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Créer l'Afrique de demain dans un contexte de transformations mondialisées :

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بعث أفريقيا الغد في سياق التحولات المعولمة :

Industrialization and African Agriculture at Crossroads: Implications for Agricultural development Policies in Africa



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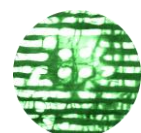


ABSTRACT

Africa remains the continent with the greatest unexploited agricultural potentials and yet a home to the highest proportion of hungry and malnourished people. Statistics from various sources show that of the 900 million people suffering from chronic malnutrition in the world, about 240 million are from Africa, constituting more than 25 percent of the continent's population. About 35 million children go to sleep malnourished and hungry every night. Africa is one of the poorest and least developed regions of the world. There is widespread concern at the continuing and indeed deepening poverty situation particularly in the sub Saharan region. To compound this, there is the lack of processes of rapid and broad based economic growth to combat the situation despite many international discussions on the issue. In addition, the continent has become a battle field with various conflicts, wars, terrorism and sicknesses ravaging the population. These are largely outcomes of a neglected agricultural sector even though statistics reveal that this sector constitutes the mainstay of sub Saharan economies. It contributes about 35 percent of export earnings, 40 percent of GDP and provides employment to about 70 percent of the labour force. In addition, it supplies food to meet the ever-increasing population, savings and capital accumulation and finances the development of other sectors through tax revenues. African governments in 2003 in Maputo accepted to increase government spending in agriculture to above 10 percent.

Government investments in agricultural development have remained low averaging below 7 percent of GDP with some African governments investing less than 5 percent of their GDPs in the sector despite the Maputo Declaration. As a consequence, the average growth rate of agricultural production between 1960 and 2012 stands at less than 1.8 percent as against more than 2.5 percent growth in population during the same period. This reflects a decline in per capita terms. Marginal growth has been achieved mostly based on area expansion, but land is increasingly becoming scarce and many countries are facing limits to further expansion. Land and agricultural productivity must increase because African farm yields are among the lowest in the world. Higher and sustained growth in agriculture will require attention in five core areas of public action: facilitating agricultural markets and trade; improving agricultural productivity; investing in public infrastructure for agricultural growth; reducing rural vulnerability and insecurity; and improving agricultural policy and institutions. All of these require a complete review of government policies towards agricultural development funding in Africa.

Why has the agricultural sector performed so poorly in Africa compared to other developing regions of the world? Why has governments in Africa remained adamant to providing the enabling environment for sustainable agricultural development? What are the opportunities particularly at this era of globalization that Africa can tap to transform its agriculture in a sustainable manner? What are the relationships that exist between investments in agricultural development and the levels of economic, social and political developments in African countries? What can African governments do to provide the conditions necessary for the



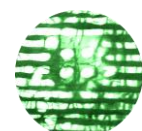
effective use of science and technology in both the public and private sectors so as to improve on the agricultural sector in a more sustainable manner?

This paper is conceived based on this mind frame and is structured to provide answers to the above research questions. Specifically, the paper examines the role of governments in agricultural development in Africa, the performance of the sector with emphasis on the constraints to its development since independence from both the domestic and external fronts, the relationship between government spending on agricultural development and overall economic, social and political advancement in specific African countries, and speculates on what needs to be done to target agriculture for the continent's development in order to achieve the much cherished Millennium Development Goals as time is fast winding out. The main premise of the paper is that agriculture does not only constitute the foundation for an industrial revolution in Africa but also the source of development. In order to achieve the above objectives, a descriptive approach is used with information drawn from secondary sources particularly from the FAO, IMF, IFPRI, CAADP, AGRA, AfDB and World Bank data bases. Descriptive analytical tools are used and are maintained simple to ensure comprehension by policy makers.

1.0 INTRODUCTION

The agricultural sector constitutes the mainstay of most African economies. It provides food for the ever increasing population, revenues from foreign exchange and taxes that finance both the agricultural and other sectors, raw materials for industries and more importantly, employment for a majority of the people. The average growth rate of agricultural production has stood at about 1.7 to 1.9% per annum since 1960. Population growth on the other hand has increased from 2.7% per annum during the period 1960 - 1980 to about 3.0% since 1980 due to improvements in health care services. This reflects a decline in per capita agricultural output, which in turn is mirrored in a decline in per capita food production by about 6% between 1980 and 2010. The rapid rate of increase of food imports of nearly 4% per annum and food aid of about 7% per year since 1974, is the direct consequence of stagnating agricultural performance, combined with rapid population growth and expanding urban population unable to obtain sufficient agricultural produce from the countryside. In some countries like those of the Franc zone,¹ increase in food imports has resulted from overvalued exchange rates which artificially cheapen imports compared to local production after the 1994 devaluation. Despite the increase in food imports and food aid, food intake per capita in Africa has remained low and is estimated at below 75% of required levels since the 1980s (Ntangsi 2011 and 2007). To this deplorable agricultural and food situation is added substantial evidence of environmental degradation including rapid deforestation and loss of soil fertility. In these circumstances, domestic policies combined with international concerns

¹ Franc zone countries include those using the FCFA - Franc de la Communauté Financière Africaine; which was devalued in January 1994.



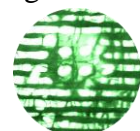
have fared badly in Africa. Current development problems therefore remain that of food insecurity and increasing poverty at all levels in the continent.

Fostering agricultural growth is commonly seen as a core strategy for overall development in Africa, particularly for reducing poverty, because the majority of Africa's poor are largely dependent on farming. Therefore, different African governments have embarked on developing and implementing agriculture-led development strategies. Yet agricultural productivity and growth lags behind overall economic performance in Africa, and the continent's volatile agricultural performance has fallen further behind the agricultural performance of other developing regions of the world. A little over a decade ago, in July 2003, at the African Union (AU) summit held in Maputo, Mozambique, African heads of state reaffirmed the agriculture-led development agenda for the continent and launched the [Comprehensive Africa Agriculture Development Program](#) (CAADP). In what came to be known as the Maputo Declaration, they set two overarching targets: first, to achieve an average agricultural growth rate of 6 percent each year; and second, to spend at least 10 percent of their national budgets in agriculture each year. This was followed in subsequent years by complementary declarations. For example, at the AU Assembly in Abuja in June 2006, African heads of state agreed in the [Abuja Declaration on Fertilizer for African Green Revolution](#) to increase the level of fertilizer use from an average of 8 kilograms per hectare (kg/ha) to at least 50 kg/ha. Then at the 2007 AU Assembly in Addis Ababa, they agreed to allocate at least 1 percent of gross domestic product (GDP) to research and development (R&D), a target that was later interpreted to mean [allocating 1 percent of agricultural GDP](#) to agricultural R&D (Somma, 2008).

