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**MANAGEMENT OF THE AGRICULTURAL ECONOMY IN
SUB-SAHARAN AFRICA AFTER THE STRUCTURAL
ADJUSTMENT PROGRAMME**

By

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ABSTRACT

African economies, after having achieved a high rate of growth during the 1960s and early 1970s, started to decelerate in the 1980s and the 1990s. The major engine of growth for African countries during the decade of high growth was their exports of primary commodities to the developed market economies. The steady downward trend in African economies since the early 1970s constituted a source of major concern for many policy makers both at the national and international levels. Consequently, since the early 1980s many African countries have embarked on adjustment programmes, supported in most cases by Bretton Woods institutions to ameliorate the poor performance of their economies. Overall, the African experience does not seem to have conformed to the classical model of balance of payments adjustment mechanism. Especially, the unresponsiveness of agricultural export growth to exchange rate adjustment. In the light of the above it is proposed that structural adjustment policies in Africa should in addition to focusing on macro-economic stability be implemented in the context of recovery and growth. The vast agricultural resource base of many African countries points to the significant potential role of agriculture and its inter-relationship with overall growth. Hence it is proposed that more emphasis should be placed on the accelerated development of the agricultural sector in sub-Saharan Africa.

INTRODUCTION

The economies of Sub-Saharan Africa (SSA) are diverse, yet share many characteristics. The diversity is to be expected from the scale of its population and the varying size of its economies. The 51 states in the region vary significantly in population size. That of Nigeria, the largest, was put at 88.5 million by the 1991 census, while each of 10 other countries of the region contains less than one million people; Seychelles, the smallest, has a population of less than 70,000 (EUROPA, 1995). Climate and topography also vary from desert to rain-

forest, and from mountains to plains, and so do the natural endowments. Countries such as South Africa, Zaire, Zimbabwe and Nigeria are relatively well endowed with natural resources, while others such as Niger and Somalia have few such assets. Income per head ranges from Rwanda's US\$80 to Gabon's US\$3,880 (WORLD BANK, 1996).

It is accordingly difficult to draw general conclusions about the continent's economic performance as a whole during any given year. Nevertheless, some general points and comparisons can be made. The regions overall economic growth rate during the past two decades has been dismal. Average per capita gross domestic product (GDP) growth rates which declined from 1.4 per cent in the 1960s (McNamara, 1985) to 0.8 per cent in the 1970s also declined to a negative 1.3 per cent in 1980-90 and further to -1.8 per cent in 1990-94 (Table 1).

The leading factor behind the drastic decline in African economies had been the continued decline in agricultural production. This is because agriculture accounts for about one-third of GDP for the continent as a whole, two thirds of employment and 40% of export value. For virtually all African economies, the major agricultural exports consist of one or perhaps two or three primary products (cash crops such as cocoa, coffee, tea, sugar, sisal, etc.) whose prices fluctuate widely from year to year in the world market. Per capita annual average growth rate of agriculture declined from -1.2 per cent between 1970-80 and 1980-90 to -2.0 per cent during 1990-94 (Table 1). Of more serious consequence is the fact that Sub-Saharan Africa's food imported has increased astronomically. In 1980, it imported 8.6 million metric tons of cereals, but by 1992 it had to import 18.5 million tons (over 100 per cent increase). Food aid also increased during that period, from 1.6 million tons to 4.2 million tons of cereals. (Table 2). This development is indicative of the fact that SSA's food production cannot meet domestic demand.

The objective of this paper therefore, is to review and appraise the agricultural development policies pursued in Sub-Saharan Africa before and during the structural adjustment programmes with a view to suggesting the future direction of policy for the sustained development of this critical sector in the

TABLE 1
PER CAPUT GROWTH RATES IN G D P AND AGRICULTURE

Region	G D P			AGRICULTURE		
	1970-80	1980-90	1990-94	1970-80	1980-90	1990-94
Sub-Saharan Africa	0.8	-1.3	-1.8	-1.2	-1.2	-2
East Asia and Pacific	n. a	6.3	8.0	n. a	2.8	2.2
South Asia	2.1	3.5	2.0	-0.4	1.0	0.8
Latin America and Carribbean	3.0	-0.3	1.8	1.0	0.0	0.4
World	1.2	1.4	0.3	n. a	1.1	n. a

Source: Computed from World Bank tables (World Development Report 1996).
n. a means not available.

