



CHAPTER 8

Agro-Parks as Drivers of the African Food Processing Sector: Review of Conditions for Success

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Context

In July 2003, African heads of state and government ratified the Comprehensive Africa Agriculture Development Program (CAADP) at the Second Ordinary Assembly of the African Union (AU), held in Maputo, Mozambique. In 2014, they adopted the Malabo Declaration on Accelerated African Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods, in which they recommitted to the principles and values of CAADP and set ambitious targets in five broad areas (enhancing agricultural investment, ending hunger, reducing poverty, boosting intra-African agricultural trade, and enhancing the resilience of livelihoods and production systems). Other stakeholders in the agricultural sector were also brought in to support the initiative; the commitment by the private sector was reflected in the launch of the Grow Africa initiative (Grow Africa 2016), and that of development partners through their tying assistance to progress in implementing CAADP via the Global Agriculture and Food Security Program (GAFSP) and the New Alliance for Food Security and Nutrition (De Schutter 2015).

Despite the continued commitment to CAADP, the continent continues to import more rice, maize, and large amounts of other staples each year, with an annual food import bill projected to reach US\$110 billion by 2025 (AfDB 2021). Under the CAADP/Malabo agenda, African countries have committed to improve access to agricultural inputs and technologies, increase agricultural productivity, reduce postharvest losses, improve food safety, reduce food and nutrition insecurity, and improve social protection coverage for vulnerable groups, in order to end hunger throughout the continent by 2025. During the 2021 Biennial Review cycle, Kenya was the only country on track with respect to this commitment, with a score of 6.40 against a benchmark 6.32 (AUC 2022). Similarly, the commitment to bring down the proportion of the population that is undernourished to 5 percent or less by the year 2025 has not yet been fully met. Of the 22 countries that reported on this indicator, only 13 are on track: Burundi, Cameroon, Egypt, Ethiopia, Gambia, Ghana, Mali, Morocco, Mozambique, Senegal, Tunisia, Zambia, and Zimbabwe. It is safe to say that the vision of Accelerated African Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods under the Malabo Declaration is a work in progress.

Achieving structural transformation that generates sustainable and inclusive growth along with decent jobs, poverty reduction, and food security requires a combination of several factors. As pointed out by Matson, William, and Andersson (2016), sustainable development is grounded on the stocks of capital in five key asset areas: natural, manufactured, human, social, and knowledge. Put together in time and space, the five assets have the potential to trigger structural transformation and sustainable development. In other words, achieving structural transformation—and thereby the Sustainable Development Goals (SDGs)—requires various actors to combine assets through production processes to generate goods and services that are consumed. Indeed, productivity and efficiency are affected by the stocks of natural, manufactured, human, social, and knowledge capital available to farmers. These assets influence what livestock can be raised, what crops can be grown and when, and where these products can be marketed (Hoddinott 2012). Social capital, through market forces, provides signals as to what activities are profitable and what types of inputs can be profitably employed. The main challenge is to ensure the convergence of these key assets in due time and at the right place. Unfortunately, natural processes alone cannot guarantee such alignment in time and space; there must be a commitment from all actors across the development spectrum to “force” the convergence of these fundamental assets. As highlighted by the African Development Bank (AfDB) (2021), the upgrading of agricultural products into higher-value goods for marketable consumption would entail widening the participation of all key value-chain players, resulting in the involvement of smallholder farmers as well as upstream and downstream actors seeking productive employment and income gains. According to the AfDB (2021), a spatial model of agro-industrial processing is the best fit to serve as a strategic spatial solution for transforming Africa’s agriculture into a high-value-added industry.

Although there are different forms and natures of special economic zones (SEZs), they all share certain characteristics: (1) such a zone is a geographically delineated area, usually physically secured; (2) it has a single management or administration; (3) it offers benefits for investors physically located within the zone; and (4) it has a separate customs area (for duty-free benefits) and streamlined procedures (FIAS 2008). Farole and Akinci (2011, 14) argued that “countries that have been successful in deriving long-term economic benefits from their SEZ programs have established the conditions for ongoing exchange,

and the accompanying hard and soft technology transfer, between the domestic economy and investors based in the zone. This includes investment by domestic firms into the zones, forward and backward linkages, business support, and the seamless movement of skilled labor.”

For several decades, SEZs have proliferated following their successes in East Asia, particularly in China. Like traditional SEZs, there are several ways agro-parks can boost the food processing sector in Africa: (1) encouraging local innovation through technology transfer to small-scale farmers and domestic processing firms along agricultural value chains, (2) bringing skills and knowledge into the rural economy through professional and vocational trainings, (3) promoting the development of the rural nonfarming economy with improved infrastructure, (4) providing an opportunity to implement new policies or introduce reforms that would have been otherwise impossible, and (5) creating a multi-actor platform for sustainable development.

Following the release of the 2018 inaugural CAADP Biennial Review report, the African Union Commission proposed common African agro-parks (CAAPs) as a response to the continent’s poor performance in meeting the target of tripling intra-African trade. In October 2019, the African Union formally adopted CAAPs¹ as a program associated with the African Continental Free Trade Area. The CAAPs initiative is part of a larger strategy to create regional agro-industrial hubs, aimed at increasing the supply of domestically produced and locally processed foods and goods. The specific objectives of CAAPs are as follows:

- To move Africa’s agriculture from traditional farming systems to integrated agrifood systems akin to the organization² of agro-processing and agro-marketing at the continental level
- To reduce by 70 percent the current African food import bill by 2030 through emphasizing local agro-processing and the consumption of Africa-grown food products
- To create employment opportunities along the food system for at least 30 percent of Africa’s youth

- To mobilize at least 60 percent of the CAAPs’ investment requirements from African private investors, agro-industrialists, and Africans in the diaspora
- To promote and boost regional trade to achieve the continental targets of tripling intra-African trade for agricultural commodities and services by 2025

Several development and social responsibility programs are proposed to be implemented alongside the CAAPs for greater impact: (1) skills development programs for training agri-operators and/or agribusiness incubation centers, usually in partnership with universities; (2) voluntary agri-operator-oriented resettlement and training programs for refugees and immigrants; (3) home return programs for Africa’s diaspora; (4) agricultural commodities trade facilitation programs; and (5) youth programs.

This chapter presents a review of past and present experiences with geographically targeted initiatives, in particular agro-parks, and highlights the reasons for failure and success. It concludes with key recommendations for successful implementation of the CAAPs initiative.

Concept and Types of Agro-Parks

Experience across the world points to different understandings and designs of agro-parks, which can be broadly categorized into three groups (World Bank Group 2016). The first is SEZs, which are used as a tool for industrial development. Farole and Akinci (2011) defined SEZs as demarcated geographic areas contained within a country’s national boundaries, where the rules of business are different from those that prevail in the national territory. SEZs typically have a strong export focus. They offer land serviced with all utilities to specific types of investors, and focus on the development of specific industries and the exploitation of both upstream and downstream investments. They are equipped with comparatively unique infrastructure assets (such as easy access to power,

1 More specifically, the third Ordinary Session of the Specialized Technical Committee on Agriculture, Rural Development, Water and Environment of the African Union met to discuss the CAAPs.

