

INCLUSIVE GROWTH

An imperative for African Agriculture

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Department (OSAN)
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Foreword

Since 2000, Africa has been experiencing a remarkable economic growth accompanied by improving democratic environment. Real GDP growth has risen by more than twice its pace in the last decade. Telecommunications, financial services and banking, construction and private-investment inflows have also increased substantially. However, most of the benefits of the high growth rates achieved over the last few years have not reached the rural poor. For this to happen, substantial growth in the agriculture sector will need to be stimulated and sustained, as the sector is key to inclusive growth, given its proven record of contributing to more robust reduction of poverty. This is particularly important when juxtaposed with the fact that the majority of Africa's poor are engaged in agriculture, a sector which supports the livelihoods of 90 percent of Africa's population. The sector also provides employment for about 60 percent of the economically active population, and 70 percent of the continent's poorest communities.

In spite of agriculture being an acknowledged leading growth driver for Africa, the potential of the sector's contribution to growth and development has been underexploited mainly due to a variety of challenges, including the widening technology divide, weak infrastructure and declining technical capacity. These challenges have been exacerbated by weak input and output marketing systems and services, slow progress in regional integration, land access and rights issues, limited access to affordable credit, challenging governance issues in some countries, conflicts, effects of climate change, and the scourge of HIV/AIDS and other diseases.

Green growth is critical to Africa because of the fragility of the continent's natural environment. Further, Africa's dependence on agriculture is stretching its ecological carrying capacity. Africa's agriculture therefore needs a transformation to green agricultural practices that combine intensification of land productivity with environmental sustainability.

There is growing consensus that the positive prospects of Africa's agriculture sector could be realized more inclusively by assisting smallholder farmers to be better associated with commercial farmers to bolster their specialization and market-oriented value addition. Given the challenges associated with raising agricultural productivity using commercial inputs, green agriculture provides a vital option that constitutes a mix of conventional and green practices. To achieve this, farmers must be supported to practice both types of agriculture as a business by enhancing their skills and knowledge, and making appropriate agricultural technologies affordable. Agriculture development programs should address the challenges that the sector currently faces, while protecting Africa from acute market, productivity and related risks.



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Preface

Agriculture is critical for sustainable development and poverty reduction, and agricultural growth can be a powerful means of achieving inclusive growth. In spite of the disproportionately lower share of investment in the sector from African governments and donors over the last decade, growth is still being recorded and the continent's agriculture still holds much promise and potential. Agricultural productivity and rural employment can offer increased income to the poor and provide food security and income diversification to vulnerable communities. Given that agriculture dominates the rural economy in most African countries, increased productivity in the sector will remain a key driver and a critical component of inclusive growth.

Inclusive growth, which is defined as economic growth that results in a wider access to sustainable socio-economic opportunities for the majority, while protecting the vulnerable, all being done in an environment of fairness, equality and political plurality, can be achieved by transforming Africa's predominantly smallholder farmers into market-oriented value chains that provide goods and services to local, regional and global markets. The African Development Bank, through its investments in rural infrastructure (rural access roads, water management systems for irrigation, electricity generation/distribution and proper storage facilities); agricultural productivity enhancement through support to research; and sector capacity building and knowledge sharing on appropriate development policies for the sector in Africa, has helped to improve agricultural productivity and competitiveness in the region.

The three inclusive growth components discussed in this paper (agriculture productivity, rural employment and welfare distribution/risk mitigation) can be considerably improved if the following six key drivers are promoted: i) Finance, Investment and Regional Integration; ii) Agro-Industry and SMEs; iii) R&D and Technology; iv) Building Institutions; v) Social Inclusion, Food Security and Adaptation; and vi) Land Rights. Providing inclusive opportunities and rural employment in Africa requires systematic and well-integrated interventions to strengthen technical, financial and business management skills and capacities of rural populations and their institutions. Whilst agriculture-driven growth is recognized as a critical driver of poverty reduction, it will be unsustainable in the long run unless it is both socially inclusive and environmentally sound (green).

Therefore, fostering the concept of "greening of agriculture" designed to promote sustainable infrastructure, efficient management of natural assets and building resilience of livelihoods is fundamental to achieving inclusive growth in agriculture. There is also a need to shift to a more holistic agriculture sector growth approach, with strong emphasis on promoting key components and inclusive drivers in the sector. These will assist to maintain and increase farm productivity, reduce negative externalities, and rebuild ecological resources with the protection and preservation of the environment as global priorities.



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Abbreviations and Acronyms

AAMP	Area-based Agricultural Modernization Programme	GDP	Gross Domestic Product
ADF	African Development Fund	GHG	Global Greenhouse Gas
AFCR	Africa Food Crisis Response	IFAD	International Fund for Agricultural Development
AfDB	The African Development Bank Group	IFPRI	International Food Policy Research Institute
AFSI	L'Aquila Food Security Initiative	IIED	International Institute for Environment and Development
AGRA	Alliance for a Green Revolution in Africa	ILO	International Labour Organization
AgSS	Agriculture Sector Strategy	IPCC	Intergovernmental Panel on Climate Change
ASAL	Arid and Semi-Arid Lands	IAW	Invasive Aquatic Weeds
ASARECA	Association for strengthening Agricultural Research in Eastern and Central Africa	MDG	Millennium Development Goals
AU	African Union	NABARD	National Bank for Agriculture and Rural Development
AU-IBAR	African Union – Inter-African Bureau for Animal Resources	NAIPs	National Agricultural Investments Plans
BADEA	Arab Bank for Economic Development in Africa	NEPAD	New Partnership for Africa's Development
BOP	Base of the Pyramid	NERICA	New Rice for Africa
CAADP	Comprehensive Africa Agriculture Development Programme	NGO	Non-Governmental Organization
CAIIP	Community Agricultural Infrastructure Improvement Program	NPCA	NEPAD Planning and Coordination Agency
CBFF	The Congo Basin Forest Fund	NTF	Nigeria Trust Fund
COMESA	Common Market for Eastern and Southern Africa	ODA	Official Development Assistance
CORAF	Conference of African and French leaders of Agricultural Research Institutes	OECD	Organization for Economic Co-operation and Development
CRS	Creditor Reporting System	OIE	World Organization for Animal Health
DAC	Development Assistance Committee	OPSM	AfDB's Private Sector Department
DFID	Department for International Development	ORPC	AfDB's Operational Resources and Policies Department
DFIs	Development Financial Institution	ORQR	AfDB's Results and Quality Assurance Department
ECOWAS	Economic Community of West African States	OSAN	AfDB's Agriculture and Agro-industry Department
FAO	Food and Agriculture Organization of the United Nations	OSGE	AfDB's Governance, Economic and Financial Management Department
FARA	Forum for Agricultural Research in Africa	OSHD	AfDB's Human Development Department
FCs	Farmers' Clubs	PANVAC	Pan African Veterinary Vaccine Centre
FDI	Foreign Direct Investment	PPP	Public-Private Partnership (PPP)
FMD	Foot-and-Mouth Disease	R&D	Research and Development
FTRY	AfDB's Treasury Department	REP	Rural Enterprises Project
GAFSP	Global Agriculture and Food Security Partnership		

ReSAKSS	Regional Strategic Analysis Knowledge Support System	UA	Unit of Account
RMCs	Regional Member Countries of the African Development Bank Group	UNDP	United Nations Development Programme
RNF	Rural Non-Farm	UNECA	United Nations Economic Commission for Africa
SADC	Southern African Development Community	UNEP	United Nations Environment Program
SARD-SC	Support to Agricultural Research ` for Development of Strategic Crops in Africa	UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
SMEs	Small and Medium-sized Enterprises	UNFCCC	United Nations Framework Convention on Climate Change
SPS	Sanitary and Phyto-Sanitary	WARDA	West Africa Rice Development Association
SSA	Sub-Saharan Africa		

1. Introduction

1.1 Purpose and Structure of the Report

This publication is part of the African Development Bank's (AfDB) assessment and documentation of recent lessons and experiences emerging from its long years of assistance to the agriculture and agro-industry sector and the importance of the sector concerning food security in Africa. The principal objectives of the report are to review the importance of agriculture for overall inclusive growth and poverty reduction, facilitate an understanding of the requirements of the concepts of inclusive and green growth in agriculture and agro-industry, review efforts made by the Bank in responding to the main pillars of inclusive growth through its support for African agriculture, propose a strategic framework and key drivers, as well as to generate recommendations on how to apply the concept to the Bank's sectoral strategy and agriculture operations.

Inclusive growth requires holistic, long-term and multi-sector interventions such as infrastructure, education, health and other social sectors, which should be underpinned by good governance to ensure political stability. However, this report largely focuses on agriculture and the related rural non-farm sectors, given that these are the sectors deemed more instrumental as sources of structural transformation, employment creation and income generation for the majority of Africa's rural poor. The primary target audience of this report is the Bank, but it is also designed to provide a platform that could foster closer dialogue and partnerships between the Bank and its stakeholders including Regional Member Countries (RMCs).

The paper examines the context of agriculture and food security in the African setting, discusses inclusive growth in general and in the agriculture sector, and identifies related knowledge and lessons. It discusses the broad strategic issues in agriculture and reviews the efforts of the Bank and other development partners in promoting inclusive growth. This review and analysis

contribute to the development of a framework and identification of key areas which drive inclusive growth and inclusive agriculture in Africa. Furthermore, the paper highlights some strategic interventions to correspond to these identified areas and suggests concrete actions as recommendations.

The report is organized into six chapters. The first chapter provides an overview of Africa's economic growth, inequality and poverty reduction. It also develops the concept of inclusive growth in general and agriculture in particular, while highlighting the significance of pursuing a green growth approach to promote development in Africa. Chapter two examines the current status and importance of agriculture in Africa, and identifies the sources and constraints of growth in agriculture. In addition, Chapter two outlines the key linkages and synergies between the farm and non-farm sectors in the context of inclusive growth. In Chapter three, the challenges in the sector and new investment opportunities in Africa's agriculture are analyzed. Chapter three also devotes considerable attention to recent continental and international initiatives to promote inclusive growth in agriculture. The fourth chapter reviews the AfDB's efforts, strategies and activities to promote Africa's agriculture sector and provides a rapid assessment of the Bank's efforts to respond to the inclusive growth pillars outlined in Chapter one. Chapter five proposes a strategic framework and key drivers to bolster inclusive growth in agriculture. Finally, Chapter six presents recommendations and implications for the African Development Bank.

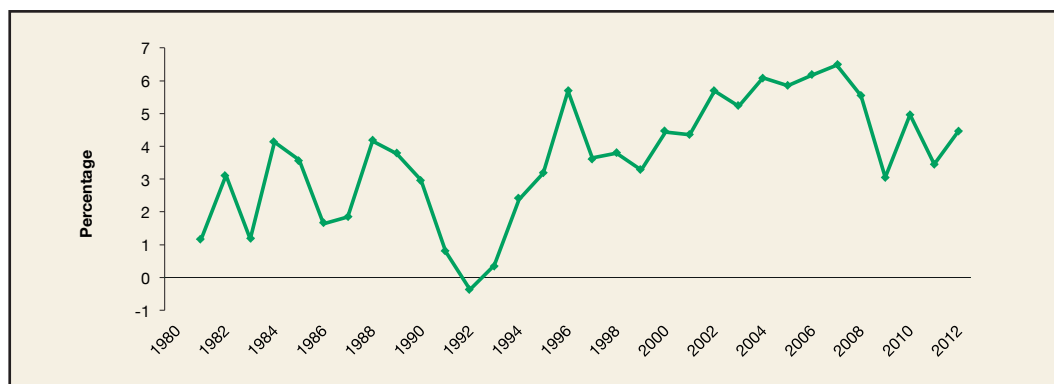
1.2 Overview of Africa's Economic Growth

Over the last 10 years, Africa has experienced a relatively strong economic growth, in spite of the setback occasioned by the food and financial crises, political tensions, as well as natural disasters in some African countries. The continent's economy grew at an average of 5.3

percent; far above the global average between 2001 and 2010, and even higher than that of developing East Asia and the Pacific¹, which was at 3.8 percent average. However, Africa's GDP growth declined to 3.4 percent in 2011 primarily due to the conflicts in Sudan,

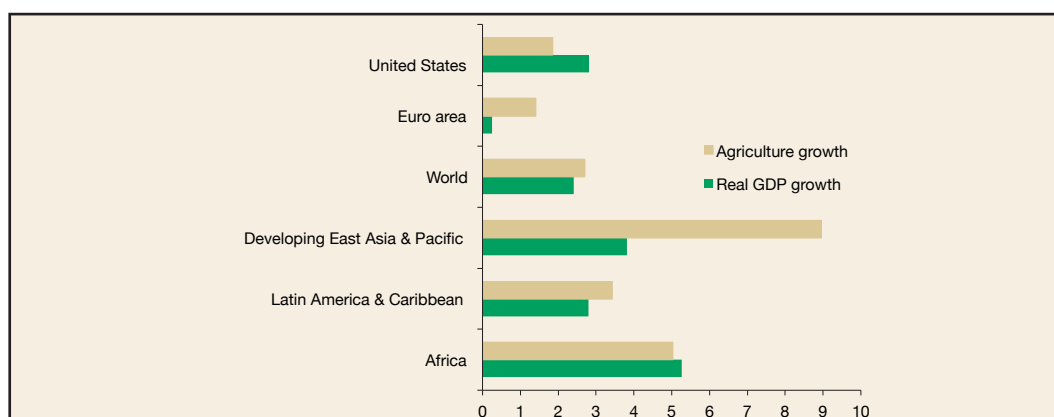
South Sudan and North Africa, and the eurozone debt crisis. Nevertheless, GDP accelerated to 4.5 percent in 2012 and is projected to rise to about 4.8 percent in 2013, as the political situation stabilizes² (Figures 1 and 2; and Annex 1).

Figure 1: Africa's GDP Growth Rates (percent)



Source: Authors using data from AfDB Statistics Department

Figure 2: Average Annual Real GDP Growth Rates by World Region 2000-2010 (percent)



Source: Authors using data from AfDB and World Bank databases

The main drivers of growth in Africa are primary production and exports, the benefits

of which accrue to small enclaves within the larger economy³ 4. In particular, the

- 1 Developing East Asia and Pacific countries include China, Malaysia, North Korea, Philippines, Vietnam, Thailand, Mongolia, Myanmar, Indonesia and 15 other countries in East Asia and Pacific region.
- 2 However, it should be noted that there are wide variations in economic growth across Africa reflecting the disparities and diversity that exists in the continent, with some countries' GDP being mineral-based, industrializing and others predominantly agricultural. The economic performance and resource endowments are also not entirely uniform. Political tension, natural disasters and external shocks such as the global financial crises have had significant impacts on GDP.
- 3 UNECA and AUC (2012), "Unleashing Africa's Potential as a Pole of Global Growth", Economic Report on Africa 2012, Addis Ababa, Ethiopia, United Nations Economic Commission for Africa (UNECA).
- 4 Good macroeconomic management, microeconomic reforms, good governance, fewer armed conflicts and market-friendly policies influenced Africa's impressive growth, (UNECA and AUC, 2012).

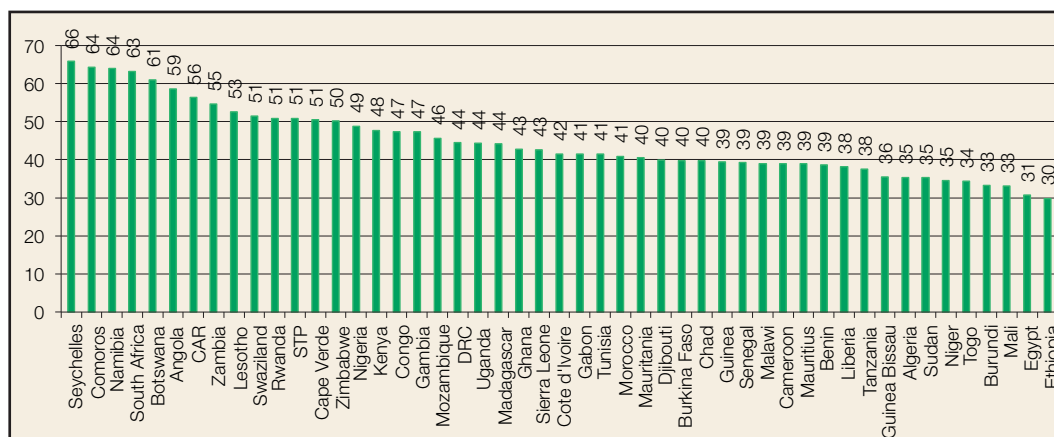
extractive industry sector, which is a major driver of the positive growth outlook in Africa, creates few jobs that are mainly urban. Unlike agriculture, the sector is less inclusive and has a history of aggravating inequity and fuelling social conflicts, with few exceptions. However, growth rates in industry as well as industry's contribution to GDP growth have been generally higher than that of agriculture and services, especially since 2000. This unbalanced growth explains the low achievements of poverty efforts in Africa in spite of Africa's general economic growth, which has also benefited from improved macroeconomic policies and the implementation of structural reforms. Fire 3

1.3 Inequality and Poverty Reduction in Africa

The laudable and impressive growth witnessed

recently in Africa has unfortunately not been matched with a significant reduction in unemployment and poverty. More worrisome is the fact that inequality persists. The Gini index of income inequality measurement ranged from 30 percent in Ethiopia to 74 percent in Namibia (Figure 3). The continent's average Gini index for the same period was 45 percent. In view of the high inequality, Africa's impressive economic growth results in limited progress in poverty reduction. Thus, between 2000 and 2008, the proportion of people living on less than USD 1.25 a day declined slightly from 57 percent to 48 percent, in spite of the rapid economic growth in most African countries during the period. This slow pace of poverty reduction makes reduction of extreme poverty to meet the MDG target of 29 percent by 2015 doubtful.

Figure 3: GINI Index (2007)



Source: Statistics Department, AfDB

The UNECA and AU in their 2012 Economic Report on Africa confirmed the presence of wide income inequality in Africa that has contributed tremendously to Africa's weak growth-poverty elasticity. The report shows that sub-Saharan Africa has the lowest growth-poverty elasticity in the world. That is, a 1 percent increase in growth reduces poverty by only 1.6 percent, compared

with 3.2 percent in North Africa (and 4.2 percent in Eastern Europe and Western Asia, which have the highest elasticity).

Inclusive growth concerns opportunities for the majority of the labour force, the poor and the middle-class alike. In Africa, the employment share of the agriculture sector (53 percent) is significantly

higher than industry (11 percent) and the services sector (32 percent), whereas the GDP share of agriculture (15 percent) is much less than industry's (38 percent) or that of the services sector (44 percent)⁵. That means agriculture sector growth will benefit a larger proportion of the labour force in Africa. Accordingly, given the concentration of the poor and vulnerable populations in the agriculture and rural non-farm sectors in Africa, inclusive growth cannot be realized without a rethink of approaches to developing the agriculture and rural non-farm sectors.

Three related determinants of the effectiveness of growth in reducing poverty usually cited by analysts are: generation of growth in the agriculture and rural sectors; enhancement of productive capacity, particularly in infrastructure; and management of aid inflows (Pattillo et al, 2005; Cage, 2009; and Santos-Paulino, 2012). Many studies have demonstrated strong synergies between the attainment of the poverty and sectoral MDGs when economy-wide links are taken into account. These links center on the role of infrastructure in increasing productivity – including in the agriculture sector. In the same vein, while labour-intensive growth in the agriculture sector, where the poor are employed, would be associated with poverty reduction, the incomes of the poor also depend on the productivity of these related sectors. For inclusive growth to take root in Africa, long-term investments aimed at boosting agricultural productivity are imperative and warrant renewed priority. The lack of an agricultural productivity boom in Africa as opposed to the green revolution in Asia underscores the different growth paths taken by the two regions (Commission for Africa, 2005).

1.4 Concept of Inclusive Growth

Inclusive growth refers to economic growth which results in a wider access to sustainable socio-economic opportunities for the majority of people,

while protecting the vulnerable, all being done in an environment of fairness, equality and political plurality. Inclusive growth is broad-based across sectors, promotes productive employment and enhances the resilience of disadvantaged and marginalized groups from adverse shocks. The following broad and mutually reinforcing pillars underpin the concept of inclusive growth⁶:

- Improved agricultural productivity;
- Enhanced regional integration, especially the integration of smaller and landlocked countries;
- Job creation, including improving skills for productivity and competitiveness;
- Wider equal access to basic infrastructure and basic social services;
- Improved access to business opportunities;
- Social protection and inclusion; and
- Wider access to productive knowledge.

1.5 Importance of Inclusive Growth in Agriculture

Considering the fact that the main theme of this paper is inclusive growth in agriculture, the paper proposes a working definition of inclusive growth in the sector within the context of confined literature. The definition emanates from the concept of inclusive growth presented in the previous section. Thus, inclusive growth in agriculture is growth accompanied by gains manifested through more employment and income benefitting those sections of society which have been bypassed by the recent higher rates of economic growth. Of particular importance are the most disadvantaged and marginalized rural poor living below the poverty line. Inclusive growth places emphasis away from mere increase in growth rates, to improvement in productivity and standards of living of the poor. This calls for the following:

- electricity, storage facilities, agro-processing, irrigation infrastructure and improved land and water management in agricultural areas and growth corridors; and

⁵ UNESCAP, FAO and AfDB databases.

⁶ AfDB (2011a), Inclusive Growth: A Definition, unpublished, Tunis, Tunisia, African Development Bank.

- That institutional reforms place priority on linking remote areas and communities to markets, as a proven approach to promoting agricultural production and productivity.

The socio-economic significance of agriculture for Africa is extensively discussed in Section 2.1. The premise is that growth is inclusive when it enables the majority of the members of a society to participate in, benefit from and contribute to the growth process. Agriculture could, therefore, be an important means of stimulating employment, incomes and achieving better living standards when the otherwise disadvantaged and marginalized start to enjoy productive and decent employment. The long-term impacts of inclusive growth include, inter alia: reduced unemployment, reduction in food aid and state subsidies; and increased public revenue from taxes. Higher employment and incomes is often accompanied by reduced crime and political instability, which amongst other things, are vital for attracting foreign direct investment. This paper argues, therefore, that embracing an inclusive approach in supporting Africa's agriculture is consistent with the African Development Bank's vision and strategic goals. This will reinforce Bank-supported agricultural interventions aimed at improving livelihood opportunities for Africa's rural poor.

The concept of inclusive growth is just as applicable at project and business investment level as it is at sector level. Shedding more light on the importance of inclusiveness in agriculture and agribusiness, Ashley and Turner (2012) presented a model indicating an inclusive business strategy and the benefits derivable by companies and farmers from the strategy at various stages in the value chain (see Annex 2)⁷. Farmers' benefits can be realized through changes in yield, security,

market access or farm planning; on the other hand, agribusiness companies are guaranteed efficient transaction costs, higher volume and quality, higher turnover, sustainable profits and new market possibilities.

Since GDP growth originating from agriculture is by far more effective in reducing poverty than GDP growth from other sectors, and as the majority of Africa's poor depend on smallholder agriculture for their livelihoods, pursuing inclusive agriculture growth could assist in accelerating and sustaining the region's impressive overall economic growth, with positive impacts on the MDGs, especially MDG-1 (eradicate extreme poverty and hunger). Agriculture has the potential as a vehicle for harnessing inclusive growth domestically, as well as enhancing regional integration. In doing so, priority must be given to growing agricultural productivity into the long-term, given its proven multi-pronged benefits in attacking poverty.