A rich literature, both theoretical and empirical, has examined the process of structural transformation of economies, from the least developed in which economic activity is based largely on agriculture, to the high-income in which agriculture typically accounts for less than 5 percent of GDP. This literature has articulated agriculture's role as the precursor to the acceleration of industrial growth from England in the mid-18th century to Japan in the late-19th century, and much of Asia in the late 20th century (Bairoch, 1973; Timmer, 1988; Diao et al., 2005). The structural transformation where the share of agriculture in employment and GDP declines as per capita income rises is a stunning regularity.

1.1 The Structural Transformation Paradigm.

The thinking on the role of agriculture in this structural transformation has evolved over time. Classical theorists, led by Lewis (1954), viewed economic development as a growth process of relocating factors of production from an agricultural sector characterized by low productivity and the use of traditional technology to a modern industrial sector with higher productivity. Lewis' theory was employed to support the industrialization-led strategies adopted by many developing countries during the 1950s and 1960s, which resulted in a pronounced "urban bias" in policy and investment decisions throughout this period (Staatz and Eicher, 1998). Although Labour was believed to be surplus in the rural sector, agricultural



growth was seen as a precursor of industrialization to ensure the supply of food, and to prevent rising food prices and nominal wage costs from undermining industrial development (Lele and Mellor, 1981).

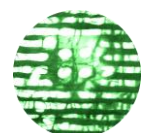
Beginning in the 1960s, a major revision in development thinking argued for a central role for agriculture as a driver of growth, especially in the early stages of industrialization (Johnston and Mellor, 1961). This view of agriculture's lead role, stimulated in large part by the emerging experience in Asia, was founded on two core contributions. First, it was recognized by leading scholars such as Schultz (1964) and Hayami and Ruttan (1971) that traditional agriculture could be transformed rapidly into a modern sector through the adoption of science-based technology, thereby making a large contribution to overall growth. Second, economists now explicitly identified the strong growth linkages and multiplier effects of agricultural growth to the nonagricultural sectors (Mellor, 1998). A large share of manufacturing in the early stages of development is agriculturally related. More importantly, rising incomes of rural households were seen as vital to providing a market for domestically produced manufactures and services (Adelman, 1984). In addition, technological change and productivity growth in agriculture were linked to lower food prices in a closed economy model, which in turn held down urban wage costs and stimulated competitive exports of industrial products (Hsieh and Sadoulet, 2007).

Following the Green Revolution experience in Asia, it was argued that these growth and employment linkages are most powerful when agricultural growth is driven by broad-based productivity increases in a rural economy dominated by small farms, as in much of Asia (Mellor,

1976). Small- to medium-sized farm households typically have more favorable expenditure patterns for promoting growth of the local non-farm economy, including rural towns, since they spend higher shares of income on rural non-traded goods and services, which are also generally more Labour intensive (King and Byerlee, 1978; Haggblade, Hazell, and Reardon, 2008).

1.2 The Sustainable Development Dimension

Despite broad acceptance of the structural transformation paradigm, this paper argues that it is time to rethink agriculture's roles in development for two reasons. First, the structural transformation models even with their more nuanced view of the role of agriculture still see agriculture as the handmaiden of industrialization. Yet, given the sheer size of the agricultural sector with an estimated 2.5 billion persons dependent on this activity, with three-quarters of all poor people living in rural areas, and with agriculture as the largest user of natural resources, it is increasingly recognized that the realization of the global development agenda will not be possible without explicitly focusing on the role of agriculture for development rather than agriculture only being so useful in industrialization.



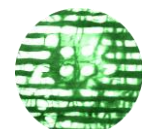
This recognition of agriculture's broader roles for development started in the 1970s with the focus on equity and employment, and the growing evidence that productivity growth across millions of smallholders was strongly pro-poor. During the 1990s, the development community explicitly recognized poverty reduction as the major objective of development programs and a burgeoning literature started to demonstrate the links between agriculture and poverty reduction (Timmer, 2002; Thirtle, Lin, and Piesse, 2003; Christiaensen and Demeny, 2007; Ntangsi, 2011).

Meanwhile, since the 1992 Earth Summit in Rio, the central role of agriculture for meeting the environmental agenda has been widely recognized, given that agriculture is the major user and often abuser of natural resources. This broader agenda was enshrined in the eight Millennium Development Goals agreed to in 2000 by all 191 United Nations member states. Agriculture relates to nearly all these goals, and is central to at least three of them—reducing poverty and hunger, fostering gender equality, and sustainable management of the environment. In addition, agriculture's role in economic growth remains critical to achieving all these goals.

Second, even within a broader paradigm of agriculture for development, the world in which agriculture operates has changed drastically due to globalization, new technologies and institutions, and new more demanding markets. Globalization has spurred rapid growth in demand for agricultural exports especially for higher value products, while opening the potential for developing countries to import food. At the same time, tightly coordinated supply chains have emerged that now operate on a far larger scale, which have unleashed a massive transformation in the organization of agricultural markets. Similarly new biotechnologies, as well as emerging new markets for agriculture such as the production of biofuels and the provision of environmental services for the mitigation of climate change, offer scope for faster growth of the sector. Finally, major institutional innovations in governance, civil society organizations, and services such as finance, insurance, and information services imply a greatly increased role of the private sector and civil society, and a more decentralized but smaller presence of the state.

Some of these changes are favorable to an agriculture-for-development agenda. Expanded markets for Labour-intensive nontraditional exports create new opportunities for farmers in developing countries. But other changes challenge the implementation of this development agenda. The competitiveness of agriculture in the poorest countries and the viability of the family farm are called into question by restricted access to proprietary technological innovations, economies of scale in provisioning more demanding supply chains, and a declining role and capacity of the state in servicing the small farm sector.

This paper reviews these wider roles of agriculture for development and argues that, even in the dramatically changed context of the 21st century, agriculture remains critical to the sustainable development agenda of the African continent. Departing from the standard structural transformation paradigm, the paper outlines agriculture's multiple roles in five



central pillars of the sustainable development agenda—economic growth, poverty reduction, equity including by gender, food security, and environmental sustainability— identifying important synergies and tradeoffs between them.