2 African agriculture is dominated by 62 percent farming systems, whereas the global agricultural sector is composed of more integrated food systems, at 22 percent farming, 15 percent processing, 15 percent logistics, 25 percent retail, and 23 percent input supply.

water, or transport) and are regulated by a specialized authority with an on-site manager/operator, possibly a private investor.

The second is agro-industrial parks (AIPs), which are usually linked to territorial development strategies and may be referred to as *agroparks*, *agribusiness parks*, and *agrifood parks*. Overall, their concept is based on a concentrated industrial estate dedicated to the processing and promotion of agrifood value chains, including crops, livestock/dairy products, and allied services. They seek to drive technological change, add value, and industrialize the agribusiness sector by offering premises and supporting services on the microeconomic scale (Gálvez-Nogales and Webber 2017). They are often based on a public–private partnership (PPP) scheme aimed at facilitating private sector investment in agribusiness by providing (1) access to basic industrial infrastructure; (2) shared common services and facilities, and creation of economies of scale in terms of warehouses, cold storage facilities, logistic services, waste management, finance services, and other such services that may not be financially viable for individual firms; (3) specialized agro-industrial services, such as laboratory testing, certification, and new product development services; (4) improved access to technical support as well as information and management services; and (5) facilitation of partnerships through effective networking between primary producers, agro-processors, traders, retailers, and end markets. AIPs are often owned and operated by a special purpose vehicle, specifically established for the park and often based on a PPP. Depending on the business model, companies can access park plots through lease or purchase contracts.

The third category of agro-parks is the agri-clusters, which are essentially a concentration of producers, agribusinesses, and institutions that are engaged in the same agricultural or agro-industrial subsector, which interconnect and build value networks when addressing common challenges and pursuing common opportunities (Gálvez-Nogales 2010). They often share related production inputs, distribution/communication channels, and specialized labor pools and network associations across a larger geographical area (sometimes within a single country or contiguous regions of two or more countries). They do not have delimitation or a special legal/regulatory regime, but the organization and network of actors within the cluster typically allow them to enhance their productivity and competitiveness.

A key feature of agro-parks is investment promotion. Agro-parks provide domestic and foreign investors with a more attractive business environment—for

instance, improved access to serviced land and/or buildings, reliable power supply, protection of land rights, and linkages to local economies. (An example is the KINFRA Food Processing Park in Kakkanchery, Kerala, India, which established a single-window clearance facility for obtaining all regulatory licenses and registrations from different public agencies in one place, and made available ready-to-use industrial plots with all utilities for investors. The park included the construction of general infrastructure such as internal roads, power supply, common facility buildings, and other facilities. It was also equipped with specific facilities needed by the food processing industry, such as a water treatment plant, a quality control laboratory, a food incubation center, a common warehouse, and modern cold storage facilities) (Kinfra Mega Food Park 2020). The key driver of investments in agro-parks (SEZs, AIPs, or agri-clusters) will be consumer demand. Data from eastern and southern Africa project huge growth in the demand for processed foods (Tschirley et al. 2015). Under appropriate conditions, these investments, among other spatial agricultural development tools, can contribute significantly to local socioeconomic development.

Agro-parks can serve as growth poles, taking advantage of government regional growth initiatives based on existing domestic agro-industry, local and export markets, and main trade infrastructure. This is the case in Côte d’Ivoire, where the government promoted three SEZs near Bouake, a key economic center that was at the epicenter of the 2011 political crisis (AfDB 2015), and in Tunisia, where the agrotechnopark of Bizerta is strategically located in the vicinity of Tunis, Carthage International Airport, the commercial port of Bizerta, and the free zone around Lake Bizerta (Gálvez-Nogales and Webber 2017).

Agro-parks can also lead to a broader engagement of the private sector in the economy, especially in supporting the development of small and medium enterprises (SMEs) by facilitating their entry into the agro-parks or enabling them to become suppliers to the zones. For example, in Kenya, the SEZ authority established an incubator program to help SMEs establish direct exporting and subcontracting linkages with firms in the zone (Farole 2011). Agro-parks can support economic diversification, especially those SEZs that are mixed-use zones, which can set the foundations for a steady emergence of a services- and export-oriented manufacturing sector (for instance, the cases of Egypt, Mauritius, Morocco, and the United Arab Emirates) (Farole and Moberg 2017). Moreover, such development tools can foster institutional collaboration and policy coherence through improved sector governance as well as clear and transparent legal

and regulatory frameworks that codify the agro-park strategy and establish the rules of the game for all stakeholders involved in the process, including government, the private sector, civil society, and development partners (AfDB 2015).

Overall, investments in agro-parks offer the potential for improved coordination between the chain actors and agglomeration economies that can lead to enhanced productivity and performance (reduced logistical and transaction costs, improved quality and food safety management, access to markets, and increased profits). Such coordination fosters linkages among farmers and enterprises, as well as collaborative relations with local institutions (that is, extension and research institutes), supporting knowledge spillovers (that is, easing the flow of business ideas and technology) and spurring innovation and development in agribusiness. Agro-parks reduce uncertainty for producers, who, through proximity to processors, gain the assurance of consistent demand and clear communication of market requirements (quantity, type, and quality of produce). In addition, such investments help by clustering agri-enterprises in defined zones, making them more convenient to attract suppliers, service providers, skilled workers, and customers, and to provide a private sector-driven basis for market linkages for all participants in value chains. Clustering can also boost the performance of smallholder farmers, as it enables them to increase productivity through innovations. Together, these improvements trigger significant development impacts that can strengthen the local economy, support poverty reduction, and lead to more viable farms and sustainable rural communities.

Like other spatially concentrated industries, agro-parks have the potential to create negative environmental impacts. These can include deforestation, air and water pollution, soil contamination, and increased emissions, among others. Many of these challenges are associated with modern agricultural production in general; they can pose particular issues in AIPs if environmental regulations are looser or are enforced less strictly than in other parts of the country. However, in some cases, it may be more feasible to enforce standards and provide services to support environmental protection within an agro-park than in the rest of the country (UNCTAD 2019). The International Framework for Eco-industrial Parks, developed by the United Nations Industrial Development Organization (UNIDO), the World Bank, and the German Agency for International Cooperation (GIZ) provides guidelines for industrial parks to improve environmental sustainability, including by adhering to or exceeding national

environmental standards, ensuring monitoring of environmental performance, using energy and other resources efficiently, having adequate waste management systems, and mitigating pollution and emissions (UNIDO, World Bank, and GIZ 2017).

