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L'Afrique et les défis du XXIème siècle
Africa and the Challenges of the Twenty First Century
A África e os desafios do Século XXI
إفريقيا وتحديات القرن الواحد والعشرين

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**Transforming African Agriculture: Challenges,
Opportunities and the Way Forward in the 21st Century**

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LIST OF ACRONYMS AND ABBREVIATIONS

ADB	Africa Development Bank
ADF	African Development Forum
AEC	African Economic Community
AECF	Africa Enterprise Challenge Fund
AGRA	Alliance for a Green Revolution in Africa
AMU	Arab Maghreb Union
APRM	African Peer Review Mechanism
ASEAN	Association of Southeast Asian Nations
AU	African Union
CAADP	Comprehensive Africa Agriculture Development Programme
CAR	Central African Republic
CARD	Coalition for African Rice Development
CEMAC	Communauté Economique et Monétaire de l'Afrique Centrale
CFD	Conference on the Financing of Development
CEPGL	Communauté Economique de Pays de Grand Lac
COBAC	Commission Bancaire de l'Afrique Centrale
CODESRIA	Council for the Development of Social Science Research in Africa
COMESA	Common Market for East and Southern Africa
DFI	Direct Foreign Investment
DFID	Department For International Development
DRD	Development Research Development
EBA	Everything But Arms
EAC	East African Community
ECA	Economic Commission on Africa
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EU	European Union
FARA	Forum for Agricultural Research in Africa
FCFA	Franc de la Cooperation Financière en Africaine
GAD	Gender And Development

GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
GFAR	Global Forum on Agricultural Research
GNP	Gross National Product
GSP	Generalised System of Preference
ICT	Information and Communication Technology
IDA	International Development Agency
IDG	International Development Goals
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
IOC	Indian Ocean Commission
MAP	Millennium Partnership for the African Recovery Programme
MDG	Millennium Development Goals
MERCOSUR	The Latin American Economic Union.
MNCs	Multinational Corporations
MRU	The Mano River Union
NAI	New African Initiative
NEPAD	New Partnership for Africa's Development
NIEO	New International Economic Order
NISER	Nigerian Institute of Social and Economic Research
OAU	Organisation of African Unity
ODA	Official development Assistance
OECD	Organisation for Economic Cooperation and Development
OMEGA	One People, One Goal, One Faith
RISDP	Regional Indicative Strategic Development Plan
RECs	Regional Economic Community
SACU	South African Customs Union
SADC	South African Development Community
SSA	Sub Saharan Africa
TAH	Trans African Highway
UDEAC	Union Douanière et Economique de l'Afrique Centrale
UEAC	Union Economique de l'Afrique Centrale

UEMOA	Union Economique et Monétaire l'Ouest Africaine
UNDP	United Nations Development Programme
USA	United States of America
WID	Women in Development
WSSD	World Summit on Sustainable Development
WTO	World Trade Organisation

Background Information

Agricultural transformation is used to mean a situation where there is a substantial number of rural household (1) have incomes exceeding the poverty level, (2) operate farms commercially (selling a substantial portion of the value of their output), (3) specialize in production at the farm level, (4) invest more heavily on the farm, (5) purchase commercial inputs, including hired labor, in significant quantities, and (6) adopt new technologies on a regular basis. At this point a dynamic growth process is in place, with the agricultural sector modernizing, continuing to produce food cheaply, and releasing labour to the nonagricultural economy.

Africa remains the continent with the greatest agricultural potential and yet a home to the highest proportion of hungry people. It is one of the poorest and least developed regions of the world. There is widespread concern at the continuing and indeed deepening poverty situation particularly in the sub Saharan region. To compound this, there is the lack of processes of rapid and broad based economic growth to combat the situation despite many international, regional and national discussions on the issue. This is largely an outcome of a neglected agricultural sector even though statistics reveal that this sector constitute the mainstay of sub Saharan economies. It provides food for the ever-increasing population, revenues from foreign exchange and taxes that finance both the agricultural and other sectors, raw materials for industries and more importantly, employment for a majority of the people. The average growth rate of agricultural production has stood at about 1.7 to 1.9% per annum since 1960. Population growth on the other hand has increased from 2.5% per annum during the period 1960 - 1980 to about 2.7% since 1980 due to marginal improvements in health care services. This reflects a decline in per capita agricultural output, which in turn is mirrored in a decline in per capita food production by about 6% between 1980 and 2002. The results have been low food intake per capita in Africa which is estimated at below 75% of required levels since the 1980s. To this deplorable agricultural and food situation is added substantial evidence of environmental degradation including rapid deforestation and loss of soil fertility. In these circumstances, domestic policies combined with international concerns have fared badly in Africa. Current development problems therefore remain that of food insecurity and increasing poverty at all levels in the continent.

Africa has abundant arable land and labour which, with sound policies, could be translated into increased production, incomes and food security. This has not materialized because of lack of consistent policies and/or effective implementation strategies. Thus, despite agriculture accounting for 70 per cent of the labour force, over 25 per cent of GDP and 20 per cent of agribusinesses in most countries, it continues to be given low priority. Agriculture also has a high multiplier effect, which means that agricultural investment can generate high economic and social returns and enhance economic diversification as well as social development. Strategies for transforming African agriculture have to address such challenges as low investment and productivity, poor infrastructure, lack of funding for agricultural research, inadequate use of yield-enhancing technologies, weak linkages between agriculture and other sectors, unfavourable policy and regulatory environments, and climate change.

African agriculture has a unique set of features that make it very different from Asia, where the Green Revolution has had a pervasive impact. These include; Lack of a dominant farming system on which food security largely depends; Predominance of rain fed agriculture as opposed to irrigated agriculture; Heterogeneity and diversity of farming systems and the importance of livestock; Key roles of women in agriculture and in ensuring household food security; Lack of functioning competitive markets; Under-investment in agricultural R&D and infrastructure; Lack of conducive economic and political enabling environments; Large and growing impact of human health on agriculture; Low and stagnant labour productivity and minimal mechanization; Predominance of customary land tenure, etc.

