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## **The theory and practice of agriculture, growth, and development in Africa**

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**Abstract:** Africa's improved growth performance over the last 15 years provides an opportunity for the continent to transit from recovery to structural transformation. This paper reviews the evolution of development theory and practice, the role of agriculture therein, and the pace of structural transformation in Africa over the last 50 years. The evolution has involved shifting roles of industry vs. agriculture and that of government, and the public sector vs. markets and the private sector. Government intervention in favour of industrialization in the 1960s-1970s resulted in the neglect of agriculture, poor growth performance, and a productivity-reducing structural transformation, characterized by an increasing concentration of low productivity labour in the informal service sector. The paper suggests a move away from the dual-economy to a three-dimensional model that pays greater attention to the large informal segment of the service sector. A successful transformation will require accelerated agricultural productivity growth, a modernized informal service sector, and effective industrialization strategies, with balanced roles for government, markets, and the private sector, all supported by country-led, evidence-based strategies exemplified under the Comprehensive Africa Agriculture Development Programme (CAADP).

**Keywords:** agriculture, growth, development, Africa, structural transformation, industry, informal service sector, CAADP

**JEL classification:** O1, O2, Q1

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**Note:** Figure is at the end of the paper.

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## 1 Introduction

Africa has achieved a much improved agricultural and economic growth performance over the last 15 years. The growth was particularly strong during 2003-10, when the agricultural sector grew at an average annual rate of almost four per cent.<sup>1</sup> Meanwhile, gross domestic product (GDP) and GDP per capita grew at a remarkable 5.4 and 2.6 per cent over the same period, respectively. The improved growth performance comes after decades of ebbing growth that started in the late 1970s, reaching crisis proportions in the 1980s, and only began to show signs of recovery in the mid-1990s. The improved growth is more akin to that achieved by the continent at the dawn of independence, when growth performance was stronger than that of South Asia. The recovery has been mirrored in development indicators, including declining rates of poverty and hunger following improvements in economic and agricultural growth.

With about two-thirds of Africa's population residing in rural areas where it largely relies on agriculture for subsistence and incomes, performance of the agricultural sector continues to have important implications for food security, growth, and development of the continent. Thus, scholars and development practitioners have questioned whether the recent growth recovery will last or fizzle out. For example, while as much as two-thirds of recent agricultural growth has been found to be due to favourable domestic prices, there is strong evidence that some of the growth is the result of productivity gains through greater efficiency of factor use (Nin-Pratt et al. 2012). Technical change so far has played a rather limited role. More importantly, however, the recent growth recovery proves that Africa's agricultural sector has become more responsive to higher investment in the sector and improvements in the policy and institutional environment, following reforms of the 1980s and 1990s.

A key strategic question facing African economies in the coming decades is how to transit from recovery to structural transformation, in order to deepen the ongoing growth process and broaden its impact on livelihoods. While Africa's unstable development performance over the last five decades has been due to a myriad of factors, it is also symptomatic of the effectiveness, or lack thereof, of the continent's policy choices concerning agriculture, growth, and development. Charting a future course, thus, requires a critical review of the theory and practice of agriculture, growth, and development in Africa. In particular, it is important that future growth policies and strategies reflect advances in the theory of economic development, lessons from successfully transformed economies, and adjustments imposed by prevailing and emerging changes to the global economic environment. Therefore, the paper examines how Africa can accelerate its recent growth recovery and spur a structural transformation. Specifically, Section 2 reviews how development theory and practice in Africa has evolved and the role agriculture has played therein. Section 3 discusses challenges and opportunities to an agriculture-led growth strategy. The pace and pattern of structural transformation in Africa is assessed in Section 4, while Section 5 derives policy implications for advancing a successful structural transformation. The concluding Section 6 summarizes key findings of the paper.

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<sup>1</sup> Unless noted otherwise, data figures refer to those of Africa, south of the Sahara, while growth rates are calculated using data from World Bank, WDI (2012, 2013).

## **2 Evolution of development theory and practice in Africa, and the role of agriculture therein**

The theory and practice of economic growth and development, and in particular the role played by the agricultural sector therein, have evolved over the years. Africa's development trajectory has often involved the co-existence of conflicting themes running in parallel and often constantly changing development objectives, in particular as they relate to the roles of, i) industry vs. agriculture in spurring growth and development, and ii) government and the public sector vs. markets and the private sector in regulating economic activity, and aiding growth and development (see Figure 1).

### **2.1 Industry-led growth, 1950s-1970s**

Early development theorists viewed the agricultural sector as a source of 'surplus labour' whose share in the economy declined during the course of development, thus playing only a passive role in economic development and transformation. Dominant paradigms of this time include dual economy theories (Lewis 1954; Ranis and Fei 1961). In Lewis's dual economy, surplus labour is transferred from a traditional (rural) agricultural sector, where it is assumed to have a marginal product that is negligible, zero, or even negative, to a modern (urban), non-agricultural/industrial ('capitalist') sector. Greater output in the capitalist sector creates more jobs and higher incomes, while profits are re-invested in the modern sector to enable capital formation. Generated income trickles down to the rest of the economy and stimulates overall economic growth. Ranis and Fei (1961) extended the Lewis model by highlighting the importance of agriculture in the expansion of the modern industrial sector. In particular, according to them, if growth in the agricultural sector is negligible and does not produce sufficient food supplies to support the whole economy, then agriculture can constrain growth in the modern sector.

In line with the predominant economic thinking, governments across Africa embraced import-substituting industrialization (ISI) strategies, especially in the 1960s and 1970s. The ISI thesis advocated for priority to be accorded to import substitution of manufactured goods rather than production of agricultural exports (Eicher and Staats 1990), as a means to counter the secular decline in the terms of trade of primary commodities and reduce foreign dependency, particularly on capital. With ISI strategies, countries would be able to allow infant industries to grow with the production of simple manufactured goods, under the protection of tariffs and quotas on imports, and an overvalued exchange rate to allow importers to more easily import capital goods such as the machinery needed to make the manufactured goods. Countries were to begin with making light consumer goods before moving onto intermediate and capital goods. The state intervention required to support industrialization policies was in line with the prevailing economic thinking—that government had a large role to play in curbing market failure and aiding rapid industrialization and economic growth. In Africa, government intervention dates back to the colonial era when governments established marketing boards to regulate the buying and selling of agricultural commodities (Bates 1981).