Lessons Learned from Selected Types of Agro-Parks

Experience with SEZs: The concept of the SEZ has been implemented in several countries to achieve different development objectives, including those of promoting agro-industries focused on export and of creating domestic markets for import substitution. In the last decade, this concept has seen increasing interest in countries' agricultural and agro-industrial development strategies. However, in agro-industry, the SEZ model should be applied within a broader set of policy reforms and based on carefully evaluating the country's or region's comparative advantage in agro-processing activities, as well as ensuring strong linkages to the market. Furthermore, the integrated nature of agricultural value chains requires policymakers to take a value chain approach to improving competitiveness (Gálvez-Nogales and Webber 2017).

The SEZ development tool has been widely promoted in Asia and Latin America, and has contributed to their export-led growth and structural transformation (Gálvez-Nogales and Webber 2017). For example, China used SEZs as a platform to support the development of export-oriented manufacturing. Alder, Shao, and Zilibotti (2013) estimated that SEZs established in various cities in China generated a 12 percent increase in gross domestic product for each respective city. In Latin America, countries such as the Dominican Republic, El Salvador, and Honduras used another form of the SEZ, the export processing zone (EPZ), to take advantage of preferential access to the US market. These zones generated large-scale manufacturing sectors in economies previously dependent on agricultural commodities. Furthermore, SEZs played a key role within the political economy of reform. In several countries, they supported partial exposure to global markets while maintaining protective barriers, in a "stepwise" approach to reform. SEZs aided in piloting new policies before rolling them out to the broader economy and, in the absence of political will to undertake reforms, acted as "second-best environments" and "pressure valves" to absorb excess labor (Farole and Moberg 2017).

The positive experience in Asia and Latin America (as well as countries in the Middle East and North Africa) prompted governments in Africa south of the Sahara (SSA) to initiate their own SEZ programs. According to the United Nations Conference on Trade and Development (UNCTAD 2019), 237 SEZs had been established in the region as of 2019, of which only 51 were under development. These took the form of EPZs, free trade zones, and free ports. The review of these strategies over the past two decades shows that they have generally failed to achieve expected goals. According to Farole (2011), except for Mauritius and the partial initial successes of Gabon (see Box 8.1), Kenya, Lesotho, and Madagascar, most SSA zones have failed to attract significant investment, promote exports, and create sustainable employment. Investments in zone infrastructure resulted in “white elephants” in numerous cases (Farole 2011). In some instances, SEZs became zones where investors took advantage of tax breaks without delivering substantial employment or export earnings. Other zones, such as those in Madagascar, were successful in attracting investment, creating employment in the short term, and contributing to improvements in the overall economic situation of the country in the second half of the 1990s (Cling, Razafindrakoto, and Roubaud 2005); however, even such success has proven to be highly vulnerable to changes in trade preferences and political stability (Cling, Razafindrakoto, and Roubaud 2007; Farole 2011) and has not managed to sustain its competitiveness in the face of eroding trade preferences or rising wages (Staritz and Morris 2013). Other SEZ experiences supported by China in five African countries resulted in poor linkages to the domestic economy, likely limiting their ability to promote wider structural transformation; however, the infrastructure developed for the zones will likely benefit other sectors (Brautigam and Tang 2014).

While SSA zones in most cases established physical and regulatory environments that were more attractive than their national and regional markets, these incentives were insufficient to attract footloose international investors. The causes of failure of these SEZs include several factors, such as a flawed concept, bad planning and implementation, and issues that are beyond the control of the investor (for example, civil unrest, policy inconsistency, regulatory uncertainty, and the like). Other key factors contributing to the failure of zones have included sites that were too remote, requiring substantial capital expenditures; poorly designed and constructed infrastructure facilities; inadequate marketing of the zone; lack of adequate institutional and administrative capacity; and

BOX 8.1—GABON SPECIAL ECONOMIC ZONE

The Gabon Special Economic Zone (GSEZ) was set up in 2010 as a joint venture between Olam International Ltd., the Republic of Gabon, and Africa Finance Corporation, with a mandate to develop infrastructure, enhance industrial competitiveness, and build a business-friendly ecosystem in Gabon. It has now emerged as one of west-central Africa’s major multisector manufacturing centers. It includes important agro-industrial activities such as wood processing and contributes 14 percent of Gabon’s annual export earnings. With some 140 investors already established, GSEZ is considered a commercial success. It offers public–private partnership commitments aligned with special economic zone laws, a specialized infrastructure, and an operational one-stop shop for fast-track customs and regulatory services. The zone was recently awarded ISO 14064-1 Carbon Neutral Certification, which provides a transparent third-party assessment of GSEZ’s carbon footprint and offsetting. The zone encourages the participation of small and medium enterprises by facilitating their access to capital through several financing instruments, such as the Gabon Strategic Investment Fund, the Okoumé Capital Fund, COFINA, and the National Social Assistance Fund.

Source: <https://www.ariseip.com/project/gsez/>

uncompetitive economic policies such as excessive reliance on tax holidays and protectionist labor practices. Finally, an inadequate and irregular supply of raw material of the required quality and quantity is also among the main reasons for the limited performance of agro-parks in Africa. This is partly because, when developing agro-food parks, policymakers tend to focus on developing hard infrastructure at the processing hub level and fail to give due attention to improving the quality and quantity of the supply of raw material. In a recent study, Farole and Moberg (2017) argued that these constraints are mostly technical and that the main reason for SEZ failures in SSA is flaws in the political economy of SEZ schemes, which prevent replication of “best practice” in SEZ

development and management. They further suggested that acknowledging the political economy challenges posed by SEZs opens the possibility to mitigate their deleterious effects while offering possible solutions. Therefore, a cautious and conservative approach, taking into consideration the political economy surrounding the region, should be taken when embarking on large, costly, and long-term projects like SEZs.

There are several ongoing agro-industrialization experiences across Africa, including integrated AIPs in Ethiopia, horticulture clusters and value chains in Ethiopia and Kenya, the export promotion of the fisheries sector in Senegal, integrated AIPs in Morocco, crop agro-processing in Ghana, agribusiness and zone development in South Africa, and a major agro-industrial SEZ in Gabon's forestry sector. The African Development Bank (AfDB) assessment of these experiences can be summarized as follows (see Table 8.2 for the key drivers of success in each project): (1) the SEZ model "is an appropriate spatial solution that has potential to improve food security, transform agriculture, and promote rural development"; (2) a "development approach based on the concept and operational features of the [SEZ] model is a viable strategy for promoting inclusive growth through widening participation and balanced development resulting from dispersed urbanization"; (3) "the application of the [SEZ] model to development planning is conducive to providing support for regional integration initiatives and value chain development and upgrading"; and (4) "the application of [the SEZ] model as an industrial development strategy is useful for addressing contemporary environmental challenges, including transitioning to green industrial growth based on agro-industrialization, as compared with conventional manufacturing, and also conservation of fisheries and forestry industries."