1.6 Agriculture in the Context of Green Growth

Growth is recognized as a critical driver of poverty reduction (Ferreira and Ravallion, 2009). However, growth will be unsustainable in the long run unless it is both socially inclusive and environmentally sound (green) – the latter by ensuring that the earth's natural assets are able to adequately provide the natural resources and ecosystem⁸ services on which humans depend. Accordingly, the African Development Bank defines green growth as enabling sustainable growth and creating prosperity by taking a holistic approach to development – valuing human, social and natural capital, efficiently and sustainably producing goods and services and building resilience in a changing and increasingly interconnected world (AfDB, 2012b). Yet,

⁷ See Chapter 5 for the proposed strategic framework and key drivers developed in this report following a rigorous research and analysis.

⁸ Humankind benefits from a multitude of resources and processes that are supplied by ecosystems and the United Nations 2005 Millennium Ecosystem Assessment (MA), a four-year study involving more than 1,300 scientists worldwide grouped ecosystem services into four broad categories: provisioning, such as the production of food and water; regulating, such as the control of climate and disease; supporting, such as nutrient cycles and crop pollination; and cultural, such as spiritual and recreational benefits. (http://en.wikipedia.org/wiki/Ecosystem_services);

economic growth causes environmental degradation, especially when driven by market failures and inefficient policies. Continued rapid population growth in several developing regions also poses serious challenges by further exerting stresses on the environment, particularly because much of the rapid population growth is occurring in environmentally fragile locations, notably in Africa. Without ambitious 'green-economy' policies, growth will continue to degrade the environment and deplete resources critical to the welfare of current and future generations (World Bank, 2012a).

Green growth matters for Africa because firstly, the potential economic and social impacts of environmental degradation are particularly important for Africa, as the most vulnerable continent to climate change, and the most dependent on the exploitation of natural resources for economic growth. In addition, like many developing countries, Africa faces severe economic, social and ecological threats – from energy, food and water insecurity and extreme weather risks. Secondly, Africa, as with most developing countries, contributes only minimally to the emission of global greenhouse gases (GHGs). Increasingly, Africa and other developing countries are becoming sources of global economic growth, and are following conventional economic growth patterns that increase GHG emissions and tend to rely on more intensive and less sustainable use of natural resources (OECD, 2012). One of the finest examples of green growth in Africa is the drive towards 're-greening of the Sahel'. In Burkina Faso and Niger, community-based knowledge in the form of traditional practices, as well as experimentation by small farmers, helped transform the Sahelian region into productive agricultural landscapes. Protection of trees, digging of pits to concentrate manure, and construction of contour bunds to control rainfall

and run-off to combat erosion were innovations that "sustainable intensification" programmes can be built on.

The provision of electricity, food and fuel are key development priorities in Africa which put pressure on the environment. Moreover, in most African countries, faster growth in agriculture is highly beneficial for sustained economic growth and poverty reduction. For agriculture to be green, according to Herren et al. (2012), it must adopt the use of farming practices and technologies that simultaneously: i) maintain and increase farm productivity and profitability, while ensuring the provision of food on a sustainable basis; ii) reduce negative externalities and gradually lead to positive ones; and iii) rebuild ecological resources (i.e., soil, water, air and biodiversity "natural capital" assets) by reducing pollution and using resources more efficiently. The Montpellier Panel⁹ also upholds these principles¹⁰.

While the lack of institutional capacity to address climate change challenges poses a serious threat to sustainable development in Africa, this also presents opportunities that can be harnessed to deliver positive results in a mutually beneficial and efficient way and contribute to achieving sustainable development and reduction of poverty. Opportunities for transitioning towards a green economy could focus on i) climate smart and sustainable agriculture; ii) sustainable land and water management; iii) use of renewable energy and improved energy efficiency; iv) fuel efficient and less polluting public transportation; and v) maintaining ecosystems and biodiversity protection (UNECA, 2012). Exploiting these opportunities could facilitate achievement of the MDGs and reorient Africa on a path of more inclusive and sustainable growth and development.

⁹ The Montpellier Panel, 2013. Sustainable Intensification: A New Paradigm for African Agriculture. London: Agriculture for Impact.

¹⁰ The Montpellier Panel report describes the sustainable intensification challenge as follows: "This pathway strives to utilize the existing land to produce greater yields, better nutrition and higher net incomes while reducing over-reliance on pesticides and fertilizers and lowering emissions of harmful greenhouse gasses. It also has to do this in a way that is both efficient and resilient and contributes to the stock of natural environmental capital. None of the components of this paradigm are new. They comprise techniques of ecological and genetic intensification within enabling environments created by processes of socio-economic intensification. What is new is the way in which they are combined as a framework to find appropriate solutions to Africa's food and nutrition crisis".

2. Africa's Agriculture Sector and the Importance of the Rural Non-Farm Sector

2.1 Importance of Agriculture to African Countries

Agriculture is the main source of income for 90 percent of Africa's rural population and it accounts for approximately 20 percent of total export value (UNECA-SA, 2009); it also provides employment for an estimated 57 percent of the labour force, about 47 percent of whom are women (Table 1). In addition, Africa's population is expected to

increase from 1.01 billion in 2009 to 2 billion by 2050 if current demographic conditions remain constant (AfDB, 2011b), indicating that future demand for agriculture production will be immensely larger than it is at present. In short, Africa needs to double its overall production to meet the future needs of its population. Moreover, considering the expected consumption change and income growth, the demand would be higher (Thomas and Zuberi, 2012).

Table 1: Comparative Rural and Agricultural Populations (1990-2010)

Indicators	Africa	Americas North	America	Asia	Europe	Oceania	World
Share of rural population (%)	64	23	21	63	29	30	50
Share of agriculture in total employment (%)	57	12	2	56	9	19	44
Share of women in agriculture employment (%)	47	20	26	43	36	47	42
Share of women in total employment (%)	40	41	46	39	45	44	40

Source: Authors, using FAOSTAT, UNESCAP and AfDB online databases

FAO suggests that the pressure on renewable water resources from irrigation would remain severe and could even increase slightly in several countries in the Near East/North Africa and South Asia. They further project that the aggregate negative impact of climate change on Africa's agricultural output up to 2080-2100 could be between 15 and 30 percent.

Hence, agriculture is the most important sector in the economies of most non-oil exporting African countries. Annual growth rate in agriculture GDP increased significantly from an average of 2.5 percent in the 1980s and 1990s to 6.4 percent in 2002 and peaked at 8.4 percent in 2003. Thereafter, it stabilized at an average of 5 percent, a one percentage point less than the Comprehensive Africa Agriculture

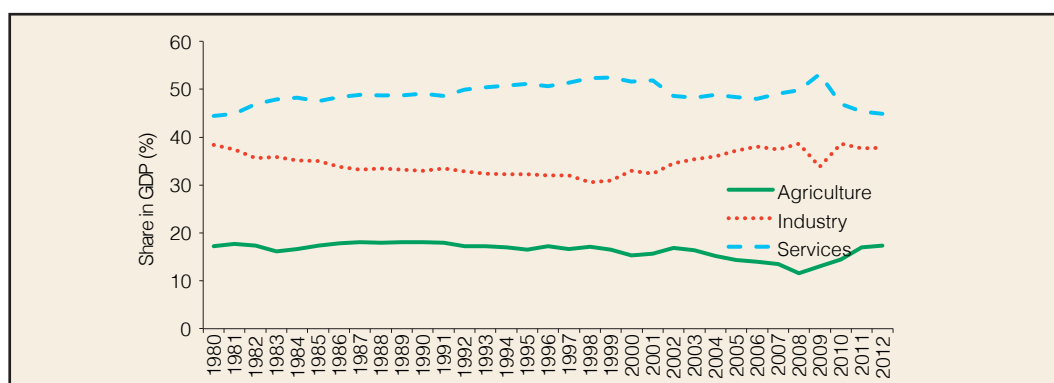
Development Programme (CAADP) benchmark of 6 percent (Annex 1). However, such agriculture growth was principally due to land expansion without adequate productivity growth, and this is not sustainable. The growth of agriculture GDP per capita was also limited given that the agriculture labour force also increased at the same time.

Agriculture accounted for about 15 percent of Africa's GDP (Figure 4 and Annex 1). This, notwithstanding, there is a wide variation in the share of GDP among African countries. For instance, the African Economic Outlook 2012 (AfDB et al, 2012) reported that agriculture contributed more than 72 percent to Liberia's GDP and other countries with high dependence on agriculture include Sierra Leone (61.5 percent),

Central African Republic (55.2 percent), Comoros (44.9 percent), Nigeria (40 percent) and Democratic Republic of Congo (39.4 percent). On the other hand, the sector's contributions to GDP in some other countries are minimal, such as Equatorial Guinea (2.4 percent), Gabon (5.4

percent), Tunisia (8.9 percent), Namibia (9.4 percent) and Algeria (9.7 percent). In other words, the share of agriculture GDP is much higher in relatively poor countries in Africa, and thus, the sector is more critical for those countries in the context of inclusive growth.

Figure 4: Sectoral Composition of GDP, Africa (1980-2012)



Source: Authors using data from AfDB and World Bank databases

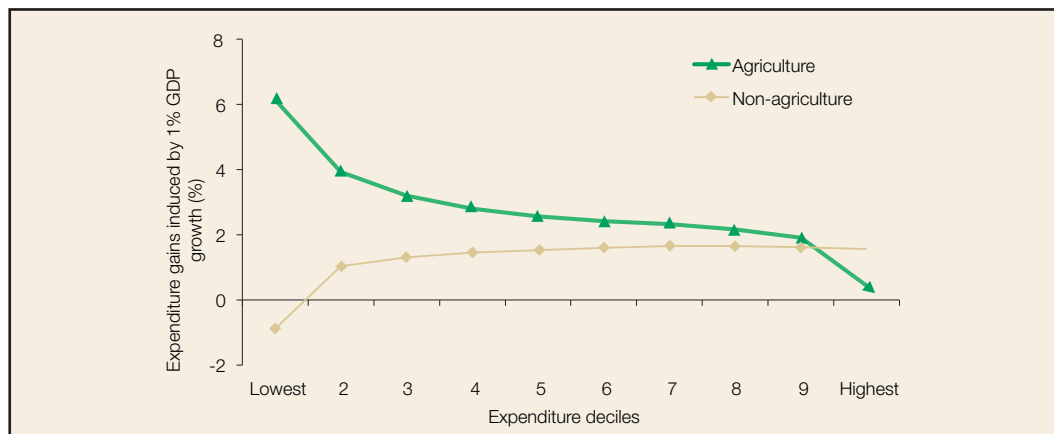
Furthermore, there is consistent evidence that agriculture-induced growth has the potential to deliver significantly greater positive impact on poverty reduction than growth based on other sectors (de Janvry and Saddoulet, 1996; Gallup et al, 1997; Timmer, 1997; Bourguignon and Morrisson, 1998; Thirtle et al, 2003; DFID, World Bank, 2005; Salami et al, 2010). In their study on the impact of agricultural productivity growth on poverty reduction, Thirtle et al (2003) discovered that a percentage increase in agricultural yields reduces the number of poor people by 0.72 percent in Africa, far above 0.48 percent in Asia. In another study, Gallup et al, (1997) revealed that a 1 percent growth in per capita agricultural GDP resulted in 1.61 percent growth in the incomes of the poorest 20 percent of the population. They noted that similar increases in the manufacturing or service sectors

contributed to much less impact on poverty reduction.

The strong linkages between agriculture and poverty reduction were further confirmed by Ligon and Sadoulet (2007) and magnified in the World Bank's World Development Report 2008¹¹. Specifically, Ligon and Sadoulet (2007) found that a one-percent increase in GDP due to agriculture results in a more than 6 percent increase in expenditure growth for the poorest decile, with a significantly disproportionate effect on expenditure growth for all but the top two expenditure deciles. Conversely, non-agricultural income growth is disproportionately beneficial for the upper expenditure deciles, but has no significant effect on expenditure growth for households in the bottom 30 percent of the expenditure distribution (see Figure 5).

¹¹ World Bank (2007).

Figure 5: Impact of Investment in the Agriculture Sector



Source: Ligon and Sadoulet (2007) and World Bank (2007)

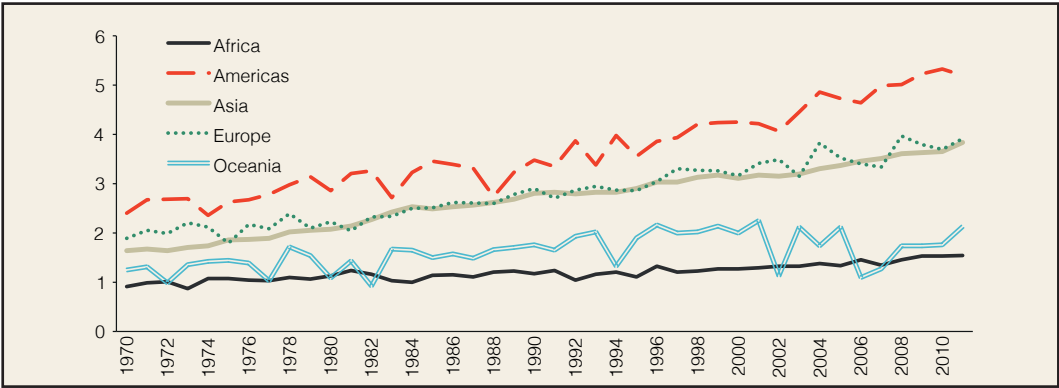
Africa has enjoyed a period of strong and sustained economic growth. According to IFPRI data, during the decade of 2000-10, Africa's annual total GDP growth grew by an average of 4.8% compared to 2.1% in the previous decade (1990-99). The agricultural sector's annual GDP growth rates were 3.2% and 3.0%, respectively for the two decades. Although agriculture grew at a moderate rate, this growth has contributed to significant reductions in poverty in many African countries. As noted above, however, there is a long way before benefits of growth reach the majority of the rural poor. Agriculture-induced growth is paramount for inclusivity because it assists to ensure that most of the rural poor receive a share of the benefits of growth. Africa's policymakers should, therefore, demonstrate greater commitment to promoting inclusive agricultural growth so as to assist in lifting the majority of Africa's population out of poverty, which primarily comprises poor rural smallholder farmers. By raising rural incomes and promoting the purchasing power of smallholder farmers, agriculture could maintain equitable and comprehensive growth and contribute to sustainable reduction of poverty in Africa.

2.2 Status of Agriculture in Africa: Some Ideas on How to Promote the Sector

Over the past few decades, a growing concern about Sub-Saharan Africa's agricultural sector has been its poor performance in terms of productivity and yield of main food staples, as well as market access and product pricing. These challenges tend to worsen the financial welfare and food security of smallholder farm households. When inclusive agricultural and agribusiness models enhance productivity growth, this contributes significantly to food security, nutrition and poverty alleviation.

As shown in Figure 6 and documented in Benin et al (2011), agricultural productivity in Africa has been rising at only moderate rates since the 1990s and remains far below levels found in other parts of the world. Nevertheless, there is marked regional disparity across Africa. For instance, during 2003-08, Northern Africa enjoyed cereal yield levels nearly 2.5 times higher than those in Western Africa (1.13 tons/ha), Eastern Africa (1.14 tons/ha) and Central Africa (0.93 tons/ha).

Figure 6: Trends in Cereal Yield (hg/ha)



Source: Authors, using data from FAOSTAT



Analyzing yield gaps and potential agricultural growth, Nin-Pratt et al (2010) demonstrate that biotic and abiotic factors contribute to significant yield losses. Typical abiotic constraints include radiation, water, temperature and nutrients, while biotic constraints, include weeds, pests and insects, and pathogens. Because smallholder agriculture is mostly rain-fed, yield loss due to water stress is by far the most limiting factor in the Sahel and in the northern semiarid regions. Although the rest of West and Central Africa

receive sufficient rainfall, its distribution and timing are not always predictable, and thus pose a risk for achieving optimal yields¹².

According to the World Bank (2009c), the emerging pattern of commercial agriculture in the African Guinea Savannah Zone must provide diversification opportunities for producers of low-value staples. The study cites the following measures needed to realize the agricultural potential of Africa's Guinea Savannah Zone: i)

¹² For more details on challenges facing Africa's agriculture and agricultural productivity, please refer to Section 3.1.

continuing macro policy reforms by removing export taxes and replacing them with other less distortionary sources of taxation, as well as implementing regional integration agreements; ii) land policy reforms that will, amongst other things, enable smallholders to access land and engage successfully in profitable commercial agriculture; iii) scaling up public investments particularly for agricultural research and related institutions to strengthen agricultural education and develop cost-effective and demand-driven advisory services, as well as rebuild the aging infrastructure base (irrigation, roads, energy and logistics, especially port infrastructure); iv) inducing private investment by improving the business climate; v) institutional reforms to make markets more efficient and less risky; vi) public sector reform and governance including upgraded capacities and skills in marketing and business development services that extend beyond the ministries of agriculture to local governments and other ministries that have important complementary roles in commercial agriculture; and vii) management of environmental impacts of converting forest and pasture land to more intensive agricultural uses.

Analyzing case studies of cassava production trends in Nigeria and Ghana, cotton production in Mali, maize production trends in East and Southern Africa, trends in dairy production in Kenya, and value of Kenyan fruit and vegetable exports and their share of agricultural export revenue, Haggblade and Hazell (2010) explored the conditions under which Africa can successfully accelerate agricultural growth, and thereby, contribute to broad-based economic expansion and poverty reduction. They concluded that outstanding agricultural performance hinges on the convergence of the following two key determinants: a) sustained, productivity-enhancing research; and b) favourable market incentives for farmers and agribusinesses. Their study argues that achieving these two preconditions for success requires that several underlying drivers be in place, including sustained investment in research and development; effective extension, input supply, and

credit systems; good macro-economic management, trade, favorable agricultural sector policies; sufficient infrastructure to enable farmers to access markets and inputs in timely and cost-effective ways; marketing and pricing policies that encourage private trade, storage, and processing; and such factors must come together in a coordinated way.

The World Bank (2012d) examined how opening up cross-border trade can boost the potential for greater food production in Africa and contributes to food security by improving poor people's access to food and by increasing returns to poor farmers for the food they produce, and provides two main recommendations. First is to implement a set of reform measures that will remove barriers to regional food trade along the value chain. The nature of these barriers is often to cause economic waste (such as from unnecessary delays in crossing borders due to inefficient customs service, burdensome documentary requirements) or to transfer rents to particular interests by constraining competition (for example, in transport and logistics and distribution). Second, is to foster enhanced dialogue on regional food trade to produce rules and disciplines on government interventions in regional agricultural trade. This will provide greater certainty for the private sector to make investment decisions that increase productivity and trade of staple foods. It will also give policymakers some confidence that they have access to instruments they may need in times of crisis.

With smallholders accounting for 96 percent of all farms in Uganda, World Bank (2012e) makes a compelling case for shifting as many of that country's smallholder farmers as possible out of subsistence into commercial agriculture through a comprehensive approach, as a preferred path for realizing inclusive growth through agriculture. The report contends that the major drivers needed to accelerate such agricultural commercialization and diversification include pro-rural policy and strategic interventions to improve

the investment climate, investments in rural infrastructure with a focus on better rural roads, making the land market more flexible and land rights clearer, improving access to rural finance tailored to the needs of smallholders, and availability of functioning and quality technology transfer between agricultural research and advisory services.

Nevertheless, Africa's agriculture sector is on the rise, thanks to some encouraging recent developments in the sector. Positive initiatives towards a green growth strategy¹³ in the agriculture sector in Malawi, Ghana, Rwanda, the Democratic Republic of Congo and Ethiopia, with planned investment in land restoration providing some hope. Food security and farm incomes have markedly increased in West Africa, while use of "smart" subsidies for key inputs in Malawi has had significant positive impacts on yields. Cereals and root crops yields have also increased significantly in some farming systems in Western and Eastern Africa.

The widespread productivity gains from the New Rice for Africa (NERICA) varieties, increases in cassava production in Nigeria and maize hybrids in East and Southern Africa are further evidence of growth that can be achieved in the sector. Hence, Africa's agriculture, given a favourable environment, holds great promise and potential for lifting the vast majority of the continent's population, which is predominantly rural, out of poverty and for stimulating long-term growth and development.

2.3 Importance of the Rural Non-Farm Sector and Employment for African Countries

The rural non-farm (RNF) sector is not a very well understood component of the rural economy of African countries. Yet the non-farm rural economy offers important direct and indirect benefits to rural households, mainly by providing

employment, entrepreneurial or wage income, lowering the cost of locally produced goods and services, distributing locally-non-available quality products from cities and even foreign countries, and raising the demand for food products.

According to Haggblade (2009), policy interest in the RNF sector is as a result of the significant size of rural non-agricultural earnings, because of its frequently low capital requirements and because of the RNF sector's ability to employ large numbers of poor rural workers. The same study indicated that the RNF sector comprises a highly heterogeneous collection of trading, agro-processing, commercial, manufacturing and service activities, as well as part-time self-employment in cottage industries to large-scale agro-processing and warehousing facilities operated by large firms. Low-return activities such as daily wage labour, small-scale trading and unskilled labour used in construction, potting and many personal services tend to be dominated by the rural poor. Other examples of RNF activities include producing goods (carpets, pots, shoes, clothes, etc.), selling and trading (tea, household goods, etc.), providing labour and services (various logistics, repair services, blacksmithing, etc.).

Hazell and Haggblade (1993) observed that rural landless and near-landless households depend heavily on non-farm income sources. Those with less than 0.5 hectares of land earn between 30 and 90 percent of their income from non-farm activities. Non-farm activities can also reduce income disparity in areas where land distribution is highly skewed (Adams, 2001) and diversify income sources of poor households, which significantly contribute to poverty reduction (Narayan et al, 2009). Similarly, Gordon and Craig (2001) noted that non-farm income provides an important tool for the poor in stabilizing household income during drought years. Because non-farm income is important for financing on-farm investments, non-farm earnings are important for food security

¹³ Here, the term "green growth strategy" refers to development of a clear framework on how countries can achieve economic growth and development while at the same time prevent costly environmental degradation, climate change and inefficient use of natural resources (OECD, 2011).

directly by helping the poor to buy food, and indirectly by financing the purchase of farm inputs necessary to increase food production.

Based on a four-continent cross-country comparison of rural income generating activities, it is argued that for most countries, the largest share of income stems from off-farm activities, and the largest share of households have diversified sources of income; the latter being a household strategy to manage risk and overcome market failures, or represent specialization within the household, driven by individual attributes and comparative advantage (Davis et al, 2010). Nevertheless, the study underscores that agriculture-based sources of income remain critically important for rural livelihoods in all countries, in terms of both the overall share of agriculture in rural incomes and the large share of households that still specialize in agricultural and on-farm sources of income.

With an estimated 133 million young people (more than 50 percent of the youth population) in Africa being illiterate and many young people having little or no skills, and therefore, largely excluded from productive economic and social life (AfDB et al, 2012; FANRPAN, 2013), the rural non-farm sector offers opportunity for assisting to address the continental youth unemployment problem, especially after their appropriate retraining and retooling.

However, all the benefits of the non-farm sector highlighted above may only be a mirage, without an active and inclusive farm sector. The farm sector not only provides the food for livelihoods, but is also a source of employment and poverty reduction in rural communities. Additionally, the farm sector provides ready markets for non-farm sector goods and services and a source of raw material in their production processes (Also see Sections 1.3 and 2.1).

3. Challenges and Opportunities in Africa's Agriculture and Recent Responses

3.1 Overview of Africa's Agriculture and Key Current and Emerging Challenges

African countries are still facing challenges that are inimical to agricultural productivity and inclusive growth. It is important to emphasize that some of these challenges are peculiar and unique to each African country. However, most are similar in nature and can be addressed with common solutions across countries. It is also worth noting that the majority of these challenges are well known, but they remain chronic and unresolved. These constraints disproportionately impact particularly the smallholder farmers – the majority of whom reside in rural areas, resulting in low productivity and barriers to inclusive growth.

