sampling adequacy in the factor-analysis literature, indicating that the common variance shared by our indicators is sufficient to justify constructing a composite index rather than treating each variable in isolation (Kaiser, 1974; Hutcheson & Sofroniou, 1999). At the same time, the very low determinants of the correlation matrices (between 0.004 and 0.165) and the highly significant Bartlett's tests of sphericity ($p < 0.000$ in all countries) reject the null hypothesis of an identity correlation matrix, confirming that our variables are not independent and do in fact display systematic positive correlation patterns that can be summarized in one underlying factor or index (Bartlett, 1950; Hair et al., 2019). Taken together, these diagnostics support the internal consistency of the Cluster Index and suggest that it captures a meaningful latent dimension of local agrifood dynamism and connectivity across the ten countries.

Table 4. Validation tests for the Cluster Index.

Country	KMO	Determinant	Bartlett test
Ethiopia	0.57	0.021	$p < 0.000$
Malawi	0.72	0.005	$p < 0.000$
Uganda	0.62	0.014	$p < 0.000$
Tanzania	0.62	0.013	$p < 0.000$
Nigeria	0.60	0.004	$p < 0.000$
Ghana	0.51	0.136	$p < 0.000$
El Salvador	0.75	0.020	$p < 0.000$
Peru	0.57	0.027	$p < 0.000$
Mexico	0.75	0.061	$p < 0.000$
Chile	0.60	0.165	$p < 0.000$

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