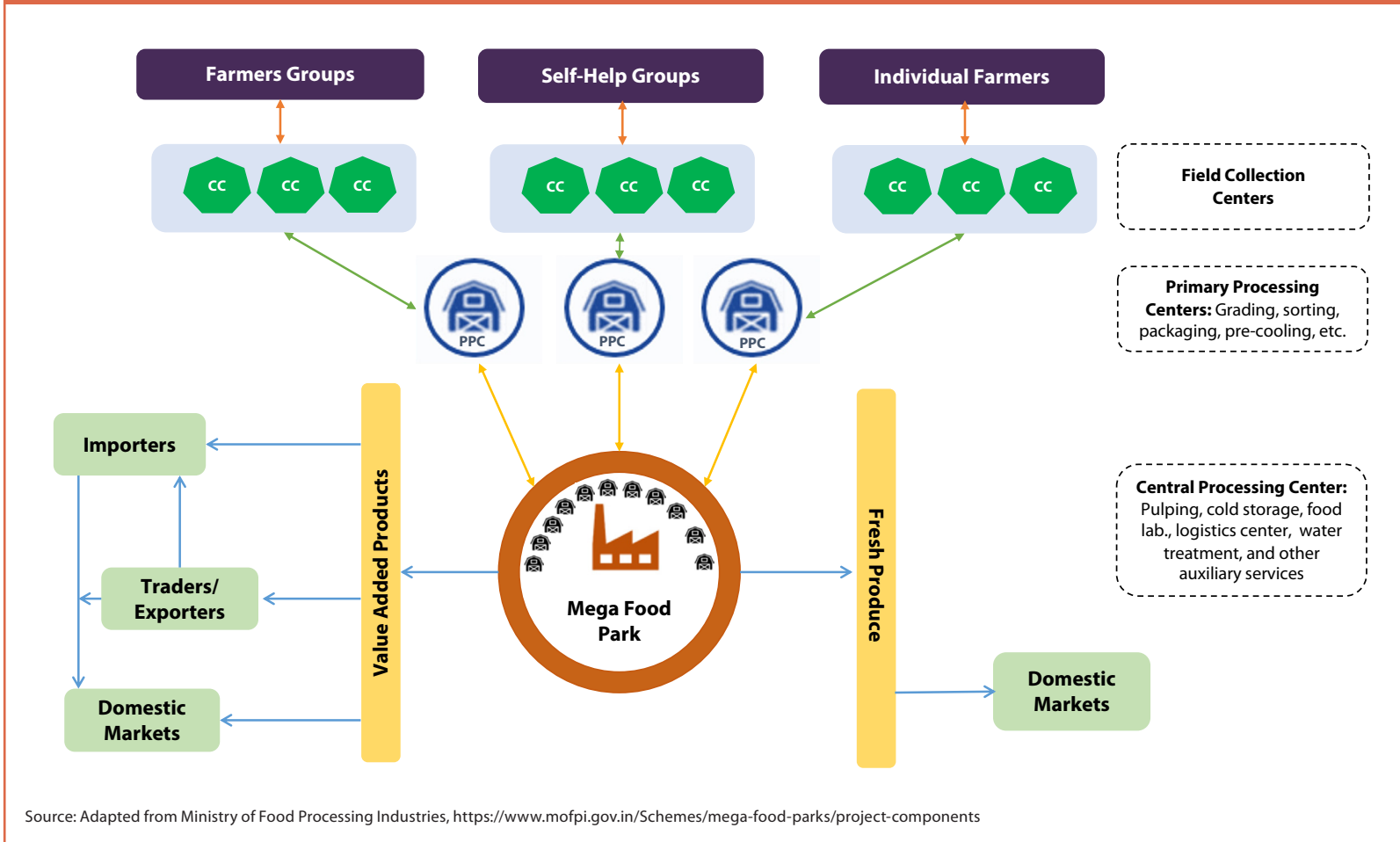
The industrial park business model has been extensively promoted at the global level, in particular in support of the development of light manufacturing industries such as textiles, clothing, footwear, and electronics. Vidová (2010) reported that industrial parks prospered in the United Kingdom from the 1930s to the 1960s, linked to regional policies to foster growth in crisis areas and regulate the location of a specific industry in selected districts. Over the years, they became a tool frequently used to support local economic development in the United States and Canada in the 1960s (Peddle 1993), and in Germany in the 1980s and 1990s (Vidová 2010). Taking advantage of the globalization era in the 1980s and 1990s, East and South Asian countries adopted the concept to benefit from the related increased trade, global value chains, and production networks

(Dinh et al. 2012). In these countries (Hong Kong, Singapore, and the Republic of Korea), industrial parks developed rapidly during the 1980s, and in China, as well as Latin America and India, from the early 1990s. In the 2000s, the concept was applied in other parts of the world, including SSA. In this region, the concept yielded mixed results due to, inter alia, faulty governance structure and increasing global competition.

The adoption of AIPs as a tool for attracting investment, creating agricultural value addition, and increasing competitiveness is quite recent in both industrialized and emerging economies (Gálvez-Nogales and Webber 2017). They were promoted with the objective of instigating local economic development, upgrading product variety and quality, and reducing risk to private sector investors by providing common infrastructure. In late 2000, the government of India promoted a policy (the Mega Food Park program) to incentivize food processing and reduce food wastage. The program envisioned the creation of modern support infrastructure in a well-defined agro-horticultural zone for establishing food processing units within an industrial park. The aim was to provide a mechanism to link agricultural production to the market by bringing together farmers, processors, and retailers so as to maximize value addition, minimize wastage, increase farmers' income, and create employment opportunities, particularly in rural areas. The mega food parks typically consist of supply chain infrastructure, including collection centers, primary processing centers, central processing centers, cold chain facilities, and 25–30 fully developed plots for entrepreneurs to set up their food processing plants (Figure 8.1). These projects are implemented by a special purpose vehicle.