2.0 The Relationship between Agricultural Performance and Economic growth

2.1 The Burden of the Agricultural Sector

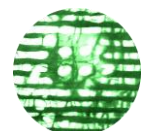
Agriculture carries a great deal of the economic burden in Africa and particularly in countries of the sub-Saharan region. This imperatively implies that many of their problems can be linked to the performance of the agricultural sector. Agriculture is the principal sector accounting for the dominant share of GDP, income, employment, food supply and export earnings. Between 1960 and 2010, agriculture accounted for more than 70% of the labour force and provided about 30-60% of the GDP in most African countries. It also dominated external trade, accounting for well over 35% of export earnings. Clearly therefore, the performance of agriculture is the most important determinant of overall economic growth in a majority of African countries. Casual observations appears to point strongly towards a close positive relationship between agricultural performance and economic growth in Africa.

2.2 Agriculture as a Trigger of Economic Growth

Agriculture's central role in growth is the major contribution of the more recent literature on structural transformation discussed above. A key question is whether agriculture continues to be an effective engine for growth especially in late developing countries, mostly in Africa, in light of the rapidly changing context and the potential to import food. We argue that the answer is yes both in terms of the importance of domestic food production as well as the comparative advantage of agriculture in export-led growth in the early stages of development.

Many staples in Africa are nontradable, either due to local preferences (e.g. plantains in Central Africa) or high transactions costs (e.g., cassava). In addition, in many countries, because of frequent shortages of foreign exchange for importing substitute cereals, food production has to keep up with domestic demand in order to maintain affordable food prices which are critical to overall growth.

In addition, agriculture is the lead export sector and foreign exchange earner since it is the sector with strong comparative advantage in the early stages of development. Most African countries are relatively rich in natural resources, but poor in skilled Labour, suggesting comparative advantage for unprocessed primary products. This is re-enforced by a weak business investment climate in terms of infrastructure (roads, electricity, communications) and institutions (legal, financial, regulatory) that constrain private investment in the formal manufacturing and service industries. In some countries, a combination of natural resources, human capital endowments, and an improving business environment point to comparative advantage in processed primary commodities, as a potential entry point for building a competitive manufacturing sector.



Although globalization and new dynamic producers have increased competition in traditional agricultural exports, recent successes such as coffee in Ghana suggest that agricultural exports can be a major source of growth. In Ghana, increased productivity in cocoa has been a major driver of its successful agricultural growth and poverty reduction since 1995. Other African countries, such as Senegal, Kenya, and Ethiopia, are also increasingly successful in rapidly growing exports markets for horticultural products and flowers.

Even if there is general agreement on the importance of agriculture in economic growth in the early stages, it is sometimes argued that rapid agricultural growth will be difficult in Africa because of an inherently unfavorable agro-ecological base, degraded soils, low population density, poorly functioning markets, and competition from the rest of the world (Maxwell, Urey, and Ashley, 2001). Yet agriculture has been the most dynamic sector in Africa with growth rates of 3.7 percent annually exceeding the growth in the nonagricultural sector over the 1993-2010 period. Over the long term in most countries agriculture is likely to grow more slowly than nonagricultural sectors, given Engel's Law according to which, as incomes rise, the proportion spent on food falls. However, globalization can also help relax this constraint by providing access to deeper markets with highly elastic demands for products such as fresh horticultural and organic produce and animal and fish products.

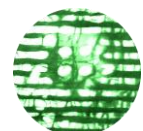
2.3 Agriculture's Power for Poverty Reduction

Three out of four poor people in developing countries about 900 million people live in rural areas. Even with rapid urbanization, the developing world is expected to remain predominantly rural in most regions until about 2025, and the majority of the poor are projected to continue to live in rural areas until 2040 (Ravallion, Chen, and Sangraula, 2007). This reflects a large and persistent gap between the share of agriculture in GDP and the share of agriculture in the Labour force due to the slow movement of Labour out of agriculture.

The persistent concentration of absolute and relative poverty in rural areas even with rapid economic growth, illustrates the difficulty of redistributing income generated outside agriculture and the deep inertia in people's occupational transformation as economies restructure.

Migrating out of agriculture to urban areas is often hampered by lack of information, cost, skill gaps, aging, and family and social ties.

There is now overwhelming evidence that growth in the rural economy is essential for reducing poverty in most developing countries. From a simple decomposition analysis, 81 percent of the worldwide reduction in rural poverty during the 1993–2002 period can be ascribed to improved conditions in rural areas; migration accounted for only 19 percent of the reduction (World Bank, 2007). Cross-country econometric evidence indicates that GDP growth generated in agriculture is particularly effective in benefiting the poor. Among 42



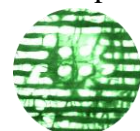
developing countries over 1981–2003, one percent GDP growth originating in agriculture increased the expenditures of the five poorest

This decomposition abstracts from indirect effects of urbanization on rural poverty through remittances and rural wage changes through tighter rural Labour markets. Yet, it also conservatively assumes that all rural-urban migrants are poor, which is unlikely because migrants are often the more educated and entrepreneurial deciles on average by 3.7 percent, far more than the 0.9 percent induced by one percent GDP growth originating in the rest of the economy (Ligon and Sadoulet, 2007). Similarly, Bravo-Ortega and Lederman (2005) find that an increase in overall GDP coming from agricultural Labour productivity is on average 2.9 times more effective in raising the incomes of the poorest quintile in developing countries than an equivalent increase in GDP coming from nonagricultural Labour productivity.

Similar results hold for the agricultural growth-poverty linkages at the country level. In China, where land is relatively equally distributed, the reduction in poverty was almost four times higher from GDP growth originating in agriculture than from GDP growth originating in industry or services (Ravallion and Chen, 2007). Rapid agricultural development also contributed substantially to the dramatic poverty reduction in Vietnam over the past 15 years and is likely to remain an important pathway out of poverty for many of Vietnam's poor (van de Walle and Cratty, 2004). But in some countries rural poverty did not decline, despite rapid agricultural growth—for example, in Bolivia, Peru, and Brazil where growth was concentrated in an export-oriented sector of large capital intensive farms.