As stated in the preceding section, in spite of the fact that agriculture is the employer of the majority of Africa's labour force, it has had limited impact on their livelihoods. These constraints are discussed in greater detail below. The prevailing situation calls for a new approach as the current framework to promote agricultural productivity is inadequate.

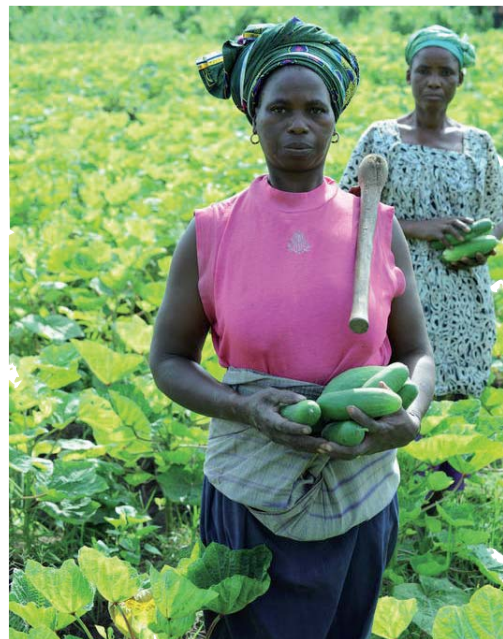
For example, the *unclear property rights and uncertainties around land tenure* have persistently reduced farmers' access to land and their incentives to invest. Average farm size in Africa is small (2.5 ha) when compared with North America (121 ha), Latin America (67 ha) and Europe (27 ha). For most agricultural production outside a few plantation crops, however, there is no evidence of economies of size. Where appropriate policy environment and investment are prioritized for agriculture, then smallholdings can be just as productive and profitable as large farms. This explains why the average holding is comparatively lower in Asia (1.8 ha in South-East Asia and 1.4 ha in South Asia, respectively), as can be seen in Figure 6, yet cereal yields are three times less in Africa than Asia.

In Africa, unequal distribution of land and lack of adequate administrative systems have relegated

a growing population of small farmers into marginal areas, leading to lower productivity and income levels. The system of patriarchy has tended to discriminate against women when it comes to ownership and control of land resources. This has been reinforced by the imported land law that tends to cement the system of patriarchy by conferring title and inheritance rights upon male family members (African Union et al, 2010).

Moreover, African countries are threatened by land degradation, contributing to land erosion, loss of fertility and declining yields.

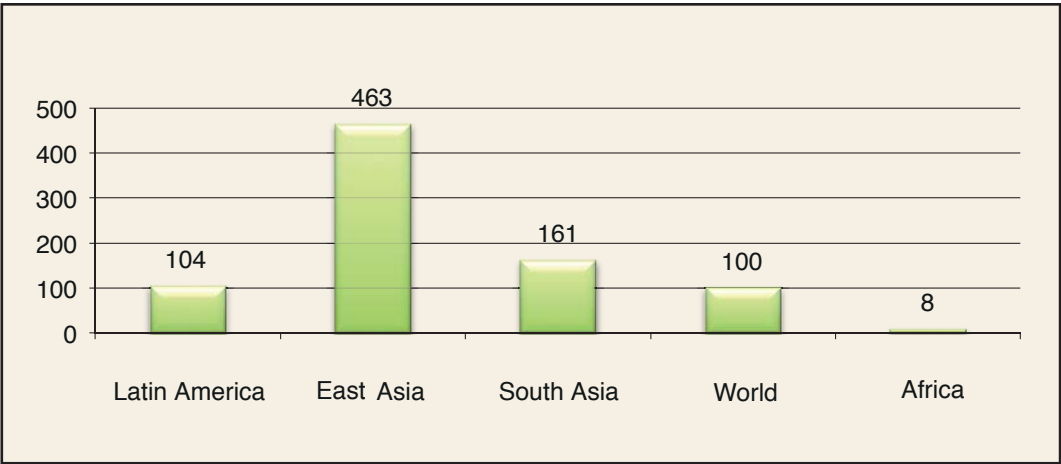
Improved *access to input and output markets* is an important ingredient for agricultural productivity, growth and food security. On the input side, mechanization is very low at an average of only 13 tractors per 100 square kilometres of arable land, versus the world average of 200 tractors per 100 square kilometres (Juma, 2011). In the same vein, the average *fertilizer application rate* for arable crops in Africa is estimated at 8 kg/ha/year, far less than the world average of 100 kg/ha/year (Figure 7).



On the output side, African farmers, particularly smallholder farmers are uncompetitive in global markets and have limited access to markets for their outputs due to lack of infrastructure and undeveloped supply chains. Furthermore, even if

some supply chains exist, smallholder farmers have been unable to link into supermarket chains due to the required quality and safety standards, as well as delivery schedules that prevent them from competing in such markets.

Figure 7: Application Rates of Fertilizer for Arable Crops (kg/ha/year)



Sources: Authors, using FAOSTAT online databases and Salami et al (2011)

The **poor rural infrastructure**, in particular transport, electricity, storage and irrigation facilities, persistently remains a significant challenge to most farmers in Africa. This has serious implications for transaction costs and market risks. While one half of the rural population of South Asia lives within a one-hour distance to markets, nearly 50 percent of African farmers live five hours or more from markets. Moreover, less than five percent of all agricultural output in Africa is produced under irrigation, in contrast to about 30 percent in Asia. Previous infrastructural investments were often ineffective as a result of factors including poor design and poor maintenance; and inadequate investment in building human skills and capacities to manage infrastructural facilities (AfDB, 2010a; Salami et al, 2011). Post-harvest losses are crop/product specific and take place at many stages in the supply chain (field, processing, storage, market, transport, etc.). In Sub-Saharan Africa, post-

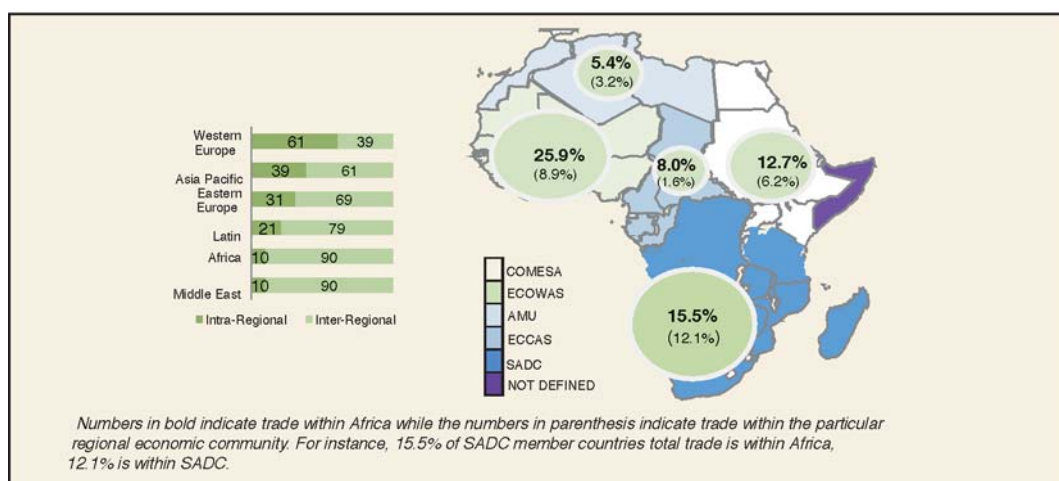
harvest losses are estimated at 20 percent for grains and 40 percent for fruits and vegetables (AfDB, 2010b).

Regional Integration is constrained partially due to the lack of infrastructure, although it is very crucial for enhanced agriculture trade and investment flows within the continent. Unfortunately, the continent is bedeviled with weak economic integration, especially within the sub-regions. For example, in 2010, Africa's intra-regional trade was very low at 10 percent of total trade, compared with 61 percent in Western Europe (Figure 8). Attempts to expand Africa's regional and international trade in agriculture have been hampered by both internal and external challenges, key among which are inadequate supply responses for certain products, such as beef; limited commodity export base; trade distorting subsidies for some products such as milk powder; use of non-tariff barriers under

the guise of meeting sanitary and phyto-sanitary (SPS) requirements, worsened by Africa's inadequate capacity to address SPS problems; weak food safety systems and regulations; limited information on regional and international market opportunities and prices; limited and poor transport; burdensome road checkpoints

for haulage trucks on sub-regional highways despite enabling protocols; storage and marketing infrastructure which increases transaction costs; anti-agriculture export/trade biased policies; and inadequate legal and regulatory institutional frameworks (FARA, 2010).

Figure 8: African Regional Integration



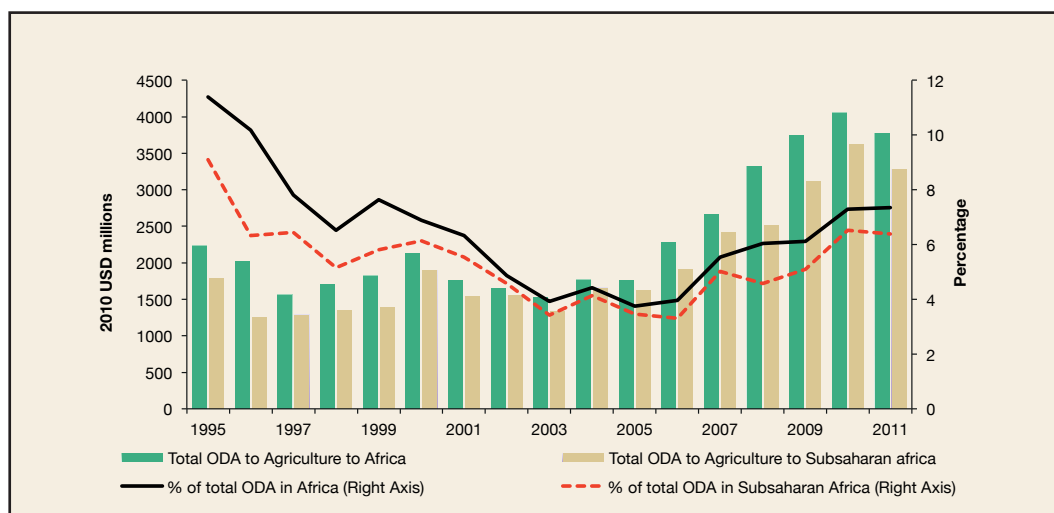
Inadequate financing for agriculture is another major constraint and limits farmers' and investors' ability to exploit investment opportunities in the sector. Apart from Ethiopia, Malawi and few other countries, *government budgetary support* to the sector has been far below 10 percent of fiscal expenditures, contrary to the Maputo Declaration of 2003. Also, agriculture's share of total official aid in Africa has declined from 11 percent in 1995 to less than four percent in 2003, but picked up to reach eight percent in 2011 (Figure 9). Recent global initiatives and support including the USD 20 billion pledge by G8 countries at the L'Aquila Summit are commendable, yet the funding gap persists. More worrisome is the persistently low share of lending by commercial banks to the sector, which constitutes a much lower amount of loans provided than those extended to manufacturing, trade and service sectors.

The important role *of the private sector in developing agriculture* and allied sectors is not receiving its rightful prominence. There is limited participation of the private sector, both local and foreign, in Africa's agriculture. Moreover, African private agents are often uncompetitive due to institutional, structural and policy constraints, etc. On a positive note, ports, judiciaries, customs and taxation systems, land and business registries are undergoing improvements across the continent to remove red tape, streamline procedures and automate processes (ICFA, 2011). However, according to the World Bank's 2012 Doing Business Index, Africa's business climate remains challenging, with low scores for ease of starting a business, obtaining credit, protecting investors and enforcing contracts. These factors drive up the cost of doing business in Africa and reduce profitability. Therefore, African countries must

reduce the cost of registering and closing a business, strengthen the rule of law in order make the business environment more predictable, and

improve trade logistics so as to render agriculture and other sectors more attractive for private-sector investment (Dadush et al, 2011).

Figure 9: ODA to Agriculture (commitments, constant 2010 USD millions)



Source: Authors using data from OECD-DAC CRS online database.

Research and Development (R&D) and Technologies remain insufficiently invested and limited in promoting the dissemination of outputs and knowledge, in spite of their importance and significant potential. Notwithstanding some major innovations and new technologies, including improved livestock breeds and crop varieties in Africa, agricultural productivity remains low. The levels of technological transformation needed in Africa require much more effective agricultural research and extension services. The rates of adoption of agricultural technologies remain far below world average. According to Juma (2011), new agricultural technology would remain ineffective unless farmers can access and use it. The poor diffusion and adoption of technology has been blamed on inadequate funds, limited access to land, poor infrastructure and the high cost of adopting new technologies.

In addition to the weak technological diffusion and adoption, Sub-Saharan Africa has the lowest share of private agricultural R&D spending in the world, only 1.7 percent of already low public spending (Pardey et al, 2006). According to IFPRI's Food Policy Report¹⁴, investment in agricultural research and development in SSA increased by more than 20 percent from 2001-2008, but most of this growth occurred in only a handful of countries, such as Ghana, Nigeria, Sudan, Tanzania and Uganda. Nigeria alone accounts for one-third of the increase. Relatively, the state of agricultural research and development is direr in most of francophone West Africa, where insufficient national investment has left programs debilitated and highly dependent on unpredictable external funding.

The majority of agricultural institutions in Africa still have **limited capacity** for planning, policy

¹⁴ Beintema N. and G. J. Stads (2011), African Agricultural R&D in the New Millennium: Progress for Some, Challenges for Many, Food Policy Report, Washington D.C., USA, International Food Policy Research Institute.

formulation and analysis. In addition, poor budgetary outlays for program implementation, and monitoring and evaluation all contribute to this situation. Limited government capacity, especially where centralized government dominates, leads to unclear or inadequate sector policies and strategies with respect to identifying and proper sequencing of development priorities.

Climate Change poses a great challenge to promoting inclusive growth in Africa, particularly the Sub-Saharan region where growing seasons are increasingly unpredictable. Moreover, Africa is one of the world's most vulnerable regions in terms of the impact of extreme weather events, such as drought and floods and their impact on agriculture. This is due to the region's heavy reliance on rain-fed agriculture, the poor socio-economic situation, low adaptive capacity and limited infrastructure development. The yields of major cereal crops (rice, wheat, maize, sorghum) that are food staples for most African households in the tropical and sub-tropical regions are likely to remain low with rising temperatures. As shown in Figure 6, Africa's cereal yield per hectare has been very low and remained virtually unchanged during the 1970-2009 period. Moreover, with increasing land degradation, land resilience has been reduced and the effects of drought and floods exacerbated (Salami et al, 2010).

Experts estimate that each 1°C rise in average temperature will reduce dry land farm profits in Africa by nearly 10 percent (IPCC, 2007). By 2050, cereal production growth in Sub-Saharan Africa is projected to decline by 3.2 percent as a result of climate change. Among staple crops, negative yield impacts are projected to be largest

for wheat, followed by sweet potato, whereas overall yields for millet and sorghum are projected to be slightly higher under climate change (Ringler et al, 2010). The projected decrease in crop yields, which could most likely lead to decreased incomes and food security, therefore, warrant effective adaptation measures to improve climate resilience for agriculture in Africa. Significant investment of USD 20 to 30 billion per annum over the next 10 to 20 years would be required to reduce the continent's climate vulnerability and to cap the potential negative economic impact at approximately 1.8 percent of Africa's GDP (AfDB, 2011c). Without investment in adaptation, the financial and economic implications for African countries' GDP will be enormous. For example, Ghana and Ethiopia's GDP in 2025 would be two to eight percent lower as a result of climate change without adaptation measures (World Bank, 2010). These costs relate to adapting to the changing climatic conditions rather than prevention of the climatic conditions¹⁵.

Investment requirements into climate change adaptation as a proportion of GDP are much higher in some African countries. In the Democratic Republic of Congo, the requirement is 28 percent of GDP, while in Guinea Bissau it is more than 60 percent of GDP. This investment is needed for infrastructure development, improved efficiency in the use of natural resources such as land and water, and providing incentives for farmers to adopt climate-smart agricultural practices. Urban and peri-urban farming means vegetables, fruits, mushrooms, herbs, meat, eggs, milk and even fish are being produced in community gardens, backyards, at schools and hospitals, on rooftops, in window boxes and on vacant public lands that, in the medium-

15 The figure has been estimated based on various studies undertaken to provide estimates for Climate Change adaptation, Fankhauser and Schmidt-Traub (2010); Satterthwaite and Dodman (2009); Parry et al. (2009); World Bank (2010); and Agrawala and Fankhauser (2008).

The estimate of adaptation incorporates the following:

- i) Estimated costs for adapting physical capital (e.g. buildings and infrastructure).
- ii) The costs of climate-proofing infrastructure including statistical links between climate and demand for infrastructure and a cost-benefit analysis of the building of various infrastructure options and valuing of natural assets such as land.
- iii) Climate damages that are avoided by adaptation.
- iv) Integrating adaptation needs into Africa's current development challenges.
- v) Costs of "social adaptation", which deal with existing problems of climate vulnerability in Africa.

and long-term, and could increase productivity and mitigate the emission of greenhouse gases. Addressing the potential adverse effects of climate change on agriculture, while also increasing productivity entails increased investment costs and demands a reorientation of the policy environment to ensure that vulnerable farming communities are protected and given the necessary support for adaptation.

Global climate change has increased the frequency and ***magnitude of food price volatility*** of global commodity markets, which have compounded the problem of food security for Africa, as many African countries are net importers of agriculture commodities (Barungi et al, 2011). This is a relatively recent emerging challenge and without adequate and timely actions, it will have negative impacts on inclusive agriculture growth.

In addition to climate change and food price volatility, Africa's agricultural entrepreneurs experience a variety of other risks and uncertainties in their businesses. These risks are mainly in production (weather and disease), price (input and output price volatility) and human resources (dependability and quality of service provision). A number of far-reaching policies and strategies have been proposed to enable stakeholders in the sector to assess these risks and manage them. Unfortunately, diffusion and adoption of these strategies has been challenging. This includes strengthening support for agricultural market information systems, including capacity-building programs and development of public-private partnerships; improving local supply by addressing barriers across the entire value chain; establishment of more organized commodities markets such as the Ethiopia Commodity Exchange; and design and implementation of integrated risk management strategies. The constraints highlighted above are discussed further in the latter part of this report in the context of the

strategic framework and key drivers of inclusive growth in agriculture.

3.2 New Investment Opportunities and Investment Options

In spite of the numerous challenges, several investment opportunities abound in agriculture in Africa, a continent which accounts for about 60 percent of the world's uncultivated arable land.

It is estimated that Africa has the potential to increase the value of its annual agricultural output from USD 280 billion in 2010 to about USD 500 billion by 2020 and to USD 880 billion by 2030. Africa's projected output is expected to impact significantly on its demand for upstream products such as fertilizers, seeds, pesticides and machinery. It is also expected to result in the growth of downstream activities such as biofuel production, grain refining, food processing, etc. Both upstream and downstream markets could be valued at up to USD 275 billion by 2030 (Roxburgh et al, 2010). However, this will be untenable without credible public-private partnerships and a sound investment environment. Therefore, the active and responsible engagement of private agents¹⁶ in upstream and downstream phases of the agricultural value chain, including research and development, farm production, input and produce distribution, processing and value addition, identification of broader markets, etc., is vital for the transformation of Africa's agriculture and its economies, as well as to spur human development. One major challenge, therefore, is how to develop new institutional arrangements between the public and private sectors that foster private sector development without leaving smallholder farmers isolated during the transition (Diao et al, 2007).

Currently, large investment opportunities still exist for viable agriculture. Components of these investments will include expanding infrastructure

¹⁶ Farmers or farmers' organizations, input suppliers, warehouse operators, buyers, traders, etc.

(e.g. water, irrigation, rural roads, storage and sea ports) across the agricultural value chain in order to ease the movement of agricultural goods from farmers to markets, both locally and regionally. Furthermore, untapped value-addition in agriculture, improvements in the business regulatory environment, expansion across the continent of the pan-African supermarket groups, such as Pick n Pay and Shoprite, etc., all provide unique investment opportunities.

Such market-oriented investments also promote rural employment, facilitate technology transfer, and build a sound foundation for sustainability and long-term sector transformation. Moreover, opportunities abound for inputs supply and services delivery for modern farm machinery maintenance, tractor hire and research and development centres. There is also a need to develop animal traction and mechanization centres. Capacity building for research and extension agricultural information centres and seed multiplication technologies at informal private sector levels for effectiveness of rural reach will remain critical as well.

More efficient use of water resources, sustainable management of agricultural lands, timely supply of quality seeds and fertilizers, improved agricultural credit, post-harvest management, etc., will assist in reviving agriculture. Training rural youth in agriculture and business skills and encouraging them to engage in agribusiness will also promote the sector. Improving crop quality and restoring soil health through integrated soil fertility management techniques are equally vital. Agricultural diversification focusing on crops, horticulture, livestock, poultry, fishery and other on-farm and off-farm rural enterprises with forward and backward linkages to agriculture will boost both production and consumption.

Despite the recent global financial and food crises, the longer-term inclusive growth prospects of Africa's agriculture are bright, especially if smallholders are assisted to specialize, add value and reach these growing markets. In particular,

the surge in food prices in 2008 and the persistent **food price volatility** presents a unique opportunity for African countries to increase their investment in the agricultural sector to ensure food security and price stability (Kamara et al, 2009; Salami et al, 2010). As expected, the high food prices have been attracting large-scale foreign private sector investment in farming – a great potential for growth. However, this investment also comes with some social and economic challenges that may erode the benefits (Salami et al, 2010). There are concerns that some of these large-scale foreign land acquisitions which are built on less inclusive business models, are violating and/or threatening land rights and livelihoods of smallholder farmers, pastoralists, indigenous communities and other vulnerable groups, or result in unsustainable land use.

Mobile financial services could serve as a platform for economic transformation, if adopted across commerce, health care, agriculture and other sectors (World Bank, 2012c). According to a recent study commissioned by the Bill & Melinda Gates Foundation, the market for financial services in Sub-Saharan Africa is significant and remains largely untapped. Approximately 134 million adults (53 percent of the adult population) in 11 Sub-Saharan countries surveyed had paid or had been paid by a counterparty in a different part of the country in the prior 30 days, and 79 million (31 percent of all adults) still use only informal cash payments. These findings represent a major opportunity for providers of mobile money or similar services (Kendall et al, 2012), especially when juxtaposed with the fact that most African countries have an underdeveloped banking infrastructure, high poverty rates and large migrant populations.

M-Pesa is a mobile phone based money transfer and microfinancing service for Safaricom and Vodacom, the largest mobile network operator in Kenya and Tanzania. Launched in Kenya in 2007, the branchless banking service allows users to deposit money into an account stored on their cell

phones, to send and withdraw balances, at a fee. In Kenya, M-Pesa has since signed up 15 million users, is used by 70 percent of the adult population and has become central to the economy: around 25 percent of Kenya's GNP flows through it (Economist, 2012). M-Pesa has spread quickly, and has become the most successful mobile phone based financial service in the developing world (Jack et al, 2010). It is now operational in at least six countries and has about 20 million users who in 2011 transferred USD 500 million per month (Vodafone, 2011).

The benefits of M-Pesa include: financial inclusion of especially the rural poor, who are often excluded from the formal banking system; higher remittance arising from lower commission charges and hence higher economic activity; increased visibility in money flows; enhanced security as a result of the reduced need to carry cash; and convenience arising from the availability of the service at all times¹⁷. However, in Kenya, there is need to improve the regulatory environment guiding the service, look into the reported cash flow problems experienced by M-Pesa agents based in rural areas since the majority of transactions at that level are withdrawals, and ensure continuous country-wide network availability¹⁸.