As of March 2022, 22 of the 42 parks envisaged in the India Mega Food Park program were operational but yielding mixed results (Ministry of Food Processing Industries 2022). The main issues faced by the program include delays in approval and implementation, as well as lack of facilitating institutions for land acquisition, labor recruitment, and availability of capital. An evaluation of the scheme, carried out by the Ministry of Food Processing Industries in 2015, concluded that while there was private sector interest in investing in the mega food parks due to rising urbanization, increasing demand for processed food, and huge opportunities to develop new products and brands, the private sector felt that the business model conceptualized in the scheme guidelines was difficult to implement and offered low returns in the beginning. The report also pointed out a lack of buy-in from state governments for the project, which has led to project

FIGURE 8.1—ILLUSTRATION OF THE INDIA MEGA FOOD PARK SCHEME



delays (that is, political interference, delays from the ministry in releasing grants, issues regarding acquisition of contiguous land, trouble obtaining the necessary clearances and approvals such as power and water, and lack of fiscal incentives for units to locate in the food park). In addition, the time frame to operationalize the park was limited to 30 months, which was tight and did not take into account any contingencies. It is a challenge for a food park to work with farmers in improving the quality of raw materials, creating linkages, and implementing

new technologies and practices in a 30-month time frame. This is further substantiated by the fact that none of the food parks were operational within 30 months. Several developers pointed out that they were expecting organized retail to develop and foreign retailers to come to India. They could then engage in contract manufacturing for the organized food and grocery retailers. Some investors felt the approach of the scheme was basically “one-size-fits-all,” which did not allow for attracting investors with different investment requirements. The design

of the scheme also seemed unattractive and restrictive to global multinationals and investors from countries such as Australia, the European Union, Japan, the Republic of Korea, and the United States, as these countries and regional communities cannot invest in a grant-based scheme limited to domestic firms. Most developers' preference would be for joint ventures like the food industrial parks developed in China, Thailand, and Vietnam. In these parks, foreign collaboration led to technology upgrades, access to finance, knowledge spillover, and the adoption of best management practices (UNIDO 2020; Whitfield et al. 2020).

Similarly, in Europe, the AIP concept was also applied in a few countries. The focus of the resulting parks was on increasing competitiveness, spurring innovation, and reducing waste flows while maximizing resource flows in high-value agribusinesses (horticultural products and flowers). This is the case, for example, of the Danish Agro Food Park in Århus³ and the Greenport Venlo park in the Netherlands.⁴

More recently, with the liberalization of its economy and the increase in competitiveness from imported goods, Morocco promoted the concept of AIPs (called agropoles) as part of its agriculture development strategy, titled the Green Morocco Plan 2010–2020. Six agropoles are planned in different agroecological zones. The aim of the parks, established in areas varying between 100 to 200 hectares, is to strengthen the processing and marketing of agricultural products. The agropoles benefited from substantial funds for their development (ranging from US\$45 million to US\$92 million per site). Each agropole was designed to offer investors, mainly operating in the agrifood sector, an adequate environment, with serviced industrial plots and quality infrastructure (access roads, power, communication, conference facilities, training centers, logistics, food laboratories, and other common facilities). To further attract investors to the zones, the government provided incentives largely in the form of grants and subsidies, exemption from licenses during the first five years for business and industry, and reduction of import duties on selected key inputs. Despite this support and the attractiveness of the sector, the plan was delayed by five years, and only two parks are currently fully operational (in the cities of Berkane and Meknes). The difficulties encountered in rolling out the plan are linked to (1) the limited consultations with the key value chain actors (including domestic business and

local communities) to ensure that demand/support is based on the potential of the area (market demand and political economy), (2) weak institutional capacity in terms of planning and implementation of the concept of agropoles, and (3) the design of the strategy itself. A key element of that strategy is aggregation, the grouping of farmers around private actors (aggregators) with strong managerial capacity to address land fragmentation and ensure that smallholders have access to modern production techniques. The aggregators are supposed to play key roles in the promotion, processing, monitoring, and marketing of products (Picard, Coulibaly, and Smaller 2017). This has happened only to a limited extent. At this stage, however, it is too early to assess the success or failure of these investments, as they are still under development. Nonetheless, clear operational challenges are present.

In Ethiopia, the government has also applied the concept of AIPs under its Integrated Agro-industrial Parks scheme, running from 2009 to the present. The program is based on a “hub-and-spoke” model in which a central processing hub is fed by numerous smaller aggregation centers (the spokes). At the aggregation center (rural transformation center, or RTC), sorting, grading, packaging, storage, and primary processing activities take place, as well as agricultural and financial services for farmers and allied industries. Agricultural produce is then transported to the central hubs for further processing and onward shipment to domestic, regional, and global markets (AfDB 2018). The aggregation center helps ensure that smallholder farmers are integrated into value chains and benefit from agro-industrialization. The RTCs can be publicly run or managed by private agro-processors themselves, while the agri-processing hubs are each owned and operated by a special purpose vehicle, based on a PPP approach. The government has established four integrated agro-industrial parks (IAIPs) with shared infrastructure in Amhara; Oromia; the Southern Nations, Nationalities, and People's Region; and Tigray. These IAIPs specifically target the expansion of inclusive, broad-based economic opportunities through Ethiopia's structural change from an agricultural-based economy to a more industrial economy (AfDB 2021). However, the government has faced some binding constraints in the form of inconsistent policy knowledge on the agglomeration effects of these spatial zones. According to the Organisation for Economic Co-operation and Development

3 <http://www.agrofoodpark.dk>

4 <http://www.greenportvenlo.nl>

(2020), outdated “rural–urban” typologies have failed to account for changing rural realities and the multidimensional needs of labor migrants.

Experiences with agri-clusters: In 2014 the Democratic Republic of the Congo (DRC) initiated an ambitious program to establish 22 agri-cluster parks across the country on more than 1.5 million hectares. The program aimed to boost agricultural production, encourage private and foreign capital investments, and increase agricultural exports. Its concept was based on a “hub farm” developed in partnership with the private sector, which would enable the country to fast-track a modern commercial agricultural sector. The first park was developed as a pilot in Bukanga Lonzo, some 260 km southeast of the capital, Kinshasa, with an estimated US\$90 million in public funding from the government. It covers 80,000 hectares and involves major investments in basic infrastructure (including roads, buildings, a power plant, and water supply), irrigation pivots, greenhouses for tomato production, grain storage facilities, feed mill and flour units, and highly mechanized production. The expectation was that corporate partners experiencing some level of comfort would further invest in the government agro-cluster parks program for nationwide upscaling. However, its implementation has been slowed by political instability, inconsistency in the government agenda and vision, absence of stable funding for infrastructure, and lack of good governance and management. Several nongovernmental organizations have also raised concerns around land grabbing, including the opacity of land acquisition, the lack of consultation with local populations, the absence of a contract between the company and the locals, and forced displacement of local farmers (The Oakland Institute 2019).

This experience points to the need for governments to promote responsible investment in agriculture and food systems with a focus on socially inclusive investments that are mutually beneficial for investors, landowners, local communities, and the region. The governments should ensure that affected communities have the opportunity and responsibility to identify land appropriate for investment, based on informed choices; secure sustained and well-defined benefits; receive fair compensation for the land and natural resources that they make available for investment; engage in ongoing partnerships with investors and the government; and be able to hold investors and government institutions accountable for their commitments. Furthermore, the complexity of an integrated project like the Bukanga Lonzo park requires a wide range of expertise and institutions

that are limited in DRC. It also requires time, sustained government buy-in, and an improved business environment to encourage private sector involvement. Without consistency over several years and good governance and management, the loss of political buy-in is likely to hamper the success of the agri-cluster parks program in DRC.