TABLE 2
AGRICULTURE AND FOOD

Region	Cereals Imports('000 tons)		Food aid ('000 tons)		Fertilizer Consumption (hundred gms per ha of arable Land		Fish Products (% of total daily protein suppl	
	1980	1992	1979/80	1991/92	1979/80	1991/92	1980	1990
Sub- Saharan Africa	8,647	18,512	1,602	4,223	124	136	6.70	6.10
East ASia and Pacific	26,824	33,291	1,525	581	952	2,017	12.60	10.80
South Asia	4,211	7,721	2,339	2,558	328	750	11.50	14.40
Latin America and Caribbean	25,782	27,044	721	1,779	495	485	7.50	6.70
World	186,991	245,660	8,742	13,263	791	933	7.50	7.20

Source: World Development Report 1994 (The World Bank)

region. The paper is organised into six sections of which the introduction is section I. Section II discusses the structure and productivity of agriculture in SSA and policies pursued by the governments before the structural adjustment programme of the 1980s. In section III, constraints to agricultural development in SSA are discussed. In section IV, the impact of the structural adjustment policies on the agricultural economy of SSA is highlighted. Section V suggests the future direction of policy for a sustained development of the agricultural sectors in SSA while the last section summarises and concludes the paper.

AGRICULTURAL PRODUCTION AND POLICIES PRIOR TO THE STRUCTURAL ADJUSTMENT PROGRAMME

Characteristics of Agricultural Production

The natural conditions which influence the form of agriculture are different for Africa vis-a-vis other continents. The continent is vast, and population is generally spread very thinly across it. Arable areas are separated by vast areas which are not suitable for cultivation or only marginally so, and even within the arable belts, soils are for the most part poor. Against this, there are areas which are particularly rich, as for instance the mountains of the Cameroon in the West, and of the Eastern highlands (EUROPA, 1987). Rainfall is marginal or erratic over large parts of the continent and is the primary determinant of agricultural potential. The widespread incidence of tsetse fly has held back entire regions, and in particular has until recently prevented the development of a rich potential in livestock.

In these conditions, agriculture has operated mainly on a very extensive and apparently inefficient basis with considerable use of shifting cultivation. Traditionally, farmers in the African tropics have solved the sustainability problem by permitting farmlands to revert to natural vegetation and regain fertility during fallow periods lasting from 3 to 20 or more years. The farmers would turn to earlier fallows ready to be exploited again or to virgin areas, in a pattern of shifting cultivation that would avoid permanently degrading the resource base while keeping food production at as high a level as possible. Agriculture was thus "sustainable" in the long-term over a broad cropping area. However, the rapid

growth of population and demand for cropland in recent decades has upset this balance.

Also, most farmers in Africa South of the Sahara are mainly subsistence farmers who operate on small scale. The major objective of subsistence farming is production for home consumption, but an extreme case of pure subsistence would be rare in present-day Africa where the mode of life is changing and communication systems are expanding. However, most estimates put the contribution of the subsistence sector to agricultural production at more than 80 per cent, and providing employment for not less than 90 per cent of the agricultural population (Telahum, 1984).

There is very little investment in capital equipment- farm buildings included - so that over much of the greater part of tropical Africa, the hoe and the machet are the only agricultural tools. Tractors are very little used on small-holdings, although certain governments operate tractor-hire services on a very limited scale. Ox-ploughing is very much restricted in use, particularly in comparison with Asian countries, though great progress has been made in certain areas in recent years. As a result, heavy demands are made on labour for digging and clearing land, and labour is in many areas a limiting factor. Agriculture is a seasonal activity and the labour demand varies accordingly. Surplus may exist during certain seasons, while shortages are experienced during a given season of the production cycle. The critical periods are weeding and planting periods. The seasonality of agricultural production, the high rural-urban exodus of the adult male population, and the low level of farm technology, aggravate the labour shortage in subsistence farming. Thus, labour shortage is the most critical factor limiting expansion of agricultural production in the subsistence farming system.