A combination of factors has led to this deplorable situation and this range from external shocks to internal policy weaknesses. Externally, agricultural support through subsidies and tariffs in developed countries have led to drastic falls in prices and makes products from Africa uncompetitive. The constant depreciation of the US Dollar also made things more difficult for African agriculture. On the domestic front, inadequate attention is given the sector as most governments continue to allocate less than 10 per cent of total expenditure on agricultural development. Following the Maputo Summit, African countries agreed to devote at least 10 per cent of their public expenditure to agriculture (AU 2003). According to a validation workshop organized by NEPAD in December 2008, only 19 per cent of African countries allocate more than 10 per cent of their national expenditure to agricultural development. Many countries

hardly reach 4 per cent of GDP and have depended on ODA for funding agriculture and other sectors.

This has led to low technology, poor infrastructure and above all low productivity. There is clearly a need for governments to increase agricultural investment in order to enhance food production and accelerate economic transformation, given the strong multiplier effect of agriculture.

The traditional land tenure system limits women's access to land contrary to the fact that they play significant roles in food production decisions. The fiscal systems do not encourage agricultural development. The vagaries of climate have not been helpful. Above all, poor governance that characterizes the region sets the pace for mediocrity. Given the direct relationship that exists between agricultural performance and economic growth, it is of paramount importance that the performance of the sector be improved upon. An industrial revolution in Africa has therefore delayed because of the stagnating nature of this leading sector.

As a result of these difficult economic realities, several initiatives launched to develop African agriculture have failed. The dilemma for scholars, policy makers and development specialists now is how to isolate and explain Africa's economic dislocation and disarticulation so as to bridge the gap with other societies and to benefit from globalisation. It is in this light that the New Partnership for Africa's Development (NEPAD) was created in July 2001 by recognising Africa's responsibility to create the conditions for economic recovery in the continent. It recognises the challenges of agricultural development and food security and proposes measures to revamp the sector. It focuses on increasing investments in the three mutually reinforcing pillars of agricultural development, which include; extending the area under sustainable land management and reliable water control systems, improving rural infrastructure and trade related capacities for improved market access, and increasing food supply and reducing hunger in Africa. In addition to the three pillars, NEPAD proposes measures to ensure peace and security, technological and infrastructural developments, human resource development, good governance and others which all have relevance to agricultural development. Ten years have passed since NEPAD came with great ideas. Where are we?

This paper is conceived based on this mind frame and is structured to provide answers to the above research questions. Specifically, the paper examines constraints to agricultural development in Africa since independence from both the domestic and external fronts, assesses the potentials and opportunities that are inherent in the 21st Century global arena and speculates on what needs to be done to target agriculture for the continent's development in order to achieve the much cherished Millennium Development Goals as time is winding out. The main premise of the paper is that agriculture constitutes the foundation for an industrial revolution in Africa. In order to achieve the above objectives, a descriptive approach is used with information drawn from secondary sources particularly from the FAO, IITA, IFPRI, CAADP, AGRA, CGIAR and World Bank data bases.

Performance of the Agricultural Sector

Agricultural Production

The overall picture of the agricultural sector shows that its performance between the 1960s and the first decade of the 21st Century fell below expectations even though there has been some recorded progress in the volume of production, trade, value added and diversification. Per capita output has recorded serious declines. The situation has been particularly worse for sub Saharan countries. The total volume of agricultural production grew at an annual rate of 0.8% during the 1960s; - 0.9% during the 1970s; 1% during the 1980s; -1% during most of the 1990s and 0.8% during the period 2000 to 2009. Between 1960 and 2009, they recorded a 0.1%. For North Africa, agricultural performance was better. During the 1960s, the countries recorded agricultural production growth of about 1.2%, dropped to 1 percent during the 1970s, increased to 2.7% during the 1980s and 1990s. During the period 1960 to 2009, these countries recorded an average growth of 2.1% as shown in appendix 1.

In per capita terms, marked declines occurred in both food and non-food production. During the 1960-1965 period, per capita output declined by 0.9 and 1.1% for agricultural and food production respectively. These negative per capita values persisted throughout the period 1960-2001. However, in a handful of countries, including Cameroon in the Centre, Côte d'Ivoire in the West, Mauritius in the Southern region, Egypt and Morocco in the North and Malawi in the East, per capita agricultural and food production indexes recorded slight improvements during

this period. In sharp contrast, large countries such as Kenya, Tanzania, Sudan, Congo (DRC), Ethiopia and Nigeria recorded substantial declines.

Agricultural Trade

In view of the heavy reliance on exports of primary products, the performance of African agriculture has significant implications for the countries' foreign exchange earnings, as the trend in export volume and market share of Africa's major export crops in appendix 2 indicates. There have been substantial declines in the growth rates in the volume of virtually all agricultural exports particularly during the 1970s and early 1980s. During the late 1980s, the 1990s and the first decade of the 21st century, export performance improved particularly due to the structural adjustment measures of the 1980s and 1990s. Because of this poor performance, Africa recorded significant losses in market share. Particularly noticeable were the losses for cocoa (from 80% to 60%), groundnuts oils (54% to 26%), shelled groundnuts (85.5% to 18%); oilseed cake (10% to 2%); palm kernel oil (55% to 21%); palm oil (55% to 6%). bananas (11% to 5%); etc. In the few cases where gains were achieved, such as coffee, tea and sugar, these were marginal.

African economies remain largely tied to a narrow range of exports crops. In the mid 1980s, African countries derived 75% of their agricultural export earnings from only six commodities: coffee, cocoa, cotton, sugar, tobacco and tea. Coffee and cocoa accounted for more than half of the total earnings. The world market trends for the traditional export crops on which the region depends have not been favourable since the early 1970s. Among Africa's leading commodity exports, the growth rate of imports in industrial countries over the period 1970-1990 was negative for two commodities (sugar and cotton) and less than 0.5% for two others (tea and tobacco). Much of the expansion in import demand for these commodities came from developing countries, to which Africa directs only a small proportion of their exports. During the 1980s, the real prices of five of the traditional export crops fell by an annual average of 4.0 to 9.7%, while their yearly prices exhibited high coefficients of variations (about 15.9 to 52.5%). Market prospects for this narrow range of crops are unlikely to improve.

Africa's agricultural growth record worsened in the 1980s and the region's food self-sufficiency declined. The incremental demand for food had to be met increasingly by commercial imports and food aid. As far back as the 1960s, Africa's imports of food and other agricultural products

had grown rapidly in both volume and value. Between 1960 and 1965, agricultural imports into the continent grew at the rate of 9.4%, increased to 11.9% during the 1975-80 period and reduced to 5.0% during the 1980s. In the 1990s and the first decade of the 21st century, its growth further reduced to 2.5%. On the aggregate, between 1960 and 2009, agricultural imports grew at the rate of 6.8% as indicated in appendix 3.