The ISI strategy was, however, not implemented as intended by its proponents. For instance, the level of protection on infant industries was higher than recommended, and some countries adopted the paradigm under the auspices of socialism, which often called for greater state intervention in economic activity. On balance, the paradigm did not help improve Africa's economic performance; in fact, following the adoption of ISI strategies, Africa as a whole witnessed low and negative per capita growth during the 1970s.

As a corollary of ISI, agricultural strategies during this period were designed to generate fiscal resources to finance the nascent industrial sector, ensure self-sufficiency, and reduce dependency

on the West. Starting in the colonial era, the expansion of cash crops primarily for export was part of a growth strategy followed by governments. Agriculture was targeted because it was the principal economic activity that often generated the most foreign exchange through its exports. And although smallholder farmers for the first time had the opportunity to farm cash crops, colonial governments with the support of donors largely supported large-scale farms, plantations, and ranches (Eicher 1992). Southern and eastern Africa was characterized by a two-tier production system consisting of smallholder farmers who mostly grew subsistence food crops, and commercial farmers who typically grew cash crops for export, while in West Africa smallholder farmers grew both export and food crops for consumption (Kherallah et al. 2002).

Collection of revenues from export crops was done through government agencies (parastatals) and in particular marketing boards. Pan-seasonal and pan-territorial pricing were introduced to guarantee a single price across seasons and regions, respectively. However, such a measure discouraged private investment in storage and transportation (Barrett and Mutambatsere 2008). Government intervention became more pronounced in post-independence Africa, as newly independent governments maintained marketing boards because they provided a means of controlling the marketing of strategic food and export cash crops, as well as subsidizing food prices for urban consumers and producers. Furthermore, government intervention often increased during times of economic crisis. For example, following the 1974 oil price shock, governments responded to declines in real prices for Africa's agricultural exports and shortages in commodity markets with input subsidies to incentivize producers of agricultural exports and smallholder farmers who grew the bulk of food crops for local consumption. Yet, marketing boards incurred very high costs due, in part, to the high cost of covering remote areas under pan-territorial pricing and high storage costs under pan-seasonal pricing (Kherallah et al. 2002).

Overall, the agricultural sector was thus not seen as a source of growth per se, but as playing an important supporting role in the ISI strategy. Just as in the case of industry, strategies in the agricultural sector saw little room for the private sector. Governments took the lead through the use of public enterprises, which not only competed with private-sector operators, but often banned them outright. The first two decades of post-independence Africa were, thus, characterized by strong biases in favour of industry as a source of growth, and of government as the main economic player. Additionally, with industrial-led growth policies, Africa missed an opportunity to industrialize agriculture by developing its agribusiness and agro-processing sectors, and thus help raise incomes. Moreover, only limited investments were made in rural infrastructure, market development, agricultural research and development (R&D), and extension, which in turn slowed down the spread of technology, needed to promote agricultural productivity growth. While efforts were made to develop education and training facilities for infant industries' labour force, little or no effort was made to develop agricultural training facilities (Degefe 1994). Thus, ISI policies buttressed the neglect of agriculture in government strategies, while overvalued exchange rates effectively discouraged agricultural production. Yet, agriculture was the only viable source of resources, especially labour and capital, to support industrialization.

## **2.2 Agriculture-led growth and development, 1960s-1970s**

In the early 1960s, signs of the first 'paradigm shift' were becoming apparent (Ellis and Biggs 2001). Smallholder farmers were now seen as vital for growth and development. The notion of an agriculture-led growth strategy was influenced by the works of Johnston and Mellor (1961), Shultz (1964), and others who placed emphasis on the role of smallholder farming in spurring overall economic growth and development. Johnston and Mellor (1961) showcased important linkages between agriculture and non-agriculture, and the importance of agricultural growth in

raising incomes and foreign-exchange earnings, as well as generating capital and labour to benefit the industrial sector. Increased agricultural productivity growth is expected to stimulate overall economic growth and development through linkages in production and consumption. By way of production linkages, increases in agricultural output translate into higher incomes for farmers, which in turn result in greater demand for farm inputs and value-added services such as processing and marketing. Through consumption linkages, higher farmers' incomes and farm labourers' wages lead to greater demand for food, as well as demand for non-agricultural manufactures and services, especially of nascent industries (Hazell and Roell 1983). Greater demand for manufactured products and services leads to greater output in the non-agricultural sector, and creates more jobs and higher incomes, while rents are re-invested in industry and thus stimulate economic growth and development. Contrary to ISI, agriculture-led industrialization has received more support from empirical studies, which have found agriculture to have substantial multiplier effects, implying that agricultural growth can be spread to other sectors of the economy (Delgado et al. 1998). In particular, consumption linkages have been shown to account for over 80 per cent of the agricultural growth linkages in Africa and Asia (Haggblade and Hazell 1989).

The important and active role played by agriculture in development was reinforced by the small farm 'efficient but poor' thinking. Schultz (1964) demonstrated that poor farmers were efficient given their factor endowments, and that when given the right incentives, they could make rational choices to invest in agriculture and adopt modern technologies to help transform agriculture. Schultz's ideas were demonstrated by the Green Revolution in Asia and Latin America that began in the mid-1960s. The Green Revolution consisted of modern inputs, supported by public investments and policies favourable to agriculture that drastically increased crop production. Investments included those in agricultural research and development (R&D), irrigation, rural roads, and providing credit to farmers. The Green Revolution increased food supplies and was able to effectively deal with rising hunger levels in Asia particularly; it lifted many out of poverty and contributed to economic growth in the two regions. It was an important precursor to the regions' economic transformation. It therefore buttressed the importance of science-based technology in transforming traditional agriculture and spurring growth, development, and transformation. It also highlighted the important role government has to play in creating an enabling environment through policies and investments that stimulate agricultural productivity growth.