Similarly, there is little use of fertilizers, insecticides, or other elements of modern agriculture. Fertilizer consumption in Africa is at a very low level relative to consumption both in the developed countries and in other developing regions. Consumption per hectare of arable and permanent crop land is considerably less than in Asia and Latin America (Table 2) and within Africa it is the countries of Southern and Northern Africa which account for the bulk of fertilizer

consumption, though Cameroon, Chad, Ethiopia, the Ivory Coast, Malawi, Mali, Nigeria and Tanzania have registered large increases in consumption since the early 1960s.

Cropping patterns vary, but in all cases farmers have attempted to devise patterns which combine food and export cash crops, thus providing partial insurance against poor prices or crop failure; or which combine crops in such a way as to conserve the soil and maintain the necessary nutrient balance. For example, cocoa and coffee are intercropped with bananas, which provide shade, conserve soil against erosion, and give a basic subsistence food, while maize, millet and other grains are inter-cropped with nitrogenous legumes (especially beans and groundnuts), thus maintaining soil fertility.

Trends in Agricultural Production

African agriculture has two major components: food and export commodities. Food production, including meat, is the livelihood for most Africans. Export crops provide many African countries with their main source of foreign exchange and thus the capacity to import, invest, and develop. In what follows, trends in these two sub-sectors in the last 25 years in SSA is reviewed.

From an average annual growth rate of 1.6 per cent in the period 1970-80, agricultural output in Sub-Saharan Africa increased marginally to about 1.8 per cent per year in 1980-90 but declined to 0.7 per cent during 1990-94 (Table 3). Consequently, the 1970s witnessed a developing crisis in African food production, and this persisted into the 1980s and 1990s. This is reflected in the average per capita calorie consumption which declined from 2,244.2 in 1980 to 2,237.4 in 1990, while protein intake per caput also declined from 55.8gms to 55.3gms in the respective periods (Table 4). Africa's large cattle population (estimated at 176 million or 14% of world's total in 1984) (EUROPA, 1987) is not reflected in the levels of production of meat and dairy products. The major reason for this is the low level of carcass weights and milk yields, less than one-half and one-fifth of those for European cattle, respectively. In addition, off-take rates are low: 12% compared with European average of 35%. Cattle keepers in many areas are nomadic or semi-nomadic. Their areas of habitation are generally dry, and the

TABLE 3
AVERAGE ANNUAL GROWTH RATE (%) OF PRODUCTION

REGION	G D P			AGRICULTURE			INDUSTRY			SERVICES		
	1970-80	1980-90	1990-94	1970-80	1980-90	1990-94	1970-80	1980-90	1990-94	1970-80	1980-90	1990-94
Sub-Saharan Africa	3.6	1.7	0.9	1.6	1.8	0.7	3.6	0.5	-0.02	4.9	2.4	0.9
East Asia and Pacific	n.a	7.9	9.4	n.a	4.4	3.6	n.a	9.7	13.4	n.a	8.6	8.0
South Asia	3.5	5.7	3.9	1.8	3.2	2.7	4.6	6.9	3.8	4.7	6.8	4.6
Latin America and Caribbean	5.4	1.7	3.6	3.4	2.0	2.3	5.7	1.3	2.9	5.7	2.1	4.4
World	3.4	3.1	1.8	n.a	2.8	n.a	3.2	3.4	n.a	3.9	3.3	n.a

Source: World Development Report 1996 (The World Bank)

n.a means not available.

TABLE 4
SOCIAL INDICATORS

REGION	% OF PRY.SCH.AGE CHILDREN ENROLLED 1/		INFANT MORTALITY RATE PER(1000 LIVE BIRTHS) 1/		CALORIES CONSUMED 'PER DAY 2/		PROTEIN CONSUMED PER DAY 2/	
	1970	1991	1970	1992	1980	1990	1980	1990
Sub- Saharan Africa	50	66	142	99	2244.2	2237.4	55.8	55.3
East Asia and Pacific	88	119	84	39	2456.5	2576.7	63.1	66.4
South Asia	67	89	138	85	2079	2160	51.8	53.2
Latin America and Caribbean	95	106	85	44	2515.6	2528	66.9	67.5
World	83	102	97	60	na	na	na	na

Sources:1/ World Development Report 1994 (The World Bank)