On regional basis, agricultural and food imports growth was highest for countries in the Southern African region, recording a rate of above 10% between 1960 and 2001. Contrarily, the Central African region experienced the least growth of about 3.3% during the same period. The West African region recorded a remarkable drop from about 19% during the period 1975-1980 to less than 1% during the 1990-2001 period. To finance these imports over the period, countries had to set aside between 10 to 40% of their export earnings.

Although agricultural imports (particularly food) doubled in volume between 1960 and 2009, African countries also received substantial amounts of food aid over the same period. The growth rate of food aid into Africa between 1960 and 2009 stood at above 15%. On regional basis, food aid grew at about 30% in the Southern region and less than 5% in the West and Northern regions. Details are contained in appendix 4. The trend of food imports and food aid in Africa shows that the continent depends significantly on external supply of food and this is dangerous for poor countries with already precarious food security situations.

Agricultural Diversification

There have been few cases of export diversification into high-value products such as fish, meat and horticultural products. In domestic food markets, government food security strategies in most countries have focused on increasing maize and rice production with other cereals, legumes, roots and tubers relatively neglected in official support services and marketing. Many African countries have potential comparative advantages in the production of fresh and processed horticultural products as a result of their agro-ecological conditions, location and relatively low labour costs. Very few countries, notably Kenya, Côte d'Ivoire and South Africa, have effectively translated these resource advantages into competitive and profitable trade in horticultural trade with the outside world.

The traditional export crops including coffee, cocoa, cotton, sugar, tobacco rubber and tea have another weakness and this is that of inflexibility. With the exceptions of sugar and cotton which can be transformed into several other products using relatively small scale equipment, other crops are low value bulk goods that offer few processing possibilities, provide limited scope for new product development and have severely limited local or regional markets. The beverage crops have another element of inflexibility being a long gestation period for production, which increases market risks and financing problems. With the exception of coffee, each of the other commodities requires lumpy investments in large processing facilities to produce derivative products that can meet international quality standards.

Another major issue of agricultural diversification is trade. Africa continues to depend on colonial ties and therefore still focus on trade with colonial masters. This therefore limits markets for agricultural products from Africa as well as cheap imports from non former colonial powers. This situation has worked against intra African trade. Over the past four decades, official trade among African countries has stagnated. Recorded African imports from the region increased in nominal terms from about US\$ 2.15 billion in 1980 to US\$ 2.71 billion in 1995, representing a decline in real terms. In 1990, only 7.4% of imports to Africa originated from other African countries. A majority of African countries conducted less than 10% of their external trade within the continent. Up to an additional estimated US\$ 5 billion of Africa's current imports from the rest of the world could be supplied by African countries already exporting similar products outside the region. Only 2% of Africa's beverage crop exports (e.g. coffee, tea and cocoa) were traded within the region. The major exports of which 10% or more was traded within the region were live animals (59%), tobacco (21%), sugar (17%), and fruits and vegetables (11%).

Value Added in Agriculture

One major component of agricultural performance that current literature neglects concern value added in agriculture. This indicator translates the structural transformations or changes that have taken place in the sector. Agricultural value added during the period 1960-2009 grew on average at 1.4% for all of Africa. However, during the period 1985-1995, this growth was about 3% whereas it was 0.5% during the period 1960-65. On regional basis, agricultural value added grew at 2% and above in the Central and North Africa during the period 1960-2001. During the

same period it grew at 0.3% in the Southern region (excluding South Africa), 1.5% for East Africa and 1.3% for West Africa. Details are contained in appendix 5. The low growth rate of value added in African agriculture indicates that there has been less vertical and horizontal integration, translating low structural transformation of agriculture. Agricultural exports remain largely unprocessed primary products. A majority of countries are therefore natural resource based economies.

Agricultural Performance and Food Security

Food security can be defined as the abilities of countries, regions or households to meet their required levels of food consumption at all times. Although the agricultural sector provides the bulk of food in Africa, the overall food security situation in the continent has not been encouraging. According to recent FAO estimates, the total number of people around the world suffering from severe malnutrition was between 800 and 900 million in the last 20 years but is apparently declining gradually. Africa, particularly the sub-Saharan region, has been a notable exception from this world wide trend. There has rather been an increase in malnutrition over the same period, with the number of malnourished increasing from about 100 million to more than 200 million. About 35 million children go to sleep malnourished and hungry every day.

Agricultural production in Africa will remain the most important element for addressing food security and poverty in the continent since most of the poor and the food insecure are rural people. Essentially, food security can be analysed from the point of view of physical supply and economic access. These two aspects constitute supply and demand and are the two main factors that affect food security. Supply side factors are concerned with food availability, which involves the natural resource endowments of a society, available technology and its dissemination (for food production, storage and preservation), prices, market opportunities and the ability to augment own production with external supplies. Demand side factors on the other hand determine the degree of access to available food. These include household incomes, assets, prices, demographic factors such as numbers, age, composition of households and gender; and socio-cultural factors like health, educational level, cultural norms and food consumption habits. Food security can therefore be regarded as an income problem. In Africa, food security and agricultural development are two sides of the same coin. Both concepts centre on increasing

agricultural productivity and incomes of a large majority of the population, which remains poor and derives its income from agriculture and related activities.

Constraints to Agricultural Development In Africa

Constraints on the External Front

External factors that have contributed to the dismal performance of the agricultural sector in Africa concern principally the falling prices of agricultural products in the world market and the depreciation of the US. The prices of Africa's major agricultural exports have exhibited a generally downward trend in real terms since the early 1970s, and a substantial loss in the terms of trade. As shown in appendix 6, there has been a sustained decline in world market prices from 1980 to 1991. These prices fell to the lowest level in 50 years during the early 1980s. Between 1980 and 1982 alone, this loss was estimated at 1.2% of GDP for all sub-Saharan countries.

The main cause of the sustained declines in international prices is the heavy subsidisation of agriculture by developed countries. Each year, over \$300 billion goes as support to agricultural producers – roughly six times the amount they spend on aid. To put this figure in context, it is more than the total income of the 1.2 billion in the world living on less than \$1 a day. The EU and USA are the “subsidy super powers”, accounting for over 60 percent of developed countries’ agricultural support spending. Europe spends more in absolute terms but the United States of America spends more per farmer (Watkins, 2003). They justify agricultural support by reference to social objectives. High levels of agricultural support translate into increased output, fewer imports, and more exports than would otherwise be the case. In most situations, subsidised export dumping is practised and this is very damaging to agricultural development in Africa.