Some of the impact of agricultural productivity growth on poverty reduction is obtained directly through raising farm incomes, but much of it is indirect through employment and food prices. Econometric studies of India for 1958–94, where many of the rural poor are landless, report price and wage effects of food crop productivity to be more important in reducing rural poverty in the long run than direct effects on farm profits, which dominated in the short run (Datt and Ravallion, 1998). Although lower food prices reduce farm incomes, the experience from the Green Revolution in Asia was that total factor productivity rose faster than the decline in food prices, leading to a win-win for poor producers and consumers (Lipton, 2005). In addition to the urban poor and the rural landless, more than half of poor farm households are typically net food buyers who benefit by lower food prices. When a food crisis hits, a majority of poor smallholders are in fact hurt by rising prices, a somewhat counterintuitive outcome.

With rising incomes, growth is increasingly driven by the rapidly expanding demand for livestock products and high-value crops, which are also more Labour intensive. The poverty impact of growth in the agricultural sector will thus depend increasingly on the poor connecting to these new growth processes, either as smallholders or as Labourers in large farms. Vertically integrated supply chains and supermarkets pose particular challenges for them, although recent evidence from China suggests that small and poor farmers can take an active part in the rapidly expanding horticulture economy (Wang et al., 2006). A similar pro-



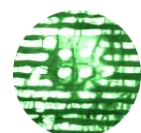
poor pattern holds for India's dynamic dairy industry. Success stories in smallholder competitiveness in high value activities typically depend on membership in effective producer organizations that can address the challenges of economies of scale in marketing and processing.

Agricultural productivity growth also contributes to poverty reduction by stimulating rural non-farm growth, especially where infrastructure and the investment climate are already in place (Barnes and Binswanger, 1986; Hazell and Haggblade, 1991). In India and Indonesia, growth in rural services was estimated to contribute at least as much as growth in agriculture toward reducing poverty.

2.4 A Continuing Role in Food Security

Agriculture's role in food security has shifted over time. From the mid-1970s to the 2008 food crisis, the world was generally food secure, producing enough food to meet the dietary needs of today's global population. However, the 2008 crisis was a sharp reminder that global food security should not be taken for granted because of uncertainties from growing resource scarcity, rising energy prices, new demands such as biofuels, and climate change.

At the country level, trade can stabilize food availability and prices in countries with rising and diversified foreign exchange earnings—the case for most countries in Asia and Latin America. However, domestic food availability is still a challenge for many countries in Africa that experience some combination of negative per capita annual growth rates in staple food, large production fluctuations caused by climatic variability, low foreign exchange earnings, and landlocked status or poor infrastructure to import food staples. World price fluctuations place additional strain on import capacity and, therefore, increasing domestic food availability and stability remains essential for development in these countries. Because of the low price elasticity of demand for food staples and the thinness of international markets, small changes in food availability translate into large spikes in domestic prices and reductions in real incomes of poor consumers, many of whom are farmers. The 2008 food price spike is estimated to have moved an additional 130-155 million people into poverty (World Bank, 2008). However, even with adequate global supplies, over 900 million people remain undernourished and more than 5 million children die each year from causes linked to under-nutrition (Gross and Webb, 2006). Accordingly, the concept of food security evolved in the 1980s to include access; the means to acquire food, and most recently the human right to adequate food. Food access puts emphasis on food security at the level of households and individuals within households (especially women and children). Within this broader perspective, the channels between agricultural production and food security are complex and multiple. Rising productivity increases rural incomes and lowers food prices, making food more accessible to the poor. Other investments such as improved irrigation and drought-tolerant crops reduce price and income variability by mitigating the impact of climatic shocks. Productivity gains are key to food security in countries with foreign exchange shortage or



limited infrastructure to import food as is the case with African countries. The same applies to households in remote areas with poor access to food markets.

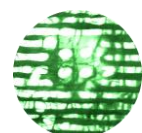
For most of the malnourished, the lack of access to food is a greater problem than food availability. Today, agriculture's ability to generate income for the poor is often more important for food security than its ability to increase local food supplies. Women, more than men, spend their income on food so efforts to redress gender biases can provide payoffs to food security as well. Beyond food supply and access, lack of dietary diversity can lead to micronutrient malnutrition, even when energy intakes are sufficient. This "hidden hunger" can cause illness, blindness, and premature death as well as impair the cognitive development of survivors. Recent experience indicates that it is possible to develop crop varieties with higher levels of vitamins and minerals, providing yet another example of the link between agriculture and food security.

2.5 Agriculture as a Steward of the Environment

Agriculture is the major user of scarce natural resources (85 percent of the developing world's fresh water withdrawal and 42 percent of its land). It is also a leading cause of underground water depletion, agrochemical pollution, soil exhaustion, loss of biodiversity through deforestation, and an important contributor to global climate change, accounting for up to 30 percent of greenhouse gas emissions. At the same time, degradation of these natural resources undermines the basis for future agricultural production and increases vulnerability to risk.

The environmental costs of agriculture relate to both intensification and extensification strategies pursued to varying degrees in different regions. In Green Revolution areas, agricultural intensification has generated environmental problems from reduced biodiversity, mismanaged irrigation water, agrochemical pollution, and health costs and deaths from pesticide poisoning. The rapid rise of intensive livestock production in middle income countries has its own environmental costs through animal waste and the spread of animal diseases such as avian influenza.

Yet areas that have not experienced intensification, especially in Sub-Saharan Africa, suffer from deforestation, soil erosion, desertification, and degradation of pastures and watersheds from unsustainable expansion of the agricultural frontier with growing rural populations pushed into more marginal and fragile zones. For these areas, agricultural intensification—based on a "doubly Green Revolution" must be part of the solution (Conway, 1999). The challenge is to manage the tradeoffs from agricultural intensification by seeking more sustainable production systems and to enhance agriculture's environmental services. Many promising technological and institutional innovations can make agriculture more sustainable with minimum tradeoffs on growth and poverty reduction. For example, one of agriculture's global success stories in the past two decades is conservation tillage. This win-win approach has worked in commercial agriculture in Latin America, and among smallholders in South



Asia's rice-wheat systems. In less-favored regions, community-based approaches have succeeded in many areas to better manage watersheds and forests.

But widespread adoption of more sustainable approaches has often been hindered by inappropriate policies that encourage mining of resources, such as electricity subsidies that encourage underground water extraction. Strengthening property rights and providing long-term incentives for natural resource management with off-farm benefits are necessary in both intensive and extensive farming areas to manage externalities. But these reforms are often politically difficult.

