CHAPTER 17

Moving the Technology Frontiers in African Agrifood Systems: Lessons from Latin America

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Introduction

Africa's agrifood systems face a complex set of structural challenges. Low productivity, high vulnerability to climate shocks, fragmented markets, and weak integration into global value chains continue to constrain development. Yet these challenges coexist with significant opportunities. The region's demographic profile—with more than 50 percent of the population under the age of 25 years—and a projected population growth rate of 2.3 percent in 2025 offer the potential for a demographic dividend that could help drive transformation in agri-food systems.

Latin America's experience provides relevant lessons for Africa. While the two regions differ in historical and institutional contexts, they share key structural features, including reliance on smallholder agriculture, rural poverty, and exposure to environmental risks. Over the past several decades, Latin America has advanced agricultural transformation through a combination of technological innovation, institutional development, and policy coordination. This experience shows that sustained progress is not the result of isolated interventions, but of complementary changes across multiple dimensions of the agrifood system.

The region has diversified its innovation base and strengthened scientific capacity through coordinated public and private efforts. National research institutions, such as the Brazilian Agricultural Research Corporation (EMBRAPA) and Argentina's National Institute of Agricultural Technology (INTA), have led localized technological development. International centers affiliated with the Consultative Group on International Agricultural Research (CGIAR)—including the International Food Policy Research Institute (IFPRI), the International Maize and Wheat Improvement Center (CIMMYT), the International Center for Tropical Agriculture (CIAT), and the International Potato Center (CIP)—have supported cross-country knowledge transfer, research collaboration, and the adaptation of innovations to local conditions.

Regional organizations have played a key role in supporting cooperation and scaling innovations. The Inter-American Institute for Cooperation on Agriculture (IICA) has helped align national agendas and facilitated technical exchanges. Multilateral development banks—including the World Bank Group (WBG), the Inter-American Development Bank (IADB), and CAF–the Development Bank of Latin America and the Caribbean—have provided financial and technical assistance for infrastructure, innovation, and rural development projects.

The private sector has also been central in identifying bottlenecks and developing scalable solutions. Firms rooted in agronomic expertise and market analysis have contributed to building infrastructure, logistics, and service networks that improve access to inputs, reduce transaction costs, and foster inclusion. Collaboration between private actors, public institutions, and producer organizations has strengthened innovation systems in the agrifood sector across the region.

Organizational innovation has been a defining feature of Latin America's transformation. Horizontal networks, cooperatives, and contract farming models have improved access to technical assistance, financing, and markets. In Argentina, Peru, and Brazil, these institutional arrangements have been accompanied by technical modernization processes, including the adoption of no-tillage systems, advanced irrigation technologies, and biotechnology. These innovations have been supported by favorable regulatory environments and adaptive governance structures that align incentives and knowledge systems.

Public policy has played a foundational role. Reforms in agricultural policy and investment promotion, combined with targeted subsidies and regulatory modernization, have helped address coordination failures and guide resources toward high-impact areas. Efforts to deepen regional integration have also contributed to trade facilitation and the harmonization of regulatory standards, accelerating innovation diffusion and market access.

While challenges remain, particularly around inequality and environmental sustainability, Latin America's experience offers valuable insights into how agricultural systems can be made more productive, resilient, and inclusive. For African countries, the key takeaway is not to replicate these models, but to adapt their core principles to local contexts. The integration of technology with organizational innovation, institutional capacity building, and strategic public action provides a framework for designing context-sensitive pathways to agrifood system transformation.

The remainder of this paper is structured as follows. The next section, section 2, presents a comparative overview of agrifood systems in Africa and Latin America. Section 3 explores key lessons from Latin America's experiences in transforming its agrifood systems through technological innovation, institutional development, and organizational change. Section 4 explores the

role of South-South cooperation as a mechanism for knowledge transfer, joint innovation, and capacity building.

Section 5 examines financing strategies, focusing on institutional arrangements and financial mechanisms developed in Latin America. Section 6 identifies ongoing challenges and concludes with policy recommendations for how African countries can draw lessons from Latin America's experience.

Africa–Latin America Context: Structure of Production, Trade, and Food Security

A comparative analysis of agrifood systems in Africa and Latin America reveals both notable similarities and important differences. Structurally, both regions rely heavily on smallholder agriculture, face persistent food security challenges, and are increasingly vulnerable to climate change. However, they diverge significantly in productivity trends, trade integration, and the effectiveness of policy and institutional frameworks. For example, Latin America has made considerable progress in boosting total factor productivity (TFP) and agricultural exports, while many African countries continue to face stagnating yields and limited access to global markets. Understanding these contrasts is essential for identifying context-specific pathways to agricultural transformation and for informing cooperation strategies between the two regions.

These differences reflect divergent policy choices, investment patterns, and historical context, as well as distinct demographic trajectories that shape the long-term sustainability of agrifood systems. Africa's youthful and rapidly growing population places increasing demands on food supply, labor markets, and rural infrastructure, but also offers a potential demographic dividend if adequately supported. In contrast, Latin America is undergoing demographic stagnation, with slower population growth, high urbanization rates, and an aging rural workforce—factors that may constrain labor availability and raise concerns about generational renewal in agriculture. These contrasting population dynamics influence labor availability, food demand patterns, and rural transformation pathways, highlighting the need for tailored strategies in each region. However, the underlying shared challenges create a foundation for mutual learning and collaboration.

Building on these shared challenges and lessons, Africa stands to benefit from adapting elements of Latin America's experience to accelerate its own agrifood system transformation. Latin America's successes in improving productivity through technological innovation, targeted investments, and inclusive value chain development offer relevant insights for African countries seeking to enhance agricultural performance. At the same time, recognizing structural differences—such as disparities in demography, land use, infrastructure, and institutional capacity—is critical to ensuring that solutions are context-appropriate. The goal is not replication, but adaptation—that is, leveraging relevant aspects of Latin America's path while accounting for Africa's unique demographic, ecological, and economic conditions.

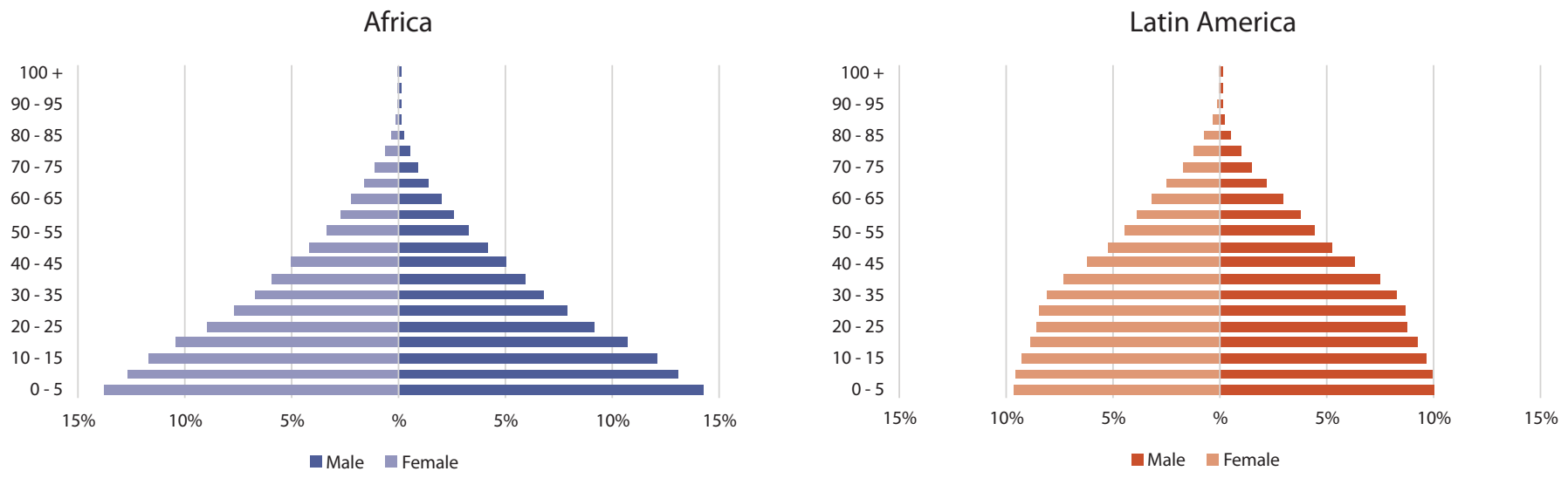
Trade relations between the two regions, though currently limited, also point to areas of potential collaboration. Existing flows of agricultural products, such as soybeans, poultry, and maize, suggest room for both competition and complementarity. As Africa achieves greater productivity and income growth, opportunities for expanding interregional trade will likely grow. Deepening trade ties, particularly when supported by the transfer of technology, knowledge, and organizational practices, can further reinforce agricultural productivity gains in Africa and contribute to broader food security goals.

Demographic dynamics and urbanization

Demographic structure is a determinant of the performance of agrifood systems. Characteristics such as population growth rates, age group compositions, and levels of urbanization directly affect food supply and demand, reshape consumption patterns, and influence labor availability and pressure on natural resources (Fanzo and Davis 2021). These factors shape the systems' capacity to respond to food security challenges, environmental sustainability, and territorial development.