The US dollar, a major currency against which commodities are traded in world markets recorded the highest depreciation rate in recent times (more than 40%) during the early 1980s. The depreciation of the dollar reflects an automatic fall in producer prices for the various exports measured in domestic currencies. This therefore had the same effect like falls in world market prices. The combined effects of depreciating dollar and falling world market prices had

remarked negative repercussions on the performance of the agricultural sector during the 1980s in countries within Africa.

There is an irony, too, that the peoples who have done least to cause climate change are the ones who are worst affected by its impact. It is Africa, not the large emitters like America, Europe or now China, which the experts forecast will be hit hardest. We are already seeing this impact in Africa as rains fail and previously fertile land turns into desert. It will further increase pressure on water resources and degrades bio-diversity. But while this must be the start of our discussion, it is only half the story. For there is also unmatched potential within Africa for agricultural growth.

Constraints on the Domestic Front

Although African leaders attribute the dismay performance of agriculture to harsh international environments, internal policies have played a leading role. When comparisons are made with other developing areas particularly in Asia and Latin America, it is realised that African governments do not give adequate attention in terms of needed assistance to the agricultural sector. Even though the sector contributes more than 25% to GDP, most African governments still allocate less than 10% of total expenditure to the development of agriculture. As shown in appendix 7, African governments on average allocated only about 7.7 % of total expenditure to the agricultural sector between 1960 and 2009. Only countries in the East African region consistently allocated about 10% on average to agricultural development during the period 1960-2009. Governments in the Central and West African regions on average allocated only about 6.4% of total expenditure on agricultural development. These explain the low level of agricultural infrastructure prevalent in most of the countries.

A review of the existing literature on domestic constraints to agricultural development in Africa reveals that the sector has been heavily taxed. The various ambitious industrial development plans launched during the 1970s and early 1980s were constructed on the assumption that funds for their financing would be generated from agricultural surpluses. In addition, many countries depend heavily on taxes from trade as a source of government revenue. Since agricultural exports account for such a large proportion of total export earnings, it is inevitable that agriculture would bear a heavy tax burden. For these and other related reasons, governments in most African countries are playing a leading role in determining producer prices for all major

crops through the use of parastatal Commodity Marketing Boards. As export taxes increased through the 1970s and early 1980s, Marketing Boards margins also widened whereas producer prices fell far below international levels.

Oyejide (1993) using Nominal Protection Coefficients (NPC) for some categories of crops showed that between 1969 and 1989, farmers did not receive up to 75% of the border prices for their products in sub-Saharan Africa. Similar results are obtained for the period 1990-2009. These NPC estimates reproduced in appendix 8 show that sectoral pricing, marketing and trade policies are generally unfavourable to agriculture. The NPC for all crops remained below 1 throughout the whole period. This shows that government's sectoral policies towards agriculture during the period 1969 to 2001 did not provide incentives for more agricultural production.

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

There is inadequate Transport Infrastructure. African countries recognized the importance of transport infrastructure in general and regional transport infrastructure networks in particular to their development prospects as far back as the 1960s, just after most of them attained independence. As a result, several transport infrastructure development initiatives have emerged over the years. One of the most ambitious of these initiatives is the Trans African Highways (TAH) network, conceived in the early 1970s. However, several years after its conception, missing links still exist in the TAH network, especially at border areas. An analysis of 103 cross-border TAH links (TAH sections leading to border posts) shows that 33 % are unpaved roads in various conditions - good, fair and poor, 16% are paved roads in poor condition and 38% are paved roads in good or fair condition. This clearly illustrates the poor state of physical integration between African countries. Generally, using the missing TAH links as a measure of road integration, ECA (2004) shows that there is a disparity in the level of

physical integration across the continent. Overall, the road sub-sector in Africa is in a deplorable state. The total length of roads in the region is 2,064,613 kilometres out of which only 29.7 percent is paved, the remaining portion being either earth or gravel roads. In addition to its low density, distribution, and the fact that a large proportion is unpaved, a sizeable chunk of Africa's road network is in a state of disrepair. For instance, 34 percent of paved roads and 55 percent of unpaved roads in CEMAC were in poor condition in 2005. Similarly 34 percent of paved roads and 68 percent of unpaved roads in COMESA were in poor condition in the same period. The poor state of roads, telecommunications and ports throughout sub-Saharan Africa in particular, has created high transport costs. See Appendix 9.

Inadequate provision of social amenities like rural health care centers, rural water, family planning units and educational establishments have resulted in a high incidence of unhealthy, poorly educated people in rural areas. Most of these persons cannot therefore understand the need for the application of modern farming practices and improved varieties of crops. An increasing number of youths leave for urban areas in order to attend schools or to look for jobs. The overall consequence has been the depletion of agricultural human capital stock in rural areas. These are generally characterized by schools without teachers nor structures, health centers without personnel and equipment nor medicines, etc.

Ill conceived public agricultural projects have contributed to the stagnation of the sector. Even well conceived projects are badly implemented and this explains the high rate of abandoned or uncompleted agricultural projects after heavy capital commitments. The inefficient management of parastatals leads to frequent heavy budgetary deficits in most African countries. Autonomous farmer's organizations and cooperatives and farmer participation in the management of agricultural development has not been encouraged.

Traditional African land tenure systems provide considerable security of tenure on land brought into farming through customary rules of community land ownership. Considerable migration (rural-rural, rural-urban, urban-urban) has occurred within and between countries. The migrants often come with conflicting traditions of land allocation. In addition, many governments have nationalized land. Some of this land is distributed for other uses such as plantations owned by the state or by private enterprises and farms owned by elites. Both of

these phenomena have reduced the traditional security of land tenure. Farmers who are unsure that the land they farm will belong to them or can be used by them in future are less likely to invest in the land or conserve it. This accelerates environmental problems. A more severe problem manifests itself in the form of a majority of the agricultural population not having access to land and are forced to rent it or work under landlords and some work on marginal lands. Primitive farming practices also help in degrading farmlands.