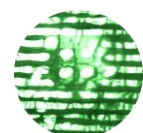
Agriculture can also provide positive environmental services such as clean drinking water, stable water flows to irrigation systems, carbon sequestration, and protection of biodiversity. There is growing interest in payments for these services to help overcome market failures in managing environmental externalities (FAO, 2007). Environmental certification of products also allows consumers to pay for sustainable environmental management, as practiced under fair trade or shade-grown coffee. In the future, carbon-trading schemes—especially if their coverage is extended to provide financing for avoided deforestation and soil carbon sequestration—offer significant potential to reduce emissions from land-use change in agriculture.

Managing the connections among agriculture, natural resource conservation, and the environment must be an integral part of using agriculture for development. This will not be easy—with rising competition for natural resources from non-farm sectors and new agricultural markets, such as biofuels, the tensions and tradeoffs are likely to grow.

3.0 Constraints to Agricultural Development

3.1 Constraints on the External Front:

External factors that have contributed to the dismal performance of the agricultural sector in Africa concern principally the falling prices of agricultural products in the world market and the depreciation of the US dollar particularly during the 1980s. Of no less importance is the specialisation of African countries in the production of a limited number of crops. The prices of Africa's major agricultural exports have exhibited a generally downward trend in real terms since the early 1970s, and a substantial loss in the terms of trade. As shown in Table 8, there has been a sustained decline in world market prices from 1980 to 1991. These prices fell to the lowest level in 50 years during the early 1980s. Between 1980 and 1982 alone, this loss was estimated at 1.2% of GDP for all sub-Saharan countries. The average annual changes in terms of trade for these countries were -1.4% in 1980-1984, -5.9% in 1985, -23.5% in 1986



and 1.1% in 1987 (World Bank, 1988). Falling world market prices have negative effects on producer prices as the latter fell so much leading to a significant contraction of export crop output.

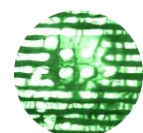
The causes of the sustained declines in international prices have been a combination of factors. These include: growth of world production at a faster rate particularly from Asia and Latin America than growth in world demand, subsidies of export crops by industrialized countries particularly for sugar, cereals, vegetable oils and beef, and the development of substitute products. In situations of rapidly declining real prices, only the most competitive and imperatively the most efficient producers can survive. Cutting the costs of producing and processing primary products became common in the 1980s and Africa was left behind because of internal adjustment problems.

The US dollar, a major currency against which commodities are traded in world markets recorded the highest depreciation rate in recent times during the early 1980s. In fact, the currency depreciation was more than 40% during this period. The depreciation of the dollar reflects an automatic fall in producer prices for the various exports measured in domestic currencies. This therefore had the same effect like falls in world market prices. The combined effects of depreciating dollar and falling world market prices had remarked negative repercussions on the performance of the agricultural sector during the 1980s in countries within Africa.

3.2 Constraints on the Domestic Front

Although African leaders attribute the dismay performance of agriculture to harsh international environments, internal policies have played a leading role. When comparisons are made with other developing areas particularly in Asia and Latin America, it is realised that African governments do not give adequate attention in terms of needed assistance to the agricultural sector. Even though the sector contributes more than 40% to GDP, most African governments still allocate less than 10% of total expenditure to the development of agriculture. As shown in Table below, African governments on average allocated only about 8.1 % of total expenditure to the agricultural sector between 1960 and 2010. Only countries in the East African region consistently allocated about 10% on average to agricultural development during the period 1960-2010. Governments in the Central and West African regions on average allocated only about 6.6% of total expenditure on agricultural development. These explain the low level of agricultural infrastructure prevalent in most of the countries.

Share of Government Expenditure in Agriculture according to Regions between 1960 and 2010 (Averages in % of Total Expenditures)



Region	1960-65	1975-80	1980-85	1985-90	1990-99	2000 - 2010	1960-2010
Central Africa	11.5	10.3	3.3	4.5	4.9	3.0	6.9
East Africa	12.2	10.3	10.0	11.8	10.2	11.6	11.1
North Africa	6.0	5.9	7.7	10.1	5.9	7.8	7.3
Southern Africa	8.0	8.5	7.4	8.1	7.7	10.0	8.8
West Africa	7.3	6.0	5.1	4.7	6.1	8.2	6.4
All of Africa	9.0	8.2	6.7	7.8	7.0	8.9	8.1

Source: Extracted from World Bank, FAO and IMF Publications.

A review of the existing literature on domestic constraints to agricultural development in Africa reveals that the sector has been heavily taxed. The various ambitious industrial development plans launched during the 1970s and early 1980s were constructed on the assumption that funds for their financing would be generated from agricultural surpluses. In addition, many countries depended heavily on taxes from trade as a source of government revenue. Since agricultural exports accounted for such a large proportion of total export earnings, it was inevitable that agriculture would bear a heavy tax burden. For these and other related reasons, governments in most African countries have played a leading role in determining the producer prices for all major crops through the use of parastatal Commodity Marketing Boards. As export taxes increased through the 1970s and early 1980s, Marketing Boards margins also widened whereas producer prices fell far below international levels. Oyejide (1993) using Nominal Protection Coefficients (NPC) for some categories of crops showed that between 1969 and 1989, farmers did not receive up to 75% of the border prices for their products in sub-Saharan Africa. These NPC estimates in the Table show that sectoral pricing, marketing and trade policies were generally unfavourable to agriculture. The NPC for all crops remained below 1 throughout the whole period. This shows that governments' sectoral policies towards agriculture during the period 1969 to 1989 did not provide incentives for more agricultural production.



Nominal Protection Coefficients for Sub-Saharan Africa: 1969-1989

Agricultural Products	1969-1971	1973-1975	1978-1980	1981-1983	1987-1989
Cereals	0.75	0.61	0.85	0.88	0.90
Other Food Crops	0.60	0.40	0.60	0.65	0.77
Export Crops	0.63	0.57	0.57	0.62	0.65
All crops	0.65	0.55	0.63	0.69	0.79

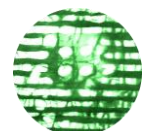
Source: Extracted from Oyejide (1993).

The rate of relevant technological innovations has been slow, providing only limited technology which African farmers can adopt. This is caused by weak agricultural research and extension. Irrigated areas which are excellent users of new agricultural technologies in Asia and Latin America have not been developed significantly in Africa, and where developed are nearly universally poorly managed. Inherent soil and water constraints to expanded agricultural production using imported technology are not sufficiently considered in Africa.