Although an agriculture-led strategy and small farmer focus dominated development thinking in the 1960s and 1970s, it was largely disconnected from development practice in Africa. In particular, while in theory, industry-led and agriculture-led growth themes ran in parallel, the notion of an agriculture carried by the smallholder farmer as an autonomous economic agent, and linked to the broader economy through a private sector-driven agribusiness industry, did not find its way into development practice in Africa. The government was still seen as the key player and parastatals continued to displace private-sector actors from actively participating in development.<sup>2</sup>

### **2.3 Rural development and basic needs, 1970s**

During the 1970s, growing poverty, particularly in rural areas, and inequality shifted the focus of policy debates and research to the interactions between economic growth and equity. By the early 1970s, it had become clear that previous development paradigms of industrialization were

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<sup>2</sup> Nonetheless, Africa has had agricultural successes, albeit outside this period, which included increased yields of improved maize in East and southern Africa and rapid growth of cotton production in West Africa (see Spielman and Pandya-Lorch 2009).

not working. The rural-urban divide had grown as income inequality rose sharply between rural and urban areas. The urban-biased nature of industrialization policies had resulted in sprawling cities, as large numbers of rural workers migrated to urban industrial centers, in search of employment despite the industrial sector's inability to rapidly absorb the influx of workers. Moreover, investments had been limited to urban areas, further isolating rural areas and their inhabitants, mostly subsistence farmers, from the development process. Compared to urban areas, rural areas were characterized by less road infrastructure and fewer hospitals, schools, and other basic services (Yudelman 1976).

To address growth and equity issues, donors and international development agencies shifted their support to integrated rural development (IRD) projects, which sought to increase agricultural productivity, together with access to social services such as health and education in rural areas (Yudelman 1976; Eicher and Staatz 1990). The World Bank substantially increased its investment in these projects and broadened its lending to include small farmers. With the goal of aiding the rural poor, its projects included financing of agricultural research, extension services, marketing, provision of credit, and small-scale irrigation, and went beyond agriculture to include clean water, rural roads, education, and health services (Binswanger 1998). African leaders strongly endorsed rural development projects, as illustrated by Tanzania's Ujamaa villagization programme, modeled after the Chinese commune system (Yudelman 1976). Development practitioners also experimented, during the same period, with the basic human needs (BHN) approach. This paradigm became prominent during the mid-1970s and had three key objectives: ensuring adequate real incomes, increasing access to public social services, and promoting the participation of affected people in the formulation and implementation of development programmes and policies (Streeten et al. 1981). The call to directly address poverty and inequality through IRD and BHN projects implicitly dealt with the agricultural and rural sectors. African governments made increased agricultural production, particularly food production, their priority for achieving food self-sufficiency and alleviating poverty. In particular, agricultural policies and programmes pursued by governments, as part of IRD and BHN projects, largely benefited from substantial micro-level research that looked into understanding the agricultural and rural sectors, and their possible contribution to reducing poverty and increasing overall economic growth (Yudelman 1976; Eicher and Staatz 1990). To ensure the success of policies that favoured food production and small farmers, the establishment of local governments and co-operatives was seen as indispensable and was advocated during this period (Streeten et al. 1981; Yudelman 1976). Moreover, meeting basic human needs called for significant government intervention, which was in step with development practice of the time (Hayami 2003). Yet, despite these efforts, agricultural policies related to BHN and IRD projects were largely unsuccessful due to high costs of design, administration, and implementation. Moreover, most low-income countries' efforts to meet basic needs were largely unsuccessful, as indicators such as literacy rates, life expectancy, and infant mortality did not improve.

#### **2.4 Structural adjustment-led growth, 1980s-1990s**

By the end of the 1970s, Africa was faced with reduced global demand for its commodities, declining terms of trade and per capita incomes, overvalued real exchange rates, growing and unsustainable budgets, foreign exchange deficits, stagnating official development assistance, and a serious debt crisis (Cornia 1987). The increasingly difficult economic situation left African leaders disillusioned by global development strategies that they felt had failed to deliver on their promises. With a sense that early development strategies had been largely determined by foreign actors, African leaders and technocrats, under the aegis of the Organization of African Unity (OAU), decided it was time for Africa to take matters into its own hands, come up with a strategy to reverse the growth malaise, and place Africa on a trajectory toward sustained

economic growth and self-sufficiency. Several consultations among Africa's leadership resulted in the 'Lagos Plan of Action for the Economic Development of Africa, 1980-2000' (LPA) and the 'Final Act of Lagos' (FAL) in 1980. This was unprecedented, as for the first time African leaders had come up with an Africa-wide effort for transforming the continent's economic development. Needless to say, the LPA and FAL were not implemented as planned, as another competing strategy burst onto the scene and dominated all others.

In 1981, the World Bank introduced its own action plan for Africa, commonly known as the 'Berg Report.' The central premise of the report was that Africa's shortcomings in domestic policies had resulted in overvalued exchange rates, unsustainable budget deficits, foreign exchange shortages, and biases against agricultural production. These policies, according to the report, were compounding the external and internal structural problems already faced by Africa south of the Sahara (see World Bank 1981). Recommendations of the Berg Report were to be implemented through structural adjustment programmes (SAPs). SAPs were comprised of short-term macro-economic stabilization policies spearheaded by the International Monetary Fund (IMF), and structural policies led by the World Bank. Essentially, SAPs sought to roll back three decades of development practices that were significantly biased in favour of industry as the lead growth sector, and government as the lead development actor, thus marginalizing agriculture and the private sector.