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

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

Over dependence on rain fed agriculture has proven dangerous for agricultural development. During the last twenty years, rainfall has considerably declined and the duration of rainfall has significantly reduced in many areas, making rain fed agriculture highly risky. Frequent locust attacks have been recorded in the continent particularly in the West and Central African regions during the 1980s. Worse still, the percentage of arable land that is irrigated is only 7 percent

(barely 3.7 percent in Sub-Saharan Africa) while the corresponding percentages for South Africa, East and South-east Asia and South Asia are 10 percent, 29 percent and 41 percent respectively. Furthermore, in Africa 16 percent of all soils are classified as having low nutrient reserves while in Asia the equivalent figure is only 4 percent; moreover, fertilizer productivity (expressed in terms of maize yield response) in Africa is estimated at some 36 percent lower than in Asia and 92 percent lower than in developed countries.

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

The fiscal and monetary policies have not always been helpful to farmers and generally agricultural development. Most governments in the continent have lacked strict discipline in relation to money supply. The volume of money in circulation has always been increased at rates that have proved harmful to the economy. The supply of money has contributed significantly to the observed level of inflation, which encourages consumption over savings. This restricts the abilities of various economies to mobilise investments, which are prerequisites to agricultural development. Credit policies have not been helpful to farmers. Available evidence about credit provision to different economic activities in Africa shows that the smallholder subsector has been marginalised, even when credit projects have been relatively successful (Tshibaka, 1992; Ntangsi, 2010).

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

Emerging requirements for certification in the area of Good Agricultural Practice, such as the traceability of agricultural products, place new burdens on smallholder farmers wishing to

obtain certification and export their goods (e.g. [GlobalGAP](#)). ICTs can be used to facilitate this process and economies of scale can be realised through community, national and regional integration of these activities.

Opportunities to Transform African Agriculture

The greatest opportunity for transforming African agriculture is the recognition by African leaders for a concerted action. This has resulted to a number of initiatives being taken during the first decade of the 21st century. These include the CAADP Process, FARA, AGRA, etc. The Comprehensive Africa Agriculture Development program (CAADP) was adopted at the AU Assembly of Heads of State and Government in Maputo in 2003 as a framework to spearhead and accelerate agricultural and rural development in Africa. AU Heads of State and Government have continued to reaffirm their political commitment to CAADP as demonstrated by the adoption of relevant decisions and declarations, including most notably, the Sirte Declaration on the Challenges of Implementing Integrated and Sustainable Development on Agriculture and Water, adopted 2004 in Sirte, Libya; and most recently, the Sirte Declaration on Investing in Agriculture for Economic Growth and Food Security, adopted in July 2009 in Sirte, Libya.

While CAADP implementation is driven primarily by country level stakeholders – government, private sector, civil society and development partners – regional and continental institutions also play an important role in supporting the process. CAADP support institutions help implement core CAADP objectives such as leveraging African institutions for advocacy, technical backstopping and capturing regional and continental spillovers; ensuring mutual responsibility and accountability through joint analysis, ownership and peer review; and promoting alignment of government, development partners and private sector around agreed national agendas. AUC works with all other CAADP support institutions – NEPAD Agency, RECs and pillar or other technical institutions – in order to facilitate their role in CAADP processes.

The process for establishing FARA was started in 1997 and ratified in 2001 with the first General Assembly meeting in July 2002 in Maputo. Main objectives are to promote pan-African agricultural research for development through enhanced support by national governments, development partners, and private sector; to facilitate the exchange of agricultural technologies,

knowledge and experience by building mutual partnerships between various institutions, the private sector, farmers and producers in Africa; to support relevant and cost-effective African regional research programmes; and to catalyze the process of agricultural technology dissemination and knowledge dissemination relevant and appropriate for Africa. These are to be achieved through: Advocacy of the role of agricultural research; Promotion of functional partnerships and strategic alliances; Accelerating sharing and exchange of knowledge; Stimulating the development and dissemination of new technologies and methodologies in natural resource management, genetic resource management and biotechnology; and Stimulating policy and market development.

Alliance for a Green Revolution in Africa (AGRA) created since 2006 works to achieve a food secure and prosperous Africa through the promotion of rapid, sustainable agricultural growth based on smallholder farmers. AGRA aims to ensure that smallholders have what they need to succeed: good seeds and healthy soils; access to markets, information, financing, storage and transport; and policies that provide them with comprehensive support. Through developing Africa's high-potential breadbasket areas, while also boosting farm productivity across more challenging environments, AGRA works to transform smallholder agriculture into a highly productive, efficient, sustainable and competitive system, and do so while protecting the environment.

Advances in science and technology constitute a huge opportunity for Africa to transform its agricultural base. Science and technology has contributed to Africa's agricultural development in at least four areas: direct agriculture, transport and communication, energy, human and animal health; education and the environment. African agriculture has witnessed considerable transformation in several respects. Crops that were formally alien to the continent such as wheat, barley, rice, maize, tomatoes and apples have been successfully introduced and adapted to different countries in Africa. Many research results from the agricultural research institutions on the continent have been successfully disseminated to farmers. This dissemination has transformed plant breeding, agronomy, physiology and horticulture. The impact of these results has been manifested in higher yields; the introduction of disease, and pest - resistant varieties; and the production of crops of higher nutritional value. However, much needs to be done in this domain.

The continent is blessed with abundant land and natural resources. Africa's population is growing rapidly. But in comparison with India, for example, it has twelve times the land area and less than two thirds of its people. Working with Africa's army of small-holder farmers, the continent can transform its rich agricultural resources to grow enough food to meet its own needs, and produce a surplus to meet the growing demands across the globe. The consistent increases in prices of foodstuff during the first decade of the 21st century offer Africa prospects for agricultural development. Huge global demand for bio fuels constitutes leading opportunities for agricultural development in Africa.

The Promise of ICTs. The role of ICTs is recognized in Millennium Development Goal No. 8 (MDG8), which emphasizes the benefits of new technologies, especially information and communications technologies in the fight against poverty. This has created a new generation of services which constitute a booster to agricultural development in Africa. Mobile phone technologies are presenting Africa's smallholder farmers with an unprecedented opportunity to run their operations more productively and to grow their own income levels. One of the largest challenges traditionally experienced by Africa's smallholder farmers has been a lack of transparent information about the market prices of crops. A number of new mobile phone-based services is, however, addressing this problem by giving farmers access to market prices, enabling them to negotiate better deals with traders and improve the timing of getting their crops to market. These services typically include a function where farmers can send a SMS text message to a specific number which then gives them wholesale and retail prices of crops.