Africa is currently undergoing a phase of accelerated demographic expansion. In 2025, its population growth rate was estimated at 2.3 percent annually, a level that reflects an early stage in the demographic transition. The resulting young population—over 50 percent under 25 years old—represents an opportunity to leverage the demographic dividend. Additionally, Africa's relatively low urbanization rate (42.5 percent in 2018) suggests that much of this young population resides in rural areas, where demand for services, infrastructure, and productive employment continues to grow (de Bruin, Dengerink, and van Vliet 2021).

FIGURE 17.1—POPULATION PYRAMID, AFRICA AND LATIN AMERICA, 2022



Source: Authors' computation based on statistics from the United Nations.

In contrast, Latin America is experiencing a progressive demographic slowdown. Between 2000 and 2025, its population growth rate declined from 1.7 percent to 1.3 percent, signaling a shift toward the final stage of the demographic transition. This trend increases the risk of the region falling below population replacement levels in the coming decades, with implications for the future of labor availability, particularly in agriculture (de Bruin, Dengerink, and van Vliet 2021). The region exhibits a high urbanization rate (81.4 percent in 2018), indicating ongoing population concentration in urban areas and relative depopulation of rural zones. The population pyramid for Latin America relative to that for Africa reveals a narrower base—only 19.3 percent of the population is under 15 years of age—and a broader middle and upper age structure (Figure 17.1). This aging pattern presents serious challenges for generational renewal and the productive capacity of Latin American economies. Moreover, high levels of urbanization reshape food consumption patterns (Fanzo and Davis 2021).

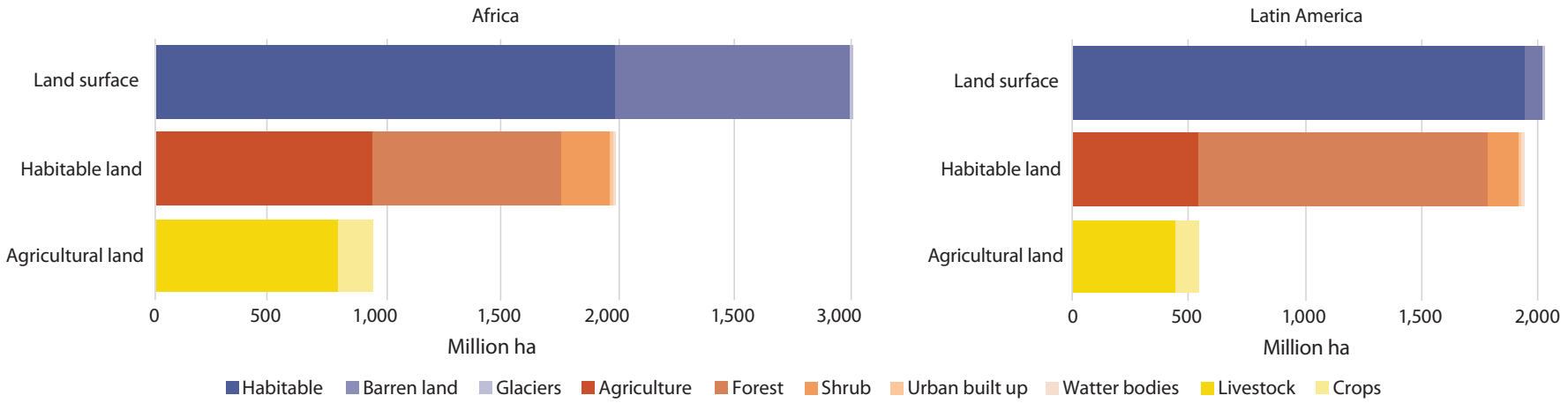
Land availability and agricultural use

A central structural difference that shapes agricultural capacity in both regions is land availability and use. Africa has a larger landmass of about three billion hectares, compared to Latin America's two billion. However, not all of it is equally suitable or productive (Figure 17.2). Latin America has managed to capitalize on its natural endowments through science-based agricultural practices and sustainable land management strategies. As Africa charts its own transformation, understanding and adapting these practices to local conditions will be necessary to improve the use of land resources, boost land productivity, and achieve long-term sustainability.

In Africa, about two-thirds of the land area is habitable, with the remaining consisting of arid deserts or other unproductive areas. In contrast, Latin America has a favorable geographic configuration, with nearly all of the land considered habitable. This difference translates into opportunities for developing productive activities, particularly regarding land availability for agriculture, forestry, and other agrifood uses.

When examining the allocation of agricultural land, differences emerge between the two regions. In Africa, nearly half (47.3 percent) of its habitable land is used for agricultural purposes, whereas in Latin America the proportion is lower, at 28.1 percent. In both regions, livestock dominates agricultural land use; in Africa, 83.9 percent of agricultural land is devoted to pasture, while in

FIGURE 17.2—LAND COVERAGE, BY CATEGORY, AFRICA AND LATIN AMERICA, 2022



Source: Authors' computation based on FAOSTAT (2025).

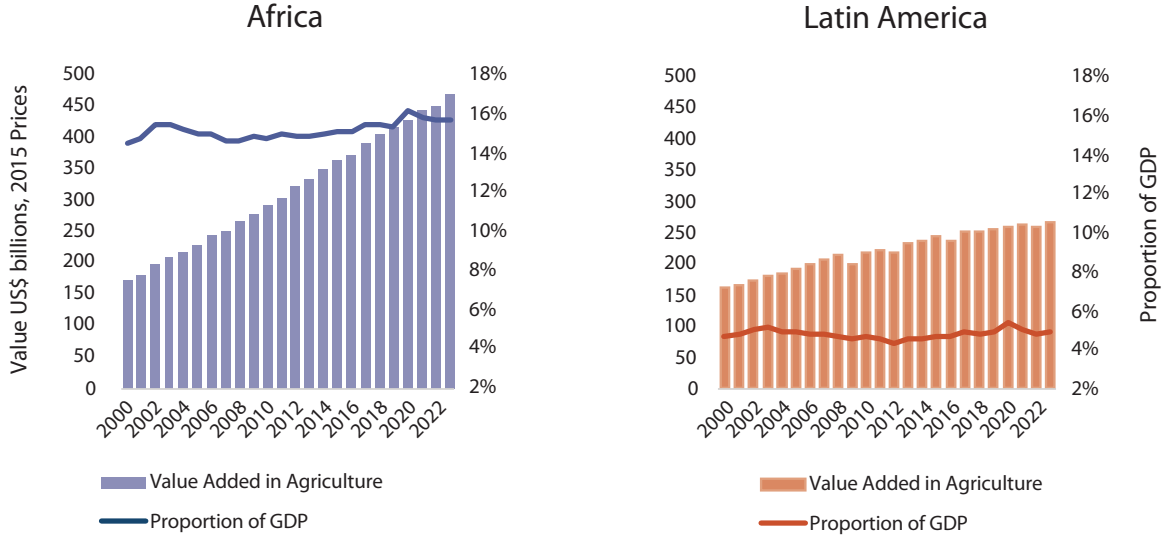
Latin America this figure is 80.5 percent. However, Latin America allocates a relatively higher share of its agricultural land to crop production (19.5 percent versus 16.1 percent in Africa).

Economic contribution of the agricultural sector

These land-use patterns are reflected in the economic contribution of agriculture to Gross Domestic Product (GDP). In Africa, despite the extensive use of land for agriculture, the sector contributes about 15.1 percent to GDP, a share that has remained relatively stable over time (Figure 17.3). In 2000, agricultural value added in Africa reached US$ 170 billion (in 2015 constant prices), increasing to US$ 465 billion by 2023. This reflects sustained growth in agricultural production over the past two decades.

Latin America has a more diversified economic structure. In 2000, the region's agricultural value added was US$ 161 billion, rising to US$ 266 billion

FIGURE 17.3—AGRICULTURAL VALUE-ADDED, AFRICA AND LATIN AMERICA, US$ (2015), 2000 TO 2023



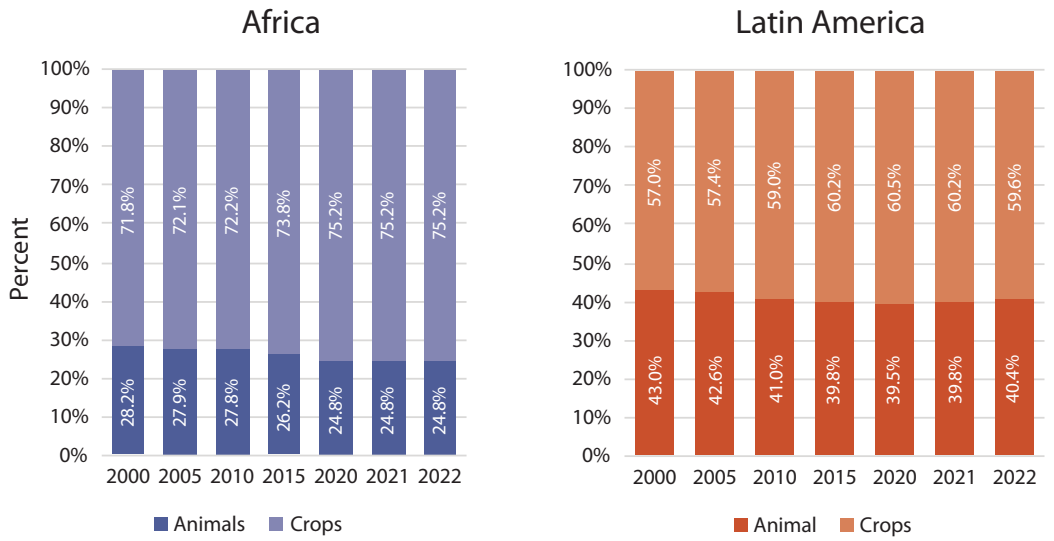
Source: Authors' computation based on FAOSTAT (2025).

by 2023. During this period, the sector's share of GDP fluctuated slightly, from 4.7 percent to 4.9 percent, respectively.