The poor state of roads, telecommunications and ports throughout sub-Saharan Africa in particular, have created high transport costs. Modern farm inputs are usually very costly at farmgate compared to much of Asia and Latin America. Crops produced for sale are also often expensive at markets because of high transport costs. Empirical evidence shows that more than 50% of total production costs in most of Africa consists of transport costs. More than 30% of perishable products get wasted due to transportation difficulties. This situation has been made worse by the absence of storage, processing and conservation facilities.

Inadequate provision of social amenities like rural health care centers, rural water, family planning units and educational establishments have resulted in a high incidence of unhealthy, poorly educated people in rural areas. Most of these persons cannot therefore understand the need for the application of modern farming practices and improved varieties of crops. An increasing number of youths leave for urban areas in order to attend schools or to look for jobs. The overall consequence has been the depletion of agricultural human capital stock in rural areas.

Ill conceived public agricultural projects have contributed to the stagnation of the sector. Even well conceived projects are badly implemented and this explains the high rate of abandoned or uncompleted agricultural projects after heavy capital commitments. The inefficient management of parastatals led to heavy budgetary deficits in most African countries during



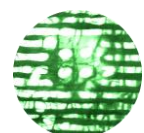
the 1980s. Autonomous farmer's organisations and cooperatives and farmer participation in the management of agricultural development has not been encouraged.

Traditional African land tenure systems provide considerable security of tenure on land brought into farming through customary rules of community land ownership. Considerable migration (rural-rural, rural-urban, urban-urban) has occurred within and between countries. The migrants often come with conflicting traditions of land allocation. In addition, many governments have nationalised land. Some of this land is distributed for other uses such as plantations owned by the state or by private enterprises and farms owned by elites. Both of these phenomena have reduced the traditional security of land tenure. Farmers who are unsure that the land they farm will belong to them or can be used by them in future are less likely to invest in the land or conserve it. This accelerates environmental problems. A more severe problem manifests itself in the form of a majority of the agricultural population not having access to land and are forced to rent it or work under landlords. Primitive farming practices also help in degrading farmlands.

Another major constraint to agricultural development in Africa involves the role of women in society. African women traditionally bear most of the responsibilities for food production, fuelwood gathering, water collection and other household related activities. In traditional societies, this works well but with the increasing population pressures in townships, access to land by women has become very difficult. The role of women particularly in areas dominated by Islamic tradition is not facilitated due to a number of socio-economic restrictions. Increased work burdens on women make it difficult for them to apply the labour needed to intensify agriculture. Research in African agriculture has paid little attention to the gender element in farming and many extension systems appear to neglect women altogether.

The problem of poor governance tops agricultural development constraints in Africa. The lack of will and commitment by government agents is facilitated by the prevalence of poor governance. This has equally created a bureaucracy that retards everything. Private sector participation in agriculture has not been facilitated by these delays. Studies undertaken in Côte d'Ivoire showed that an investor takes at least two years to get authorisation from the government to undertake an investment activity. This therefore discourages mechanised agriculture. Industrial Free Zones established during the early 1990s are yet to have any impact on agricultural production since most of the investors are yet to get authorisations after so many years.

Over dependence on rainfed agriculture has proven dangerous for agricultural development. During the last twenty years, rainfall has considerably declined and the duration of rainfall has significantly reduced in many areas, making rainfed agriculture highly risky. Frequent locusts attacks have been recorded in the continent particularly in the West and Central African regions during the 1980s.



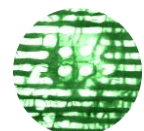
Conflicts and wars have been a major threat to agricultural production and food security in the continent during the 1980s and 1990s. These range from inter tribal wars within countries to boundary problems between countries. A majority of these are politically motivated. Where there is no outright war, conflicts have made it impossible for farmers to achieve anything like their full production potentials.

The fiscal and monetary policies have not always been helpful to farmers and generally agricultural development. Most governments in the continent have lacked strict discipline in relation to money supply. The volume of money in circulation has always been increased at rates that have proved harmful to the economy. The supply of money has contributed significantly to the observed level of inflation which encourages consumption over savings. This restricts the abilities of various economies to mobilise investments which are prerequisites to agricultural development. Credit policies have not been helpful to farmers. Available evidence about credit provision to different economic activities in Africa shows that the small holder subsector has been marginalised, even when credit projects have been relatively successful (Tshibaka, 1992).

Inter and intra regional co-operation in Africa have not been encouraging in the past. Existing evidence shows that African countries continue to depend on colonial ties which tend to focus on co-operation between former colonies and the colonial powers to the detriment of regional co-operation. As a result, most African countries trade mostly with European countries whereas intra-African trade is only marginal. These limit the markets for a majority of African products like bananas in which some countries have supply potentials.

The Under-Utilization of Agriculture's Potential for Development is one of the consequences of the above. The agriculture-for-development connections revealed by the evidence reviewed here have too often not been sufficiently exploited. Certainly agriculture has yet to perform as an engine of growth in most Sub-Saharan countries, where the Labour force is rapidly urbanizing without per capita income growth, resulting in failed structural transformations compared to what happened in Asia and elsewhere. In most Sub-Saharan countries, the share of agriculture in the Labour force declined over the period 1961-2010 without gains in GDP per capita as compared to other parts of the world. Premature and unduly high extraction of the agricultural surplus to finance industrialization, and a lack of public investment in agriculture despite good growth potential, are key reasons for sluggish agricultural performance in many African countries.

Failed agricultural development efforts such as integrated rural development in the 1970s and training-and-visit extension in the 1980s also negatively influenced spending. Poor understanding of agrarian dynamics, weak governance, and the tendency for donors to seek one-size-fits-all approaches contributed to these failures. Implementation difficulties are especially challenging in agriculture, with the cross-sectoral nature of many investments, extensive market failures requiring effective state intervention, and the need for technical skills on both the government and donor sides. This experience underlines the need to



strengthen donor and country capacity for policy analysis and project design, and to invest in governance and institutions for effective implementation.