Another aspect of the new generation of services includes access to insurance. Mobile phones are also being used to distribute agricultural insurance products to farmers, most of whom cannot afford conventional insurance. A product called Kilimo Salama, Swahili for 'safe agriculture', enables smallholder farmers in Kenya to insure their agricultural inputs against adverse weather conditions, such as drought or too much rain. Developed by UAP Insurance, the Syngenta Foundation for Sustainable Agriculture and mobile operator Safaricom, Kilimo Salama allows smallholder farmers to ensure as little as one kilogram of maize, seed or fertilizer. To be covered under the scheme, farmers only need to pay an extra 5% for a bag of seed, fertilizer or other inputs.

The rising concern over global food price volatility has put agriculture at the center of international diplomacy. But unlike the 1950s when food aid became a major tool in international relations, modern interactions among states are being defined by trade and

knowledge transfer. A new field – agricultural diplomacy (AgroDiplomacy) – is emerging as countries learn more about their shared ecological experiences and agricultural trade interests. The prospects for building such relations are evident in the rise in cooperation between Africa and Latin America. These constitute another dimension of opportunities for agricultural development in Africa.

The increasing interest shown by G20 on improving agricultural productivity of smallholders. In June 2011, the G20 Agriculture Ministers promised to give ‘special attention’ to improving the productivity of smallholder farmers who provide 80% of the food in the developing world. These farmers, who typically own fewer than 2 hectares of land and maybe a cow or two, must be kept at the centre of the G20 agenda. FARA, together with the GFAR platform, is advocating that by listening to the farmers and recognizing their needs, we can combat the barriers that keep them from making use of the innovative technologies they require and expanding their opportunities in agribusiness.

Conclusions and Recommendations

Conclusions

From the above discussion, a number of conclusions are discernable. Firstly, agricultural development efforts in Africa have not been at all roses. The performance of the sector has deteriorated significantly from the pre 1980 standards. The intensification of efforts at improving productivity by various countries and the international community has resulted in a negligible progress because of lack of real commitments and political will. Paper rhetoric alone cannot overcome scarcity and institutional constraints. Secondly, agricultural development in Africa continue to face the same problems like in the past with falling prices, mounting debt burden, conflicts, insecurity, poor governance, weak institutions, and poor infrastructures topping the list. Thirdly, the NEPAD, FARA AGRA, etc confirm that African leaders are at the forefront of the poor state of agriculture and food security in the continent. However, these well thought out collection of ideas, which provide the basis of hope to the African people. Topping the agenda of these initiatives are agricultural productivity, peace and security, good governance, infrastructure, trade and investment, and the expansion of information technology. Fourthly, although various initiatives have been well received within the elite governing community, they lack foresight in many respects. The civil society groups have been extremely

critical of their lack of political, economic and cultural creativity, and unless these are well targeted, these initiatives will remain toothless bulldogs.

Recommendations

Country Levels

Governments need to increase the capacity to support farmer productivity. They should review their national research and extension systems and implement the reforms required to improve national research capacity and efficiency. Extensive reviews and analyses of national agricultural research systems in Africa over the past 20 years indicate that funding for agricultural research will need to double from the current allocation of US\$1 billion annually in the next 10 years. The additional funding is required to train scientists, rehabilitate and restructure research institutions, to strengthen extension services and to subsidize agricultural inputs.

Establish a strong partnership between public and private sectors for increased investment. Promoting the collaboration between the public and private sectors in post-harvest management, storage, distribution, processing and marketing, should be given strong support and emphasis by various governments. Both sectors should be encouraged to share costs and risks to assist small holders in the adoption of new technology through poverty reduction programmes and debt relief. Increased attention should be given to national food security programmes during discussions regarding poverty reduction and debt relief. Provision of farm tools at subsidized rates should constitute a fundamental aspect of partnership between the public and private sectors.

There is the urgent need to invest significantly on both physical and social infrastructure with emphasis on rural areas so as to stimulate the smallholder sub sector. Various governments need to increase the efficiency and use of water supply for agriculture. Establishing small-scale irrigation facilities, improving local water management, and increasing the exchange of information and technical knowledge with other countries in the region could achieve this.

The security of land tenure system for traditional and modern farming needs should be improved upon. This requires particularly that land ownership by women and the poor should be guaranteed through reviewing existing land laws.

There is need to enhance agricultural credits and financial schemes. This can be achieved through improvements in credit access by small-scale farmers and in some cases women. Governments could also open agricultural development banks to assist these vulnerable groups as it used to be in the past.

Continental level

In order to strengthen the enabling environment for agricultural development and food security at the continental level, a number of issues need to be addressed. Topping the chart is strengthening good governance. NEPAD should come out with a time frame within which countries should show progress in their good governance programs. There is equally the need to come out with a framework on the democratization procedure for African countries. These are supposed to be monitored by the APRM and there should be provision for sanctioning deviant governments. This implies therefore that belonging to the APRM should be mandatory for all NEPAD countries. Human rights control mechanisms in the continent need to be harmonized. The independence of the African judiciary should be ensured and electoral systems must also be inclusive through various arrangements at the national or local levels.

The NEPAD's security and peace initiative must be supplemented by efforts to help war affected regions to develop economically. A "Marshal Plan" for these countries is highly recommended. At the same time, support for conflict resolutions should be intensified. Efforts by African countries and the United Nations to better regulate the activities of arms brokers and traffickers should be reinforced by the G8. There should be a concerted effort at eliminating the flow of illicit weapons to and within Africa. The western world and particularly, the G8 should support various efforts initiated by African governments and the civil societies to address issues relating to the linkage between armed conflicts and the exploitation of natural resources.

In the domain of infrastructures development, the institution of regional support programs for regional infrastructures can facilitate overall infrastructure breakthrough in the continent. These should target particularly agriculture and communication.

To strengthen economic recovery at the level of economic groupings, there should be provision for some consistency between national economic reform programs and regional policy objectives. The duplicity of membership of countries in many economic groupings and the proliferation of RECs in Africa contradicts reality. It is often suggested that the integration process would be more effective if there were fewer RECs and if member states were limited to membership in only one.

In the domain of gender, NEPAD should establish a high profiled and financed machinery for the advancement of African Women. It should also establish a high-level feminist caucus or monitoring bench to ensure that all programs validated for implementation are evaluated for Gender Sensitivity.