The Berg Report called for several agricultural policy reforms meant to remove what it considered a longstanding bias against agriculture. The economic crisis of the 1980s helped to reveal the inefficiencies and costliness of marketing boards, and their removal or reduced role was seen as a means of opening up participation by the private sector and bringing about market-determined prices. Thus, the agricultural reforms included liberalization of agricultural input and output prices, by reducing or removing subsidies on inputs such as fertilizers; doing away with pan-seasonal and pan-territorial prices; reducing overvalued exchange rates; removing government regulatory controls in input and output markets; and privatization by withdrawing marketing boards from pricing and marketing activities, and restructuring public enterprises (Kherallah et al. 2002; Jayne et al. 2002). The Berg Report's emphasis on export agriculture was strikingly different from the LPA, which called for food self-sufficiency and reduced dependence on exports. Africa's reliance on export agriculture was seen by its opponents such as the OAU, Economic Commission for Africa, and African Development Bank as a continuation of foreign hegemony, meant to deny Africa control over the administration of its resources (Browne and Cummings 1985).

Like the broader SAP agenda, the subject of agricultural policy reforms and their impact has not been without controversy. First, the expected agricultural supply response was muted because reforms focused on macro-level and sectoral interventions, without addressing important microeconomic policies targeted at, *inter alia*, improvements in agricultural technologies, infrastructure, and market institutions that are essential for an effective supply response (Barrett and Carter 1999). However, according to Kherallah et al. (2002), cotton in Benin and Mali, coffee in Uganda, and cashew nuts in Mozambique experienced some positive supply responses as liberalization moved price incentives in favour of tradables rather than food crops.

Meanwhile, the removal or reduction of input and output subsidies and pricing regulations resulted in reduced fertilizer use and in higher food prices in some countries, which were detrimental to the food security of low-income households, particularly net food buyers (Kherallah et al. 2002). Yet, liberalizing markets helped to reduce marketing margins and thus resulted in lower maize prices in countries such as Kenya, Mali, Zambia, Ghana and Ethiopia (Badiane and Shively 1997; Badiane and Kherallah 1999; Kherallah et al. 2002). However,

increases in input and output prices in certain sectors and countries increased concerns over food security and household incomes. The food security situation was exacerbated by the falling agricultural terms of trade and the 1982/83 drought. Thus, during the early 1980s, there were renewed calls for regional integration, but this time the focus was on establishing regional food self-sufficiency. The calls for regional integration for food self-sufficiency were very much in line with similar calls born out of the LPA. This perhaps reflected countries' commitment to the LPA ideals. However, studies conducted on establishing regional food grain stocks in southern Africa found the costs to be prohibitively high (Koester 1986). Hence, plans to establish regional integration arrangements for food did not materialize because of the implied costs and potential conflict between SAPs and protectionist policies that would have come with regional integration arrangements. Nonetheless, the extent of implementation of agricultural policy reforms varied from country to country. Jayne et al. (2002) explored the notion that market policy reforms and liberalization had been a 'false premise', since in many eastern and southern African countries reforms were not fully implemented, while in others they were reversed, and only in a few countries were reforms consistently implemented.

As concerns over food security and poverty grew, proponents of SAPs, during their second phase, added on a new attention to poverty alleviation. The idea was to try to understand the impact of reform efforts on the poor and introduce policies to mitigate those impacts. For instance, the World Bank placed a new emphasis on social safety nets to target the poor and vulnerable groups to meet their basic human needs. In fact, elements of the BNH paradigm were resurrected during this period. However, it appears that no serious attempts were made to re-think the design and hypotheses underlying SAPs.

While the impact of policy reforms may have been mixed at least during the reform period, recent improvements in macroeconomic indicators, economic and agricultural growth, and poverty reduction have been ascribed to macroeconomic and agricultural sector policy changes that were implemented during the 1980s and 1990s (Badiane 2008). Macroeconomic indicators such as shares of fiscal deficits, external debt, current account balance in GDP, and inflation have all performed better since the turn of the century. This suggests that the benefits of structural adjustment may have come much later than was anticipated. Nonetheless, SAPs attempted, with limited success, to move the center of gravity of development thinking and practice away from government toward the private sector, leaving market forces to determine prices, and closer to a neutral position between agriculture and industry.

## **2.5 Poverty reduction strategies, 1990s-2010s**

A decade into SAPs, measures of social and economic progress in Africa had shown no marked improvement. In fact, the proportion of people living below one dollar a day increased from 41 per cent in 1981 to 47 per cent in 1990, while GDP per capita growth decelerated at an annual rate of -1.12 per cent in 1985-95 (World Bank 2013a, 2013b). Concerns over the lack of meaningful progress in the developing world and in Africa, in particular, resulted in international summits during which various targets for promoting sustainable human development were set, and later compiled and adopted by the United Nations General Assembly in 2000 as the Millennium Development Goals (MDGs). The MDGs provide targets across various areas and have as their primary goal, halving the 1990 proportion of poor and hungry by 2015.

Meanwhile, apprehensions over limited poverty reduction, the ineffective policy conditionality of SAPs, and the non-participatory nature of development programmes resulted in a 'shift' in the World Bank's thinking on how best to carry out development work (World Bank 2009). This was reflected in the Bank's Comprehensive Development Framework (CDF), approved by the

Bank's Board of Governors in 1998. In line with the CDF, in 1999 the World Bank and the IMF came up with the Poverty Reduction Strategy Paper (PRSP) approach which lays out macroeconomic and social programmes and policies to be pursued by a country over a 3-5 year period, in order to promote growth and reduce poverty in line with the MGDs. The World Bank and IMF sought to have low-income countries lead strategy priority setting and preparation of country PRSPs through a participatory process. Under the PRSP approach, countries have to undertake specific programmatic and policy actions to qualify for debt relief and direct budget support from the World Bank and the IMF, as well as bilateral donors.