Success and Failure Factors in the African Context

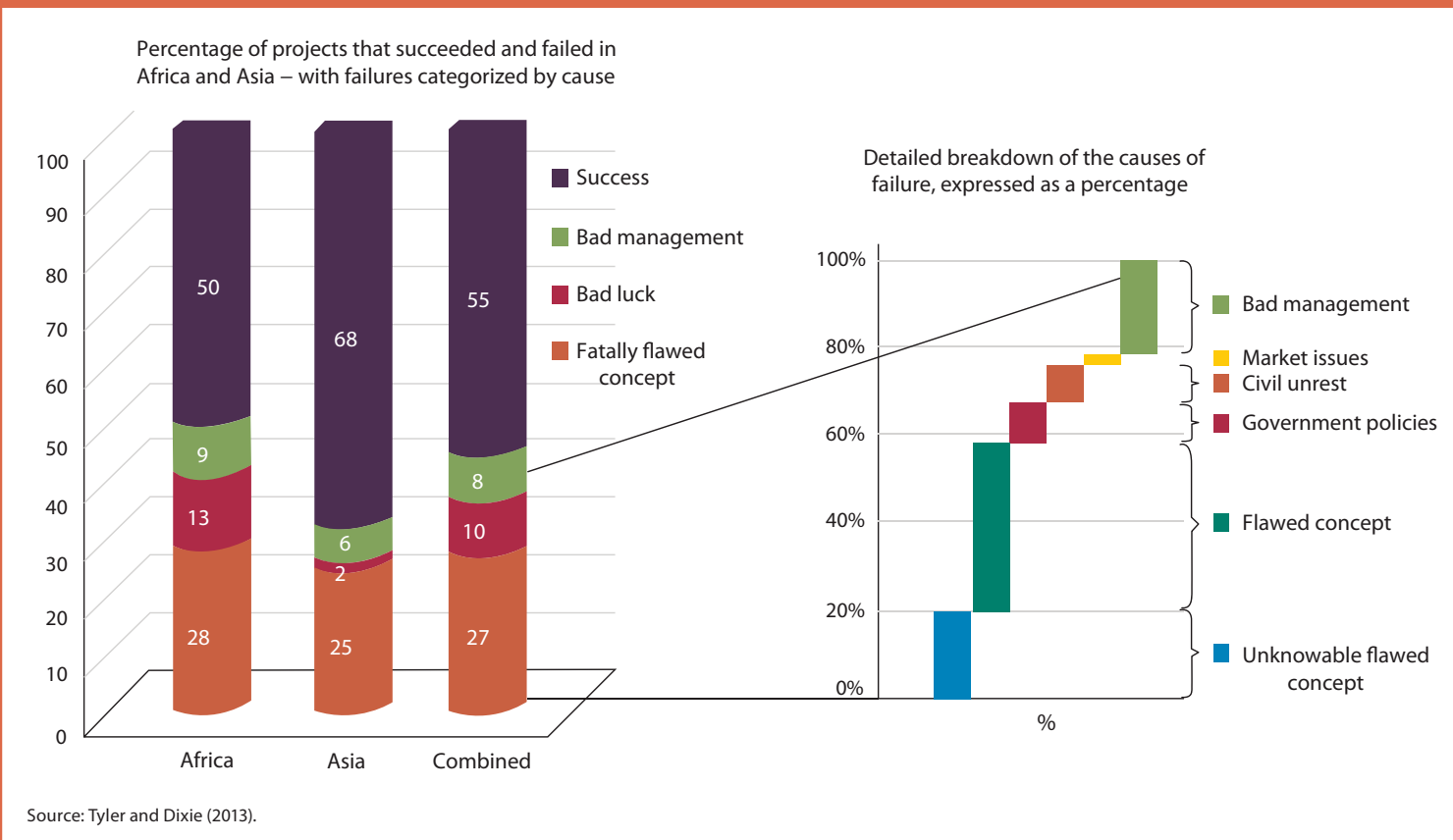
While still a relatively recent investment trend in the African context, agro-parks are increasingly being promoted as potentially effective tools for regional development and spatial inclusion, to attract agro-industrial investments with the aim of enhancing value addition, creating jobs, increasing exports, increasing tax revenues, and providing markets for new and existing producers. Their potential to deliver these impacts derives from the business model’s ability to (1) concentrate scarce resources to provide priority firms and sectors with high-quality public infrastructure and services; (2) encourage firm clustering to unlock economies of scale and scope, positive agglomeration externalities, and industrial linkages; and (3) enable the integration of local SMEs as well as surrounding production zones to ensure reliable inputs as well as forward linkages to the market (CASA 2021).

In general, successfully developed agro-parks around the world share the following main features (Ulimwengu and Jenane 2019): (1) selection of a site offering a clear legal title and little or no population displacement to minimize transaction costs and uncertainty; favorable physical characteristics and a suitable soil foundation capable of being secured with minimal environmental constraints (for instance, flooding, rivers) and minimal environmental impact (for example, water quality, biodiversity, air quality); proximity of the proposed zone to existing public infrastructure facilities to minimize public off-site infrastructure development expenditures; and selection of a site that has physical expansion potential with no encroachment vis-à-vis urban centers or tribal communities; (2) construction of the park near existing population centers, national or international transportation networks, and enterprise clusters to provide easy access to labor, raw materials, suppliers, and distribution markets; (3) existence of land use plans that adhere to best-practice urban planning standards regarding population density and mixed-use buffer zones that separate the industrial park from

commercial and residential areas; (4) public or private construction of infrastructure facilities (such as sewage and wastewater treatment plants), including social infrastructure (especially for education and health care) to attract skilled workers; implementation of environmental protection technologies (for instance, in storage and incineration areas); and provision of waste disposal and refuse collection capacities; (5) an effective and transparent legal, regulatory, and institutional framework to ensure the quality of the business environment inside the zones, including infrastructure provision and trade facilitation capacity; and (6) the existence of privately managed zones to increase administrative, operational, and management efficiencies and to lower costs vis-à-vis public sector counterparts.

Tyler and Dixie (2013) analyzed the reasons for success or failure of a number of investments in commercial smallholder and estate agriculture and agro-processing in SSA and Southeast Asia, including estates or plantations—large-scale farming operations with no smallholder component (46 percent); the nucleus estate and smallholders model, in which an investment is made in a processing plant that has an adjoining large-scale farm coupled with outgrowers supplying the necessary raw material (22 percent); outgrower schemes with

FIGURE 8.2—PERCENTAGE OF PROJECTS THAT SUCCEEDED AND FAILED, WITH REASONS FOR FAILURE



no significant estate element (12 percent); and firms focused mostly on agro-processing activities (20 percent). They concluded that the causes of failure were mostly related to a flawed concept, bad management, and issues beyond the control of the investor (for example, civil unrest, government policies, and markets) (Figure 8.2). They also highlighted that while significant differences exist between these business models, investments in outgrowers and large farms are the most risky, processing operations next, and nucleus estates the least risky, because the latter’s business model is well understood and includes limited processed crops.