Strengthening health systems to meet health care needs of the population is necessary for effective economic recovery. More investments in health and health-related infrastructures are a prerequisite for achieving the above. Particular attention should be given to personnel in order to curb the crises of brain drain that characterizes this sector.

The financing of NEPAD, AGRA, FARA, etc activities should not only concentrate on G8 assistance and multilateral sources but also should include MNCs and subscriptions of member countries. The later should be a percentage of the GDPs.

To better coordinate the NEPAD activities and other initiatives in various countries, a Ministry of Regional Cooperation and NEPAD should be established in various African countries or special departments in charge of NEPAD activities be established in foreign Ministries.

The elitist governing population in Africa, which constitutes less than 2 percent of the total population, should put a "human face" and their consciences as guiding principles for their

actions. Greed should be converted to development and our States converted to developmental States rather than the present political States.

International Level

Apart from wringing their hands, endorsing development goals and promising more aid, governments in developed countries should get serious about reforming their farm policies. They should reduce the rate at which they are subsidizing agriculture to meet the WTO standards. In addition, efforts must be made to develop new partnership to address donor fatigue for individual high profile agricultural projects; promote co-operation with developed countries carrying out and developing research and development capabilities in agriculture; promote access to international markets by improving the quality of African produce and agricultural products, particularly processed products to meet the standards required by those markets; support African networking with external partners in the areas of agricultural technology and know-how, extension services and rural infrastructure; support investment in research in the area of high yielding crops and durable preservation and storage methods; and provide support for building national and regional capacity for multilateral trade negotiation including food sanitation and other agricultural trade regulations.

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Appendix 1: Annual Average Growth Rate (in %) of Agricultural and Food Output

	<i>Total Agricultural Production</i>							<i>Food Production</i>						
Region	1960-1965	1975-1980	1980-1985	1985-1990	1990-1998	1998-2008	1960-2008	1960-1965	1975-1980	1980-1985	1985-1990	1990-1998	1960-1998	1960-2008
Volume of Production														
Central Africa	1.5	1.7	1.2	1.9	1.6	1.7	1.6	1.4	1.9	1.0	1.8	1.6	1.6	1.5
East Africa	1.0	0.6	1.6	2.5	2.1	2.2	1.6	1.2	0.7	1.1	2.3	1.7	1.8	1.4
North Africa	1.2	1.0	3.2	2.0	2.7	2.7	2.1	2.0	0.9	3.2	2.1	3.8	3.9	2.4
Southern Africa	0.8	-0.9	-0.8	2.7	-1.1	-1.0	0.1	0.3	-0.6	-0.5	3.0	-1.6	-1.5	0.1
West Africa	1.3	0.5	1.4	2.1	2.8	2.9	1.6	1.5	0.9	1.9	1.5	1.4	1.3	1.4
All of Africa	1.2	0.6	1.3	2.2	1.6	1.7	1.4	1.3	0.8	1.3	2.1	1.4	1.4	1.4
Per Capita Production														
Central Africa	-0.5	-1.0	-1.6	-1.4	-0.8	-0.7	-1.1	-0.9	-1.1	-2.0	-1.2	-1.5	-1.6	-1.3
East Africa	-0.7	-0.8	-1.4	-1.0	-0.6	-0.4	-0.9	-1.2	-2.5	-2.2	-0.9	-1.5	-0.7	-1.7
North Africa	-1.0	-0.4	-0.2	-1.2	-0.4	-0.4	-0.6	-0.7	-2.0	0.2	-0.6	-0.3	-4.7	-0.7
Southern Africa	-1.2	-2.4	-2.0	0.0	-0.6	-0.5	-1.2	-2.0	-3.6	-3.9	-0.1	-4.6	-0.7	-2.8
West Africa	-1.1	-2.0	-1.3	-1.1	-0.5	-0.4	-1.2	-0.9	-2.2	-1.6	-1.1	0.5	-0.6	-1.1
All of Africa	-0.9	-1.3	-1.3	-0.9	-0.6	-0.6	-1.0	-1.1	-2.3	-1.9	-0.8	-1.7	-1.7	-1.5

Source: Extracted from World Bank and FAO Publications

Appendix 2: Growth of Africa's Major Agricultural Exports and Share of World Exports (1961-2001)

Exports	Annual Growth in Volume %			Annual Share of World Exports (%)		
	1961-69	1969-82	1982-98	1961-63	1980-82	1992-2001
Cocoa	0.2	-0.3	-1.5	79.9	68.3	60.0
Coffee	3.4	-0.2	1	25.6	25.9	26.0
Tea	9.0	4.1	4.5	8.7	9.3	11.5
Groundnuts, oil	2.2	-6.0	-2.0	53.8	27.8	26.0
Groundnuts, shelled	-6.1	-13.9	-12	85.5	18.0	18.1
Oilseed cake	5.3	-3.8	0	9.5	2.2	2.0
Palm Kernel oil	8.9	-1.3	2	55.2	21.6	21.0
Palm kernels	-6.2	-9.6	0.5	90.4	75.8	75.0
Palm oil	-8.6	-5.1	3.2	55.0	3.0	5.6
Sesame seed	3.8	-6.2	-4	68.6	40.7	38.2
Bananas	1.7	-5.4	7	10.9	3.0	5.0
Cotton	5.6	-3.5	1.8	10.8	9.2	9.5
Rubber	3.0	-2.9	1.2	6.8	4.4	4.5
Sisal	-2.1	-8.7	-3.0	60.7	60.4	60
Sugar	3.2	-1.4	2.6	4.7	4.8	5.4
Tobacco	-3.1	-6.6	5.6	12.1	11.8	12.1

Source: Computed from World Bank and FAO data

Appendix 3: Growth Rate of Agricultural and Food Imports, 1960-2001 (in %)

Region	1960-65	1975-80	1980-85	1985-90	1990-2001	1960-2001
Central Africa	4.2	5.9	6.9	1.2	-1.8	3.3
East Africa	5.8	10.3	1.7	0.7	4.9	4.7
North Africa	9.2	11.5	3.9	3.4	2.0	6.0
Southern Africa	10.8	12.8	18.9	4.2	6.6	10.7
West Africa	17.2	18.9	8.3	1.0	0.8	9.2
All of Africa	9.4	11.9	7.9	2.1	2.5	6.8