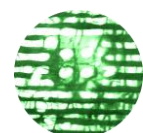
4.0 Renewed Interest in Agriculture for Development

The agriculture-for-development agenda presents two challenges for implementation. One is managing the political economy of agricultural policies to overcome policy biases, underinvestment, and misinvestment. The other is strengthening governance for the implementation of agricultural policies, particularly in the many African countries where governance gets low scores. There is evidence that the political economy has been changing in favor of agriculture and rural development. Since 2001, governments and donors interests in agriculture have increased, with a sharp jump in commitments since the 2008 food crisis. For example, the World Bank committed to double assistance to agriculture in Africa by 2010. This is happening because of higher and more volatile commodity prices; growing recognition among developing country governments and donors of the multiple roles of agriculture for development; and new approaches to agricultural development based on decentralization, participation, and public-private partnerships, with greater likelihood of success.

Rural civil society organizations are also playing a much larger role that rivals that of many government and donor organizations. The private agribusiness sector has become more prevalent and foreign private investment is now flowing into the sector, including in Africa. And large philanthropic organizations such as the Bill and Melinda Gates Foundation have become major players in assistance to agriculture. New structures like NEPAD, AGRA, FARA, etc have gained grounds. These new actors can fulfill important roles in enhancing the political economy of agriculture for development.

In this new context, strong public policy and state capacity is needed to secure desirable social outcomes, especially inclusive and sustainable agricultural growth. Yet the renewed interest in agriculture for development is fragile given weak and widely eroded state capacity following structural adjustment policies, and complexity of the agenda. Strengthening the capacity of the state in its new roles of coordinating across sectors and partnering with the private sector and civil society is urgently needed. In most countries, ministries of agriculture are in need of far-reaching reforms. Other ministries play even greater roles in many aspects of the agenda such as the environment, nutrition, and regional development, but coordination remains weak.

By bringing government closer to rural people, decentralization holds the potential to deal with the localized and heterogeneous aspects of agriculture, especially for extension. Community-driven development can harness the potential of rural communities—their local knowledge, creativity, and social capital. Territorial development can help manage economic projects with a broader scale than the community driven development approaches. A stronger state will not be enough. The “third sector”—communities, producer and other stakeholder



organizations, and nongovernmental organizations (NGOs)—can improve representation of the rural poor and, in so doing, governance. Producer organizations can give political voice to smallholders and hold policy makers and implementing agencies accountable.

Freedom of association, a free press, and investment in the social capital of rural organizations, including women's organizations, are important for such demand-side strategies of improving governance. Donors must also improve their effectiveness as they scale up their investments once again. Country-led agricultural strategies and the broader poverty reduction strategy papers (PRSPs) provide a framework for donors to align their support to the agricultural sector and with each other, using the government's public expenditure and procurement systems as mechanisms for program implementation. However, technical skills in agriculture in donor organizations have been severely depleted and must be adjusted to the new conditions if agriculture is to be effectively used for development.

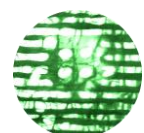
Finally, the agriculture-for-development agenda cannot be realized without more and better international commitments. The global agricultural agenda has a multiplicity of dimensions: establishing fair rules for international trade, agreeing on product standards and intellectual property rights, facilitating R&D spillovers for the benefit of the poor, avoiding such negative spillovers as animal diseases, conserving the world's biodiversity, and mitigating and adapting to climate change. Current international organizations – that were largely defined in the 1950s in a vastly different world for development – are poorly prepared for this new agenda, and institutional reforms and innovations are needed to rebuild capacity in agriculture and facilitate greater coordination across international agencies and with the new actors in the global arena, including civil society, the business sector, and philanthropy.

5.0 Policy Implications, Conclusion and Recommendations

5.1 Policy Implications

In the paradigm of agriculture fulfilling multiple functions for development, priorities in using these functions must be clearly established. This is important as there are usually trade-offs in achieving these functions. For instance, how growth is achieved has strong implications for poverty reduction, income disparities, and environmental impacts. But the main functions that agriculture provides for development vary across countries depending on the structure of poverty and the importance of agriculture as a source of growth. The World Development Report 2008 (World Bank, 2007) summarized these contributions by categorizing countries according to the contribution of agriculture to GDP growth over the period 1991-2005 and the most recent estimate of the share of the rural poor in the total number of poor, using the \$2-a-day poverty line.

In the “agriculture-based countries” (most of them in Sub-Saharan Africa), agriculture contributes about one third of overall growth, and 70 percent of the poor are concentrated in rural areas and their livelihoods are agricultural based. By its mere size, the agricultural



sector is critical for growth, at least in the medium term. The staple crop sector is typically the largest sub-sector and must be a focus of development strategies aimed at accelerating growth, food security, and poverty reduction.

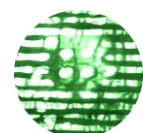
In the “transforming economies” (mostly in North Africa), agriculture contributed only 7 percent to growth during 1993–2005 and 13 percent of the economy, but it employs 57 percent of the Labour force. Despite rapid growth and declining poverty rates in most of these countries, poverty remains widespread and overwhelmingly rural—82 percent of the poor live in rural areas and the disparity between rural and urban incomes is widening even as rural poverty falls. In these countries, the transition of people out of agriculture and rural areas is not keeping pace with the restructuring of economies away from agriculture due to limited Labour mobility and skills. One policy response is facilitating faster absorption of the agricultural Labour force in the urban economy through investments in human capital. But the time lags in educating people for non-agricultural employment are substantial. For the medium term, the main function of agriculture is to reduce sectoral disparities through, for example, tapping rapidly growing markets for Labour intensive high value products and related rural non-farm industries and services.

In the “urbanized countries” like in South Africa, agriculture makes up only 6 percent of GDP and contributed 5 percent to growth. Although almost three-quarters of the population of urbanized countries lives in urban areas, 45 percent of the poor are still in rural areas, and 18 percent of the Labour force works in agriculture. In these countries, agriculture acts like other tradable sectors, often economically important in sub-regions that maintain “agriculture-based” features. It provides growth opportunities in sub-sectors with a comparative advantage and dynamic markets. The main divide is now between the traditional rural sector and the modern rural and urban sectors. The function of agriculture for development in these countries is social inclusion for poverty reduction: to create opportunities for smallholders in supplying the modern food markets and good jobs in agriculture and the rural non-farm economy.

5.2 Conclusions

These can be presented in points form as follows.

1. The accepted wisdom in development economics is that agriculture is a source of product, factor, foreign exchange, and market contributions that all helped trigger industrial growth and a decline in the share of agriculture in the economy.
2. Today, however, the context where this role is being played is quite different, characterized by globalization, integrated value chains, rapid technological and institutional innovations, and environmental constraints.