Over the past two decades, shifts in the composition of agricultural value added have revealed evolving production dynamics in both regions. In Africa, the share of livestock in agricultural value has been gradually declining, while the share of crop production has increased from 71.8 to 75.2 percent (Figure 17.4).

In Latin America, the composition of agricultural value added reflects a more heterogeneous structure. Historically, livestock production has contributed significantly to agricultural value generation. However, its share recently has declined from 43.0 percent to 40.4 percent, while crop production remained slightly increased.

FIGURE 17.4—CONTRIBUTIONS OF CROPS AND LIVESTOCK TO AGRICULTURAL VALUE-ADDED, AFRICA AND LATIN AMERICA, 2000 TO 2022



Source: Authors' computation based on USDA (2025).

Patterns of land use and irrigation

Land use patterns in the two regions changed somewhat between 2000 and 2022. The area under cultivation in Africa expanded from 197 million ha in 2000 to 314 million ha in 2022, with an average annual growth rate of 2.1 percent (Figure 17.5). Peaks in the annual expansion of cropland of above 5.0 percent occurred in 2003, 2005, 2010, 2013, and 2016. Irrigated land area in Africa increased by 29.4 percent during this period, reaching 17 million ha. Conversely, the pasture-land generally remained stable.

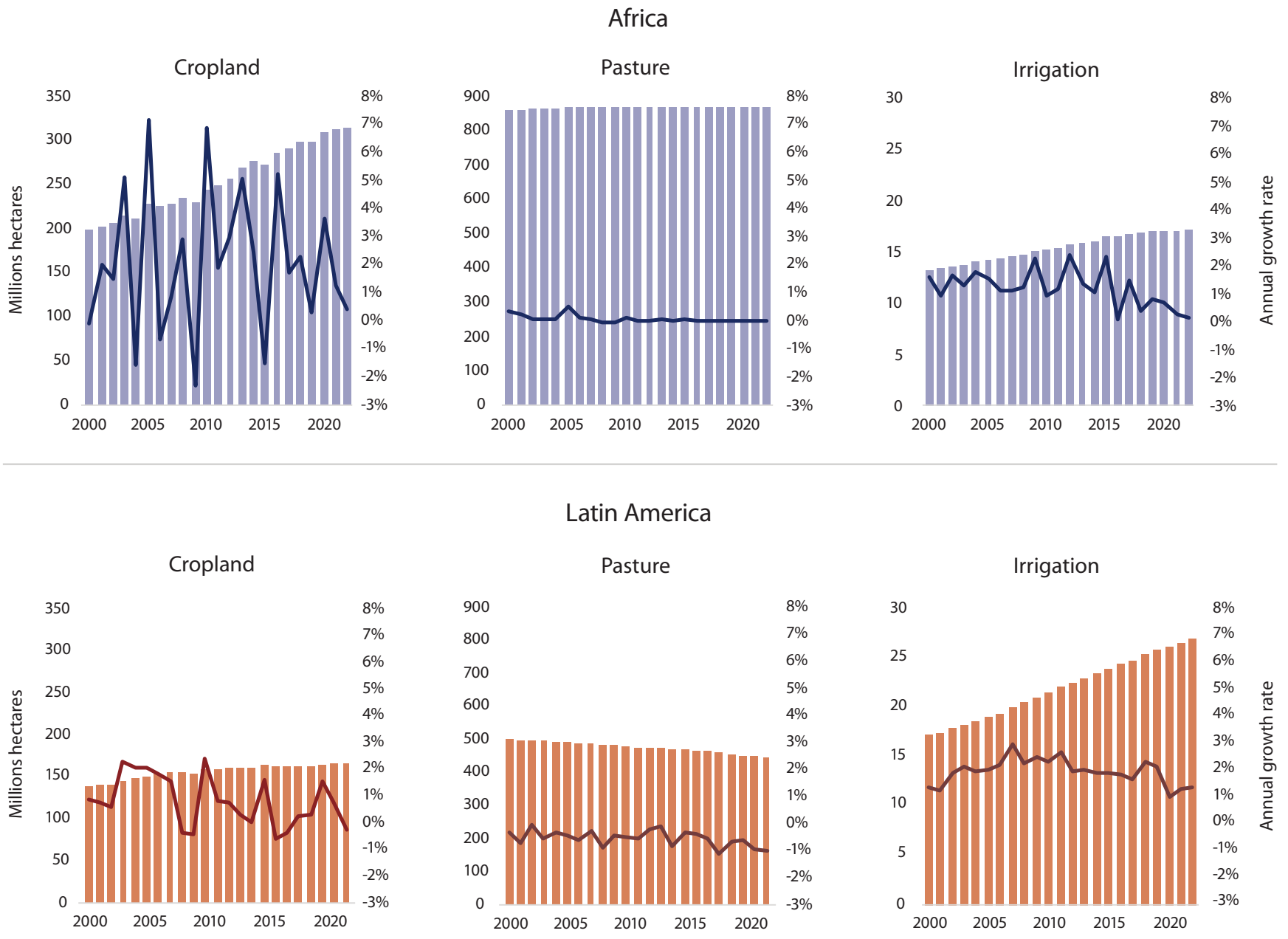
Less change is seen over this period in land use patterns in Latin America. Cropland area grew slowly, rising from 139 million ha in 2000 to 166 million ha in 2022, an increase of 18.8 percent. At the same time, the area devoted to livestock pasture declined about 1.0 percent annually. Where growth was more significant was in the irrigated land area of Latin America. This area grew from 17 million ha in 2000 to 27 million ha in 2022, an increase of 55.7 percent.

Agricultural productivity and technological progress

To assess the level of agricultural productivity and the efficiency with which inputs are transformed into outputs, total factor productivity (TFP) is used. This indicator captures the combined effects of technological progress, improved management, and other factors that enhance agricultural production efficiency.

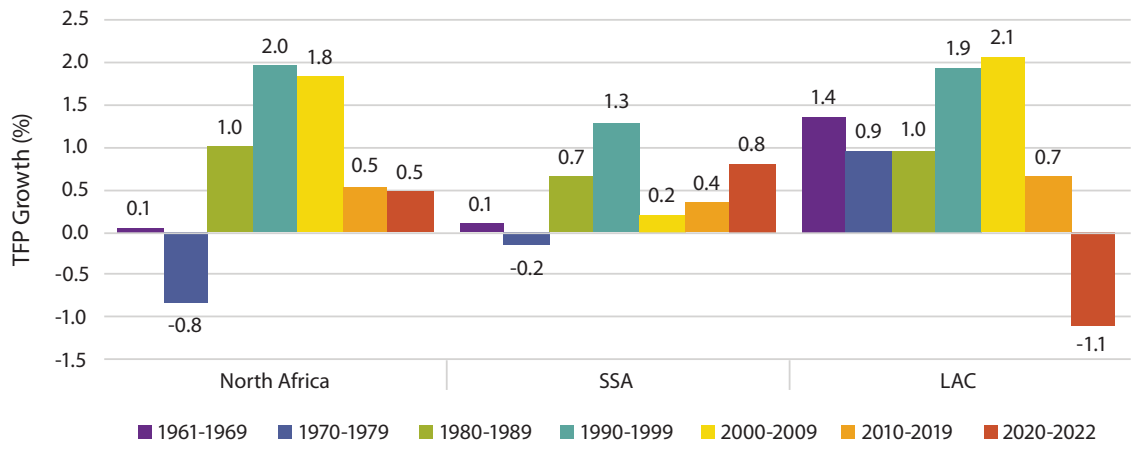
In Africa, average annual growth in agricultural TFP over the period from 1961 to 2022 exhibits considerable regional variation (Figure 17.6). North Africa recorded an average of 0.7 percent, while Sub-Saharan Africa (SSA) averaged 0.5 percent annually. The TFP trajectory pattern in North Africa showed three distinct phases: a period of stagnation and decline between 1961 and 1979, with an annual decrease of 0.8 percent; a recovery from 1980 to 2009, with growth exceeding 1.0 percent, peaking at 2.0 percent during the 1990s; and a slowdown since 2010, stabilizing around 0.5 percent. In SSA, growth was more stable but modest, with a decline of 0.2 percent in the 1970s, followed by recovery between 1980 and 1999, averaging 1.0 percent during the 1990s. This momentum weakened in the 2000s, with growth dropping to 0.20 percent. However, recent years have shown a gradual recovery, averaging 0.8 percent between 2020 and 2022.