TABLE 8.1—CROSS-CUTTING FACTORS THAT FACILITATE SUCCESSFUL AIPs

<p>Sustained high-level political leadership and effective coordination and delivery mechanisms. AIPs are complex long-term projects that require strategic and policy continuity and alignment between—and contributions from—numerous stakeholders, including government bodies, financiers, private sector actors, civil society organizations, and external supporters. Many AIPs get derailed or delayed due to misaligned incentives and a failure to deliver coordinated infrastructure and services or to enforce incentives and regulations.</p>
<p>Policy continuity, consistency, transparency, and predictability. These are critical for sustained implementation, investor confidence, widespread political support, and alignment around clear priorities.</p>
<p>Embedding AIPs in broader development strategies. For AIPs to have the desired broader developmental impacts, they must also be embedded in national economic development strategies, urban development plans, regional infrastructure networks, and agricultural development strategies.</p>
<p>Preliminary research. High-quality research—including demand and raw materials supply analyses and competitiveness assessments—are crucial, first for determining whether an AIP is the right instrument and, second, for guiding site selection, institutional arrangements, value chain targeting, infrastructure, service provision, and other design elements.</p>
<p>Mobilizing long-term capital. AIPs are capital-intensive projects but typically take at least 10 years to be fully established and to generate significant public and private revenues. They therefore require long-term capital, which is often not available. Particularly in the early stages, large-scale public funds typically need to be mobilized to finance the entire project, co-finance the project via a public-private partnership (PPP), or de-risk or guarantee private financing arrangements.</p>
<p>Getting institutional arrangements right. There is growing consensus that government-managed and -operated AIPs tend to fail or underperform most often, but private sector operation is no guarantee of success, and there are numerous examples of privately operated parks failing to attract tenant firms or to deliver development outcomes. This suggests that outcomes are determined not so much by who owns and runs an AIP but how they manage it: their objectives, incentives, and capacity.</p>
<p>Applying a phased approach to park sizing and the number of parks developed. Many AIPs get park sizing wrong, with detrimental consequences; they should start modestly and plan for expansion with demand. Parks that are too small may not reach the required economies of scale or have the desired impact on the local economy, while also potentially facing congestion and waste disposal problems as well as tensions between existing and potential tenants for space. Parks that are too big, on the other hand, may not fill up and can create conflicts with surrounding communities. The same goes for the AIP scheme as a whole: a common recommendation is to start with one or two pilot parks to prove the concept and build momentum before proceeding in incremental stages to expand the scheme. A park can also be constructed on a modular approach and expanded in terms of space only when needed.</p>
<p>Flexibility and responsiveness. Due to their long-term and complex nature, the performance of AIPs depends on the capacity of host governments, operators, and tenant firms to effectively monitor their performance and respond dynamically to changing economic realities.</p>
<p>Source: CASA (2021).</p>

More specifically related to the AIP, CASA (2021) categorized the most important success factors of this business model into four areas: (1) cross-cutting issues related to political will, institutions, and management; (2) design and development of the park; (3) management and operation of the park; and (4) attracting and regulating the park tenant firms. Given the complexity of implementing such an investment, the authors highlighted the need for sustained high-level political leadership and effective coordination and delivery mechanisms involving key stakeholders for sustained implementation, investor confidence, widespread political support, and alignment around clear priorities. They indicated that the design of AIPs should be embedded in broader national economic development strategies, urban development plans, regional infrastructure networks, and agricultural development strategies. They emphasized that these investments, which are capital-intensive projects, require mobilizing long-term capital, which is often not available. Therefore, for an AIP's successful implementation, it is important that in the early stages, large-scale public funds be mobilized to finance the entire project, co-finance the project via a PPP, or de-risk or guarantee private financing arrangements. Moreover, to achieve expected development objectives, CASA (2021) highlighted the need for putting in place an adequate balance between the business environment within the park and its catchment area, ensuring targeting the right tenant firms, and fostering strong relationships between agro-processing firms in the parks and farmers in surrounding areas. Table 8.1 presents cross-cutting factors that help to prevent failure of an AIP (CASA 2021).

Table 8.2 summarizes a recent AfDB (2021) report that includes seven case studies. These findings may serve as the starting point for evidence-based policy recommendations and guidelines pertinent to the design and programming of AIPs.

TABLE 8.2—COUNTRY PERFORMANCE CRITERIA AND SUCCESS INDICATORS FOR THE SPECIAL AGRO-INDUSTRIAL PROCESSING ZONES MODEL

Country	Macroeconomic policy environment (investment, trade, and industrial policies)	Political will, leadership, and long-term commitment at the highest level	Legal and regulatory institutional framework	Relationship with external investors and development partners	Integration with the rest of the national economy	Productive and remunerative employment and skills upgrading	Spatial development and dispersed urbanization	Value addition and economic structural transformation	Technology transfer, diffusion, and innovation
Ethiopia I	V	V	Somewhat	V	V	Somewhat	V	V	Unclear
Ethiopia II	V	V	Somewhat	V	Somewhat	Somewhat	V	V	Unclear
Gabon	V	V	V	V	Somewhat	Somewhat	Unclear	V	V
Ghana	Somewhat	X	Unclear	V	Somewhat	X	Somewhat	X	X
Kenya	Somewhat	V	V	V	Somewhat	Somewhat	Unclear	V	Somewhat
Morocco	V	V	V	V	Somewhat	V	V	V	Somewhat
Senegal	V	V	V	V	V	Somewhat	V	V	V
South Africa	Unclear	Somewhat	Somewhat	Unclear	X	X	Unclear	Somewhat	Unclear

Source: AfDB (2021).

Note: V = successful; X = unsuccessful; somewhat = partial progress; unclear = insufficient information or too early to assess.

Expectations for the Potential Success of Agro-Parks through the CAAPs Initiative in Africa: Beyond Boosting the Agri-Processing Sector

As pointed out by CASA (2021), investment in agro-parks is a means to an end (for example, job creation, export growth, and smallholder incomes), not an end in itself. Hence, the factors that attract firms should be the same as those that help agro-parks achieve their broader developmental goals. While attracting firms is about giving them what they want—access to raw materials, a low cost of doing business, access to markets, and stability—making sure agro-parks achieve their developmental goals should prioritize a conducive ecosystem—productive farmers, competitive agro-processors and supporting functions, conditions supporting decent work and quality of life as well as environmental sustainability, and strong links between the ecosystem actors. The AfDB developed and coined the name of Special Agro-industrial Processing Zones as its brand for a spatial development solution in the rural landscape aimed at achieving agricultural

transformation across the continent (AfDB 2021). The bank considers such a model to be (1) a development approach for structural change and economic transformation, (2) a spatial solution for rural development and dispersed urbanization, (3) a basis for an industrial policy, (d) a stimulant for infrastructural investment, (4) a catalyst for private sector development, (5) a support for regional integration and value chain development, (6) a strategy for promoting inclusive growth, and (7) a conduit for human capital development.