Africa is also urbanizing rapidly, and this is offering social and economic opportunities. Today, about 41 percent of Africans live in cities, rising by an additional one percent every two years. By 2033, Africa – like the rest of the world – will be a majority urban continent. Food and water shortages, poor infrastructure and a lack of housing are among the problems that African governments are likely to continue to experience during such rapid urbanization. However, they also constitute investment opportunities, because with a large urban consumer base, firms and customers stand to benefit from scale economies (World Bank, 2012b). Furthermore, the rising global population and increasing global demand

could provide opportunities for the expansion of agriculture globally and within the continent. In addition, the recent shift of food demand away from traditional staples toward higher-value foods like meat and milk could stimulate increased demand for grains used to feed livestock and demand for fruits, vegetables and more processed and pre-cooked foods. The combination of urbanization, strong and evolving domestic demand for food, strong international demand (and high prices) and sustained economic growth create unprecedented opportunities for African agriculture and this bodes well for inclusiveness in the sector.

Reardon et al (2013) have a dynamic analysis and interpretation of Africa's urbanization in terms of the "five interlinked transformations" of the agrifood system which are occurring on the continent: i) urbanization (accompanied by the rise of income and the middle class); ii) diet change and diversification; iii) agrifood system transformation; iv) rural factor market transformation; and v) the beginnings of agricultural transformation driven by intensification of farm technology. This transformation is driven by three forces: i) urban food demand pull, and the intermediation-supply chain communicates that demand to rural areas and delivers the flow in the circuit of food products; ii) profits from farming and income from nonfarm employment of rural households fund the investments by farmers in technology change and by the rural supply chain off-farm components (agricultural product distribution and processing); and iii) the above demand and investment funding finances the supply response fueling demand for inputs and services such as seed, fertilizer, credit, water, and so on. The most significant aspect of this transformation is that the African marketed food economy is already primarily urban and is urbanizing rapidly, as urban populations grow much more rapidly than rural, and income growth seems often but not always to be concentrated in urban areas. Unlike Asia and Latin America, Africa

¹⁷ Agrawal, M., The Socio-Economic Benefits of Mobile Money Transfer, Telecom Circle, 27 January 2010.

¹⁸ Agrawal, M., M-Pesa: Transforming Millions of Lives – I, Telecom Circle, 19 January 2010.

is urbanizing in a de-congested, decentralized fashion, with many smaller towns emerging, creating better conditions for rural non-farm employment. The second and equally significant finding of this study is the evidence of the growing and economic force of the 'invisible middle' intermediary group that is growing fast (truckers, wholesalers, warehousing, processing, etc). These integrated transformations are evidence of the massive potential for inclusive growth, if policies and infrastructure are more supportive of smallholder value chains from farm production through the small/medium scale intermediaries.

3.3 Recent Continental and International Initiatives Leveraging Agriculture to Promote Inclusive Growth in Africa

Over the past 10 years, the profile of Africa's agriculture has received a much needed regional and international boost and this has brought the sector, once again, to the attention of policymakers and development and financial institutions. Moreover, the recent initiatives are promoting aid predictability and coordination in

agriculture, while assisting to expedite inclusivity in agriculture.

The *New Partnership for Africa's Development's (NEPAD) CAADP* was launched in 2003, in Maputo by African Union (AU) Heads of State and Governments. African Heads of State and Governments also made several important decisions regarding agriculture, but prominent among them was the Maputo Declaration of 2003, which included a commitment to allocate at least 10 percent of national budgetary resources to agriculture and rural development policy implementation within five years. Although most did not fulfill this commitment in the first decade of CAADP, African countries are working towards fulfilling their commitments. On average, over the period 2003-2009, seven countries met the 10 percent agriculture-spending target, namely: Burkina Faso, Ethiopia, Guinea, Malawi, Mali, Niger and Senegal (see www.resakss.org).

CAADP is a growth-oriented agricultural development agenda, aimed at increasing



agriculture growth rates to 6 percent per year, and creating the wealth needed for rural communities and households to prosper. To achieve this goal, CAADP focuses its interventions on four key pillars: i) *Pillar 1* - extending the area under sustainable land management and reliable water control systems; ii) *Pillar 2* - improving rural infrastructure and trade-related capacities for market access; iii) *Pillar 3* - increasing food supply, reducing hunger, and improving responses to food emergency crises; and iv) *Pillar 4* - improving agricultural research, technology dissemination and adoption. Endorsed in July 2006 by African Heads of State in Banjul, the Gambia, the Framework for African Agricultural Productivity (FAAP) was designed by FARA in collaboration with the AU, NEPAD and numerous stakeholders in Africa including donor agencies for use in implementing Pillar 4 (FARA, 2006). FAAP addresses institutional reform, increases total investment and aims to harmonize funding for research.

The CAADP has been well received by most African countries and by December 2012, 30 countries had signed CAADP “compacts”, which are multi-stakeholder commitments to jointly agreed national agriculture strategies between governments (across several relevant ministries), farmers organizations, private sector, civil society and development partners. Of the countries which have signed compacts, 27 have developed National Agricultural Investments Plans (NAIPs) for public financing and private investment, which have been peer-reviewed by technical expert panels coordinated by the NEPAD Planning and Coordination Agency (NPCA).

In addition to the national CAADP compacts and investment plans, Regional Economic Communities (RECs) have also been developing Regional Compacts and Regional Agricultural Investment Plans. ECOWAS completed its regional compact and investment plan in November 2009 and COMESA is currently drafting its regional compact.

As intended, these plans have become useful frameworks to a number of high-profile donor initiatives such as the Global Agriculture and Food Security Program (GAFSP – described later in this section); the G8-backed New Alliance on Food Security and Nutrition; and the Grow Africa Initiative jointly launched by World Economic Forum, AUC and NEPAD.

CAADP’s goal of helping African countries reach a higher path of economic growth through agriculture-led development, to eliminate hunger, reduce poverty and food insecurity, and enable expansion of exports, is supportive of inclusive growth. It gives priority to employment creation and improving the living standards of Africa’s majority, who are also among its most resource-poor. To this end, the AU Summit in January 2013 endorsed the Sustaining CAADP Momentum strategy, aimed at accelerating implementation of investment plans and achievement of results and impact. The refreshed CAADP strategy builds on successes of the first decade of CAADP and augments these with heightened focus on needed implementation capacity in terms of: strengthening and aligning institutions, policy and leadership; and mobilizing catalytic finance and investments that increase private sector investment into agriculture.

In June 2006, African Union Heads of States and Governments adopted the *Abuja Declaration on Fertilizer for the African Green Revolution*. They resolved to increase fertilizer use from 8 kilograms to 50 kilograms of nutrients per hectare by 2015. The Summit action plan has five main elements: i) development of agro-dealer networks across rural Africa; ii) establishment of national agricultural input credit guarantee facilities; iii) use of “smart” subsidies to ensure that poor smallholders have access to fertilizers; iv) creation of regional fertilizer procurement and distribution centres, removal of trade barriers and promotion of local fertilizer production; and v) establishment of an Africa Fertilizer Development Financing Mechanism hosted by the African Development Bank.

The AU Declaration on Fertilizer places the smallholder African farmer squarely at the forefront of its priorities with emphasis on enhancing farm input supply, improving access to finance, and strengthening market access and trade, and this approach provides a foundation for inclusive growth.

In 2008, through the *Sharm El-Sheik Declaration on the High Food Prices*, the AU Assembly made a commitment to reduce by half the number of undernourished people in Africa by 2015, eradicate hunger and malnutrition, and take measures to increase agricultural production and ensure food security in Africa, in particular through the implementation of CAADP and the 2003 AU Maputo Declaration.

By acknowledging the adverse impacts of the food crisis on African countries, particularly on the poor and by ensuring that assistance is rendered to the vulnerable segments of Africa's populations through targeted food assistance and safety nets, amongst other measures, the *Sharm El-Sheik Declaration* aims to eradicate hunger and malnutrition on the continent, thereby contributing to inclusive growth. The 2008 food crisis exposed the weak investment in Africa's agriculture over the past 30 years, which has consequently renewed regional and international interests in promoting agriculture and food security on the continent.

At the July 2009 G8 Summit in L'Aquila, 14 countries, the European Commission and some foundations pledged USD 20 billion over three years to support vulnerable countries and regions develop and implement their own food security strategies through a comprehensive approach, the *L'Aquila Food Security Initiative (AFSI)*. Additional countries have since pledged support, bringing total pledges to USD 22 billion. In 2009, China also pledged USD 30 million over three years, to contribute to improved farming methods in developing countries in Africa and to help them achieve the MDGs.

In addition to the Summit declaration highlighting the need to increase agricultural production, one of the five core principles of the AFSI is a comprehensive approach to food security that includes support for humanitarian assistance, sustainable agriculture development, and nutrition. These features of the AFSI are complementary to inclusive growth as they could assist to improve the livelihoods of the disadvantaged rural poor, who are often marginalized and bypassed by other growth initiatives.

The pledges made through the AFSI led to the establishment of the *Global Agriculture and Food Security Programme* Trust Fund (GAFSP), which is assisting in the implementation of the pledges made at the L'Aquila Summit. Launched in Washington, D.C., in April 2010, the GAFSP Trust Fund is a multilateral financing mechanism aimed at creating long-term food security for low-income countries following aid effectiveness principles. To date, about USD 1.32 billion (of which USD 940.8 million to the public sector window, USD308.7 million to the private sector window, and USD68.5 million remains unassigned) was pledged to the GAFSP. A total of USD 988.9 million was received (of which USD807.1 million to the public sector window, and USD181.8 million to the private sector window). Current donors include eight to the public sector window (Australia, the Bill and Melinda Gates Foundation, Canada, Ireland, South Korea, Spain, the United Kingdom, and the United States) and five to the private sector window (Canada, Japan, the Netherlands, the United Kingdom, and the United States).

Eleven African countries have, so far, received GAFSP grants totaling USD 430.5 million and distributed as follows: Rwanda (USD 50 million); Sierra Leone (USD 50 million); Togo (USD 39 million); Ethiopia (USD 51.5 million); Niger (USD 33 million); Liberia (USD 46.5 million); Burundi (USD 30 million); the Gambia (USD 28 million); Malawi (USD 39.6 million); Senegal (USD 40 million); and Tanzania (USD 22.9 million). Out of

the eleven recipients, seven have chosen the African Development Bank as their Supervising Entity. These are Niger, Liberia, Malawi, Gambia, Senegal, Mali and Zambia.

By addressing the problem of underfunding of national and regional agriculture and food security strategic investment plans, GAFSP is assisting in the implementation of CAADP, and by so doing, fostering the AU's approach of promoting agriculture-led economic growth, a strategy that caters for the otherwise marginalized and disadvantaged majority of Africa's rural populations.

At the seventh African Development Forum held in Addis Ababa, Ethiopia, in October 2010, the NEPAD Agency launched the *Rural Futures Programme* as an integrated development initiative to promote rural transformation for i) improved rural employment and livelihood opportunities; ii) national economic development; and iii) sustainability. The Programme aims to give a broader and integrated perspective to rural development with agriculture as the main "thread" that can help to draw attention to other sectoral issues such as infrastructure and information and communication technologies (see www.nepad.org). This constitutes a major opportunity for addressing inclusive growth and the potential of the rural economy to leverage the benefits created by growth and expansion in the farm sector.

A high level strategic briefing was held in Addis Ababa in May 2011 to enhance understanding of *the Programme* and raise awareness on issues of rural transformation. (see [http://www.nepad.org/system/files/RuralFuture meetingConceptnote](http://www.nepad.org/system/files/RuralFuture%20meetingConceptnote.pdf)). The inaugural Forum meeting held in May 2013 in Cotonou, Benin resulted in the Cotonou Declaration on Rural Futures: with the following highlights: a) recognition of the need for accelerated and diversified economic growth in rural areas (including small towns in rural settings) including an expansion of employment and livelihood opportunities; b) need for an enhanced pace of reduction in rural poverty and in inequality both between rural and urban areas (the cities) and between and within rural territories, and c) enhanced environmental sustainability. The translation of this vision is expected to build on the foundation of successes and lessons from such AU initiatives such as CAADP and the Programme for Infrastructural Development in Africa (PIDA); d) that rural transformation has to be a multi-actor and multi-sectoral agenda, and therefore, the need for a multi-sectoral approach and to realign institutions and policies in mainstreaming rural development into national strategies and long term development planning. The meeting agreed on next steps and identified flagship programs.

4. Bank Experiences in Promoting African Agriculture

4.1 AfDB's Financing of Africa's Agriculture and Rural Development

The Bank recognizes the strategic importance of investing in agriculture and food security to promote Africa's inclusive growth and development agenda. Between 1967 and 2011, the African Development Bank Group approved loans and grants to its RMCs with commitments amounting to USD 93.01 billion. Agriculture and rural development accounted for 12.74 percent (USD 11.85 billion); infrastructure including transport and water and sanitation, communications and industry took the bulk of the resources at 47.3 percent (USD 44 billion), while the other sectors including environment, finance, social, urban development and multi-sector received the balance.

The breakdown of African Development Bank Group public sector approvals in favour of

agriculture and rural development sub-sectors over a nine-year period from 2003-2012 illustrates that projects in support of food and cash crops received the most approvals at USD 1.26 billion or 33 percent, followed by those of a rural infrastructure, capacity building and market access nature in the amount of USD 1.06 billion or 28 percent, while project approvals in favour of fisheries, forestry and plantations development were at USD 432 million or 11 percent (Table 2). Despite a sharp drop in AfDB agriculture sector approvals from USD 335.854 million in 2009, to USD 105.22 million in 2010, which stemmed largely from changes in country priorities, AfDB investments in agriculture rebounded, reaching USD 224.31 million in 2011. These approvals correspond to 2.9 percent of all AfDB Group approvals for different sectors in 2009, 1.9 percent in 2010 and 3.5 percent in 2011, the latter attesting to the relatively greater support provided by the AfDB to agriculture during the three-year period.

Table 2: AfDB's Public Sector Agriculture and Rural Development Approvals by Sub-sector (2003-2012) in USD (million)

Sub-Sector Category	No of Operations	ADB	ADF	NTF	Others	Total	%
Agriculture	36	20.41	752.33	-	492.70	1,265.45	33
Agriculture & Rural Dev	26	210.91	648.27	-	209.46	1,068.65	28
Environment	19	22.71	301.03	7.70	100.54	432.00	1
Irrigation & Drainage	14	164.27	144.49	6.62	209.02	524.41	14
More than one Agric. & Rural Dev Sub-Sector	15	-	400.44	-	108.07	508.51	13
Total	110	418.32	2,246.58	14.32	1,119.81	3,799.04	100

Source: Authors using AfDB SAP database

Notes:

1. Agriculture includes projects focusing on food, cash crops and livestock.
2. Agriculture and Rural Development include operations with rural infrastructure, capacity building, market access and livestock.
3. Environment includes fisheries, maritime food, forestry and plantations development.

During 2009-12, AfDB agriculture related investments approved through the Bank's private sector window had a total commitment value of at least USD 283 million. These approvals were

in respect to Agri Vie, GEF, AAF (African Agriculture Fund), Lake Harvest, Agvance and Landbank. They are contributing to the continent's private sector-driven economic

growth, creating opportunities for both farmers and investors and helping to uplift smallholder farmers out of poverty, empowering women and the youth, and would also assist in transforming Africa. During 2011-13, the AfDB, using its private sector window, also supported Africa's fertilizer sector by extending loans amounting to a total commitment value of USD 500 million to the Morocco National Phosphates Company, the Gabon Fertilizer Company, and the Indorama Corporation in Nigeria. These investments are responding to some of the key market opportunities and challenges of Africa's fertilizer industry, especially strengthening regional fertilizer manufacturing capacity.

As explained below, the AfDB has learned many lessons from financing agricultural projects and from its long interaction with the RMCs. These experiences are assisting to shape the design of future Bank assistance to the agriculture sector.

4.2 Review of AfDB's Performance in Promoting Agriculture in Africa

4.2.1 Review of the AfDB Forestry Sub-Sector Portfolio

The Bank's forestry portfolio reviewed comprised 12 projects valued at USD 292 million, benefitting the following countries: Kenya (2), Uganda (1), Rwanda (1), Burundi (1), Ghana (1), Burkina Faso (1), Benin (3), Cameroon (1), and Niger (1). The main findings and recommendations of the study are summarized below (AfDB, 2007).

Overall, the Bank has played a key role in sustainable management and utilization of forest resources. Most projects reviewed involved local communities in their implementation, which is in line with the decentralization policy that a number of RMCs had adopted. Most of the forestry projects had been designed as integrated programs with other sectors such as agriculture and water resources. However, some projects had been designed without a detailed analysis of

the national/rural context. For others, institutional arrangements were not adequately effective, especially in cases where staff were deployed to projects on a part-time basis. Most RMCs were unable to provide counterpart funding, and in certain cases, project implementation was curtailed due to limited infrastructure and poor marketing of forestry products. The following recommendations were made:

- i) Conduct an independent and broad-based review of the Bank's forest policy in collaboration with concerned stakeholders for it to better respond to the most pressing current priorities of the sector. The preparation of the new forest policy is underway.
- ii) In designing new projects, use a sector-wide multi-stakeholder approach, discuss beneficiary sharing details, incorporate forest and land tenure issues and infrastructure development, and conduct baseline surveys to inform such projects.
- iii) Optimize the use of Bank country offices in project cycle work.
- iv) On a case-by-case basis, in circumstances where RMCs are unable to fulfill project co-financing, make a careful and well-informed judgment on whether to adhere to or waive this requirement.
- v) Recruit competent Project Management Unit (PMU) staff, and build their operational capacity using Bank fiduciary clinics.
- vi) Engage in more collaborative country economic and sector work to identify projects in all sub-regions, informed by their respective priorities.
- vii) Examine the benefits and challenges of domiciling PMUs within government ministries versus non-central government institutions.
- viii) Work with RMCs to conduct positive awareness campaigns about the value and benefit of sustainable forest management to RMCs.
- ix) Refocus development assistance to RMCs by designing projects and programs conforming to the evolving RMC's policy dimension in a changing world. Project concepts should

include the following broad areas: conservation and production; community based programs; alternative energy; natural resource management; forest governance; climate vulnerability based programs; and watershed management to bolster agricultural production. Forestry projects should be multi-sectoral, community driven, and designed and implemented in a collaborative manner. Projects should also address beneficiary sharing agreements with respect to forestry products for sustainable management of natural resources.

4.2.2 Review of the Performance of the AfDB Fisheries Portfolio

In 2008, the Bank reviewed the performance of its fisheries and aquaculture portfolio, which comprised then of 21 projects (19 national and 2 multi-national projects) benefitting 23 RMCs in East, West, Central and Southern Africa. At a time when fisheries development assistance was decreasing globally, the AfDB's fisheries and aquaculture portfolio was the largest single source of financing to the fisheries sector in Africa, valued then at about USD 383 million. The portfolio benefitted from other funding sources including governments, beneficiaries and other donors. However, the majority of the funds came from the AfDB, with a value of USD 285 million or 75 percent of the portfolio's value. The main findings and recommendations of the review are summarized below (AfDB, 2008).

Key Successes and Challenges: Largely due to portfolio life cycle and level of implementation of individual projects, the projects were having limited verifiable success with regard to their set objectives. Several projects had credit components with varying degrees of success. The portfolio also appeared to provide limited inputs for the development of national legal and policy frameworks for the fisheries sector. Moreover, supply chain issues were not yet well addressed.

Project cycle management was found to be generally weak in the area of aquaculture development and management. Project preparation was variable, and in some cases, inadequate to facilitate project implementation, monitoring and evaluation. The main limitations in delivery of the portfolio that are linked to the management of the AfDB fisheries and aquaculture sub-sector were directly related to lack of sufficient human resource capacity. Moreover, the links between different aspects of a sector-wide approach were missing in some projects.

Portfolio Focus: To improve portfolio management and success, the AfDB fishery and aquaculture sector requires a focused sector policy to avoid future fragmentation, with sound economic and sector work as the backbone. If the Bank can increase its resources and capacity to cover aquaculture, then it would be advisable to work closely with NEPAD CAADP to implement the African action plan for aquaculture to find a core niche for the AfDB within their action plan. The Bank should build on its experience and success stories on the continent, such as the implementation of the cage culture technology in Ghana under the Afram Plains District Agriculture Development Program.

Infrastructure: There is a need to balance investment in physical and (in some cases) social infrastructure with the fisheries resource base as the construction of infrastructure may contribute to overexploitation. The Bank should consider the following: i) decide on the management regime of infrastructure components needs at the beginning of projects; ii) draw lessons from successful infrastructure management and apply them; iii) ensure that feasibility studies consider the financial viability of different management options; and iv) ensure that infrastructure components take into account the priorities of national strategy documents. For aquaculture development to be sustainable, especially inland fishing, concerted partnerships with the private sector in the provision of infrastructure for fingerlings

production, production and distribution of fish feed, as well as supply of drugs, are vital.

Credit: The following should be noted: i) consider credit where the fisheries sector is important and where it will have a positive impact on poverty reduction, without increasing the fishing effort to unsustainable levels; ii) take into account the capacity of financial institutions when selecting them; iii) micro and rural credit could be dealt with by different institutions; iv) consider savings strategies; v) apply lessons from best practice on AfDB projects with credit components; vi) repayment performance is important for the sustainability of credit projects; vii) projects should not create new financial institutions; viii) closely consider the specific needs of fishers; and ix) include risk sharing with government in agreement with financial institutions. Where required, capacities of financial institutions, especially commercial and rural banks, in developing innovative financial products to support community level fishing activities targeting the entire value chain should be strengthened.

Research and Development: The Bank should continue to support research and development, especially through regional organizations, in order to ensure that decisions relating to the development of fisheries and aquaculture in Africa are based on sound scientific, social and economic information.

Sector-wide Approach and Participation: A sector wide approach to fisheries development must not ignore the links between fisheries and other economic sectors such as agriculture, forestry, oil and gas, industry, tourism, environmental management, and so on. Each fishery project does not need to cover all aspects of a sector-wide approach or sector policy, but instead fit into a sector wide approach to facilitate overall sector governance. Fishery sector policy that encourages participation should

ideally be in place in all RMCs where the AfDB has projects; if not, the project should explore ways to develop it. Fishery management plans are one of the ways to implement fishery sector policy and the AfDB, within its existing portfolio and in the design of future projects, should identify where it can support and mainstream these into projects.

4.2.3 Evaluation of AfDB's Support to Agriculture and Water Management

The Bank was one of the largest sources of assistance for agriculture and water management in Ghana and Mali during 1990-2010. Evaluating the performance of Bank-supported agriculture and water management projects from 1990-2007 valued at USD 386 million and USD 270 million, for Ghana and Mali, respectively, the conclusions, lessons and recommendations summarized below were reached (AfDB, 2011f).

Relevance and Quality at Entry: In both countries, AfDB AWM projects were very relevant and fully aligned to government objectives and the Bank's strategy, but failed to analyze all the investment options available. Despite the in-depth studies preceding many projects, problems emerged at implementation due to long delays between study completion and project start-up, and in some cases, inadequate social and sub-soil investigations.

Efficacy and Efficiency: Physical and institutional achievements fell far short of expectations. In Mali, AfDB projects were good at delivering outputs, but weak in translating outputs into outcomes and impact. Civil works were at the centre of reduced efficacy and efficiency in both Mali and Ghana; problems such as difficult procurement processes, poor supervision, and delays leading to increased costs caused scaling back of some project activities. These shortfalls reduced project benefits.