FIGURE 17.5—AGRICULTURAL LAND USE AND ANNUAL GROWTH RATES BY TYPE, AFRICA AND LATIN AMERICA, HA, 2000 TO 2022



Source: Authors' computation based on USDA (2025).

FIGURE 17.6—TOTAL FACTOR PRODUCTIVITY (TFP) GROWTH, NORTH AFRICA, SUB-SAHARAN AFRICA, AND LATIN AMERICA AND THE CARIBBEAN, 1961 TO 2022



Source: Authors' computation based on U.S. Department of Agriculture (2025).

Note: The TFP analysis is based on data for Latin America and the Caribbean (LAC), due to the absence of specific series for Latin America. The inclusion of the Caribbean does not significantly distort the results.

Since 1961, agricultural TFP growth in Latin America and the Caribbean (LAC) has outpaced that of Africa, driven by higher levels of technological adaptation, productive investment, and institutional strengthening. Between 1961 and 2019, the region recorded an average annual growth rate in agricultural TFP of 1.3 percent. However, in recent years, growth has decelerated to 1.1 percent, largely due to declines in productivity in the Southern Cone countries of Argentina, Chile, and Uruguay.

Participation in global agrifood markets

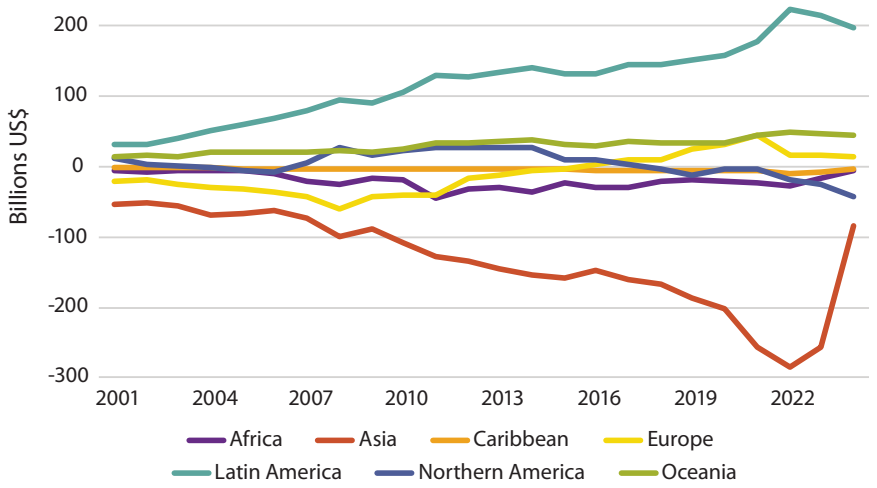
Building on these differences in productivity performance, the two regions also exhibit divergent roles in global agrifood trade. Latin America is one of the few regions that has maintained and strengthened its status as a net exporter of agrifood products (Figure 17.7). Conversely, Africa remains a net agrifood importer, despite modest recent gains in agrifood exports (FAO 2022).

Latin America plays a pivotal role in global food security, driven by the scale of its exports and the diversity and resilience of its agrifood production. The region benefits from a range of agroecological zones, shaped by diverse climatic conditions and soil types, which provide comparative advantages across numerous agrifood value chains. These include soybeans and their derivatives, meat, fruit, fish, vegetables, and cereals.

Despite complementary trade profiles—Latin America, as a food surplus region, and Africa, as a structurally food-deficient region—bilateral trade flows between the two remain minimal. This disconnect reflects historical trade patterns and the absence of deep inter-regional trade integration mechanisms.

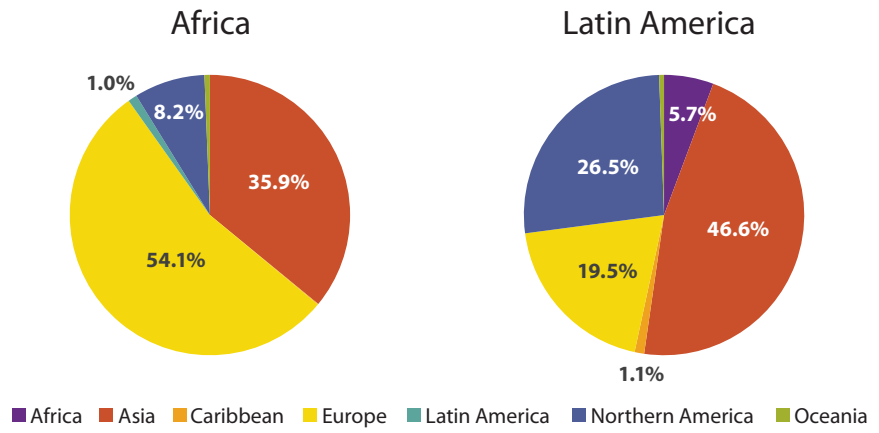
Historically, Latin America's extraregional agrifood exports have been primarily directed toward the United States and the European Union. Over the past decade, however, China and other Asian economies have significantly expanded their share as key destinations for Latin America's agrifood exports (Figure 17.8). In contrast, Africa currently accounts for only 5.7 percent of Latin

FIGURE 17.7—EVOLUTION OF AGRIFOOD ANNUAL NET EXPORTS BY REGION, BILLION US$, 2001 TO 2024



Source: Authors' computation based on COMTRADE.

FIGURE 17.8—SHARE OF AGRIFOOD EXPORTS FROM AFRICA AND LATIN AMERICA, AVERAGE PERCENTAGE OF TOTAL VALUE, BY DESTINATION, 2022/23



Source: Authors' computation based on COMTRADE.

America's agrifood exports. On the other hand, Africa's agrifood exports are largely oriented toward Asia and Europe, with less than 10.0 percent directed to North America and just 1.0 percent to Latin America. These figures highlight the limited commercial integration between the two regions.

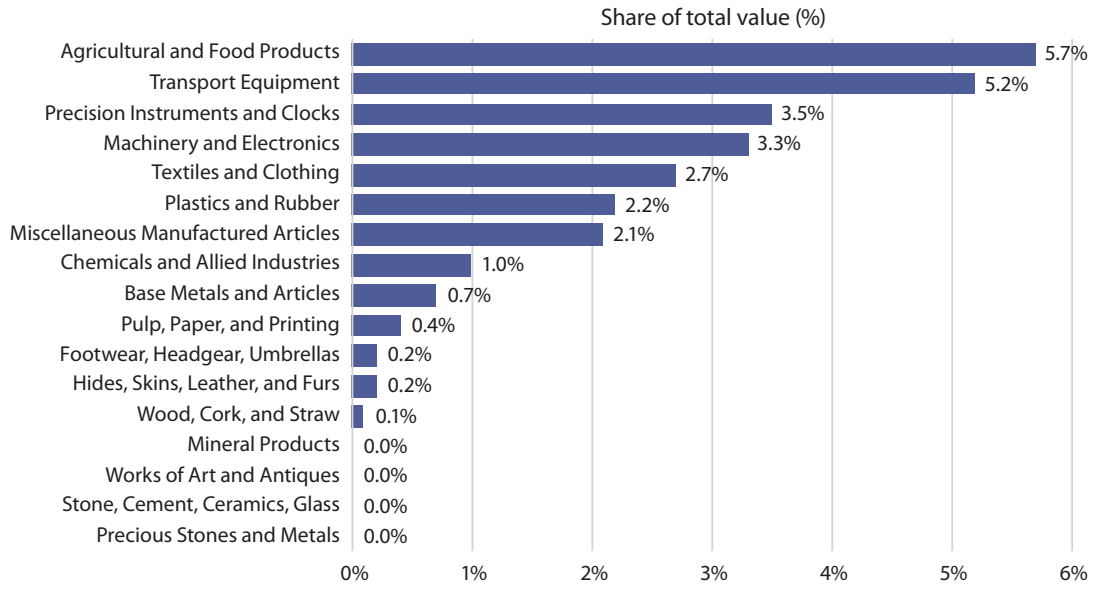
The trade relationship between Latin America and Africa remains limited and uneven across major agrifood categories, reflecting an underdeveloped and largely untapped South-South trade axis (Figure 17.9). Realizing the potential of this relationship will require strengthened cooperation, underpinned by targeted investments and supportive institutional frameworks. Key steps include removing trade barriers, improving logistical connectivity, and entering into bilateral or regional trade agreements. Such measures will not only boost agrifood trade between the two regions but also contribute to improved food security and broader economic diversification.