Assessments of PRSPs suggest that while countries acknowledge the important role of agriculture in accelerating 'pro-poor' growth, agricultural policies of the SAP era have largely been maintained. In addition, the PRSP rhetoric on the importance of agriculture was not matched initially by increased investments in the sector by either governments or donors. Countries have continued to espouse the need to liberalize agricultural input and output markets and trade, as well as foster privatization of parastatals. In most PRSPs, a distinction is made between the role of government and that of the private sector, and areas in which the two can partner. For instance, governments are choosing to focus on the provision of public goods that are needed for the agricultural sector to operate efficiently such as rural and agricultural infrastructure, research, extension, storage facilities, and pest and disease control. Meanwhile the private sector is encouraged to actively participate in agricultural service delivery through input supply, marketing of output, agro-processing, and providing and ensuring access to agricultural services such as extension, marketing information, and micro-finance. Given increased attention to environmental sustainability, PRSPs have also promoted this in agriculture through, for example, integrated pest management techniques and conservation tillage.

While the PRSP approach has tried to move away from the strong private-sector emphasis and sectoral neutrality of SAPs, it is debatable whether it has indeed been a sea-change shift in development thinking and practice. Some have argued that it has been mere 'window-dressing', as core tenets of SAPs have been maintained and not re-evaluated, while ownership and participation under the PRSP approach have been severely limited in some countries.

## **2.6 Agriculture-led growth and poverty reduction, 2000s-2010s**

Up until the 1990s, major changes in Africa's development agenda had originated from outside the continent. Two of the main criticisms leveled against SAPs and PRSPs relate to their externally driven nature and lack of effective, broad-based participation of African stakeholders. Thus, starting in the late 1990s, there were strong calls for inclusive, country-led and -owned development strategies.

Consequently, the early 2000s saw resolute efforts by African leaders to claim the driver's seat and lead Africa's development agenda under the New Partnership for Africa's Development (NEPAD), an Africa-wide initiative adopted by the African Union in 2002. NEPAD emphasizes peer review and mutual accountability at the highest political level to drastically improve political and economic governance across the continent. NEPAD has put agriculture at the forefront of Africa's development agenda. And in 2003, African leaders endorsed the Comprehensive Africa Agriculture Development Programme (CAADP) as the main framework for guiding country actions in achieving the poverty and hunger MDG, and stimulating broad-based economic growth through agriculture-led growth. The embrace of an agriculture-led growth strategy through NEPAD/CAADP was less a consequence of greater attention to theory than a simple conclusion, drawn from observing one development agenda after the other fail to generate meaningful progress despite agriculture's enormous potential.

While recognizing the central role of the private sector, CAADP calls for bold action by governments to boost investments and create the conditions for accelerated growth. It commits African governments to invest at least ten per cent of country budgets in the agricultural sector to help deliver a six per cent annual agricultural growth rate. In their agricultural strategies and investment plans, governments have committed to work with the private sector to increase investment for the sector, and create an enabling environment for the private sector to participate in input supply, marketing of outputs, and agro-processing. CAADP promotes country leadership and ownership, participatory and inclusive policy dialogue and review, and mutual accountability across different stakeholders. In countries where the agricultural sector has witnessed remarkable performance such as Ghana, Mozambique, and Rwanda, the CAADP process has had strong political commitment and support, often at the highest levels of government. The government, donors, farmers' groups, private sector, and civil society all play important roles in the CAADP roundtable process, which includes agreeing to a common vision for agriculture, planning investments, and monitoring performance and commitments. One of CAADP's main innovations has been the use of high-quality, locally-based analysis to support priority setting, planning, and implementation. This embrace of evidence-based policy-planning and implementation has linked CAADP more strongly to the theory of economic development than past development agendas. This has also raised the credibility of the agricultural agenda within governments and with various development partners, and has thus created a stronger consensus and partnerships around the agenda. The case for agriculture-led growth has been bolstered by growing empirical literature to support the poverty-reducing effect of agricultural growth. The evidence shows a significant and direct relationship between agricultural productivity growth and poverty reduction (Irz et al. 2001; Thirtle et al. 2003). It also shows accelerated agriculture-led growth to have greater opportunities for broad-based poverty reduction than non-agriculture-led growth (Diao et al. 2012). According to these studies, growth in the non-agricultural sector *alone* does not have the same broad impact on poverty reduction as that of the agricultural sector.

While it is too early to say anything definitive about the impact of CAADP on the agricultural sector in Africa, there is no question that CAADP implementation is happening at a time when performance in the sector has been strengthening. However, progress on meeting the CAADP targets of allocating ten per cent of national budgets to agriculture and achieving a six per cent annual agricultural growth rate has been mixed. The continent as a whole has not yet achieved a consistent six per cent annual agricultural GDP growth rate, although some years have seen strong growth close to or above the target. The average annual agricultural GDP growth rate from 2003-10 for Africa was 3.8 per cent. In addition, Africa as a whole has not achieved the ten per cent expenditure target despite an average annual increase of 7.4 per cent in the amount of public agricultural expenditures in 2003-10. However, from 2003-10, a total of 13 countries met or surpassed the target in any single year (Benin and Yu 2013).

Many African countries have launched the CAADP process and developed agriculture strategies and investment plans. While the degree of implementation has varied from country to country, CAADP implementation has been occurring at a time of improved growth and increasing investments in the agricultural sector. CAADP has thus swung the pendulum toward agriculture, in contrast to past ISI strategies, and has brought about more balanced roles of the government and private sector within the agricultural sector.

### **3 Challenges and opportunities to agriculture-led growth in Africa**

The most influential pieces of work in economic literature on agriculture, growth, and development were written long before the era of globalization, democratization, mass

communication, climate change, and social media, as well as international philanthropic and civil society organizations (CSO) dealing with growth and poverty reduction. Because of these developments, African economies now face challenges and opportunities that in some cases are of an entirely different nature from those faced by many Asian and Latin American countries at stages of development similar to African countries' today.