Impact on Institutional Development was effective in Mali, but restricted to local management of the schemes, with limited comprehensive nationwide impact on institutions in the sub-sector. In Ghana, the impact on Ghana's Irrigation Development Authority (GIDA), the main target for institution building, was unsatisfactory.

Sustainability: This was constrained in some cases by technical and strategic issues, government commitment, socio-political and economic environment, and institutional and environmental settings. For most projects, low sustainability resulted from lack of economic sustainability at the farmer or household level. Notwithstanding the size or type of irrigation scheme used, the value of the main staple produced – rice – was inadequate.

The key lessons from the evaluation are i) AWM projects present particular challenges, and therefore, require very careful planning, design, and execution; ii) AWM must change some aspects of the social and cultural structures for it to be successful; and iii) success in introducing a complex change process is closely linked to right sequencing of project activities.

The Bank should consider the following:

- i) Invest more resources in high quality, timely, and relevant economic and sector work to contribute to country level strategic reflection and improve project quality.
- ii) Conduct stronger and early engagement with stakeholders, including government authorities, donors, the private sector, and smallholders, at centre and decentralized levels, to ensure that an enabling environment exists for project success.
- iii) Increase focus on policy and strengthen the internal management capacity of AWM-related agencies.

- iv) Be more realistic about the expected results of AWM operations, the time required for implementation, and the conditions for sustainability.
- v) Improve project monitoring and evaluation and incorporate lessons into project design.

4.2.4 Assessment of AfDB's Performance in Supporting Microfinance

According to the 2009 SmartAid for microfinance index, the Bank received 37 out of 100 points, meaning that the institution has weak systems to support microfinance. AfDB received scores of less than 2, on a scale of 0 to 5, on six of the nine SmartAid indicators. The Bank's strongest performance was in strategic clarity, reflecting the approval of the 2006 Microfinance Policy and Strategy. Areas that require immediate attention relate to staff capacity, accountability for results and knowledge management. The core challenge of AfDB appears to be the gap between the work of the public and private sector departments, in ensuring that the microfinance policy and strategy is operationalized within a common vision and harmonized standards, and this requires constructive engagement between concerned departments, namely, OSAN, OPSM and OSHD (CGAP, 2009).

The report makes a number of recommendations including cleaning up of the microfinance portfolio, conducting an external portfolio review, promoting stand-alone projects, conducting a compliance check of policy and guidelines, improving monitoring and reporting, etc.

4.3 Joint AfDB-IFAD Evaluation of Agriculture and Rural Development

In an effort to review their 30-year partnership from 1978-2008, AfDB and IFAD recently conducted a joint evaluation of their co-

financed¹⁹ agriculture and rural development operations in Africa²⁰. The objectives of the evaluation included i) determining the relevance of IFAD and AfDB policies and operations in agriculture and rural development (ARD) in Africa in the light of current and emerging issues affecting ARD on the continent; and ii) assessing the performance and impact of AfDB and IFAD policies and operations in ARD in Africa. The coverage of projects co-financed by both agencies and reviewed comprised 38 operations in 26 low-income and middle-income countries in East, West, Southern and Central Africa. The main conclusions of the evaluation are summarized as follows:

- i) Some 90 percent of the IFAD-funded projects assessed were moderately satisfactory or better in terms of *relevance*, compared with 70 percent of AfDB projects.

Good attention was devoted to ensuring the alignment of projects with national ARD strategies, the needs of the rural poor and the strategies of AfDB and IFAD. However, ambitious objectives, limitations in design logic, multiple components and institutional arrangements limited relevance in some cases. Although during project design importance was usually given to interaction with government and in-house technical review, inadequate analysis of country capacity, sector context and lessons learned from former experience were mentioned in about half of the cases reviewed both for AfDB and IFAD as causes for design problems.

- ii) Around 60 percent of the operations evaluated in each organization were moderately satisfactory or better in terms of *effectiveness*, but a high proportion were rated moderately unsatisfactory.
- Analysis of project effectiveness by

component and sub-sectors found livestock components to be the most successful, followed by community development and capacity building and irrigation development. A common element in the success of these components was the attention devoted to promoting participatory processes for the management of activities. The least successful components were those related to rural finance and women-specific activities (considered a proxy for gender activities), followed by natural resources management and the environment. This was partly because rural finance services did not always benefit the most needy. This is mainly because of limited institutional outreach capabilities in rural areas, as well as high transaction costs associated with dispersed populations. Moreover, innovative financial products have not been fully developed for this clientele.

Other limiting factors included the extent to which prior conditions of loan effectiveness were fulfilled, the performance of technical assistance and other service providers, the presence or absence of complementary projects, programs and policies, availability of markets and marketing infrastructure in production based projects, administrative restructuring, political stability and the security of project facilities. Effectiveness was also associated with high quality project supervision and implementation support, country presence and good borrower performance.

- iii) Approximately 50 percent of AfDB projects and 66 percent of IFAD projects assessed were moderately satisfactory or better in terms of *efficiency*.

Common challenges included implementation time overruns, delays in staff deployments and rapid turnover of project management

¹⁹ Based on the Asian Development Bank Operations Manual, the term “cofinancing” refers to a financing arrangement whereby one or more sources of official or commercial funds (other than contributions or loans from the borrowing country) join in financing a project or program.

²⁰ Over the period from 1978-2008, AfDB and IFAD each played a major role in agriculture and rural development in Africa, for which they provided loans and grants with a combined total exceeding USD 10 billion, which increases to USD 17 billion when co-financing and borrower contributions are included. Since 1978, 38 projects were co-financed at a value of about USD 900 million, representing close to 10 percent of their cumulative investment in agriculture and rural development in Africa. Since 1978, AfDB and IFAD respectively contributed USD 472 million and USD 432 million to co-financed projects with a total value of USD 1.77 billion (including other donors’, governments’ and beneficiaries’ contributions).

personnel, wide geographic coverage, multiple components, and lack of timely allocation of counterpart funds.

- iv) The overarching criterion of *project performance* – a composite of relevance, effectiveness and efficiency – showed better performance in IFAD operations compared with those of AfDB: 72 percent of IFAD-funded projects were moderately satisfactory or better, compared with 60 percent of AfDB-funded projects. This was a result of the higher relevance and efficiency ratings of operations funded by IFAD.
- v) About 55 percent of operations of both agencies had a moderately satisfactory or better *impact on poverty*. Impact was good in areas such as agriculture production and development of physical assets, but less positive in promoting access to markets, improving institutions such as research institutes and government agencies and enhancing natural resource management. One reason for the lack of impact in these areas is that project implementers and supervision often gave more attention to achieving physical and financial output targets than to ensuring sustained improvements in project impact, such as farmers' incomes, rural livelihoods and food security as the ultimate development objectives.
- vi) Less than 50 percent of the projects evaluated were moderately satisfactory or better in the area of *sustainability*; the performance of IFAD's operations was marginally better than AfDB's. Among other issues, low sustainability was attributed to unresolved land tenure issues, lack of ownership, unclear responsibilities for maintenance of project facilities (especially infrastructure), inadequate transfer of technical skills to beneficiaries, fragility of grassroots institutions, inadequate authority of project management units, and lack of post-project maintenance funds.

The strategic implications of the joint evaluation underscore the fact that any efforts to enhance African agriculture will have to focus first on smallholder farmers, particularly women, and ensure that agri-businesses and other rural institutions thrive and contribute to shared growth. The evaluation further noted that creating a favourable investment climate, spending on public goods and market infrastructure, fostering innovation and institutions, and expanding human capacity should be at the heart of the agenda.

4.4 AfDB's Agriculture Sector Strategy vs its Agriculture and Rural Development Policy

In order to better address the rapidly changing needs of its clients, the Bank approved a new Agriculture Sector Strategy (AgSS) in 2010 covering the period 2010-14, aimed at contributing to agricultural productivity, food security and poverty reduction. A departure from the Bank's Agriculture and Rural Development Policy of January 2000, which focused on productive agricultural and non-farm activities, the present Strategy was designed to assist Bank investments to be focused, selective and innovative, with a view to enhancing their impact and sustainability. This is being done by: i) improving rural infrastructure, including water management and storage, and trade-related capacities for access to local and regional markets; and ii) extending the area being sustainably managed to improve the resilience of the natural resource base. The AgSS is also supporting selected research initiatives and some capacity building programs, as well as priority cross-cutting areas such as gender, environment, climate change and knowledge generation.

On the other hand, under the 2000 Agriculture Policy, the Bank financed smaller and multi-component agricultural investments in research and extension, crop and livestock production, rural

finance and enterprise development, small-scale infrastructure (irrigation, rural roads, etc.), natural resources (fisheries, forestry, environmental management, etc.) and capacity building. This resulted in an overstretched human and financial resource base and limited Bank ability to systematically monitor how well projects were being implemented. Furthermore, most investments were made through project financing and little use was made of emerging sector-wide approaches (SWAPs). Multinational operations were fragmented; additionality aspects were often ignored.

The AgSS is contributing to sustainable food production and food security inclusively by supporting smallholder farmers, predominantly women, for them to have better access to agricultural inputs and markets.

Under the AgSS, the Bank continues to recognize that gender inequalities in accessing productive resources, opportunities and services limit agricultural productivity and undermine sustainable and inclusive growth in the sector. The Bank has also produced its Updated Gender Plan of Action (2009-2011). In the short-term, at least 50-60 percent of all planned projects under the AgSS will have fully mainstreamed gender, where appropriate. The design of Bank projects is taking into account the gender differentiated needs of farmers and promoting equal access to improved agricultural infrastructure and markets. The Bank, partnering with others, is supporting gender studies to assist in improving policy formulation and project design. It is also strengthening its capacity for gender sensitive monitoring during project implementation.

Guided by the Bank's Medium-Term Strategy for the period, 2008-2012, the Bank has been more selective in its investments. During the period 2008-2011, some 80 percent of agricultural approvals were to finance infrastructure projects, in keeping with the Bank's Agriculture Sector Strategy (2010-2014).

The AfDB had a 2012 public sector agriculture portfolio of 96 operations, with total commitments of UA 1.68 billion (about USD 2.54 billion)²¹ and established an Agriculture Fast Track Fund in 2013 with support from USAID, SIDA and Denmark. The majority of the public sector operations (about 88) are being financed under the ADF window, with total commitments of UA 1.49 billion equivalent to USD 2.26 billion (89.2 percent of the total portfolio value). The ADB window is financing six operations with total commitments of UA 177 million or about USD 268 million (10.6 percent of the portfolio value), two operations being financed under the NTF window with total commitments of UA 2.67 million (about USD 4.0 million) and one under the FSF window (Burundi PABVARC) for UA 6.23 million (about USD 9.33 million).

The AfDB's indicative pipeline of public sector projects and programs for agriculture and agro-industry²² for the period 2010-2014, amounts to USD 5.33 billion, compared to USD 1.58 billion in AfDB agriculture sector loan and grant approvals for the period 2005-2009 and constitutes a meaningful business opportunity. Excluding multinational operations, the pipeline covers approximately 40 African countries in areas such as rural and community roads and agricultural infrastructure, including market/storage and agro-processing, agricultural water and water storage, and other infrastructure in support of livestock, fisheries and rural energy, as well as forestry, sustainable land management, and climate change mitigation and adaptation. These investments are expected to produce the following outputs:

- i) 10,000 km of rural roads built and/or rehabilitated;
- ii) 500,000 ha of land under improved water management;
- iii) 8.5 billion cubic metres of water mobilized for multiples purpose development;
- iv) 50,000 people trained in good agricultural practices;

²¹ 1UA = 1.514 USD (March 2013)

²² This excludes investment pipelines of the Bank's Private Sector (OPSM) and Transport and Information and Communications Technologies (OICT) Departments.

- v) 25 percent decrease in agricultural land and forests degraded; and
- vi) 75 percent of Bank operations climate-proofed.

Whilst it is too early to show tangible impacts of projects approved during the period 2010-mid 2012, especially given the extended periods required (average 5 years) to implement most AfDB-supported agriculture projects, the impacts of some Bank investments in Agricultural Infrastructure (Pillar I) and Natural Resource Management (Pillar II) as at mid-term implementation of the Agriculture Strategy are provided in Annex 7.

Recent AfDB Experience in Financing Agriculture Infrastructure Projects

With over 90 percent of the AfDB's current public sector agriculture investments financing the infrastructure components of agriculture projects, other investment needs of the sector for its holistic development are sometimes underfunded. Where there are opportunities, these shortfalls are being addressed through co-financing. So far, the Bank has effectively worked with IFAD to meet some of the needs in some projects for production linkage to technology sources; acquisition of inputs such as fertilizers and pesticides; extension and research linkages; and capacity building. Based on the experience derived from eight representative countries, i.e., Ethiopia, Uganda, Malawi, Tanzania, Nigeria, Egypt, Madagascar and Tunisia, the main implementation challenges and lessons learned summarized below from recent Bank financing of agriculture infrastructure operations have been identified (AfDB, 2012b).

Engineering Skill Challenge: The challenges of infrastructure focused agriculture programmes can be viewed from design and implementation perspectives. Depending on their nature, infrastructure components of agriculture projects call for engineering skills both in formulation and program supervision. While these skills are being

built at the Bank, before 2008, they were critically lacking in the agriculture department. Engineering skills are inadequate in the agriculture sector manpower of the RMCs. To fill skill gaps during program formulation, the Bank has successfully used consultants in some cases. Governments have also been able to support project formulation with national experts, including those from non-agricultural ministries. Thus, country capacity building in agriculture will need to adequately provide for agricultural engineering skills, particularly for irrigation schemes design and management, agricultural mechanization, innovations in post-harvest losses reduction, and crops processing.

Capacity of National Contractors: A major challenge to the implementation of infrastructure components of agriculture, particularly irrigation schemes, is the capacity of contractors, especially in fragile states. In some countries, contracting capacity may appear adequate nationally for non-complex civil works such as feeder roads, but with skewed distribution as some regions of countries are highly disadvantaged due to their rural extent. As a result of the rural environment of agriculture, civil works contracting is often a challenge to the implementation of infrastructure works such as irrigation schemes. The nature of agricultural contracts also accentuates the challenge of contracting. Irrigation schemes, for example, are often dispersed and in small packages that do not attract well established engineering firms for moving equipment to rural areas.

Procurement and Contract Management: The implementation of agriculture infrastructure works often suffers delays due to the time spent on procuring works contracts. To date, most agriculture projects do not provide design details such as drawings and tender documents. Thus, infrastructure design tasks, including the selection of design consulting and supervision firms were often incorporated into project implementation. As a result, agricultural infrastructure works took an average of 12 months after projects were

declared by Bank as being effective for first disbursement of project funds to commence. Efforts are being made to fast-track the procurement of the services, works and goods necessary for infrastructure implementation by incorporating the preparation of tender documents into programs formulation activities. Early training of project staff on Bank procedures is also being emphasized, including the strengthening of monitoring, financial management and accounting.

Task Managing of Agriculture Projects: This is often a challenge due to the number of procurements normally required for implementation. Thus, speedy implementation of agricultural programs will require empowering governments to use country systems for certain thresholds of procurement.

Post Construction Management of Agricultural Infrastructure: Most agricultural programs have been weak in providing sound models for the sustainable management of certain infrastructural outputs. For example, questions are often raised on how markets, agri-business centres, fish-landing sites and agro-processing centres delivered through public sector investments will be managed especially after project closure. With capital being relatively very scarce in Africa, collaborating with the private sector to support smallholder farmers has remained a challenge. Thus, post construction management of agricultural infrastructure is problematic.

Management of Micro-credits: While small-scale farmers, particularly women, rank credit and fertilizers very high in terms of their support needs for production, agricultural project designers are yet to provide successful approaches to making these inputs available without governance and sustainability issues being raised.

In spite of the above challenges, irrigation interventions particularly have helped to change the mind-set of farmers from being over-

dependent on rain-fed production to embracing an irrigation culture that offers greater opportunities for production intensification and diversification and entry into non-traditional commodity markets such as those for horticultural crops with high market values.

Salient Messages from the Mid-term Review of the AgSS

The main preliminary outcomes of the mid-term review of the AgSS conducted in 2012 are as follows:

The Bank has made substantial progress in the implementation of the Agriculture Sector Strategy. The Bank has been selective, focused and innovative with its activities in the agricultural sector, and these have also been aligned with the CAADP Pillars I and II.

The Bank made notable efforts to leverage funds from partnerships and Trust Funds to complement its traditional funding sources (ADF, ADB and NTF) in order to meet the demands of its RMCs in the agriculture sector. Of the 22 projects approved within the AgSS period to date, 18 are co-financed. The major co-financiers are IFAD, AGRA, and BADEA. Moreover, USD 187 million has been mobilized from GASFP for five countries (Niger, Liberia the Gambia, Malawi and Senegal) that have selected the Bank to be their Supervising Entity. Under the Forest Investment Programme (FIP), investment plans have been approved for Burkina Faso, the Democratic Republic of Congo and Ghana, with resources mobilized amounting to USD 158.5 million. For the Global Environment Facility (GEF) portfolio of one program and five projects, the total resource mobilized is USD 39 million.

It is too early to provide a picture of project level outputs on any of the projects approved in the first half of the Strategy period. This is due to deficiency in overall M&E to enable a succinct aggregation of achieved outputs and the short timeframe of the AgSS.

Despite its modest performance, AgSS implementation experienced several internal and external challenges.

The institutional and operational challenges include the need for i) economic sector wide studies to guide project design; ii) Project Preparation Facility (PPF) to initiate design and construction plans for significant infrastructure projects; iii) a mechanism to curb project implementation challenges; iv) post construction management of agricultural infrastructure; and v) improved procurement and contract management in the field. External challenges include: i) bureaucratic delays in RMCs that impact funds disbursement; and ii) capacity of national contractors, especially the deficiency in engineering skills for large infrastructure projects.

Issues of strategic orientation to improve OSAN's business processes:

i) Agro-industry should be suitably featured among the pillars of the AgSS; ii) enhanced departmental skills diagnostics and re-orientation to effectively deliver the AgSS and meet the demands of agro-industry, infrastructure and natural resource management; and iii) strengthen strategic thinking in OSAN in light of the Bank's focus on infrastructure, and in alignment with its Ten-Year Strategy (2013-2022); iv) proactively engage RMCs directly to influence their demand for agriculture, and engage in greater inter-departmental collaboration to effectively implement OSAN's core sector actions.

4.5 AfDB and Green Growth

The AfDB is assisting some of its RMCs transition to a green economy. This includes mainstreaming green growth into Sierra Leone's Poverty Reduction Strategy Paper, and assisting Mozambique to prepare a green economy roadmap process as the mechanism for an effective transition to a green growth economic model. The Bank is also working with the government and development partners including UNEP, ILO and WWF to jointly support Kenya in developing its green economy roadmap. The Bank has similarly assisted Cape Verde, Burundi,

Kenya and The Gambia to restore their watersheds, rehabilitate more agricultural lands, conduct reforestation programs, and to retain more water for agriculture and household use in the case of Cape Verde. In addition, the Bank plans to assist Morocco and Tunisia to promote a variety of green growth initiatives (AfDB, 2012a).

Preliminary experiences from Bank pilot activities suggest that the transition to green growth requires strong high-level commitment and political buy-in, a focus on integrated cross-sectoral work and an emphasis on a programmatic approach, rather than isolated project-based solutions. This will help to maximize the quality of the growth process. Experience demonstrates that key efforts should include improving diagnostics and technical and institutional capacities that help countries to identify development pathways for promoting green growth. In this context, opportunities exist for strengthening knowledge exchange between countries on early lessons learned and developing partnerships that enable and support coordinated action on the ground.

Based on its comparative advantage and pilot experiences, the Bank could contribute to promoting Africa's green growth agenda through both public and private sector platforms by financing green growth studies, strategies and policy development activities. In addition, the Bank could support investment projects including pilots, building capacity, and championing advocacy and public information dissemination. The green growth approach, which is a central pivot of the Bank's Ten-Year Strategy (2013-2022), is the complementary objective to the inclusive growth focus, which will define the focus of AfDB's development interventions in the next decade.

4.6 AfDB's Agriculture Support and Inclusive Growth: Some Salient Messages

In line with CAADP's goal of eliminating hunger and reducing poverty through sustainable

agriculture, the majority of the development objectives and components of the 110 public sector agriculture and rural development projects and programs approved by the AfDB during the period 2003 to 2012 were designed to assist in addressing food insecurity and lifting Africa's often marginalized rural poor out of poverty. In order to achieve these objectives, those AfDB-supported agriculture operations have been directly and/or indirectly helping to promote rural employment opportunities and other income generating activities as a means of improving the livelihoods of target populations and communities.

Over the 10-year review period, the largest proportion of the resources for operations financed was in food and cash crop production. This was followed by investments in rural infrastructure, market access and capacity building, irrigation and drainage, multi-sector (more than one sector) and environment.

Over the past five years, the AfDB has made bold efforts in increasing its financing for on- and off-farm *agriculture infrastructure* projects. Renewed support has also been provided for renewable natural resources and climate change mitigation and adaptation activities. Of particular importance is the Bank's response to the 2008 food crisis under which AfDB disbursed USD 633 million to 27 countries. The resources assisted the recipient RMCs to increase agricultural production and productivity, reduce vulnerability of the poor to high and unstable food prices, and reduce malnutrition. Moreover, the AfDB has supported drought and other resilience-based initiatives to eliminate famine, enhance income and improve livelihoods for the vulnerable groups.

Prior to 2010, the AfDB's application of a *value chain approach and use of public-private-partnerships* to support the sector had been weak. However, since 2010, OSAN has included agro-industrial development in its operational priorities and started incorporating a more market and value chain based approach in the design of

new operations. Consequently, agro-processing, post-harvest losses reduction and market development components are featuring more prominently in Bank agriculture initiatives. In addition, working with other partners, the Bank has prepared a Framework Paper for Reduction of Post-Harvest Losses.

Nevertheless, there is room for improving Bank assistance to achieve greater development impact. Moving forward will require AfDB to undertake more diagnostic sector studies which are vital in guiding and prioritizing the work of the sector.

The vast majority of investments made have been national in nature. Overall, the number of agriculture and rural development based *multinational operations* approved has generally been on the decline. This could be due to the inherent challenges in operations where the participating countries have different absorptive capacities and varying levels of preparedness to implement respective portions of the projects. It may also stem from reluctance of RMCs to utilize their ADF country allocations to finance multinational operations in agriculture. Thus, there is great need to invest in priority and country-driven multinational operations, given their significance for addressing common problems across national borders and promoting regional integration, both of which could facilitate inclusive growth.

Although the Bank has made some contributions to the sustainable management and utilization of rural forest resources, various *forestry projects* had been designed as components of other sub-sector programs such as food crops.

The Bank is building resilience into its investment programs to enhance capacity of RMCs to address the risks of *climate change*. At the policy and strategic levels, it is mainstreaming climate change policies into sector operations. The AgSS is promoting mitigation and adaptation measures, while supporting agriculture practices that i) promote climate smart agriculture, forestry and

fisheries; ii) reduce emissions through more efficient management of carbon and nitrogen flows in agricultural systems; iii) recover carbon lost by agriculture ecosystems through improved management; iv) use crops and residues from agricultural lands as a natural fertilizer and a source of fuel; and v) build climate change resilience in national agricultural programs. OSAN's Water Business Plan is also assisting to address the impacts of climate change on agriculture through adaptation, and flood and drought management.