Food security and nutritional challenges

Persistent structural constraints in food production and trade continue to shape food security outcomes in both regions. In Africa, the sharp rise in food insecurity in the population from 44.5 to 58.0 percent in the last ten years reflects the region's ongoing dependence on food imports, limited domestic production, and vulnerability to external shocks (Figure 17.10). This increase has been accompanied by a rise in undernutrition, indicating setbacks in achieving adequate nutritional outcomes. Although obesity remains less prevalent in Africa than in other regions, it has shown an upward trend in recent years.

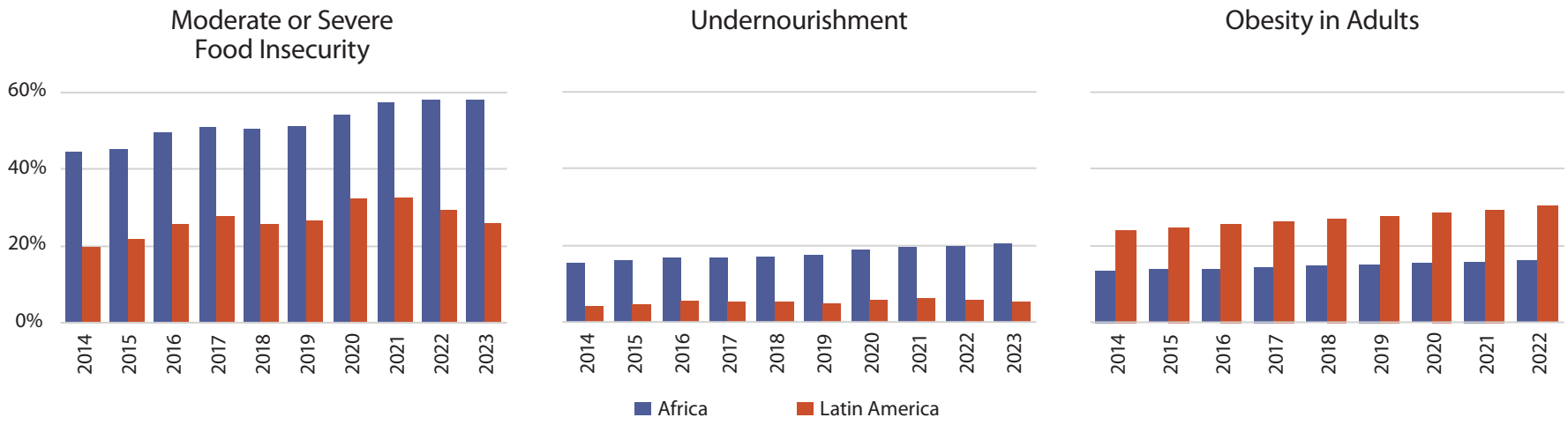
In Latin America, while the region is a net food exporter, food insecurity remains a challenge due to internal inequalities, limited access to healthy food, and the growing presence of ultra-processed products in diets. Following a sharp rise in 2020 due to the COVID-19 pandemic, food insecurity subsequently decreased to 26.0 percent in 2023.

FIGURE 17.9—SHARE OF LATIN AMERICA AGRIFOOD EXPORTS TO AFRICA, BY PRODUCT GROUP, AVERAGE 2022/23



Source: Authors' computation based on COMTRADE.

FIGURE 17.10—PREVALENCE OF FOOD INSECURITY, UNDERNOURISHMENT, AND OBESITY IN ADULTS, AFRICA AND LATIN AMERICA, 2014 TO 2023



Source: Authors' computation based on FAOSTAT (2025).

However, undernourishment has risen somewhat over the past decade, and obesity prevalence among adults increased to 30.2 percent, becoming the region's most prominent nutritional challenge.

In sum, Africa and Latin America share challenges related to agricultural productivity, sustainable land use, and food and nutritional security, despite their structural differences. However, these differences highlight the importance of aligning agrifood development strategies with demographic dynamics. Africa requires policies that capitalize on its demographic dividend by generating employment in the agrifood sector and strengthening emerging rural–urban linkages. In contrast, Latin America faces the risks associated with rural aging and the erosion of productive human capital. Addressing these challenges will demand targeted strategies for generational renewal, innovation in labor-saving production models, and planning frameworks that counteract exclusion and support rural revitalization. Latin America's trajectory shows how sustained investment in agricultural research and development, the adoption of improved technologies, and strong value chain integration can lead to substantial productivity gains, as reflected in its higher agricultural TFP growth. These advances have supported the region's position as a net agrifood exporter and a relevant player in the global food supply. In contrast, Africa's slower productivity growth and greater dependence on food imports have constrained its capacity to meet domestic demand and ensure stable nutritional outcomes.

Lessons from Latin America's Agrifood Systems

Latin America's agrifood transformation offers key lessons for regions facing similar structural constraints. The region has advanced by integrating technological innovation with institutional reform and policy support. These changes have improved productivity, competitiveness, and market orientation across several countries. Technological adoption has been central. From biotechnology and precision agriculture to advanced irrigation and climate-smart practices, Latin American producers have gradually incorporated tools suited to diverse agroecological and market conditions. These efforts have been most effective when paired with supportive public policies and strong public-private partnerships.

Institutional innovations also played a critical role. Reforms in land use, extension services, and producer organizations have facilitated access to inputs, knowledge, and markets. Collaborative models, such as cooperatives and service networks, have enabled small and medium producers to scale up and integrate into modern value chains. However, transferring these lessons to Africa requires careful attention to local conditions. Differences in infrastructure, land tenure

systems, and financing capacity must be considered when adapting strategies. What worked in Latin America must be tailored to align with Africa's institutional and territorial diversity. The following case studies from Argentina, Peru, and Brazil highlight integrated approaches that combine technology, organization, and policy. While the details vary, each example offers practical insights for adapting and scaling agricultural transformation in African contexts.

Technological and organizational change in Argentina's crop sector

Argentina has experienced a profound transformation in its agricultural sector over the past few decades, shifting from a traditional model centered on individual farming, which is characterized by vertical integration of production stages, reliance on tacit knowledge, natural genetic reproduction, and low use of external inputs, to a technologically advanced, business-oriented production approach embodied by Agricultural Production Enterprises (EPA). This shift has been particularly evident in the cultivation of soybean, maize, wheat, and cotton. EPAs coordinate production decisions about what, how, and how much to produce by consolidating comprehensive technological packages. These packages include specialized inputs and technical, financial, and logistical services acquired from contractors, suppliers, and traders. This organizational evolution has fostered integrated production networks linking agricultural agents, industry, and service providers (Anlló, Bisang, and Katz 2015; Bisang 2017).

The transition was catalyzed by the progressive degradation of agricultural soils that was driven by intensive land use, the elimination of fallow periods, stubble burning practices, and insufficient replenishment of soil nutrients. These practices collectively caused erosion, loss of organic matter, and declining fertility, thus threatening long-term agricultural productivity. In response, institutional coordination emerged as a key mechanism to promote productivity and sustainability by involving innovative producers, public entities such as the National Agricultural Technology Institute (INTA), private suppliers, and technical-scientific networks (Trigo et al. 2009). An outcome of this collaboration was the widespread adoption of no-tillage technology, which reduces soil disturbance, preserves moisture, lowers operating costs, and enhances sustainability by maintaining soil structure and fertility. Between 1991 and 2008, no-tillage expanded to cover over 22 million hectares. Its diffusion was supported by technical innovation and the active role of organizations like the Argentina No Tillage Farmers Association (Aapresid), which promotes sustainable practices, organizational innovation, and applied knowledge generation (Anlló, Bisang, and Katz 2015; Trigo et al. 2009).

Technological advancement further accelerated with the integration of agricultural biotechnology. The introduction and commercialization of genetically modified seeds, such as glyphosate-resistant soybean and Bt maize, since 1996 have improved pest and weed control, optimized fertilizer use, and enhanced crop management. These biotechnologies, with complementary inputs like herbicides, inoculants, and growth promoters, enabled these crops to be adapted to diverse agroecological conditions and supported the sustainable expansion of the agricultural frontier in Argentina. Additionally, support technologies, including precision planting, on-site grain storage via silo bags, and a growing network of specialized service providers for planting, harvesting, and post-harvest conditioning, have increased the technical complexity of agricultural production. The successful implementation of these technologies has depended on locally-specific factors such as infrastructure availability, regulatory frameworks, and producers' organizational capacities, which collectively shape the environmental and economic sustainability of local agrifood production systems (Anlló, Bisang, and Katz 2015).

Argentina's experience underscores the importance of institutional coordination and farmer-led organizations in driving technological adoption. These elements have strong implications for Africa's agricultural transformation, as discussed further in Section 3.4.

Policy-driven agribusiness development in Peru

Similar transformations have occurred in other countries in the region, albeit through different institutional pathways and with territorial dynamics. In Peru, the shift toward a business-oriented agricultural model has been particularly pronounced, with export-oriented agribusiness expanding through a combination of public policy reforms, private investment, and technological modernization.