Globalization and trade liberalization have created both opportunities and challenges for agricultural development and for the vast number of smallholder farmers across Africa. While they have created new market avenues for farmers and the potential to lower food prices for consumers, farmers face greater competition in local and international markets. Increased globalization means that Africa finds itself under increasingly different circumstances from those faced by Asia in the 1960s. Falling transportation costs, growth in international finance, higher levels of trade exchange with the rest of the world, and greater degrees of openness of domestic economies have together gradually reduced the dominant role of domestic demand in stimulating growth and economic transformation. The greater role of domestic demand, combined with lower levels of external competition in domestic markets, meant that supply-raising agricultural technology advances could go a long way toward addressing the growth challenge in Asia in the 1960s. African countries find themselves today in a different situation as advances on the supply side are more intricately linked to factors on the demand side. African countries do not only have to produce more, they also have to 'sell' better, in far more competitive domestic as well as external markets. In addition, globalization provides opportunities for African countries to access and to apply information and communication technologies, as well as other technical know-how, to overcome physical, institutional, and infrastructural obstacles which several decades ago were major constraints to growth and development.

Emerging markets and growing demand for biofuels in developed nations and land acquisitions in African nations have created additional opportunities and challenges for Africa. Biofuels will likely play a greater role in the future of the global economy and, thus, should be integrated in development strategies of African countries. Foreign direct investments (FDI) in agriculture and land acquisitions present opportunities to bring in much needed capital and know-how to spur agricultural growth, but also create risks of undermining food production and displacing locals from their land. The fact that the bulk of the poor and vulnerable live in rural areas and have access to land which can be made more productive provides African nations with an effective lever in the fight against poverty. It is, therefore, important for African countries to find additional modalities to attract FDI without jeopardizing access to land by the poor and vulnerable.

Over the last century, the world has witnessed an increased frequency of climate variability and incidence of climatic shocks. Most climate-change projections show that Africa is likely to have disproportionately more frequent climate shocks (droughts and floods) in the future. Projections also predict reductions in major staple crop yields in Africa, and increases in real crop prices, which will compromise food security. But unlike the developed world, Africa will be least able to cope with the ramifications of climate change, particularly in the context of an agriculture that is predominately rain-fed and whose small farmers use traditional technologies that are not well adapted to climatic disasters. Thus, there are growing efforts to make development efforts more resilient to climatic risks, and increasingly African countries are incorporating issues of building resilience and risk management into their agricultural strategies. Also, Africa has the largest remaining potential for agricultural production of any region, and should benefit from price increases in the long run, if it manages to mitigate the impact of climate change on the competitiveness of its agricultural sector.

Political pluralism and rent-seeking behaviour may undo the benefits of the SAP era reforms, largely associated with macroeconomic stabilization. The risk of policy reversal, that is, a return to failed policies of the 1960s and 1970s, is real in the absence of institutional memory and in the presence of a new generation of African leaders who have not experienced the consequences of these policies. The risk of policy reversal became evident during the 2008 food price crisis, which put pressure on African governments to respond swiftly to minimize any harmful impact on the poor and avert food protests. As a result, price controls, export prohibitions, and other distortionary interventions in input and output markets were put in place. It is, therefore, critical that even in times of crisis countries maintain a favourable policy environment for agriculture that keeps the sector competitive and creates incentives for farmers to produce more and access markets for their products.

#### **4 Structural transformation in Africa**

Africa needs to accelerate its recent improved growth and transit to structural transformation. All successfully industrialized economies have gone through a transformation that involves a shift in the relative importance of economic sectors during the course of economic development. This is generally characterized by having a decreasing share of agriculture in national output and employment, an increasing share of industry and services in national output, and a high degree of urbanization. An important part of structural transformation is that as economies mature, they acquire greater capabilities to produce more sophisticated, higher valued goods. The basket of goods a country ends up producing competitively determines its level of economic performance and income. Goods for which demand expands globally as incomes rise around the world can be exported in larger quantities and at high prices for a long time. Such goods are associated with higher levels of productivity and incomes. The more a country succeeds in producing such goods, the more wealth it will build, and the richer it will get.

Therefore, managing a successful structural transformation poses two key challenges: sustainably raising labour productivity in the agricultural and rural sectors and gradually diversifying into higher valued goods outside agriculture in higher productivity, urban-based manufacturing and service sectors. When countries adopt strategies to meet these challenges, the economy grows and the levels of output and productivity per worker in the agricultural sector rise, while the shares of agriculture in national employment and output decline, due to faster growth in the rest of the economy. The result is a rise in overall per capita incomes while incomes in the rural and agricultural sectors converge toward those in the non-agricultural sector. Moreover, in countries that have successfully transformed, the difference in labour productivity in agricultural and non-agricultural sectors approaches zero, given better integration of the labour and capital markets (Timmer 2009). Despite its relative decline, the agricultural sector plays an active role in the structural transformation and income convergence processes.

The failure of ISI strategies of the 1960s left most African countries without bold and credible strategies to promote a successful transformation. Thus, during most of the five decades since independence, African countries have experienced productivity-reducing structural change, reflected in labour migrating from an underperforming agricultural sector with rising productivity into a non-agricultural sector characterized by falling productivity and an oversized, lower-productivity service sector (Badiane 2011).<sup>3</sup> Until the early 2000s, agricultural labour productivity had stagnated, despite a rapid decline in the sector's employment and GDP shares in most

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<sup>3</sup> In national accounts, for much of Africa, the service sector includes a high degree of informal and low-productivity activities in which a large segment of the underemployed are engaged.

African countries. Concurrently, productivity has been falling in the non-agricultural sector, while employment has risen in the sector. In that process, labour migration out of agriculture has outpaced labour growth in the non-agricultural sector, thus further undermining productivity growth. As a consequence, the agricultural sector is now significantly smaller, while the service sector is significantly larger than has been observed historically in other countries at a similar level of development. Estimations of the relationship between per capita income levels and the relative sizes of the agricultural and service sectors, using a sample of 210 countries over the period from 1960-2008, invariably show that, for most African countries, the actual share of agricultural GDP is distinctly lower than the size that would have been expected based on the level of per capita incomes (Badiane 2011). The opposite is observed for the service sector, whereby observed shares are higher than expected. This sectoral growth imbalance has, thus, delayed structural transformation and slowed productivity and income growth across Africa.