At the project level, the AfDB has screened all its investment projects from 2007 for *climate resilience*, and is building resilience into at-risk projects and all new projects. The AfDB is financing several projects that aim at building the adaptive capacities of RMCs including the regional project on Climate Information for Africa's Development (ClimDev-Africa). AfDB is also involved in the implementation of the Climate Investment Funds (CIF) hosted by the World Bank, which are designed to extend additional grants and concessional funding to developing countries to address urgent climate change challenges by integrating climate risk and resilience into core development planning, while complementing other ongoing development activities.

The focus of most *livestock* projects has been to increase productivity by improving breeds and feeding regime rather than create an enabling environment for commercial production or modernization of the industry. The AfDB needs to move towards industry transformation from subsistence to market-oriented enterprises. This will require building infrastructure for commercialization of production systems, producer re-orientation, capacity building, entrepreneurial skills development of producers and linking production with processing, added value and markets. It will also require developing suitable policies and regulations for such change and enforcing them.

In relation to *aquaculture* development, most AfDB efforts to support government institutions (state-run hatcheries) did not achieve the expected objectives of stimulating fish farming/aquaculture development. Hence, support to private sector operators is vital and should be the centrepiece of future operations. In relation to fisheries, higher priority should be given to the sustainable management of fisheries resources and adding value to production, rather than trying to increase production, which was often the main objective of various past projects. Although some positive strides have been made to implement *gender-related policies* and strategies, mainstreaming of gender policies and procedures has not been fully applied by all sectors, including agriculture, due mainly to lack of adequate number of gender experts in sector operations departments. For example, only 31 percent of Bank-approved projects (2009-2010) were considered satisfactory in applying gender mainstreaming criteria. Moreover, monitoring, evaluation and reporting on operations to measure gender results is weakened by lack of data availability, which in turn, largely stems from the failure to allocate adequate resources for M&E activities during project design.

Based on the broad and mutually reinforcing pillars of inclusive growth outlined in Chapter one, below is a general and rapid assessment of how Bank support for agriculture and rural development over the past 10 years has responded to the tenets of inclusive growth.

j) Provide wider equitable access to basic infrastructure and basic social services (Ranking 1st)

The vast majority of the resources used to finance Bank agricultural projects in the past five years have been directed to infrastructure including roads, markets and water. The Uganda Area-Based Agriculture Modernization Program (AAMP) and the Northwest Smallholder Agricultural Development Project (NWSADP) are two Bank agriculture projects that have

demonstrated the poverty reducing potentials of investments in infrastructure on agriculture development in that country.

After completing the feeder roads rehabilitation, AAMP contributed to increasing the average number of traders by 71.7 percent and participants by 110.5 percent on an active market day, and 34.5 percent and 53.5 percent, respectively, on a non-active day. The benefits of increased business activity in rural markets were three-fold. Firstly, more business opportunities opened up for the otherwise unemployed rural poor. Secondly, with increased trading, farmers had more willing buyers for their produce than was previously possible. Thirdly, increased business activity in markets promoted revenue collection by the local governments. Furthermore, rehabilitation of roads increased peoples' access to other government services, such as schools, health centres, etc. Finally, program implementation through existing local government structures at district and sub-county levels helped to strengthen the capacity of the local governments for delivering services to the rural poor.

As a result of the NWSADP project, investments in the construction of 22 priority rural markets, the rehabilitation of 191.4 km of rural access roads, as well as production and wide dissemination of market information, smallholder farmers enjoyed improved access to markets. Buyers offered prices up to 7.5 times that of pre-project prices, and sales increased by 25 to 60 percent of pre-project levels.

ii) Improve access to business opportunities (Ranking 2nd)

Bank performance is linked to the infrastructure impact (illustrated above) of roads, markets, crop processing and storage facilities arising from Bank financing.

iii) Social protection and inclusion (Ranking 3rd)

Africa's most vulnerable and marginalized populations reside in rural areas and the Bank's agriculture sector support predominantly targets rural communities. The Ethiopia Koga Irrigation and Watershed Management Project completed in 2010 is one of the Bank's agriculture sector investments that is positively impacting food security, social protection and beneficiaries' welfare in that country. The achievements of the project include construction of a dam with a reservoir of 83.1 million cubic metres of water to irrigate 6,000 ha of cropland. The project also improved rain-fed agriculture, forestry, livestock, soil conservation, water and sanitation in a catchment area of over 22,000 ha.

iv) Create jobs, including improving skills for competitiveness and enhanced incomes (Ranking 4th)

Reasonable job creation and skills development have resulted from Bank projects, e.g., Ghana's Rural Enterprises Programme and Nigeria's Fadama project. The latter engages about 720,000 people in the six participating states. The Malawi Smallholder Out-grower Sugar Cane Production Project contributed to the development of 1,115 hectares of irrigated sugar cane that has engaged 271 out-growers and sustained large rural employment, while significantly contributing to foreign exchange earnings and import substitution. It has assisted to make sugar a number two export crop to tobacco in Malawi, replacing tea, while at the same time improving the welfare of the sugar cane out-growers and the national food security situation.

v) Cross sectoral (Ranking 5th)

Bank projects rank high in terms of addressing cross-sectoral issues. Most are basically rural development projects and often address other challenges of agricultural development – infrastructure, education, energy, and health issues such as HIV/AIDS and malaria. The recently completed Madagascar Lower Mangoky

Rice Scheme Rehabilitation Project enabled farmers to have access to credit to address the storage, processing and marketing problems they encounter in the production chains. The Tanzania District Agriculture Sector Investment Project constitutes one of the Bank's projects impacting on rural lives due to increased access to markets that it created from its improvement of feeder roads and other rural infrastructures. The project also supports farmer capacity building through participatory farmer groups' support activities; rural micro-finance and marketing activities. The demand-driven community planning and investment activities make the project flexible to address cross-sectoral issues.

vi) Improve agriculture productivity (Ranking 6th)

The Creation of Sustainable Tsetse and Trypanosomiasis Free Areas project in East and West Africa succeeded in freeing more land for agricultural production. Land which was formerly not accessible for agricultural development due to the menace of tsetse and trypanosomiasis could now be cultivated and used for animal husbandry. The Bank's ongoing strategic focus on infrastructure has also contributed significantly to improved productivity including through the provision of irrigation facilities.

However, most other Bank-financed projects have been providing modest resources for promotion of new technologies largely due to their increasing focus on infrastructure. Yet, agricultural land productivity is critical to minimizing land disputes and conflicts, particularly in a continent with a fast-growing population. It is also important for reducing natural resources degradation. To achieve this objective, more flexibility is required in project design.

vii) Wider access to productive knowledge (Ranking 7th)

Project-based studies including those from on-farm research, natural resources surveys,

irrigation feasibility and design consultancies have provided vast knowledge for agriculture production enhancement. An example is the Botswana Pandamatenga Agriculture Infrastructure Development Project where 27,600 ha of productive land were provided with drainage and farm access roads. However, there have been some limitations in terms of supporting studies to adequately guide investment priorities in the face of limited funding and competing government priorities.

viii) Green growth and environmental sustainability (Ranking 8th)

In line with its Climate Risk Management and Adaptation Strategy, the Bank's agricultural activities are integrating green growth approaches through adaptation and mitigation. This is assisting to improve the resilience of Africa's natural resource base and promoting inclusive growth. Bold efforts by the Bank since 2007 to build resilience into at-risk projects and all new projects underscores its commitment to helping to mitigate the impact of climate change on poverty reduction.

Amongst other potential gains, the recently approved Drought Resilience and Sustainable Livelihoods Multinational Project for the Horn of Africa is designed to build resilience in the face of medium- and long-term drought periods, and promote the equitable use of limited natural resources. This inclusive green project could have a deep-rooted environmental and socio-economic impact in the region.

Watershed management projects such as those successfully implemented in Cape Verde, Burundi and The Gambia constitute excellent examples of operations that combine adaptation and support to resilience to climate change, as well as to green and inclusive growth. They have proven to be relatively easier to implement as well. For instance, the Watershed Management Project (PABV) in Burundi was implemented in less than the approved project implementation

period and achieved more than some of its stated objectives.

OSAN's CIF activities are in respect of the Pilot Program for Climate Resilience (PPCR) and the FIP. A total of 3 projects valued at UA 46.48 million (USD 69.62 million) were approved by the Board by October 2013 for Burundi, DRC, and Zambia, with an additional 2 for Burkina Faso and Ghana valued at UA 24.93 million (USD 37.34 million) to be approved before end of 2013. In 2013, OSAN also mobilized USD 33 million for 6 projects from the GEF.

Apart from the activities of the Congo Basin Forest Fund (CBFF), a special fund hosted by the AfDB, which is funded by the UK and Norway, there are only a few ongoing Bank-supported environmental projects. Total AfDB financing is low and projects are also ageing.

To adequately address green growth and environmental sustainability, the AfDB should mobilize additional grant resources. Financing opportunities currently being offered from Global Initiatives on climate change and the GEF should be exploited even more to assist in financing environmental projects.

ix) Enhance regional integration, especially the integration of smaller and landlocked countries (Ranking 9th)

The AfDB has financed a number of multinational projects that have assisted in addressing common problems across national borders and, by so doing, facilitated the continental agenda on regional integration. They include the Creation of Sustainable Tsetse and Trypanosomiasis Free Areas in East and West Africa, COMESA Agricultural Marketing Promotion and Regional Integration Project, and SADC Strengthening Institutions for Risk Management of Trans-Boundary Animal Diseases Project. More support is needed such as was done in 2012 with the

approval of the CGIAR project Support to Agricultural Research for Development of Strategic Crops in Africa and the Horn of Africa Drought Resilience and Sustainable Livelihoods Project.

However, until a few years ago, most AfDB projects that were focused on regional agricultural issues have been pilot in nature. These include the New Rice for Africa (NERICA) project, Invasive Aquatic Weeds Control, Lakes Edward and Albert Fisheries and the Support to Agricultural Research of FARA. The AfDB has not performed optimally in this area. This, as noted above, is largely because RMCs are not enthusiastic to commit part of their ADF allocations to finance regional projects in the agriculture sector. The AfDB continues to promote the benefits of regional public goods, which are of an agriculture nature, such as trans-boundary diseases and phyto-sanitary issues, development of shared water/fisheries resources, etc.

Overall, the AfDB's agriculture projects are addressing the goals of eliminating hunger and reducing poverty in Africa through sustainable and inclusive agriculture development. However, agriculture investments have not made equal contributions to all the pillars of inclusive growth. The vast majority of current AfDB agriculture sector investments go towards financing infrastructure components of agriculture programs, leaving other investment needs of the sector for its holistic and balanced development often underfunded.

Therefore, in addition to focusing on infrastructure development in the sector, the AfDB should increasingly identify partners who are willing to take up and finance other activities in which the Bank may not have a comparative advantage and/or which fall outside its core strategic priorities, including agricultural extension, rural credit, input supply, etc.

4.7 AfDB's Comparative Advantage and Future Strategic Direction

The mid-term review of the AfDB's Medium-Term Strategy (2008-2012) confirmed the institution's areas of comparative strength as being infrastructure, private sector development, governance and higher education, and through the Strategy, support for regional integration, fragile states, Middle Income Countries and agriculture (AfDB, 2011e). In line with this and the Bank's continued quest to better respond to Africa's changing

environment and competing demands, the AfDB's Ten-Year Strategy (2013-2022) has the following twin objectives: i) to make growth inclusive by broadening access to economic opportunities for more people, countries and regions, while protecting the vulnerable; as well as ii) to make growth sustainable by helping the continent to transition gradually to green growth (AfDB, 2013). Agriculture and food security constitute an area of special emphasis under the Ten-Year Strategy and the development of agriculture through promoting value chains is of very high priority.

5. Proposed Strategic Framework and Key Drivers

In order to achieve inclusive growth in agriculture, there is a need to shift from the current narrow approach to a more holistic agriculture sector growth approach, with strong emphasis on promoting key components and inclusive drivers in the sector. Informed by rigorous research and analysis, as well as cumulative experiences within and beyond the Bank, this report has developed a framework (Figure 10) that guides discussions in this chapter and the rest of the report.

Inclusive growth needs to provide economic opportunities for the poor and also ensure adequate support to vulnerable communities through equitable welfare distribution. The poor are not homogeneous across African countries and even within one country and need diverse support to move up, from the extreme poor to above the poverty line. Poverty itself is multi-faceted and could entail examining income level, access issues, rights-based concepts and various assets and capital under the sustainable livelihood approach, etc. Nevertheless, the framework focuses on economic opportunities and welfare distribution in the context of inclusive growth.

To achieve pro-poor economic opportunities and equitable welfare distribution, three key components are essential, namely, i) agricultural productivity per capita and sector GDP; ii) rural employment including non-farm activities; and iii) asset and welfare distribution including land and access to natural resources, and proper risk mitigation measures against food insecurity and other adverse effects such as natural disasters.

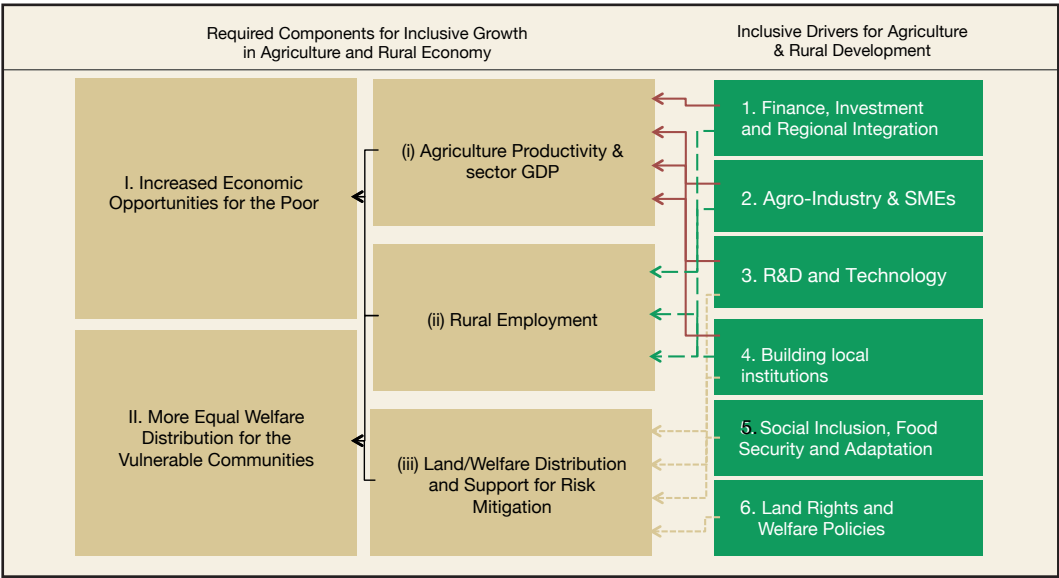
Agricultural productivity and rural employment can offer increased income to the poor and even provide food security and income diversification to vulnerable communities that experience more significant vulnerabilities in economic stagnation, political instability, and natural disasters. The agriculture sector dominates the rural economy in

Africa, and thus, agriculture productivity itself is one of the critical components for inclusive growth. However, as noted above, agricultural linkages across the entire value chain to the rural non-farm sector are vital for promoting inclusive growth (See section 2.3). Yet, there are remaining challenges, as discussed above, such as land distribution and access to natural resources, which are beyond the control of most individuals and require competent local institutions, administrative mechanisms and adequate government policies. The government can also play an invaluable role in developing and protecting public goods, as well as in redistributing tax revenues in agriculture and the rural sectors where external interventions are necessary to maintain the inclusive growth trajectory of African economies. Inclusive growth focuses on expanding the opportunities for all while targeting social protection interventions at the chronically poor. That is why the key ingredients of inclusive growth are creation of opportunities through high and sustainable growth, making opportunities equally accessible to all, and eradicating extreme poverty in the process. Thus, the need to eradicate extreme poverty necessitates an emphasis on some basic forms of social protection, or social safety nets.

The framework being proposed by this paper, therefore, has the three inclusive growth components (agriculture productivity, rural employment and welfare distribution/risk mitigation and can be considerably improved if six key inclusive drivers are sufficiently promoted: 1) Finance, Investment and Regional Integration; 2) Agro-Industry and SMEs; 3) R&D and Technology; 4) Building Institutions; 5) Social Inclusion, Food Security and Adaptation; and 6) Land Rights.

The following section describes the importance of these selected key inclusive drivers followed by recommendations pertinent to each driver or a potential intervention area for the Bank.

Figure 10: Inclusive Growth Framework and Key Drivers for Agriculture and Rural Non-Farm Sectors



Source: Authors



5.1 Financing, Investment and Regional Integration

The overall deficit of agriculture and rural development investment in Africa has been, and is likely to remain enormous; estimates range from

USD 20 to 40 billion annually. The productivity of agriculture will be significantly enhanced and rural economies will be able to offer more employment and diverse income opportunities if Africa could mobilize and invest more financial resources in agriculture and rural development (See sections

2.1 and 2.2). All potential financial sources – public, private and international aid – will need to increase significantly to close the gap. African countries should more rigorously implement CAADP and its investment plans, including the 2003 Maputo Declaration (See sections 2.1 and 3.3). To assist in increasing budget allocation to the agriculture sector, efforts should be made to bring the continent's sizable informal economy into the mainstream and to effectively tackle tax collection. By the same token, Governments should implement cost reduction measures in public budget implementation and ensure efficient resource utilization and adequate monitoring and reporting. Private investment into productive sectors including agriculture should be stimulated using relevant policies, investment incentives, effective trade regimes, secure land rights, responsive administration services and more accessible financial mechanisms and products. Various infrastructures are essential to increase productivity of agriculture, and reduce post-harvest loss and transportation costs, particularly in the case of cross-border trade, which also requires improvement of border control, process standardization, etc. (Section 3.1). Moreover, international aid should be more strategically invested to innovate and sustain agriculture and rural development and produce durable results. As indicated above, a number of investment opportunities exist (Section 3.2) and scaling up of financing for R&D is also critical to enhance agriculture productivity (Section 3.1).

5.2 Agro-Industry and Agriculture SMEs

If adequately supported and commercial viabilities are improved, agriculture and agro-industry offer significant value additions, leading to larger sector GDP, as well as a wider range of income and employment opportunities in Africa throughout their value chains. In fact, the SME share in Africa's employment is considerable, from 15 percent in Zimbabwe to 39 percent in Malawi, although the

figures include all sectors. Thus, SMEs integration in agriculture and agro-industry value chains is essential for both sector growth and employment.

Although some of the steps do not exist in extremely rural settings or are slightly different in sequences, the general overview of the agriculture value chain casts a bright light on inclusive opportunities for farmers and non-farmers in rural areas as follows: i) agriculture inputs such as fertilizer, seeds, pesticides and equipment need to be produced or procured/traded at reasonable cost to be affordable for poor farmers; ii) farmers produce various crops, vegetables, fruits, livestock, etc.; iii) transporting/trading such produce; iv) processing; v) wholesaling; vi) packaging; and vii) selling at retail stores, streets or by trucks in local communities. Given the significantly untapped agro-industry market opportunities, the future economic potentials for agriculture SMEs are enormous throughout the value chain, which will offer sector GDP growth, as well as higher income and larger employment opportunities (Annex 3). Furthermore, each step of the agriculture value chain can be improved to reduce cost or increase output values, and as a result, participants in the step can enjoy greater benefits. For example, cost-efficient inputs such as fertilizers and equipment could significantly reduce cost for farmers and support their commercial viabilities and electricity. Similarly, transportation costs could reduce processing and distribution costs, which will benefit agriculture SMEs and traders. Agriculture could be more inclusive if adequate support and entrepreneurial training are provided to small farmers and micro enterprises so that they can be more integrated throughout the value chains.

However, value distribution within a value chain can vary depending on market structure, contract and negotiating power of market players. This requires careful analysis of each sub-sector's value distribution²³.

²³ For example, Uganda's floriculture value chain consists of 40 percent value benefited by producers and 40 percent by exporters and the remainder by wholesalers and distributors. ("Building Competitiveness in Africa's Agriculture – A Guide to Value Chain Concept and Applications." World Bank, 2009b).

Agro-industry development does not necessarily rely on a few large corporations. In fact, many perennial crops such as rubber, fruits and vegetables may perform better under intensive production with a significant level of manual input, although scale efficiencies may apply in packing and transport, which can be aggregated irrespective of production size. Moreover, small farms may be more efficient than larger ones because of the favourable incentive structure in self-employed farming and the significant transaction and monitoring costs associated with hired labour (de Janvry et al, 2001). In addition, smallholders can organize themselves into groups and jointly store, grade and market their produce to gain access to large buyers (Cotula et al, 2009, Toulmin and Guèye, 2003) in response to the preferred approach of these buyers (Vorley, 2001).

FAO's research has documented a wide variety of business models involving diverse combinations of small to large-scale players²⁴. False dichotomies between small and large-scale entities should, therefore, be avoided. Instead, the focus should be on how to build the inclusive linkage between small farmers and commercially-viable large scale farmers so that both can benefit from each other

and smallholder farmers can be in the main stream of the agriculture and economic development trajectory. It is argued that introducing commercial agriculture on a competitive basis, with commercial agriculture competing in factor markets against smallholders, while cooperating with them in output markets could be favourable for African agriculture growth (Collier and Dercon, 2009). Moreover, vertical integration of smallholder producers with processors and marketers is claimed as being a promising avenue of growth through the diversification of smallholders into production of commercial quality products into single-commodity sub-sectors such as aquaculture, export-quality green vegetables, sugarcane, cotton, cocoa, coffee, tea, dairy and cut flowers (Delgado, 1999). Therefore, commercializing Africa's smallholder agriculture and helping farmers to evolve into sustainable economic units could be a robust pathway towards bolstering more inclusive growth and realizing sustained poverty reduction.

Promoting agro-industry and agriculture SMEs including small farmers in Africa, therefore, requires systematic and well-integrated interventions to strengthen technical, financial and business management skills and capacities



²⁴ Small farms are generally family-run, may be subsistence-based or market-oriented, using few or many external inputs, working manually or with machinery, and tend to be more labour-intensive. Large farms are generally market-oriented, may be family-run like small farms or corporate entities, and use few if any or many labourers. They may also rely on specialized management firms to run the agricultural business. Both small and large farms may be resource poor or rich, use largely manual methods or machinery, and use land extensively or intensively. Given the great variation in farm types, the relative merits of small versus large farms can only be relevant within specific social, economic and biophysical environments.

of rural populations and their institutions in order to ensure that rural labour, especially the small farmers and the poor can tap into the increasing economic opportunities throughout the value chain. To accelerate poverty reduction in Africa's rural economies, agricultural investments should be accompanied by financial literacy and business management capacity development, in addition to the regular agricultural technical assistance, infrastructure development and capacity development of government ministries. Studies conducted by various international organizations suggest that holistic rural development would be more effective for employment creation in rural economies and poverty reduction, which may require interventions beyond the boundary of the agriculture sector (See section 2.3).

5.3 Agriculture, R&D and Pro-Poor Technology

The agriculture sector requires adaptable and better technologies for overall agriculture productivity improvements, especially those tailored to the needs and environments of small-scale farmers in order to ensure that agriculture development is more inclusive. Africa has an advantage in leveraging existing technologies and previous experiences of other regions or some agriculture-advanced countries on the continent to achieve required innovations in a shorter period

as compared to other continents (Juma, 2011). Some aspects that may be considered include effective green agriculture techniques such as more environmentally friendly and ecologically responsible practices tailored to Africa's agro-climate conditions, which can help protect the environment and sustain its natural resources such as use of biomass, natural compost, and other locally-available natural resources to enrich soils and increase yields in Africa. Considering the future climate change scenario of the African continent, drought tolerance, as well as water-efficient crop varieties and technologies will be fundamental requirements for developing and sustaining Africa's agriculture. Since development of such varieties and technologies takes time, investment in R&D should be accelerated (See Section 3.1). As IFPRI postulated, the lack of capable technical human resources constrains agriculture R&D in Africa and coordination among various research institutions across countries and regions are essential (Beintema and Stads, 2011). On the positive side however, there are significant successes with returns to science and technology in agriculture on the African continent (Annex 6). The crafting of a Science Agenda for Agriculture in Africa (FARA 2013) in an inclusive process is bound to raise the state of preparedness of African agricultural leaders to invest more and to collaborate and share more across nations and regions in addressing common productivity challenges.