The agricultural production model has undergone a structural transformation in recent decades, particularly in the country's coastal regions. Since the 1990s, modern, export-oriented agriculture has been promoted through agricultural investment policies such as those that facilitated the sale of unused arid lands at low prices to investors committed to making them productive (Damonte, Gonzales, and Lahud 2016). These changes were accompanied by tax

incentives and labor market reforms that created a favorable environment for agribusiness investment. As a result, a business-oriented agricultural model took shape, centered on non-traditional crops such as asparagus, mango, avocado (Barrientos 2018), grapes, blueberries (Piñeiro et al. 2025), and peppers, all aimed at meeting growing demand in international markets (World Bank 2017).

The expansion of Peru's agro-industrial sector was supported by the adoption of technological innovations that optimized production practices and enabled compliance with international quality and safety standards. Notable developments included the modernization of irrigation systems, such as drip and pulse irrigation; advances in agricultural machinery design; improvements in packaging, labeling, and traceability processes; the application of biotechnology to crops; integrated pest control; and the incorporation of value-added at the point of origin. These advances were driven by public policies aimed at enhancing the competitiveness of Peru's agrifood sectors, including agrifood innovation support programs that coordinated public and private efforts to strengthen export-oriented agrifood value chains (Castro, Goicochea, and Flores 2018; Piñeiro et al. 2025).

The agricultural frontier in Peru expanded into desert areas such as the Ica Valley and the Villacurí plains through large-scale investment in irrigation infrastructure, including improvements in groundwater access through well repairs and new boreholes, as well as the conveyance of water from alternative sources (Damonte, Gonzales, and Lahud 2016). These investments were complemented by the development of storage, processing, and logistics infrastructure, supported by public policy initiatives. In addition, labor market policy frameworks were modified to enable flexible hiring practices and reduced labor obligations in the agrifood sector, and land policies were adjusted to encourage land consolidation. These policy reforms contributed to the emergence of large-scale agrifood exporting businesses (World Bank 2017). Public investment in support for these transformations in Peru's agrifood sectors has accompanied these policy changes—the Ministry of Agriculture in 2020 authorized the allocation of over US$ 128 million to facilitate exports from micro, small, and medium-sized agrifood enterprises (Piñeiro et al. 2025).

Peru's experience demonstrates how targeted policy incentives, infrastructure investment, and technological modernization can unlock competitiveness and expand agricultural export strategies that also carry strong relevance for Africa, particularly in high-value crops and irrigated areas where market potential remains underutilized.

Cooperative-led modernization in Brazil's dairy sector

Brazil presents a distinct trajectory in agricultural transformation, particularly in the dairy sector. While Argentina and Peru focused on the expansion of crop production and agrifood export models, Brazil's experiences reflect a process of modernization centered on livestock production, organizational restructuring, and cooperative-based development. The interactions between market liberalization, institutional support, and producer-led collective action have shaped this evolution.

Since the 1990s, Brazil's dairy sector has undergone a rapid process of restructuring, driven by the growing presence of supermarkets and the deregulation of dairy markets, which liberalized retail and farm prices. This new competitive environment increased pressure on firms to cut costs and improve efficiency, while also facilitating the entry of large multinational dairy processors that reshaped the production and marketing landscape (Beber, Lakner, and Skevas 2021).

In these commercial dynamics, dairy cooperatives have played an important role, especially in Southern Brazil, where they faced complex challenges related to reorganizing dairy supply chains across extensive rural areas, collecting milk over long distances, transferring technological and managerial improvements to producers, and ensuring the availability of qualified human resources. These cooperatives, whose primary objective is to maximize members' benefits, assumed social functions by providing inputs, veterinary services, and feed to small-scale producers located in remote locations, thus contributing to the sustainability and persistence of family farming in the dairy sector (Beber, Lakner, and Skevas 2021; Beber, Theuvsen, and Otter 2018).

Since the 1970s, the Brazilian government has actively promoted cooperatives as a strategy for agricultural modernization. Law 5764 of 1971 laid the institutional and regulatory foundation for cooperatives, which are complemented by subsidized credit programs and technical assistance initiatives that support agro-industrial development. As a result, several cooperatives that initially focused on other agricultural activities either adapted their infrastructure or shifted entirely to milk collection from small-scale producers. Central cooperatives emerged to coordinate local cooperatives, strengthen their bargaining power, and increase the value added to their products (Beber, Theuvsen, and Otter 2018).

The increasing specialization of Brazil's dairy sector fostered investment in specific assets and vertical integration, which, in turn, led to the exclusion of many small producers who had historically relied on dairy farming for subsistence. In response, producers organized cooperatives as a defensive strategy against market failures and price volatility. These efforts were bolstered by public policies aimed at modernizing and industrializing the sector, including targeted support for dairy cooperatives, subsidized credit lines, and a string of institutional frameworks that regulated their operation (Beber, Theuvsen, and Otter 2018).

Since the 2000s, the expansion of horizontal arrangements and collaborative networks, such as in Paraná state, has been a distinctive feature of the sector. These alliances have enhanced economies of scale and scope, improved coordination along the dairy value chain, and expanded access to resources such as technology, information, and improved production practices. Stricter sanitary regulations, such as mandatory refrigerated milk collection, spurred significant investment in infrastructure by producers and cooperatives. Additionally, a changing regulatory context enabled the restructuring and capitalization of cooperatives, which supported the professionalization of management and expansion of networks. These factors have enabled dairy cooperatives in Brazil and their associated networks to remain competitive against large private dairy firms while reinforcing diversified family production and raising the sector's sanitary and technological standards (de Birto et al. 2015).

Brazil's trajectory illustrates how cooperative structures, supported by public policy and investment in infrastructure, can modernize a sector while safeguarding smallholder inclusion—an approach that offers valuable lessons for Africa as it seeks to integrate small-scale producers into competitive and sustainable value chains.

Common enablers and adaptation lessons for Africa

Experiences from Latin America demonstrate diverse pathways through which countries in the region have transformed their agrifood systems by combining technological innovation, institutional development, and organizational change. In Argentina, technological and organizational innovations reshaped extensive crop production; in Peru, policy-driven investments spurred the rise of competitive agrifood exports; and in Brazil, cooperative-based models supported the integration of small producers into the modern dairy value chain. While each transformation emerged from specific local, institutional, and market conditions, common enabling factors include coordinated public-private actions, targeted policy frameworks, and the strategic mobilization of knowledge and infrastructure. These experiences offer lessons for African countries seeking to boost productivity, sustainability, and market access, provided that technology transfer efforts are matched with investments in supportive institutions, context-sensitive innovation systems, and inclusive financing mechanisms.

These cases show that African countries can boost productivity, sustainability, and market access if technology transfer is accompanied by investments in supportive institutions, context-sensitive innovation systems, and inclusive financing. Importantly, institutional coordination, farmer organizations, and public policies are just as critical as the technologies themselves.

Emerging potentially disruptive technologies promise to radically alter how food is produced, distributed, and consumed in Latin America. Precision agriculture integrates tools such as satellite imagery, drones, ground sensors, and AI-based analytics to enable site-specific decisions on irrigation, fertilization, and pest control, reducing uncertainty and resource use. Vertical farming systems (hydroponics, aeroponics, and aquaponics) offer climate-resilient production systems with minimal land and water requirements, suitable for urban or resource-constrained contexts. Blockchain technologies are strengthening transparency and traceability by securely recording transactions and product histories across the value chain, enhancing trust among producers, consumers, and regulators (World Bank 2020).

Other disruptive innovations are transforming access to finance and inputs and expanding agricultural production into alternative food sources. Technical innovations in financing, such as mobile banking, digital credit scoring, and pay-as-you-go financing, are removing long-standing barriers for small-scale producers by enabling their access via digital platforms to credit, insurance, and leasing of equipment. Alternative proteins, including plant-based substitutes, insect-based ingredients, and lab-cultured meat, are gaining traction in response to environmental and health concerns, reshaping dietary patterns and creating new agrifood markets. Realizing the full potential of these technologies in Latin America, as well as in Africa, will require investment in digital infrastructure, supportive regulation, and inclusive innovation systems that ensure accessibility (World Bank 2020).

These disruptive innovations also hold significant potential for Africa. Precision agriculture can help address resource scarcity in water-stressed

regions. Vertical farming could contribute to urban food security in rapidly growing cities and offer climate-resilient production in arid zones. Blockchain could enhance traceability and food safety in Africa's fragmented and informal value chains, while FinTech solutions can bridge persistent gaps in rural credit, insurance, and financial inclusion. Alternative proteins, especially insect-based products, align with Africa's biodiversity and nutritional opportunities, opening new value chains for youth and SMEs. However, realizing these opportunities will require deliberate investment in digital infrastructure, supportive regulatory frameworks, and inclusive innovation ecosystems that ensure accessibility for smallholders and marginalized groups.

Promoting South-South Cooperation

South–South cooperation has become a vital mechanism for transforming agrifood systems in Africa and Latin America. By enabling mutual learning, technology exchange, and strengthening institutional capacities, it supports sustainable development and addresses common challenges such as low agricultural productivity, climate vulnerability, and food insecurity. Initiatives that range from research partnerships and capacity-building programs to market-driven collaborations demonstrate the mutual benefits that arise from these interactions. Effective cooperation depends on tailoring engagement strategies to the distinct roles and capabilities of public agencies, research institutions, producer organizations, and private firms. When designed inclusively, South–South partnerships could promote access to new markets, encourage the integration of smallholders into agrifood value chains, and foster innovation that is both inclusive and context-sensitive.