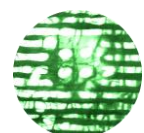
3. In this context, a new paradigm is needed that recognizes the multiple functions of agriculture for development: triggering GDP growth in early stages, reducing poverty, narrowing income disparities, providing food security, and delivering environmental services.
4. Governments and donors have neglected these functions of agriculture over the last 25 years, with negative impacts on development. However, this is changing as agriculture's multiple functions are increasingly recognized, in part in response to the food, poverty (in relation to the Millennium Development Goals), and climate change crises.
5. Mobilizing these functions requires shifting the political economy to overcome anti-agriculture policy biases, strengthening governance for agriculture, and prioritizing agriculture's functions in relation to country types.

5.3 Recommendations

Given the so many constraints that retard agricultural development in Africa coupled with increasing population, the need to improve the welfare of people in terms of having both physical and economic access to food and being able to utilize it efficiently remain the major challenges for decision makers.

Central governments are pacesetters of all economic activities. This requires transparency and accountability in the management of public resources. Government officials must have the will and commitments required to efficiently and effectively deliver the goods. All these and others can be sustainable only under stable political and social conditions. Good governance remains a major ingredient for political and social peace and economic progress in any society. An appropriate political system will attract private sector investors (both domestic and foreign). There is, therefore a need for concerted and well co-ordinated effort by Africans to ensure that good governance through democratization prevails in the continent.

Governments in Africa must be able to create the enabling macroeconomic environments that facilitate private sector participation. Structural adjustment programs that a majority of African countries embarked on since the early 1980s have resulted to government withdrawals from most agricultural production and other related functions. It is therefore imperative for governments to adopt policies that promote private sector participation in agriculture and other related activities. Fiscal, monetary, investment, credit, income distribution and trade policies that define the macroeconomic setting must be designed to promote the growth of both agricultural and non-agricultural sectors. Regarding fiscal policy, governments need to raise revenue through taxes on land, income (wages, interest and dividends, and capital gains), and consumption (sales). Governments should refrain from taxing the various economic sectors through price manipulations, whether through trade, exchange rate or marketing.



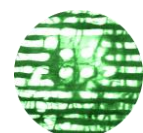
Strict monetary discipline is needed as regards money supply. Governments need to set the nominal interest rates at levels that make the real interest rates positive and statistically significant in order to promote savings without jeopardizing borrowing for investment purposes. It is also critically important to formulate policies and strategies that encourage the mobilization of domestic financial resources in both rural and urban areas and to stimulate the use of these resources in the acquisition of productive farm and non-farm inputs and services.

Government investment and expenditure policies must be based strictly on what is needed to put each sector of the economy into a dynamic growth process. For the growth to be broad based, the benefits derived must be equitably distributed among owners of various productive inputs. Gaining from few advances in economic theory, the real exchange rate must be used as an effective management tool.

Policy measures should be initiated to improve the long-term productive capacity of the natural resource base. The development and diffusion of sustainability and productivity enhancing techniques and inputs have to be encouraged. These measures have to be reinforced by a coherent population policy, combining measures to reduce the human fertility and increase non-farm employment. Where farmland is abundant relative to labour, improved techniques and inputs that enable farmers to open relatively large areas of land, to improve the productive capacity of this land and to stabilize the farm fields must be the core of the production technology to be disseminated among farmers. Where land is scarce relative to labour, land productivity-enhancing techniques and inputs should be the focus. In all cases, the development and dissemination of post-harvest management techniques should be considered as important. Widespread adoption of improved techniques and inputs requires the development of rural road and transport networks, input and output markets, credit, research and extension services. Particular attention is needed on efforts to rehabilitate and refocus the agricultural research and extension systems in nearly every African country.

There is the need to diversify agricultural production and exports into non-traditional areas. Concentration on a few products has proven dangerous with fluctuations in world market prices particularly during the 1980s. Production and exports diversification can take many forms. Nontraditional products like flowers, fresh vegetables, fruits, garri, cassava chips and flour should be encouraged. There should be local transformation of primary products so as to gain from value added. Diversification also involves the development of labour intensive industrialization particularly agro-industries. This goes a long way to reducing perishability of agricultural products.

Besides the demand for food for human consumption, there is need to assess the linkages between crop production, livestock development, industrial use and trade. This exercise is critical to the design of policy measures to properly manage the expected increases in crop and livestock output resulting from sustained growth. The development of various crops and livestock products require attention to long-term prospects for domestic, national, regional and world demand and supply.



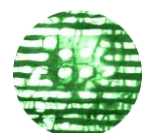
Given that the basis of development is good infrastructure, government policies towards infrastructural development must be reviewed in order to encourage efficiency in agricultural production processes and in the procurement of services. Major feeder roads must be constructed and well maintained so that they are accessible throughout the year. There must be provision of transformation and storage facilities in order to reduce waste of perishable products. A good information network must be put in place to keep those concerned aware of current events. Existing irrigation schemes must be improved and new ones established in order to reduce the overdependence on rainfed agriculture. This requires improvement in agricultural technology.

Current world trade agreements necessitate the reinforcement of regional groupings in Africa. Given the similarity between various regions, effective economic and monetary integration can strengthen the African economy in many ways. Research and bulk production imply economies of scale. Vertical and horizontal integrations will guarantee regular supply and demand thereby encouraging more agricultural production. Effective integration can take place when there is peace both within and between countries. The current trend of conflicts in the continent must be resolved. The various regional groupings including the OAU and ECA should be involved in conflicts resolution.

Since food production decisions in most African countries are taken by women, there is the need to promote ownership of property by women particularly land. Increasing population, soil degradation and deforestation demands that women have access to more land if food production must increase. Effective family planning can take place only when women are directly involved. Thus women must constitute part of the policy making mechanism that involve overall economic development and particularly agricultural production.

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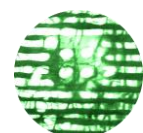
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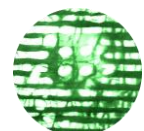
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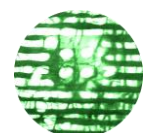
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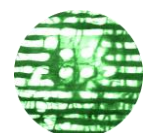
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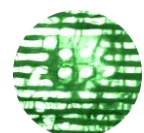
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