5.4 Building Institutions of Poor Farmers and Rural Communities for Linking with Markets²⁵

Considering the geographical spread of farmers and the prevalent limited operational capacities of some African governments, farmers' capacities need to be supported to sustain their agricultural activities. Subsistence farmers may not be able to take risk and invest in even the first step to utilise new crop varieties and apply improved cultivation methodologies. Farmer support organizations are, therefore, fundamental in acquiring, applying and continuously disseminating knowledge and skills to farmers. These institutions can provide economies of scale in procuring agricultural inputs, providing storage and transport, and negotiating the price of farm products²⁶. Local communities can also improve their negotiation position with private agribusinesses through these farmers and community organizations and cooperatives (Vermeulen et al, 2008).

Therefore, building and developing local institutions of the rural poor and farmers is central for inclusive growth because these institutions enable producers to negotiate better prices, and access quality inputs and finance in order to increase their productivity and expand livelihood opportunities in both the agricultural and rural non-farm sectors. The aggregated sales transaction of agricultural and non-agricultural products will reduce logistics and administration costs, thereby increasing net profits for agents in the rural economy.

Depending on the local context, various institutions can be promoted – village/district development committees, farmers associations, rural traders associations, thrift/credit groups, women's self-help groups, etc. These institutions will help to

mitigate risks, while supporting members and promoting best practices within rural communities. Building institutions or strengthening capacities of existing institutions requires participatory and process-oriented approaches, and thus, needs careful monitoring, and time. In the long-term, well-functioning institutions will ensure self-reliance, and cost effectiveness and could justify the initial investment and long period of institutional and capacity development.

Over the last two decades, partnerships among public, private and civil society entities have been increasing, but are far lower than expected due largely to policy and institutional constraints. This weak link has been inimical to advancing inclusive growth expected from the sector. The most effective roles for government and the private sector are not well understood. The private sector has been slow to fill the gaps left behind when public sector support was withdrawn from direct production and marketing largely in the 1980s. For the private sector to meaningfully contribute to inclusive growth, policy should be steered towards innovative institutional arrangements, including fostering appropriate partnerships among public, private and civil society organizations.

The 2010 International Institute for Environment and Development (IIED)/FAO study reviewed many diverse business models that can be used to structure agricultural investments in poor countries in a way that smallholders and local communities maintain shares of the value and retain their land rights. Some of the models involve collaboration in agricultural production between agribusiness and smallholders like in the case of contract farming, while others mainly share value through the distribution of rewards, as in the case of leases and management contracts. The most popular model is contract farming. Once these institutions are built

²⁵ This report limits the scope of the discussion to focus on most relevant institutions for agriculture and agro-industry, as well as rural development, whereas the paper also discusses government and research institutions in other sections.

²⁶ For example, in India, NABARD, a quasi-governmental development bank, has focused on forming and supporting farmers' clubs (FCs) of 25-50 members per village through the distribution of financial services (savings and credit) and the transfer of agricultural skills. Currently with 88,000 groups, NABARD's FCs now serve around 3.3 million farmers. In Nigeria, the Nucleus Estate Initiative, a private sector led strategy of weaving small farmers around big industrial firms/farmers, helps to provide a market for their produce at agreed market prices and enhance their access to input, technology and market, as well as other monetized and non-monetized incentives.

and become fully functional, governments can also provide more flexible support that these institutions can choose from, given their priorities and the needs of their member farmers (Byerlee et al, 2005 and IFAD, 2011). Refer to Annex 5 for a schematic on the ingredients of inclusive PPP business models.

5.5 Social Inclusion, Food Security and Adaptation

Heterogeneity and diversity of Africa's ethnicities and social structures are advantageous for the continent. However, in some cases, they impose challenges in the context of land and welfare distributions as some political or social leaders favour some individuals or their communities with the same origins or interests. Apart from misappropriation and corruption issues, poverty reduction thus has been closely associated with social exclusion, as well as unequal welfare distribution (Tilly, 2007). Ensuring social inclusion is, therefore, indispensable for inclusive growth to provide equal access to opportunities and welfare distribution in the context of various agriculture and welfare schemes, especially these provided by governments. The distribution involves multiple layers of decision-makers from central to state, district and village level. Social inclusion needs to be strengthened throughout these layers of public administration so that the intended benefits reach targeted farmers and rural populations.

Additionally, more tailored interventions are required for each category of farmers and rural populations. Therefore, well-designed projects reflecting local needs and diversity of farmers are essential for poverty reduction projects (World Bank, 2000). In fact, OECD identifies the following five different "rural worlds": i) commercial producers, globally competitive with large-scale agriculture operations; ii) agricultural households that produce for the market but also to meet subsistence needs; iii) subsistence producers with small landholdings; iv) agricultural labourers, mainly dependent on casual, unskilled labour; and

v) those unable to engage in regular productive activity (very elderly, sick, disabled and the very young), all of whom rely on informal transfers of food, shelter and clothing. It includes households that are chronically poor with few assets and have little or no labour because adults are elderly, disabled, or chronically sick (OECD, 2006). Thus, inclusive agriculture and rural development interventions require careful analysis of each targeted segment of the population and need to be implemented with close monitoring to ensure efficient and equal distribution of the benefits to various types of farmers and rural households.

Gender equality is another fundamental element of inclusive growth in agriculture and the attainment of the MDGs, especially because women constitute the majority of farmers or producers in Africa. In the agriculture sector, gender inequalities in access to and control over land, property and resources persistently undermine sustainable and inclusive development of the sector. FAO estimates that if women had the same access to productive resources as men, they could increase yields on their farms by 20 to 30 percent. For example in Burkina Faso, women's productivity of sorghum was 40 percent less than it could be due to lower use of productive inputs (FAO, 2011). Thus, addressing gender issues is vital for advancing equity in the distribution of resources, and promoting food security and household welfare (World Bank, FAO and IFAD, 2009). Women and men must have equal access to productive assets, land, credit, fertilizers, technologies, and knowledge generation and transfer.

Given the current and projected effects of climate change on agriculture, the increasing volatility of commodity prices, as well as the implications of these for the poverty and hunger related MDGs, food security is gaining global and regional prominence. In many African countries, food distribution programs or food subsidy schemes are common instruments to provide safety nets for the poor. FAO estimates that 240 million people, about 30 percent of the world's

undernourished population, live in Sub-Saharan Africa²⁷, a region which also accounts for the highest proportion of undernourished in the world. Painfully, agriculture in Africa has not been able to contribute to food security as effectively as in Asia, for example (OECD, 2005). In fact, since 1990, food availability has fallen 3 percent per capita in Africa, whereas it has increased by 30 percent in Asia. Considering the severe conditions of Africa's poor and the increasing vulnerability of the continent's climate, a reliable and unfailing food security mechanism should be developed and implemented to mitigate future risks.

As discussed in Section 3.1, various climate-induced vulnerabilities have emerged as critical issues with widespread implications for Africa's future agriculture, particularly for the rural poor and subsistence farmers. However, clear and effective actions need to be taken in this area to protect food security, improve resilience, and secure Africa's agriculture in both the short- and long-term through adequate adaptation measures. Given the rapidly changing conditions and increasing volatility of climate, as well as commodity prices, adequate risk management including preparedness, diversification, climate-resilient crop varieties, technologies and government policies will be critical particularly in providing crisis prevention and safety net mechanisms for subsistence farmers and poor populations who may be unable to cope with the effects of sudden price increases and/or various adverse consequences of climate change.

5.6 Land Rights and Land Administration Systems

The issue of farmers' access to land, especially as it relates to land rights and land administration has been attracting attention particularly in the context of biofuel production and land grabbing by large global corporates. Fertile land is one of the most crucial inputs for productive agriculture

in Africa and one of the most influential factors to determine welfare distribution and poverty reduction in rural areas (Moyo, 2004). Diversity and complexity of land rights, registration and administration are all well-known apart from political and ethnic conflicts, which further worsen land management on the continent (ECA, 2004). Hence, the issue needs to be addressed given its importance and potential impact, in order to ensure future inclusive agriculture and economic growth in African countries. Considering the complexity of the issues, a thorough analysis and fact-based policy formation will be required along with international, regional and national dialogues among various stakeholders, while emphasizing land rights for the vulnerable and marginalized communities in African countries.

Literature confirms that countries that neglected equitable distribution of land failed to achieve inclusive growth. Secure land rights are a pre-requisite for farmers' investment and constitute an incentive for them to engage in sustainable natural resource management (IFAD 2005). It is worth noting that asset inequality rather than income inequality may matter for growth outcomes. Deininger and Squire (1998) used land distribution as a proxy for asset inequality and showed that high asset inequality has a significant negative effect on growth. Controlling for initial asset inequality, Birdsall and Londono (1997) showed that income inequality does not seem to play a role in expanding growth outcomes (World Bank, 2009a). These case studies confirm the importance of secure and equitable assets distribution in promoting inclusive growth. In agriculture, land is the most immediate asset for most of the poor, and secure property rights and efficient land administration systems are critical for inclusive growth (Byerlee et al, 2005) and the relatively egalitarian land distribution was one of major factors that enabled the rapid poverty reduction and agriculture productivity growth in East Asia's green revolution.

27 FAO (2010), The state of food insecurity in the world. Addressing food insecurity in protracted crises. Food and agriculture organization of the United Nations. Rome.

6. Recommendations on The Way Forward

Many African governments are implementing market-oriented policies and investing more in agriculture. Moreover, the region is strengthening its institutions and moving towards greater regional integration. In Sub-Saharan Africa, good progress is being made in improving the business environment. Africa has also developed the CAADP and is being used as the continental platform for supporting agriculture. Agriculture in Africa is beginning to grow faster in line with economic growth patterns. Africa's youthful and urbanising populations are predominant in driving the demand-pull in food markets, creating positive supply responses by farmers, rural producers, and entrepreneurs. Africa's donors are providing more foreign direct investment in agriculture convinced that promoting the sector is an effective means of fighting poverty; southern countries such as China and Brazil are increasing their investments in the sector. In addition, investment in the sector by the domestic and the international private sector is rising. These developments are causing remarkable changes in agribusiness in Africa.

This report has brought to light significant broad findings and recommendations that could serve as a strong foundation to steer the work of the Bank and other stakeholders in the fight against poverty and promoting inclusive growth in Africa over the next decade.

6.1 Recommendations

In light of the experiences of AfDB and other stakeholders in supporting Africa's agriculture, the following recommendations organized in line with the framework proposed in chapter five are made for consideration by governments, development partners and other stakeholders to assist in the process of achieving more inclusive agriculture growth.

6.1.1 Financing, Investment and Regional Integration

6.1.1.1 Promote Investment in Agriculture and Support the Investment Climate: Given the large financing gap in the agriculture sector in Africa, governments and DFIs should increase their investments in the sector. Priority should be on 'catalytic finance' where public sector investment stimulates more private sector investments into agriculture and rural areas. The Bank will also build on successes and lessons from managing RMCs' GAFSP investments and how these have improved implementation of CAADP NAIPs, as well as improve the investment climate for private sector. Given the central role of the private sector in Africa's long-term growth and development, donors and DFIs should also assist Governments to continuously improve the investment climate and reduce the cost of doing business for a wide spectrum of agriculture and agro-industry players in the value chain. A concerted effort is required from commercial and rural banks to develop innovative products for use in financing agricultural value chains. Issues of capitalization and capacity building of rural banks should be addressed to facilitate this process.

6.1.1.2 Infrastructure and Regional Integration: Substantial support for infrastructure development and regional trade and integration efforts will remain vital into the long term. The emphasis should be provision of integrated regional and continental infrastructure networks and services. Adequate, well-functioning and cost-effective infrastructure is particularly essential for agriculture, due to its positive impacts on the costs of delivering agricultural inputs and accessing produce markets. A priority is rural infrastructure that grows the 'invisible middle' of rural-urban intermediaries/traders who are now driving the food markets, as well as input supply. Massive improvements in priority infrastructure will assist Africa to become more competitive, realize more of its production potential, and eradicate

extreme poverty. Support for the provision of regional public goods is required to assure an enabling environment for regional integration.

6.1.1.3 Promote the Rural Non-Farm Sector:

Undertake comprehensive studies to better understand the economic importance and value addition of the rural non-farm sector and how to ensure that agriculture better exploits the benefits of the rural non-farm sector, particularly creating rural employment. Such studies need to provide a better understanding of the structural transformation occurring in especially the decentralized rural towns where non-farm employment is growing fastest. An improvement in access to affordable finance, electricity and other infrastructure by rural entrepreneurs and SMEs is crucial and calls for urgent financing needs to promote the rural non-farm sector in Africa, especially as an avenue for raising farm productivity, amongst other benefits.

6.1.1.4 Support Integration of Commercial Agriculture with Regional/International Markets:

Promote agricultural trade among African countries by reducing transport costs, developing regional infrastructure and improving soft components of cross-border operations and relevant policies. Special assistance needs to be provided particularly to landlocked countries.

6.1.2. Agro-Industry and SMEs

6.1.2.1 Agricultural Value Chains: Promote high-value addition throughout the agricultural value chains in Africa targeting national, regional and international markets for agriculture, livestock, horticulture and various processed products by engaging diverse private industries, sharing risks, improving market price information and predictability and promoting business resilience to external shocks. Raising the productivity and increasing the efficiency of agricultural value chains are also central to the success of Africa's rural economies and the more inclusive growth of

rural populations. Adequate training and capacity development should be provided to farmers and their groups to improve their skills and knowledge. Certain interventions may be required to ensure fair deals between farmers and industry for sustainability of production and industry survival. Medium-term financing of SMEs should be addressed through joint-venture capital initiatives.

6.1.3. R&D and Technologies

6.1.3.1 Develop Diverse African Technologies:

There is a large deficit of diverse and adoptable technologies and knowledge on food and cash crops, animal and dairy production, horticulture and aquaculture, guided by Africa's agro-ecological diversity. More varied methodologies and technologies to increase agricultural productivity should be developed with a strong emphasis on innovative and participatory approaches combining local and traditional knowledge and new research results. Some emerging countries' innovations and well-tested research results can be used based on the adequate selection of such technologies and their careful application in specified local contexts. Nevertheless, adequate risk management and related support should be provided, especially for smallholder farmers who have extremely limited risk appetites in spite of the potential gains. Technology dissemination efforts should be intensified, taking advantage of existing ICT products for documenting and sharing lessons/experiences from farm households.

6.1.3.2 Promote Low-Cost Technologies for Small Farmers:

Smallholders are central to Africa's agriculture both in absolute numbers, their efficiency and potential for achieving higher productivity and longer ecological sustainability. The traditional R&D including high-yield crop varieties tend to require high-cost inputs to implement, which excludes many small farmers in Africa. Affordable and simple technologies should be the centre of R&D, especially to render

agriculture more inclusive in future. Research strategies and policies need to be guided properly and researchers and extension workers must be trained to develop such technologies and implement relevant technologies and methodologies. The concept of rural innovation should be explored further, taking advantage of farmers' knowledge and experiences in technology generation and dissemination. In line with the Science Agenda for Agriculture in Africa, opportunities exist for RMCs and/or RECs to invest in technology platforms that specialize in dissemination and access to proven technologies for specific farming systems and agricultural output and input markets.

6.1.4. Building Institutions

6.1.4.1 Support Institutional Development in Rural Africa: This may require hands-on support in the formation or capacity development of groups or local institutions for rural populations including the poor and disadvantaged. Farmer-based organizations (FBOs) and community-level associations would serve as good entry points. However, once established and adequately functional, these institutions can be scaled up to district and national levels, further contributing to the achievement of various positive impacts on agricultural production, rural employment, as well as land/welfare distribution to accelerate inclusive growth and inclusive agriculture (See Section 5.4). These institutions can gain efficiency and increase influence in the political sphere, which will, in turn, assist to improve protection of members' entitlements, properties and access to various public goods and services. During the scaling-up, they may need to further develop management capacities and obtain additional budgets where government and donors can play important roles. Supportive government policies and using these capacitated institutions as communication and distribution channels of government welfare schemes will also help vitalize these institutions and increase

incentives for members to contribute in various forms, which will accelerate growth and improve the long-term sustainability of these institutions.

6.1.4.2 Assist Smallholder Farmers' Associations and Cooperatives: Consistently supporting small farmer's institutions will boost agricultural productivity and facilitate their transformation into emerging commercial farmers. These small farmers and their institutions require intensive and continuous technical and management assistance to facilitate their transition into becoming commercial farmers and being economically and financially more sustainable. A priority is commodity associations and cooperatives that are directly engaged in business and/or form the interface for structured inclusive agribusiness deals and/or joint ventures.

6.1.5. Social Inclusion, Food Security and Adaptation

6.1.5.1 Promote Pro-poor Policies: It is essential to support social protection and food security interventions by targeting the most vulnerable groups. However, costs and benefits of targeting and various types of government interventions need to be carefully analyzed to determine effective options in a country's context. No one-size-fits-all approach should be used, as each country has different social structures, food insecurity, national priorities and fiscal capacities to achieve them.

6.1.5.2 Streamline Women Empowerment in Agriculture Development: Women dominate Africa's smallholder agriculture sector, and therefore, adequate awareness generation and women empowerment is needed in various forms – policy dialogue, legal reforms, public campaigns, project development and civil society (e.g. rights-based organizations) involvement and support for women groups and organizations.

6.1.5.3 Promote Climate Resilient African Agriculture:

Address the diverse impacts of climate change on Africa's agriculture, including through effective climate adaptation and mitigation based on multi-level stakeholder coordination and communication, providing credible and timely alert systems, weather information, increasing R&D, developing and deploying innovations for mitigating climate related-risks with private sector participation, and scaling up technology and knowledge dissemination, as well as utilization on the ground. Adequate research into and promotion of drought and flood tolerant crops, more efficient water management, and climate-resilient technologies is required on a large scale for the continent.

6.1.6. Land Rights

6.1.6.1 Promote More Equitable Land Access and Rights:

This will require that land registration, legal recognition of customary rights and administration issues are addressed through governments' development strategies, comprehensive people-driven land policies and reforms which confer full political, social, economic and environmental benefits to the majority of African farmers including women. Support for fair and transparent governance mechanisms and adequate administrative capacities are inevitable. Priority will be given to RMCs who are strengthening land rights of citizens in line with the AU framework guidelines to land policy.

6.1.6.2 Ensure Mutual Benefits From Large-scale Land Acquisitions:

It is essential to establish legal and institutional mechanisms that carefully and independently analyze costs and benefits of proposed land acquisition and negotiate appropriate terms and conditions including renewal of leasing arrangements to secure adequate benefits in the long-term, particularly for local farmers and at the national level. Governments should establish monitoring and dispute

mechanisms in order to protect sustainability of their lands and rights against non-compliance with agreed terms and conditions. In spite of potential benefits through FDI in land such as capital, technology and infrastructure development, non-transparent large-scale foreign land acquisitions can threaten national security if these acquisitions cause land expropriation from smallholder farmers, pastoralists, indigenous communities and other vulnerable groups. Inappropriate land acquisitions could contribute to food insecurity and increase poverty and inequality. A study on the lessons with inclusive agricultural FDI investments will provide evidence needed in ex-ante project preparation and due diligence.

6.2 Implications for the Bank

Going forward, it is apparent from the discussions and findings of this report that the AfDB's development priorities and policy dialogue with its RMCs need to be consistently anchored on an inclusive growth trajectory. More importantly, the Bank's agriculture sector operations must be well grounded on inclusive mechanisms. Achieving these laudable goals with the Bank's strong commitment to Africa's inclusive growth entails, first of all, enhancing agricultural investments, especially in RMCs with relatively good agricultural potential potentials, but lower productivity and higher food insecurities. These criteria should be reflected in the Bank's investment allocation to sufficiently address the inclusive growth challenges of RMCs. In addition, to maximize equal benefits across populations, these investments need to consider various inclusive drivers in the sector as discussed in detail earlier.

Sector and Regional Departments of the AfDB in collaboration with ORQR and FTRY should collectively enhance their preparedness to implement the pertinent recommendations of this report. Establishing joint technical working groups at both inter-departmental and intra-departmental levels to develop detailed action plans for implementing each of the recommendations may

be an effective way of doing this. Furthermore, the working groups should i) make proposals for the design and development of financial instruments to stimulate agriculture investments; ii) identify policy advisory areas that will accelerate required RMCs' transformation in especially land distribution and institutional development; iii) analyze and disseminate Africa's and other continents' experiences based on tailored situation analysis of RMCs to draw lessons from experiences of other countries; and iv) develop a guideline and tools that project task managers can use in identifying, designing, implementing inclusive agricultural projects and closely monitoring project development outcomes. Below are selected suggestions for consideration in elaborating the detailed action plans.

6.2.1 Projects' Readiness for Implementation-at-entry and Implementation Performance:

- Undertake joint, selective, systematic and superior country analytical work and diagnostic sector studies to inform preparation of high quality and collaborative Poverty Reduction Strategy Papers, Country Strategy Papers, and flagship projects and programs. Also better mainstream private sector development matters in AfDB Country Strategy Papers.
- In line with the AfDB's agenda for promoting project quality-at-entry, conduct more robust results monitoring, measurement and reporting upstream and downstream of the project cycle, including better mainstreaming poverty, gender and environmental dimensions in projects and Country Strategy Papers.
- Explore and encourage the use of advance procurement action for applicable projects to the extent that Bank policies permit. Facilitate the preparation, review and approval for tender initiation of all bidding documents for major procurements, as well as terms of reference for procurement of goods, works and services in the first

year of project implementation, where feasible. In this way, the business of the project for the remainder of its life will focus on contract management, monitoring, evaluation and reporting.

- Improve the quality of field supervision including by ensuring that AfDB Regional Fiduciary Coordinators (procurement, disbursement and financial management experts) working with field office Procurement and Disbursement Officers play a more prominent role in delivering advance and continuous training and retraining of project staff on AfDB operational policies and procedures, as well as ensure closer follow up on the implementation of recommendations of project audit reports.
- Prepare timely, participatory and high quality Project Completion and Project Performance Evaluation Reports and apply their outcomes in the design and implementation of new investment operations.

6.2.2 Financing, Investment and Regional Integration:

- In order to assist to bridge the considerable financing gap on the continent and ensure AfDB's continuous and visible contribution towards Africa's agriculture development, using both ADF and ADB funds, increase Bank Group agriculture investment to a minimum of UA 400 million (USD 616 million²⁸) per year during the 10-year implementation period of the Bank's new Ten-Year Strategy (2013 – 2022) compared to the average annual loan and grant approval of UA 185.01 million (USD 284.91 million²⁹) over the four-year period 2009-2012.
- Continue supporting infrastructure and regional integration to help reduce transportation costs, create a larger, more connected continental market, and increase financing of regional trade activities.

²⁸ 1 UA = 1.54 USD (February 2013)

²⁹ This value includes both public and private windows of the African Development Bank Group.

6.2.3 R&D and Technologies:

- Continue scaling-up support for the New Rice for Africa (NERICA) and extend Bank involvement in other high-yield and climate resilient crop varieties and low-cost technologies, while ensuring access and affordability for poor farmers.
- Invest in and support R&D, adequate use of biotechnology, post-harvest improvements and adequate extension support.