While South-South cooperation has significant transformative potential for Africa, the effectiveness of such efforts depends on the degree to which cooperation strategies are adapted to Africa's diverse agroecological, agrifood markets, and institutional contexts. Experiences such as the ProSavana program in Mozambique highlight the risk of closely replicating models developed in contexts like Brazil's Cerrado without adequately considering differences in local institutional dynamics, land tenure systems, governance frameworks, and farmer organizations. Insufficient attention to adapting such programs in light of such differences will generate tension between stakeholders and reduce the effectiveness of the program (Cabral and Shankland 2013). To ensure relevance and sustainability, cooperation efforts must be co-designed with local stakeholders, grounded in local contexts, and responsive to heterogeneous agrarian structures.

Cooperation emerges through diverse and complementary modalities. Public agencies tend to focus on shaping enabling environments and facilitating policy dialogue. Agricultural research institutions prioritize joint innovation and knowledge platforms tailored to specific agroecological and socioeconomic settings. Producer organizations engage in farmer training, technical dissemination, and the promotion of climate-smart and other sustainable agricultural practices. At the same time, private firms introduce market-oriented models that scale up productivity, improve risk management, and facilitate access to inputs and finance. Recognizing these differentiated roles and stakeholder interests allows for better alignment of efforts and more sustainable outcomes. Several cases highlight the potential of such cooperation. In Argentina, the AAPRESID network of producers and agronomists has partnered with countries including Côte d'Ivoire, Sierra Leone, Ghana, Guinea, and Uganda to promote conservation agriculture. Supported by the African Development Bank through the Technology for Transforming African Agriculture Program, AAPRESID provides technical assistance and farmer training to improve productivity while protecting soil health and fostering environmental sustainability (Aapresid 2025, Ramírez 2020). Thousands of smallholders have adopted climate-smart practices, enhancing resilience and rural livelihoods.

Brazil has advanced a more comprehensive South–South cooperation agenda, spearheaded by the Brazilian Cooperation Agency (ABC) and EMBRAPA. This model focuses on transferring agricultural technologies and building technical and institutional capacities. Initiatives such as the Brazil-Nigeria Green Imperative and the Institutional Strengthening of Rural Development and Cooperatives in Botswana illustrate how technology transfer and managerial training can improve yields and operational efficiency (Green Imperative Project 2025, Martins 2018). In Senegal, the Integrated and Sustainable Agroecological Production (PAIS) project promotes locally adapted techniques that diversify income, improve food security, and reinforce agroecological resilience (UNDP and IBRAF 2020).

Beyond technical and institutional benefits, South-South cooperation fosters market development and trade linkages between these regions by sharing innovative business models and integrating agrifood value chains. For example, Los Grobo Agropecuaria, an Argentine private vertically and

horizontally integrated agribusiness group, has pioneered a network model of agrarian organization (LGA 2025). This involves managing third-party agrifood production and processing assets, including short-term land leasing, outsourcing agricultural operations, and flexible use of machinery and labor. This model has allowed for the expansion of cultivated areas while minimizing fixed costs and maximizing returns on invested capital. By relying on commissioned agronomists to establish temporary contracts with landowners and contractors, Los Grobo has ensured access to productive resources while externalizing many production risks (Sosa Varrotti 2019, Wilkinson 2016).

The innovation of Los Grobo Agropecuaria has extended beyond production to contribute to the financialization of agriculture in Argentina. It is active in commodity futures markets, including in both Buenos Aires and Chicago, and established financial vehicles. These include agricultural investment funds and the Los Grobo Mutual Guarantee Society (SGR), which is a reciprocal guaranteed company designed to facilitate access to credit for agricultural producers and service providers. For farmers, SGR offers them financing to upgrade their machinery or purchase inputs on the condition that they deliver part of their harvest to Los Grobo's storage facilities, enabling the company to secure grain flows from producers. Although the model faces limitations in contexts where contracting systems are less developed, as in Brazil, its success in Argentina demonstrates how private actors can mobilize financial, technological, and human capital to enable large-scale agricultural transformation (Sosa Varrotti 2019).

South-South research collaboration has been supported by initiatives like the Africa-Brazil Innovation Fair, launched in 2010 to promote joint projects between Brazilian and African research institutions. Selected through competitive processes, projects under the initiative have addressed diverse issues such as natural resource management in Mozambique, pest control in Tanzanian cotton, and the nutritional potential of native food species in Burkina Faso. These activities show the reciprocal benefits of South-South collaboration—enhancing productive capacity and resilience in Africa, while generating new opportunities for Brazilian research and agrifood business sectors (World Bank 2010).

Recently, EMBRAPA, ABC, and IICA launched the Africa-Brazil Dialogue on Agricultural Research and Innovation. This renewed cooperation agenda aims to deepen knowledge exchange on sustainable practices, including regenerative agriculture, land restoration, and food system resilience. It reinforces Brazil's role as a strategic partner for Africa as it seeks to transform its agrifood systems and exemplifies how multi-actor platforms can institutionalize long-term cooperation (IICA 2025).

In addition, CGIAR has played a relevant role in advancing South-South cooperation by leveraging its global network of research centers to foster cross-regional collaboration between Latin America and Africa. For example, CIAT has collaborated with the Mozambique Institute of Agricultural Research (IIAM) to develop improved cassava varieties adapted to tropical lowland conditions and resistant to mosaic disease. These partnerships transfer genetic material and breeding strategies to local research systems and promote long-term knowledge exchange (CGIAR 2016, Costa and Delgado 2019; Fuglie and Echeverria 2024)

Through its Climate Change, Agriculture and Food Security (CCAFS) program, CGIAR facilitated technical cooperation between Latin American and African researchers around climate-smart agriculture. These practices, originally tested in Central America, include integrated soil fertility management and agroforestry. They have been adapted to West African contexts through joint field trials and knowledge platforms. The resilience of smallholders' production systems under climate variability has been improved through these efforts. CCAFS' regional learning alliances illustrate how structured knowledge transfer mechanisms enable reciprocal innovation while tailoring solutions to ecological and institutional specificities (Partey et al. 2018).

By 2020, CGIAR-related crop technologies had been adopted on at least 221 million hectares across Africa, Asia, and Latin America, generating annual economic welfare gains of US$ 47 billion (Fuglie and Echeverria 2024). While African countries rely heavily on CGIAR innovations, Latin America has strengthened its local agricultural research capacity. However, cross-regional collaboration remains essential for tackling shared challenges in agrifood systems, such as climate change and food insecurity. CGIAR also strengthens human and institutional capacities by training researchers and technicians from both regions, ensuring that the adoption of improved varieties and innovative practices contributes to reducing rural poverty and improving food security (Echevarría and Trigo 2008).

These experiences show the multifaceted potential of South-South cooperation to enhance the transformation of agrifood systems. By mobilizing complementary capacities across public, private, and research actors and

aligning technological, institutional, and market-based innovations, such cooperation has produced tangible effects on productivity, resilience, and inclusivity. Africa presents opportunities that can strengthen South-South cooperation with the African Continental Free Trade Area, which offers a platform to advance trade integration across the continent and expand engagement with external partners (FAO and AUC 2021). However, to sustain and scale up these gains, it is necessary to strengthen governance mechanisms, foster long-term partnerships, and ensure that cooperation modalities remain responsive to local contexts and evolving challenges.

Investment and Financing for Agrifood System Transformation

Financing plays a relevant role in enabling agricultural innovation and transformation. While Latin America has historically relied on institutional arrangements and public research organizations to drive technological progress, experience shows that these efforts require sustained, adequate financial support to be effective. Scientific and technological advances alone are insufficient unless backed by mechanisms that can mobilize resources and support diverse actors across the agrifood system. In settings characterized by structural heterogeneity, fragmented markets, and increasing climate risks, innovative financing instruments—ranging from public-private partnerships to blended finance and climate-aligned mechanisms—are essential to de-risk investments and promote inclusive, resilient growth. Identifying and adapting these models to the realities of African countries can help lay the foundation for more sustainable and transformative agrifood systems across the continent.

The agricultural innovation system in Latin America has evolved through a multi-level architecture that integrates national, international, and regional efforts (Piñeiro and Trigo 2023). At the national level, public research institutes have been established in various countries since the mid-20th century, including INTA in Argentina, the National Institute of Agricultural Research (INIA) in Ecuador, Agrosavia in Colombia, and EMBRAPA in Brazil, among others. These organizations were designed to promote research and technological innovation to increase agricultural productivity, address food security challenges, and boost agrifood exports. Their creation was linked to national development strategies that sought industrialization and import substitution by relying on scientific advances to achieve more efficient and competitive agricultural production (Echevarría and Trigo 2008; Piñeiro and Trigo 2023).