## **5 Rethinking future growth and development strategies in Africa**

### **5.1 Modernizing the informal service sector and developing agribusiness**

The current structure of African economies is characterized by the dominance of an informal service sector, which in most countries now constitutes the largest reservoir of low-productivity labour. Therefore, the theory based on the dual economy model may not work as expected anymore in what has become a *de facto* three-dimensional economy—agriculture, industry, and informal services. The strategic tension or trade-off is no longer just between industry-led and agriculture-led growth. The possible contribution of a service-led strategy to the broader growth and development agenda in the context of economies in early stages of development may now deserve equal consideration. The heavy concentration of pre-industrial activities (e.g. handicrafts) and low-productivity labour in the large informal service sector offers additional options to the traditional model of industrialization based on manufacturing, agribusiness, and agro-processing industries. Future strategies of industrial growth that also emphasize enterprise creation and growth in order to modernize the informal sector may do more, in the short to medium run, to raise labour productivity and reduce poverty than strategies that only target traditional manufacturing.

According to Sonobe and Otsuka (2011), growth and modernization of the informal sector will need to address transaction costs related to information asymmetries, contract enforcement, innovative knowledge spillovers, and insufficient managerial capital. To deal with these transaction costs in Africa, they propose a cluster based industrialization (CBI) approach that has been successful in Asia. CBI strategies can help facilitate migration of informal enterprises in the service sector into the more productive, formal segment of the economy. In Africa, CBI strategies will need to target the agribusiness sector, while focusing on areas with high productivity and technology spillover potential, such as peri-urban processing industries, high agro-climatic potential areas, and regional transport corridors.

### **5.2 Renewed industrialization strategies**

During the process of structural transformation, industrial enterprises need to leverage existing assets into new and/or related businesses, and learn how to combine and recombine assets to establish new businesses and address new markets (Teece 2000). To foster industrial growth, African countries need renewed industrialization strategies that build on the current growth recovery with the goal of raising the number of successful entrepreneurs, while addressing information and co-ordination externalities that can deter entrepreneurship growth. These

externalities, including those related to knowledge generation and diffusion, will have to be addressed through technology, infrastructure, regulatory and macroeconomic policies. Industrialization policies should aim to expand the stock of technology capabilities and their applications to create new, higher valued goods (Lall 2000). Such policies should not target the manufacturing sector exclusively but also the informal sector with its large concentration of pre-industrial handicraft activities. Product innovation and upgrading in this sector is required to tap into the rapidly growing middle-class demand in urban areas for more sophisticated household goods. African countries will have to (re)discover ways of stimulating industrial growth and learn from emerging Asian countries, where public action in support of industrial growth, by effectively tackling these complex externalities, has been a central element of their economic development (Mathews 1996). The industrialization strategies proposed by Lin (forthcoming), based on China's experience, need to be explored in more African countries. They include first identifying sectors of comparative advantage and then establishing industrial parks and economic zones to reduce transaction costs due to poor infrastructure and institutions, while the government plays a facilitating role. In turn, this enables industrial upgrading and further improvements in infrastructure and institutions.

### **5.3 Promoting agricultural productivity growth**

Asia's and Latin America's Green Revolution demonstrated the significant role of agricultural productivity growth in achieving broad-based economic growth and accelerating structural transformation. The Revolution and rapid increases in maize production in eastern and southern Africa in the 1980s have also highlighted the important role smallholder farmers can play in raising production, when given access to improved technologies, inputs, credit, and marketing systems. Increasing investments in agricultural R&D is, therefore, essential for not only sustaining Africa's recent growth recovery but accelerating its transformation. In particular, technologies for increasing yields, improving nutrient content, and dealing with pests are important for reducing production costs and sustainably managing the environment. Empirical evidence has shown investment in agricultural R&D to have the highest returns in productivity and poverty reduction (Fan and White 2008). Complementary investments are needed to build or improve irrigation, road, and storage infrastructure, and to develop higher value chains and markets. Furthermore, the public sector will have to play an important role in developing, adapting, and spreading agricultural technologies, while creating an enabling environment for public-private partnerships and the private sector to invest in the sector and support agricultural technology development, diffusion, extension, and marketing. African countries, therefore, need to broaden partnerships and alliances under the CAADP agenda to leverage public and private sector investments in agriculture including R&D.

### **5.4 Greater convergence of social and growth policies**

The existence of large-scale poverty in Africa, together with increasing democratization and global activism, has raised the demand for social services in a historically unprecedented manner. African countries are under growing pressure to find sufficient resources to meet the rising demand for social services, while investing enough to accelerate agricultural productivity growth under tight budget constraints. The challenge, therefore, faced by African countries is one of allocating public resources efficiently and effectively such as to realize, in a sustainable way, economic, social, and environmental goals.

Future growth strategies need to find ways to maximize the impact of the significantly larger social service investments on labour productivity in the agricultural and rural sectors. For instance, the analysis of the effects of health service expenditures among farm households in Uganda by Badiane and Ulimwengu (2013) shows that expenditures on health consultation

services have the largest impact on reducing morbidity-related agricultural inefficiency, compared to expenditures on drugs and hospitalization. The results suggest that health programmes can contribute more to raising agricultural labour productivity by emphasizing access to consultation services through primary care. Analysis of other programmes in the health, education, and social protection sectors may yield similar results.