6.2.4. Building Institutions:

- Mainstream capacity development of farmers' institutions in the Bank's operations and ensure closer collaboration with local institutions, while continuously engaging with governments to guarantee supportive policy environments and support implementation of relevant CAADP's Pillars in RMCs.
- Promote women's empowerment to maximize their economic and social potential and benefits.

6.2.5. Agro-Industry and SMEs:

- identify and design value-chain-based projects in selected crops, livestock, dairy and fishery, as well as horticulture and floriculture where significant economic values can be added and large numbers of jobs can be generated.
- Increase linkages with the private sector, as well as regional and international markets by promoting Public-Private Partnerships in agricultural projects (Annex 4).
- Conduct comprehensive studies on non-farm sector issues to address more holistic rural development and job creation, since the non-farm sector such as trade and retail business in rural areas, have clear value-chain linkages, yet are challenged by inadequate financing, limited infrastructure, weak skills, etc.

6.2.6. Social Inclusion, Food Security and Adaptation:

- Facilitate and promote development dialogue with diverse stakeholders (public, private, civil society) at national, sub-national and local levels for a more balanced priority setting in national development strategies and inclusive agriculture and rural development.
- Implement a multi-pronged strategy encompassing i) prevention (e.g. drought-resistant crops, irrigation); ii) risk mitigation (e.g. encourage saving at household and group/institutional levels and promote crop and livestock insurance products); iii) and coping (e.g., smart transfers and safety nets). These areas all require Bank support and mainstreaming into Bank operations. Given the significance of climate change and environmental sustainability, the Bank should mobilize additional funds and step up support programs for RMCs' sustainable management of natural resources (forests, fisheries, biodiversity, water and soils) and climate change adaptation.

6.2.7. Land Rights:

- Address issues and concerns of land ownership, access, administration and land acquisition across RMCs, while involving local farmers, civil society, private companies, government officials, and legislative bodies and their members.
- Promote fair and equitable land management, while incorporating land rights issues in both agriculture and non-agriculture projects (e.g. through OSGE initiatives) and policy dialogue in various economic and political fora.
- Promote the implementation by RMCs of the AU Framework and Guidelines on land policy, as well as the Voluntary Guidelines of Responsible Agricultural Investments.

6.2.8. Green Growth:

- Finance studies to examine the comparative advantages of African countries adopting green growth development strategies, as well as the short-term costs and long-term benefits of pursuing such strategies.
- Foster country ownership of green growth planning and implementation at the highest levels in the public and private sectors, civil society, as well as on the political front.
- Sensitize the public at large on the opportunities and challenges of green growth through the media and public debates.
- Finance green growth pilot projects and utilize lessons and knowledge generated to inform the design and implementation of future investment projects.
- Assist in building the regulatory and public service provision capacity of African countries in support of green growth.

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Annex 1: Contributions of Agriculture to Growth in Africa, 1965 – 2011

	1965-70	1971-80	1981-90	1991-2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
GDP	196.51	290.41	401.58	508.70	610.34	639.82	672.68	710.59	750.98	795.85	844.29	887.84	911.12	955.51	966.57
Agriculture	37.08	46.75	59.23	76.95	87.12	92.70	100.47	106.43	111.86	115.92	122.45	128.20	132.47	138.73	153.55
Industry	69.82	98.89	138.95	166.87	224.12	221.06	232.14	250.41	277.94	312.13	339.07	354.34	379.66	368.73	364.01
Services	78.49	116.84	177.00	223.43	288.32	306.79	307.41	330.14	347.70	354.23	364.73	387.10	376.84	420.42	438.73
Other	11.12	27.93	26.40	41.45	10.78	19.27	32.65	23.61	13.48	13.57	18.04	20.20	22.14	27.63	10.28
Agriculture	18.87	16.10	14.75	15.13	14.27	14.49	14.94	14.98	14.89	14.57	14.50	14.21	14.54	14.52	15.89
Industry	35.53	34.05	34.60	32.80	36.72	34.55	34.51	35.24	37.01	39.22	40.16	39.91	41.67	38.59	37.66
Services	39.94	40.23	44.08	43.92	47.24	47.95	45.70	46.46	46.30	44.51	43.20	43.60	41.36	44.00	45.39
Other	5.66	9.62	6.57	8.15	1.77	3.01	4.85	3.32	1.80	1.70	2.14	2.28	2.43	2.89	1.06
GDP	5.05	4.46	2.65	2.65	4.35	5.69	5.21	6.10	5.85	6.17	6.47	5.54	3.05	4.97	3.45
Agriculture	2.23	2.92	2.56	2.63	1.31	6.40	8.38	5.93	5.10	3.63	5.63	3.07	4.97	4.72	10.68
Industry	6.46	3.98	2.41	2.46	11.19	-1.36	5.01	5.68	10.99	12.30	8.63	4.50	7.15	-2.88	-1.28
Services	3.45	5.44	3.27	2.85	9.43	6.41	0.20	5.04	5.32	1.88	2.96	6.13	-2.65	11.57	4.35
Other	16.94	6.14	1.11	2.74	-71.24	78.77	69.47	26.15	-42.91	0.65	32.97	11.96	9.61	24.77	-62.78
Agriculture	0.42	0.47	0.38	0.40	0.19	0.93	1.25	0.89	0.76	0.53	0.82	0.44	0.72	0.69	1.70
Industry	2.29	1.36	0.83	0.81	4.11	-0.47	1.73	2.00	4.07	4.83	3.47	1.80	2.98	-1.11	-0.48
Services	1.38	2.19	1.44	1.25	4.46	3.07	0.09	2.34	2.46	0.84	1.28	2.67	-1.10	5.09	1.98
Other	0.96	0.59	0.07	0.22	-1.26	2.37	3.37	0.87	-0.77	0.01	0.70	0.27	0.23	0.72	-0.67

Sources: AfDB Statistics Department and World Bank

Annex 2: Benefits of an Inclusive Agribusiness Strategy to Companies and Farmers

Value Chain	Inclusive Business Strategy	Company Can Gain	Farmer Can Gain
Production	<ul style="list-style-type: none"> Facilitate access to seeds, input supplies and other production needs and extension services Provide support services to smallholders such as formalization, access to information and financing Provide advanced written commitments to purchase crops Use company leverage to bring in other service providers 	<ul style="list-style-type: none"> Working at the production level helps guarantee the volume and quality of produce available to the buyer, increasing the potential for higher profit margins and reducing risk Working directly with smallholders allows the purchasing company to exert a degree of control over production. Produce is more likely to match the specifications of the company allowing them to deliver a higher quality product that meets the market demands 	<ul style="list-style-type: none"> Access to inputs is essential for increasing yield Access to support services improves the long term competitiveness of the smallholder Meeting quality specifications opens up new markets for higher margin produce Purchase agreements improve resource planning and may enable farmer to access credit Improved opportunities for value addition activities
Trading	<ul style="list-style-type: none"> Make the purchasing system transparent and clear Ensure premium prices for premium produce Improve trading services & infrastructure: fair scales, transport, finance and information Formalize the trading system 	<ul style="list-style-type: none"> Building trust and transparency will reduce side selling and develop supplier loyalty More efficient trading lowers transaction costs and reduces wastage Improved flow of services helps deliver better quality produce 	<ul style="list-style-type: none"> A formal trading system gives equity to producer-trader relationships, improving producer bargaining power and helping to ensure fair prices for produce by minimizing corruption Improved trading and information services increase the marketability and value of smallholder's produce
Processing	<ul style="list-style-type: none"> Integrate smallholders, either fully or partially, at the processing stage of the value chain 	<ul style="list-style-type: none"> Integrating smallholders in processing activities or aligning strategies with production characteristics can be a cost effective approach to improving the quality of the final product. 	<ul style="list-style-type: none"> Selling processed products gives greater economic returns to the smallholder Processing activities improve the smallholder's skill base, and can remove market dependence
Export / Retail	<ul style="list-style-type: none"> Work closely with smallholders to target niche markets such as Fair Trade Exploit potential sales to local base of pyramid (BOP) market 	<ul style="list-style-type: none"> Selling to a niche market can improve exporter profits and boost brand image BOP offers new market possibilities that can improve sales volumes 	<ul style="list-style-type: none"> Smallholders receive a 'premium' that can boost both economic and social wellbeing BOP marketing can extend product range and add value

Source: AfDB Statistics Department and World Bank

Annex 3: Agricultural Value Chains

Africa's agriculture is weakly integrated with other sectors such as manufacturing (UNECA, 2009a). The continent's food and agricultural market is also characterized by extreme fragmentation along sub-regional, national and even sub-national borders, resulting in markets of sub-optimal size that cannot guarantee the profitability of private investment. Paradoxically, while being largely closed to each other, these fragmented national and sub-regional markets are increasingly open to imports from outside the region. As a result, the gap between national/sub-regional domestic production and regional demand tends to be filled by imports from non-African sources, which are often propped by agricultural subsidies and support measures from the source countries (UNECA, 2009b). By promoting greater sectoral linkages, value chain development can greatly enhance job creation, agricultural transformation and broad-based growth on the continent. Processing of agricultural output is essential for expanding agricultural markets nationally and regionally because Africa's raw products are characterized by high perishability, bulkiness, quality variability, seasonal variability in output, and limited market information (UNECA, 2009a). There is, therefore, a need for transformational processes such as ginning of cotton, milling of cereals, and pasteurization and dehydration for milk (Jaffee and Morton 1995).

Africa's commodity and production characteristics call for a coherent linking of production and agro-industries/agribusiness. However, constraints to such value chain development abound in Africa. In addition to the general challenges to agricultural development, there are institutional weaknesses for service provision to the entire agricultural chain from farm to market (NEPAD 2003). These together with the fact that agricultural processing is limited by lack of capital and credit, lack of appropriate technology, inadequate information, marketing and other externalities render private investment in agro-industries generally less profitable in the short run (UNECA, 2009a). African agriculture could be boosted by promoting a select number of strategic food and agricultural commodity value chains at the sub-regional/regional level. This approach could improve economies of scale and vertical integration. Implementing a select strategic commodity approach and fostering a common African market that supersedes national and regional borders has the potential to generate the needed economic space that could propel profitability in private investments in the sector, especially if African markets are better integrated for the selected crops and also target regional and global markets.

Annex 4: Action Plan to Promote Public-Private Partnership (PPP) Projects at the AfDB

Within the Bank (OSAN-OPSM), the following measures will be used to strengthen PPPs as a means of contributing to promote inclusive growth in agriculture in Africa:

- i) *Joint project cycle missions:* After project identification, both the public and private sectors would seek to ascertain the value-added in bringing each partner on board to undertake project preparation. Given the limited resources available to both sectors vis a vis the investment deficit in African agriculture, proposals would be prioritized after listing the potential projects/countries. Each sector concerned would explore where they have comparative advantage and formulate projects in a highly participatory manner, through purposeful partnerships that are guided by institutional comparative advantages. In order to operationalize this, concerned OSAN staff would play more active roles in OPSM Project Appraisal Teams, and subsequently, take the OPSM project up to an internal OSAN committee discussion to appraise potential areas of collaboration.
- ii) *Use of infrastructure projects embedded in public sector financing to attract private sector investment:* It is often not economical to invest in infrastructure where such infrastructure is incapable of mitigating high cost of private sector investment. For instance, it is proposed that national grid, roads, water, etc., be extended to areas where high value crops are cultivated, which will stimulate the private sector to invest in processing facilities.
- iii) *Financing the Small Scale Private Sector:* Small scale operators may not have the requisite collateral to access formal institutional finance, but the public sector can bridge this gap in the interest of making inclusive growth more meaningful, especially for the large numbers of usually disadvantaged rural communities. To this end, the public sector window (OSAN) could establish a Trust Fund for use by small scale operators to promote various priority socio-economic activities. This will help to reach the poor. As OPSM is promoting MFIs and SME financing, there will be a good scope for linking small farmers, their associations/cooperatives with: a) MFIs, b) formal financial institutions, and c) potential buyers (trading or retail companies) which must be identified through the value-chain analysis mentioned above. The Trust Fund would be further enhanced if it is linked through pipeline sharing and upstream consultation, to private sector finance activities such as the Agriculture and Agribusiness PE funds (Agrivie, AAF, Agvance) or large Agribusiness transactions (Lurio Green Resources, Fluidor, etc). External partnership can be also explored with the Gates and Rockefeller Foundations, etc who have been supporting African agriculture and are keen to support the sector's inclusive transformation. Another possibility is to use FAPA funds by preparing joint OSAN-OPSM proposals. The sustainability of such a Trust Fund would be reinforced if large private sector financed projects or initiatives are mapped at inception, so that small scale operators (beneficiaries) can anchor their future growth to a dynamic business environment.
- iv) *Finance Priority Studies:* Support joint value-chain studies for agro-industry, agri SMEs, etc., to identify bankable public and private sector investment opportunities, while trying to seek PPP opportunities at the same time. As part of the study, consultations should be organized to identify constraints experienced by private business players in expanding and participating in agribusiness at the country level.

Annex 5: Strategic Targets for PPPs

PPPs are central to the unlocking of Base of the Pyramid (BOP) potential. The above engine for growth can be explained in 5 core strategies for success in designing business models to include the BOP who have become the world's "Next Billions" in terms of economic opportunity. According to a report prepared by the WEF in collaboration Boston Consulting Group, in order to unlock the BOP, strategic PPPs must be formed that:

1. **are based on the creation of life-enhancing offerings by-**
 - ◆ tailoring products to meet local needs and preferences;
 - ◆ developing environmentally sustainable approaches
2. **reconfigure the product supply chain by-**
 - ◆ sourcing from local producers;
 - ◆ broadening reach and saving costs by leveraging local distribution channels;
 - ◆ finding creative ways to overcome infrastructure constraints;
 - ◆ bringing sustainable trade into the mainstream;
3. **educate through marketing communication by-**
 - ◆ educating about product benefits;
 - ◆ creating word-of-mouth advocacy networks;
 - ◆ aiming for trust and identity in branding
4. **collaborate to form non-traditional partnerships by-**
 - ◆ partnering with communities rather than individuals;
 - ◆ investing in talent and expertise building;
 - ◆ creating incentives that encourage self- governance;
 - ◆ sharing products and assets (which may also help to overcome infrastructural limitations);
 - ◆ sharing capabilities and knowledge (especially with local communities);
 - ◆ make partnerships work
5. **unshackle the organization by-**
 - ◆ demonstrating top-down commitment;
 - ◆ creating focus and accountability;
 - ◆ provide decision rights, autonomy and flexibility;
 - ◆ establish objective metrics;
 - ◆ provide access to capabilities and knowledge

(WEF & Boston Consulting Group, 2009)

Annex 6: Examples of Success with Science and Technology Application in African Agriculture

The strength of agriculture in Africa can also be looked at from the perspective of the multitude of successful agricultural initiatives that the continent has experienced in the immediate past. Agricultural successes have been scored in the following major areas. This section leans heavily on two recent compilation of agricultural success stories in Africa: i) Haggblade, Steven and Peter B. R. Hazell. 2010; and ii) Spielman, David, J., and Rajul Pandya-Lorch. 2009.

Intensifying staple food production: Over the years, considerable achievement has been registered in the domestication and intensification of a range of staple crops throughout the continent. Examples include the breeding of a wide range of varieties of banana in the eastern and central African highlands; the development and diffusion of high-yielding varieties of maize in east and southern Africa that are also credited with improving the productivity of millions of African farmers and moderating food prices for urban consumers; productivity gains in cassava – Africa’s number two staple food - through breeding and improved pest control measures. Also, successive campaigns to control mealy bugs and Green spider mites have demonstrated the essential role that advanced science and biological control can play.

Central to the above success stories include availability of a comprehensive public support package over a long period of time and (in the case of Cassava, in particular) provision of public funding to critical stages of crops research.

Diversifying out of major crops: Dairy production in Kenya, spurred by improved veterinary services and availability of better feed and breeds and effective marketing arrangements, have liberated millions of smallholder farmers to grow out of poverty. Conducive government policy with respect to small scale dairy production and marketing were said to be key to the success of the dairying in Kenya.

Developing a booming export sector: Botswana has developed a modern beef exporting industry, serving this otherwise agriculturally ill-endowed country as the backbone of its economy. Productivity gains in cotton production, including the profitability of GM cotton in countries like Burkina Faso, has made west Africa the world’s third largest cotton-exporting block. On the other hand, integrated farm-level research and technology development, financed largely by the private sector, has enabled tea and floriculture to be dominant sources of export earnings in East Africa in general, and Kenya (tea and flower) and Tanzania (tea), in particular.

Instituting community-led sustainable soil fertility management regimes: As part of the drive towards ‘re-greening of the Sahel’, in Burkina Faso and Niger, community-based knowledge in the form of traditional practices, as well as experimentation by small farmers, helped transform the Sahelian region into productive agricultural landscapes. Protection of trees, digging of pits to concentrate manure, and construction of contour bunds to control rainfall and run-off to combat erosion were innovations that “sustainable intensification” programmes can be built on.

Effective Africa-global partnership to unlock key production constraints: Some successes depended on regional (including AU specialized technical agencies) and international scientific collaboration that involved national scientists. For instance, the successful eradication of Rinderpest was implemented in conjunction with African Union – Inter-african Bureau for Animal Resources (AU/IBAR) and the AU/PANVAC (Pan African Veterinary Vaccine Centre) and the OIE globally, together with national veterinary services and livestock keepers, especially pastoralists in Africa. With regard to crop production, the New Rice for Africa (NERICA) was developed by the Africa Rice Centre, formerly the West Africa Rice Development Association (WARDA), as a cross between the Asiatic rice, known for its high yield, and the African rice species, known for its hardiness. As these rice species will not normally interbreed, modern tools of biotechnology were used. The release of NERICA in 1996 by Africa Rice gave a boost to rice production, especially in west and central Africa. Tea and horticulture research in Eastern Africa has also benefited from international collaboration.

Building (sub-) regional centres for excellence: Sharing of research facilities and collaborative undertakings has also been tried out – with varying degrees of success – in Africa. The most recent examples in this respect include Conference of African and French leaders of agricultural research institutes (CORAF)’s and Association for strengthening Agricultural Research in Eastern and Central Africa (ASARECA)’s experience with regard to establishing at different locations of the sub-regions commodity-specific centres for excellence to also serve in the dissemination of pertinent technologies throughout the sub-region. On the other hand, BecA, an AU/ILRI institutional innovation, has to date offered the greatest opportunity for on-the-job training in genomics to African scientists, as well as sharing its advanced laboratories with many countries and regions of Africa.

Establishing ICT-based marketing systems: At the national level, institutional innovations in agricultural marketing, such as the Commodity Exchange initiatives in Kenya and Ethiopia, are of considerable value, for such mechanisms improve produce marketing through assuring commodity quality and quantity and prompt payment and delivery arrangements.

Source: FARA (2013) *Science Agenda For Agriculture In Africa (S3a)*, “Connecting Science”-A Science Agenda For Transforming Agriculture In Africa. Report of the Expert Panel Chaired by Kanayo Nwanze

Annex 7: Select Provisional Outputs of Projects Financed Under AfDB's AgSS (2010-14)

Highlights of key Impacts Under Pillar I of AfDB's Agriculture Strategy

Madagascar: Lower Mangoky Irrigation Area Rehabilitation Project: Major rehabilitation works undertaken within the framework of the project include: an irrigation system comprising 30 km of main canal, 74.5 km of secondary canals and 59 km and 459 km of tertiary and quaternary canals, respectively; 479 hydro-mechanical flow control equipment; a 727 km drainage network; and 39 km of the irrigation area protection dyke. Before rehabilitation, the acreage per season was about 1,200 ha per year. After rehabilitation, total surface obtained was 5,000 ha. The irrigation area's average rice yield increased from 2.5 t/ha to 6 t/ha on project completion. More than 245 farmers have become small rural entrepreneurs specializing in rice production with the achievement of a minimum yield of 8 t/ha. Additional production achieved at the end of the initial project is 38,000 tons, which exceeds initial estimates which were 35,580 tons. The project secured land ownership through the demarcation of 5,700 ha of land and the issuance of more than 5,000 individual land titles to farmers who developed the land. This had motivated the new landowners to preserve the land acquired and to develop it more efficiently.

Uganda - Community Agricultural Infrastructure Improvement Program (CAIIP): The CAIIP is a joint project of the Bank and IFAD in its fifth year of implementation. It is expected to benefit about 8.8 million. So far, it has rehabilitated 520 Kilometres of district feeder roads and 4680 Kilometres of community access roads. In addition, the project maintains 587 Kilometres of district roads and 5267 Kilometres of community access roads annually. It has also improved sub-county market place infrastructure by building 118 market places and promoted agro processing and storage by building of 117 produce stores and 117 cold rooms. The project has also supplied 117 grain mills, 77 rice hullers and 58 milk coolers for demonstration of value addition opportunities. Impacts studies have shown that farm gate prices have improved in the project areas, e.g. cassava prices have risen from UGX 8,000 to UGX 20,000 per 100 kilograms, maize prices from UGX 50 to UGX 1000 per kilogram, milk from UGX 150 to UGX 600 per litre, and bananas from UGX 4,500 to UGX 10, 000 for an average bunch of about 30 kilograms. Better access to markets has cut transport costs and travel time to major towns in half. Post-harvest losses were reduced by over 20%, especially for perishables such as cabbages, tomatoes, and pineapples.

Highlights of Key Impacts Under Pillar II of AfDB's Agriculture Strategy

Integrated Management of Invasive Aquatic Weeds in West Africa: Invasive Aquatic Weeds (IAW) are a nuisance in many West African water bodies and an effective management strategy would require an integrated approach through the use of a combination of proven biological control along with physical control by mechanical harvesting and/or hand tools. Four common-shared water bodies in West Africa were covered in the project. As a result of the project, an area of about 10,000 ha has been weeded from 50 sites and a method initiated for the use of biomass collected through the production of anaerobic and aerobic composting. Approximately 800 producers were trained to master the techniques in biomass use and on the use of compost on about 1,000 hectares of food crops and vegetables. Initial observations show a marked improvement in the productivity of their land. Three species of biological control agents were released. Additionally, 36 technicians trained in biological control and integrated IAW management. Over 450,000 people were trained in aquatic weed management.

Kenya - Green Zones Development Support and Ewaso Ng'iro North Natural Resources Conservation Projects:

The projects' objectives are to promote forest regeneration and conservation for environmental protection and water conservation in order to improve rural livelihoods and incomes of communities, especially women, living adjacent to the forests, and by so doing contribute to the government's poverty reduction efforts. The results achieved under the various components include re-vegetating 10,456 ha of degraded natural forests in gazetted forest reserves; protecting and sustainably managing 62,726 ha of natural forests through community participation, as well as re-vegetating 4,134 ha of county council hilltops and watersheds; 232 km of forest roads improved; and 1,400 ha of woodlot established. Other achievements from projects focusing on Watershed Management in Burundi, Cape Verde and the Gambia as well as control of siltation in the Niger River Basin:

- a. Over 30,000 hectares of restored land. The degraded lands have been rehabilitated and brought back into productivity, improving agriculture productivity for the local communities
- b. Increased vegetative cover on 25,000 ha with fixation of over 3, 000, 000 tons of carbon
- c. Stabilization of sand dunes on over 10,000 ha
- d. Sensitization and awareness raising for over 87,500 beneficiaries in sustainable land management practices
- e. Training of over 10,000 technicians in combating land degradation.
- f. Reappearance of some plant species and reduced siltation of rivers. The restoration of the natural asset base and reappearance of species will enhance the ecosystem services provided by these assets.

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