In addition, the region has benefited from support from international research centers, particularly those within the CGIAR. These centers have provided scientific evidence and innovative technology that facilitate transnational collaboration and knowledge transfer. Among the international centers located in the Americas are IFPRI, CIMMYT, CIAT, and CIP. All have contributed to improving productivity and strengthening scientific and technical capacities in the region, generating beneficial impacts on production systems (Piñeiro and Trigo 2023; World Bank 2020).

At a regional level, platforms and centers supported by multilateral organizations such as IICA facilitate collaboration among countries through research, technology transfer programs, and policy dialogue. All these activities are aimed at strengthening integration and innovation in agrifood systems across the region (Piñeiro and Trigo 2023). The cooperative agricultural research programs (PROCIs) are subregional mechanisms formed by networks of agricultural research institutes or networks formed to address specific thematic research issues in agrifood systems. For example, in Central America and parts of South America, the Agronomic Center for Research and Education (CATIE), an autonomous, non-profit institution whose members include Bolivia, Colombia, the Dominican Republic, Mexico, Paraguay, Venezuela, and all of the Central American countries, supports research and training in sustainable agriculture and on specific research themes (World Bank 2020, Piñeiro and Trigo 2023).

Additionally, the Regional Fund for Agricultural Technology (FONTAGRO), established in 1998, mobilizes financial resources to generate regional public goods within agrifood systems and promotes collaboration between national agrifood institutions and international centers (Piñeiro and Trigo 2023). Designed as a competitive, non-reimbursable financing mechanism, FONTAGRO promotes technological development in family farming through regional cooperation, with a focus on equity, sustainability, and food security. Its governance model allows member countries to jointly define funding priorities, particularly for research projects that generate transnational public goods. By fostering collaboration among national institutions and international agricultural research centers, FONTAGRO has strengthened the

region's capacity to respond to shared challenges and mobilize resources for innovation. Increasingly, the Fund is bridging the gap left by declining donor support to agricultural research and development and reinforcing the need for regional and domestic public investment.

FONTAGRO's operational model is to promote regional research consortia that integrate the technical capabilities of participating countries. These consortia serve as platforms for technical integration, enabling the joint development, management, and dissemination of agrifood innovations. They enhance the quality and impact of individual projects by fostering complementarity among institutions, building a network for innovation, and accelerating cross-border knowledge transfer. Moreover, the Fund contributes to project effectiveness and the consolidation of well-integrated regional innovation systems in the agrifood sector. Its experience underscores the importance of institutional arrangements that align investment incentives with regional priorities and facilitate collective action in the sector (Labarta Chavarri, Rivera Vasco, and Saini 2020).

FONTAGRO has supported several projects that illustrate its potential to deliver scalable solutions to regional agrifood challenges. These include the development of ecological pest management practices for smallholder potato producers in the Andean region, bio inputs for sustainable vegetable production, and participatory selection of fruit varieties. In response to climate-related threats, it has financed research on genetic resilience in maize and adaptation strategies for potatoes. Many of these projects have led to new technologies or approaches that were subsequently adopted by farmers or further developed in subsequent research. By generating knowledge with regional reach and supporting the creation of transnational public goods, FONTAGRO demonstrates how strategic, coordinated investments can contribute to more resilient and inclusive agrifood systems (Labarta Chavarri, Rivera Vasco, and Saini 2020).

Beyond institutional arrangements, transforming agrifood systems in Latin America and Africa requires financing strategies that can respond to the structural heterogeneity and innovation needs of these systems. Four complementary channels—internal flows within agrifood systems, public resources, international development finance, and capital markets instruments—offer distinct but interconnected pathways to support this transformation (Díaz-Bonilla 2023). Mobilizing these channels effectively depends on the availability of financial resources, a regulatory framework, and public policies that prioritize innovation, de-risk investments, and create incentives for sustainable practices across agrifood value chains.

Internal reinvestment within the agrifood system through reinvested earnings from producers, cooperatives, and agribusinesses remains a relevant source of funding for innovation. However, smallholders face liquidity constraints and limited access to long-term credit. Public expenditure must counterbalance these financial deficits by funding basic research, extension services, and public goods, such as climate information systems and rural infrastructure. When strategically aligned with innovation goals, public budgets can crowd in private capital and create the enabling conditions for more dynamic innovation systems (Díaz-Bonilla 2023, Díaz-Bonilla and Fernández-Arias 2019).

Development finance institutions and multilateral banks are also key actors in fostering innovation-led transformation. Their instruments, ranging from concessional loans to technical assistance and risk-sharing mechanisms, can be tailored to support transitions toward climate-resilient agriculture, regenerative practices, and the digitalization of rural economies. The objective of multilateral development banks is to mobilize financial resources, strengthen institutional capacities, and provide global and regional public goods. This institutional model has proven effective in fostering agricultural innovation in structurally heterogeneous contexts, where long-term financing, knowledge transfer, and coordination across actors are necessary. At the global level, the World Bank, regionally, the Inter-American Development Bank, and subregionally, CAF–the Development Bank of Latin America and the Caribbean, complement these efforts through targeted programs supporting innovation financing tools (Sagasti 2002). Blended finance platforms, green bonds, and sustainability-linked loans are increasingly being deployed to attract private investment in agrifood system activities. When embedded in national innovation strategies, these tools amplify the impact of public and private efforts, reduce fragmentation, and enable greater continuity in long-term research and development processes (Díaz-Bonilla 2023).

Conclusions

The lessons drawn from Latin America offer several key implications that can inform the way forward for Africa's agrifood systems.

Technology and Institutions

The transformation of Latin America's agrifood systems has been driven by the gradual adoption of technologies such as precision agriculture, climate-resilient practices, and enhanced livestock systems. These advancements have delivered the most impact in countries where supportive public policies and collaborative frameworks between public and private actors have been established. However, the region's experience also reveals that progress has been uneven. In many contexts, weak institutions and fragmented innovation ecosystems continue to hinder broader uptake. This underscores a critical lesson: technology alone is not sufficient. Innovation only scales when it is backed by strong institutions, strategic investment, and long-term policy commitment.

Africa's Lessons: Focus on Enabling Environments

Many of the structural challenges that Latin America has faced—fragmented markets, infrastructure gaps, and vulnerability to climate change—are also present across African food systems. The relevance of Latin America's experience for Africa lies not in replicating technical solutions, but in recognizing the importance of building an enabling environment for adoption. African countries should prioritize securing land tenure rights, expanding access to credit and insurance, improving rural infrastructure, and ensuring that extension services are accessible and relevant. Without these foundations, even proven technologies will struggle to make an impact at scale.

Inclusive Institutions

One of Latin America's most transferable contributions is its experience with inclusive producer organizations. In Brazil's dairy sector, cooperatives have enabled small-scale farmers to access inputs, credit, technical services, and markets. These collective models have not only improved livelihoods but also enhanced participation in dynamic value chains. African countries can draw on these examples to strengthen farmer agency through cooperatives, innovation platforms, and multi-actor governance mechanisms. Investing in organizational capacity is essential for overcoming the limitations of scale and promoting equitable access to innovation.

South–South Cooperation

Partnerships between Latin America and Africa are already generating value. Programs such as the Africa-Brazil Dialogue on Agricultural Innovation and EMBRAPA's technical collaborations offer practical examples of applied research and capacity building tailored to African realities. These initiatives illustrate the value of peer learning and joint problem-solving. To deepen impact, future efforts should move beyond short-term exchanges and focus on building long-term institutional partnerships, co-designed research agendas, and aligned regulatory systems that facilitate knowledge sharing, technology transfer, and regional trade.

Financing for Systemic Change

Access to finance remains a critical bottleneck. Latin America has made significant strides through the use of blended finance mechanisms and public-private investment models that mobilize resources for agricultural infrastructure, research, and rural services. African countries can adapt these models to align with their development priorities and ensure they are accessible to smallholders. Equally important is investment in physical infrastructure such as roads, storage, and irrigation systems. Technology adoption can only succeed when it is supported by functional systems that link producers to markets and services.

Navigating Political Economy

Agrifood reform is as much a political challenge as a technical one. In Latin America, policy continuity and multi-stakeholder coalitions have been essential to sustaining progress over time. For Africa, designing reforms that are politically feasible, inclusive, and accountable is key. This means recognizing the diversity of governance systems and ensuring that reform processes are participatory, transparent, and grounded in stakeholder consensus. Strengthening institutions that promote dialogue and accountability will help align transformation efforts with national development goals.

Final Takeaway and Call to Action

Latin America's experience shows that agrifood system transformation requires more than innovation. It demands institutions that deliver, financing that reaches the last mile, and political commitment that endures. For Africa, the path forward involves creating the conditions for innovation to take root in ways that are socially inclusive and environmentally sustainable. The tools are not unfamiliar, but they must be adapted with care and deployed with local leadership.

For Latin America, this is more than an opportunity to share knowledge. It is a chance to engage in meaningful cooperation that strengthens global food security and resilience. The next chapter in agrifood development will not be written by technology alone, but by the partnerships we build and the systems we choose to invest in. Now is the time to move from lessons to action, and from dialogue to shared transformation.