It follows that if successfully implemented, agro-parks have the potential to deliver needed innovations and fundamentals such as human capital, institutions, and infrastructures for sustainable development (in accordance with SDG 9, which addresses industry, innovation, and infrastructure). This is possible because each agro-park will involve various agricultural stakeholders (professionals, farmers, and others) operating on plots of variable size but pooling together basic infrastructure (roads, water, energy, telecommunications, and so on), local services (finance, quality control laboratory, transportation, maintenance, waste management, cold storage, and the like), knowledge, and good agricultural practices (training, research, management, and technology

transfer). By design, such agro-parks will include a processing and agro-industrial area with related logistics and coordination mechanisms to reinforce synergies between all stakeholders. Hence, they will contribute to the integration of upstream and downstream value chain actors, and the establishment of a comprehensive supply of services for investors and agricultural enterprises. Each agro-park is expected to provide a favorable business environment, including specialized counseling, mentoring, and innovation and support services for entrepreneurs to consolidate and develop markets; access to secured financing; and “smart” partnerships that stimulate sustainable economic development based on local and regional potential. Hence, each agro-park has the potential to create jobs for households along the agricultural value chain (promoting SDG 8, good jobs and economic growth). Moreover, value chain development across agro-parks should allow sustainable consumption and production patterns (in line with SDG 12, responsible consumption).

Each agro-park will be designed as a hub-and-outgrower scheme linked to processing, storage, and marketing facilities in a PPP context between government, private investors, service providers, smallholder farmers, and development partners. Engagement and coordination of various stakeholders in the implementation of agro-parks are necessary conditions for their success (as targeted in SDG 17, partnerships for the goals). Indeed, when properly implemented, an agro-park has the potential to address the concerns of all stakeholders. Private investors are interested in a business-friendly, safe, and secure environment, with no undue government interference, where a good return on investment can be expected. The government is seeking a productive use of natural resources, the development of infrastructure to improve the population's welfare, increased food security and social stability, greater employment opportunities, and equity and fairness for all stakeholders, including a solid future tax revenue base. Smallholder farmers, in turn, want the ability to easily acquire access to inputs and farming services, market availability and fair prices, and access to affordable farm finance when needed. A fully functional agro-park should promote investment and sustainability, and hence should place emphasis on long-term planning for infrastructure to support a competitive agriculture sector; it should also be supported by reputable research institutions that add value to agricultural activities.

Each agro-park will be a de facto city; thus, agro-parks create an opportunity to design sustainable cities and communities (per SDG 11, sustainable cities and

communities). More specifically, the infrastructure and services provided by an agro-park should include the following: power generation; communications; pumping stations and water distribution network; management of solid and liquid waste disposal; road network; grain storage and drying facilities; housing for management and general staff; workshops for maintenance, repair, and rental of equipment; office space; general security; agrochemicals and fertilizer supply; cold storage for perishables to support the cold chain; and logistical support for grain hauling and transportation of inputs. Thus they would leverage buying power to reduce the cost of supplies, machinery, and services. The parks would also include residential zones, green (recreation) spaces, and commercial zones (with grocery stores and so on) for park residents.

Ultimately, agro-parks are designed to support income-generating agricultural and nonagricultural activities in rural areas, often the most underdeveloped regions, known to host most of the poorest households (aligning their purposes with SDG 1, poverty reduction). Smallholder farmers in outgrower schemes should expect the following benefits: a cash market for their production; production credit (to be paid with crop production); fertilizer and improved seed; agronomy support; grain storage; transport (field to market); equipment rental for tillage, planting, and harvesting; contract services for field operations; equipment repair facilities; cold storage for perishable crops; value-added processing for crops; and irrigation. Most smallholder farmers in Africa are women; thus it stands to reason that women should benefit disproportionately from the outgrower schemes put in place as a result of an agro-park. Also for this reason, many agro-park services targeting smallholder farmers should be customized to fit the needs of women farmers (heeding SDG 5, gender equality). Finally, the community in the vicinity of a given agro-park should expect to see substantial improvements in their well-being in terms of access to food, social services and facilities, housing, internet and communication, and education (aligned with SDG 3, good health and well-being).

Concluding Remarks

In the absence of a transformation of the agriculture sector in Africa, the continent will not be able to achieve the Malabo commitments of reducing poverty by half and ending hunger by 2025. Moreover, the continent will not be able to reach its target of tripling intra-African trade for agricultural commodities and services by 2025. The food security situation will worsen with increased annual

food import bills, climate change and the resulting low agricultural productivity, and weak rural economies. Policymakers are becoming increasingly aware that such a transformation would require de-risking private sector investments, facilitating economic linkages, ensuring diversification, and converging key assets in due time and at the right place. Natural processes alone cannot guarantee such alignments in time and space; there must be a commitment from all actors across the development spectrum, including the private sector, to achieve the required convergence of assets and avoid the pitfalls of the past. In view of the challenges Africa's agriculture is facing, the promotion of agro-parks (including SEZs, AIPs, and agri-clusters) is gaining increasing attention and consideration across the continent (from actors including international financial institutions and development partners) as a policy tool to attract investment (domestic and foreign) and drive the sector's transformation. Recently, the African Union Commission initiated CAAPs as a response to the continent's poor performance in meeting the intra-African trade target.

This chapter shows that territorial development tools such as agro-parks have the potential to provide an attractive space for investment, facilitate the integration of upstream and downstream value chain actors, establish a comprehensive supply of services for investors and agricultural enterprises, support the development of growth poles, and foster institutional collaboration and policy coherence, which can set the foundation for—and drive—agricultural transformation. However, establishing such agro-parks is a complex venture, and global experience has shown the risks and related costs of failure—even in relatively developed countries.

Here we underline that agro-parks should be designed in response to specific economic situations, taking into consideration the parks' distinctive competitive factors, such as geographic location, resource endowment, market demand, available skilled workers, and regional integration, as well as the competitiveness of the country's broader business environment. Specifically, there must be strong and sustained political support for the development of the agro-park, based on the right design characteristics and appropriate implementation; in particular, private sector involvement should be wide-ranging and should include strategy, development, financing, operation, and administration of key aspects of the business and regulatory environment. Governments should not embark on agro-park investments based on vested interest and politicized decision-making, but should ensure that the program is fully aligned with—and an integrated part

of—their national development strategies. Dedicated and sustained administrative support is needed, from inception and design to implementation. Relevant administrations (land authority, finance, energy, transport, labor, customs, industry, and so on) should be engaged and provided with the resources needed to support the program. Investment support measures should also be put in place. These should not undermine more mature economies with regard to tax incentives and production costs but should be derived from the competitiveness of the country or region, as well as its limitations. Finally, the infrastructure design and management are an essential factor for success. They must be aligned with international standards, superior to what exists outside the park, and priced competitively.