## **6 Conclusion**

Africa's improved growth performance over the last 15 years has been remarkable. It is in sharp contrast to the poor performance witnessed following independence up until the mid-1990s. After independence, countries subscribed to development paradigms with continuously shifting objectives and in particular a strong bias in favour of industry, at the expense of agriculture, and in favour of government and the public sector, at the expense of markets and the private sector. While countries embraced the theory associated with ISI strategies of the 1960s and 1970s, the competing theory in favour of an agriculture-led growth strategy was largely ignored during this period. The stance resulted in government failures that prevented industry from taking off, while it distorted market forces in the agricultural sector. It contributed to delaying Africa's structural transformation and thus resulted in a productivity-reducing structural change—characterized by labour migrating from an agricultural sector with rising productivity to a non-agricultural sector, consisting of a large service sector and falling productivity. Addressing the large pool of low productivity and low-skilled labour may now require moving away from the traditional dual-economy model toward a three-dimensional model that emphasizes the role of the informal service sector in development strategies.

The continent also needs renewed industrialization policies to develop comparative advantages in higher value goods, and target the manufacturing sector, as well support agro-processing and infant industries by addressing information and co-ordination externalities. The experience of cluster-based industrialization strategies that have proved to be successful in Asia could provide useful lessons for modernizing, not just the manufacturing, but also the large informal segment of Africa's service sector.

The CAADP agenda has highlighted the importance of country-led and owned strategies, as well as bold commitment led by governments to increase investments and embrace evidence-based policies, and inclusive review and dialogue mechanisms for an improved agricultural sector governance and performance. Country ownership and leadership ensure consistency and continuity in policies and strategies, which are critical for long-term success. A CAADP-like approach for the industrial sector may be in order. As theoretical and empirical evidence, and Asia and Latin America's Green Revolution demonstrate, agricultural productivity growth is essential for not only broad-based economic growth and poverty reduction, but also for bringing about a structural transformation. Investments in agricultural R&D, transportation and storage infrastructure, and market development are an imperative. Allocating growing social service investments to maximize their impact on agricultural productivity growth will contribute to meeting both social goals and growth objectives. Moreover, policies in agriculture, industry, and the informal service sector will need to be supported by more balanced roles of the government and the public sector with that of markets and the private sector.

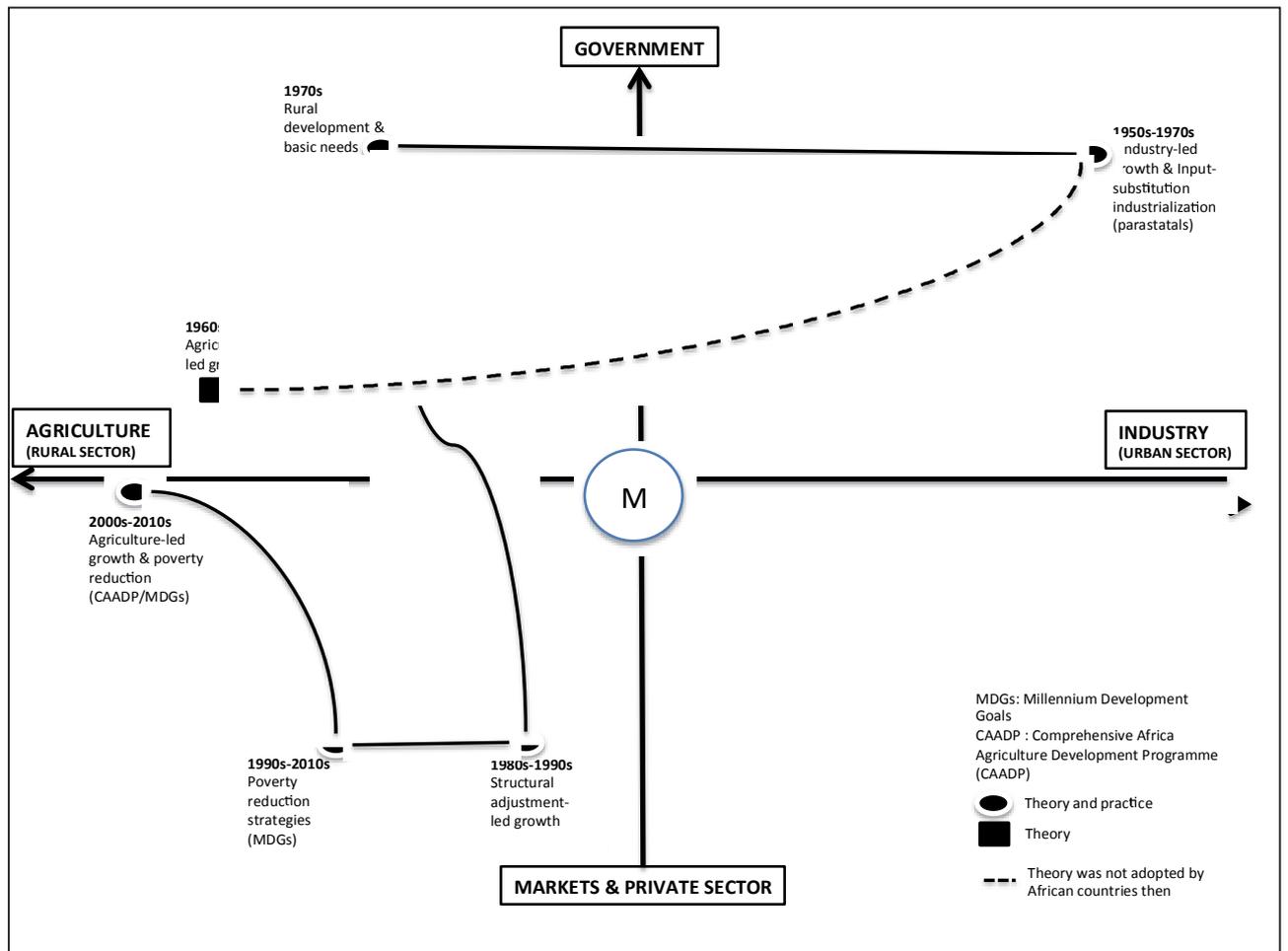
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Figure 1: Evolution of development theory and practice in Africa



Note: 'M' denotes the imaginary point where growth and development exhibit no bias between i) agriculture and industry, and between ii) government and markets.

Source: Authors' construction.