Source: Extracted from World Bank publications

Appendix 4: Growth Rate of Food Aid into Africa, 1960-2001

Region	1960-65	1975-80	1980-85	1985-90	1990-98	1960-98
Central Africa	22.1	29.5	3.6	-2.5	2.1	11.0
East Africa	25.5	52.4	9.7	22.3	34.6	28.9
North Africa	12.0	10.4	0.6	16.6	-16.3	4.7
Southern Africa	35.0	33.5	29.7	-14.1	50.8	30.0
West Africa	4.5	3.9	19.0	-8.2	2.0	4.2
All of Africa	19.8	25.9	12.5	2.8	14.7	15.2

Source: Extracted from World Bank publications

Appendix 5: Value Added in Agriculture between 1960 and 2001 (Growth rates in percentages)

Region	1960-65	1975-80	1980-85	1985-90	1990-01	1960-01
Central Africa	0.9	1.9	2.2	3.1	2.1	2.0
East Africa	0.6	0.8	1.5	3.0	1.6	1.5
North Africa	1.9	3.0	3.0	1.4	1.2	2.1
Southern Africa	-1.8	-2.3	-1.8	4.5	0.6	0.3
West Africa	0.8	1.7	-0.3	2.5	1.8	1.3
All of Africa	0.5	1.0	0.9	2.9	1.5	1.4

Source: Extracted from World Bank publications

Appendix 6: Major Commodity World Market Prices in Constant 1985 Dollars

Commodity	1970	1980	1991	1995	2001
Coffee	314	328	126	132	165
Cocoa	185	248	80	85	94
Tea	300	213	124	134	136
Sugar	222	602	133	152	175
Beef	357	263	179	178	196
Bananas	452	361	376	315	284
Oranges	460	372	350	315	300
Rice	394	414	211	178	197
Maize	160	119	72	67	83
Palm Oil	711	556	228	235	208
Cotton	173	195	113	111	115
Rubber	127	155	68	85	89
Logs (wood)	118	240	213	222	242

Source: World Bank data

Appendix 7: Share of Government Expenditure in Agriculture according to Regions between 1960 and 2001 (Averages in % of total Expenditures)

Region	1960-65	1975-80	1980-85	1985-90	1990-01	1960-01
Central Africa	11.5	10.3	3.3	4.5	4.9	6.9
East Africa	12.2	10.3	10.0	11.8	10.2	10.9
North Africa	6.0	5.9	7.7	10.1	5.9	7.1
Southern Africa	8.0	8.5	7.4	8.1	7.7	8.0
West Africa	7.3	6.0	5.1	4.7	6.1	5.8
All of Africa	9.0	8.2	6.7	7.8	7.0	7.7

Source: Extracted from World Bank publications.

Appendix 8: Nominal Protection Coefficients for Sub-Saharan Africa: 1969-2001

Agricultural Products	1969-1971	1973-1975	1978-1980	1981-1983	1987-1989	1990-2001	2005-2009
Cereals	0.75	0.61	0.85	0.88	0.90	0.79	0.77
Other Food Crops	0.60	0.40	0.60	0.65	0.77	0.65	0.65
Export Crops	0.63	0.57	0.57	0.62	0.65	0.60	0.62
All crops	0.65	0.55	0.63	0.69	0.79	0.68	0.68

Source: 1-Extracted from Oyejide (1993) (1969-1989).

2- Computed from World Bank & FAO Data. (1990-2009).

Appendix 9: Physical Integration of RECs in 2006

REC	Total TAH Links	Missing Links	Missing Link as a Share of Total (%)
COMESA	15,723	2,695	17
EAC	3,841	523	14
ECCAS	10,650	4,953	47
ECOWAS	10,578	2,970	28
IGAD	8,716	2,423	28
SADC	11,454	2,136	19
UMA	5,923	1,110	21

Sources: 1. ECA, 2004; 2. Computed from UNCTAD Data, 2008

Appendix 10: Annual Funding Requirements for National SPFS, based on Regional Economic Organization Groups (US\$ million)

SPFS: Sub-total	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
National Programmes grouped by regional organisation	320	340	360	380	440	450	460	470	480	520	540	560	580	600
AMU	6	6	7	7	8	9	9	9	9	10	10	11	11	11
CEN-SAD	66	70	74	78	90	92	95	97	99	107	111	115	119	123
CEMAC	14	15	16	17	19	20	20	20	21	23	23	24	25	26
COMESA	193	205	217	229	265	271	277	283	289	313	325	337	349	361
ECCAS	82	87	92	97	112	115	117	120	123	133	138	143	148	153
ECOWAS	51	54	57	60	70	71	73	74	76	82	86	89	92	95
IGAD	97	103	109	115	133	136	140	143	146	158	164	170	176	182
SADC	128	136	144	152	176	180	184	188	192	208	216	224	232	240
UEMOA	26	27	29	30	35	36	37	38	38	42	43	45	46	48

Source: Extracted from the NEPAD's CAADP

Appendix 11: Annual Funding Requirements for Regional SPFS (i.e. RDFS)

SPFS Regional Program mes	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sub-total	27	30	32	35	64	65	65	72	86	98	98	98	115	115
AMU	0	1	2	4	5	4	4	4	5	5	5	5	5	5
CEN-SAD	5	5	5	5	10	10	10	10	15	15	15	15	20	20
CEMAC	2	2	2	3	4	4	4	4	5	5	5	5	5	5
COMESA	0	2	3	3	8	8	8	8	10	10	10	10	10	10
ECCAS	0	0	0	0	2	4	4	5	5	10	10	10	10	10
ECOWAS	5	5	5	5	10	10	10	15	15	20	20	20	20	20
IGAD	5	5	5	5	7	7	7	7	8	8	8	8	10	10
SADC	5	5	5	5	8	8	8	8	8	10	10	15	15	15
UEMOA	5	5	5	5	10	10	10	10	15	15	15	15	20	20

Source: Extracted from the NEPAD's CAADP

Appendix 12: Total Annual Funding Requirements for National Programs and Rural Economic Organization (US\$ million)

SPFS	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sub-total national programs grouped by regional organization	320	340	360	380	440	450	460	470	480	520	540	560	580	600
SPFS: Sub-total regional groupings	27	30	32	35	64	65	65	72	86	98	98	98	115	115
Total National Programs and Regional Groupings	345	365	390	410	499	510	530	541	563	630	650	670	690	710

Source: Extracted from the NEPAD's CAADP.