2/ Calculated from International Marketing Data and Statistics 1995, 19th Edition (Euromonitor)

na means not available.

search for water and grazing keeps cattle weight low. Unfortunately too, the proportion of protein supply from fish production in most African's diet is the lowest in the world (Table 4), hence the low level of protein intake. By 1990-92, the average daily calorie supply in the region was put at 2,027 or about 87 per cent of the amount recommended by the Food and Agriculture Organisation of the United Nation's (FAO). In comparison, calorie supplies in the United States averaged about 3,400 per person per day. Extreme low weight is one of the first, and most visible signs of chronic under nutrition in children. Young children who do not eat enough fail to grow at the proper rate and are much more likely to contract illnesses and die than are healthy children. According to the World Bank, 31 per cent of children in Sub-Saharan Africa are considered severely underweight compared to only 2 per cent in North America. High population growth rate at roughly 3 per cent per year is a major contributor to food insecurity in Sub-Saharan Africa. Also in the 1980s, Ethiopia and the sahel were centres of drought and famine while the Southern African region was badly affected by drought and military conflict, resulting in declining per caput food production. Even in the 1990s some countries in the West and East Africa regions are still battling with civil strifes.

The stagnation and decline of food production has been accompanied, until recently, by impressive increases in the production of cash crops, mainly for export. Low prices, the drought and the priority given to food production in the 1970s has temporarily halted this increase in the case of some crops. Cocoa price, for instance which peaked at \$3,790.00 per tonne in 1977, declined to \$1,161.00 per tonne in 1993, while coffee price fell from \$5,170.00 per tonne in 1977 to \$833.00 per tonne in 1992 (Evbuomwan, 1996). Consequently, coffee production by countries in the region declined from 1,173 thousand tonnes in 1983/84 to 1,130 thousand tonnes in 1991/92, while the output of sisal dropped from 128 thousand tonnes to 97 thousand tonnes in the respective periods (Table 5). Many African countries are dependent on cash crops for much of their foreign exchange earnings. Burundi's and Ethiopia's dependence on coffee, stood at 84% and 63% of their 1984 export earnings respectively; that of Malawi on tobacco was 51%

Table 5
MAJOR AGRICULTURAL COMMODITIES OF AFRICA
 (Production '000 metric tons)

Commodity	World		Africa		Ratio	
	1983/84	1991/92	1983/84	1991/92	1983/84	1991/92
Cassava	126,034	151,943	49,798	70,192	0.40	0.46
Cocoa	8,788	2,312	957	1,254	0.11	0.54
Coffee	5,407	5,956	1,173	1,130	0.22	0.19
Cotton	16,284	19,365	1,219	1,323	0.07	0.07
Ground-nut	19,702	23,797	3,673	22,958	0.19	0.96
Maize	400,571	494,740	22,611	35,350	0.06	0.07
Millet	30,694	26,510	8,548	8,580	0.28	0.32
Sorghum	63,865	59,030	8,909	13,890	0.14	0.24
Palm Kernel	2,280	3,702	751	732	0.33	0.20
Palm Oil	6,469	12,389	1,392	1,834	0.22	0.15
Rice	460,660	522,061	9,001	13,699	0.02	0.03
Sisal	351	390	128	97	0.36	0.25
Sugar cane	903,336	1,096,479	66,332	71,057	0.07	0.06
Tea	20,951	24,967	2,307	3,170	0.11	0.13
Tobacco	6,087	7,740	318	452	0.05	0.06
Wheat	516,000	558,050	9,850	13,475	0.02	0.02

SOURCES: FAO & International Cocoa Organisation.

and of Mauritius on sugar 50% (EUROPA, 1987).

Government Policies and Agricultural Production

Given the importance of agriculture in employment, income, and export earnings, policy intervention in the sector has been widespread. Governments have intervened in all stages of production, consumption, and trade of output as well as inputs. Government policies that favour urban consumers have often stifled agricultural development in Africa. This led to rapid urbanization such that Sub-Saharan Africa now is faced with the highest rate of urban growth in the world, 4.6 per cent during 1990-94 compared to 3.3 per cent in South Asia. Sub-Saharan Africa also has a larger share of its population living in cities (32 per cent) than South Asia (29 per cent). To satisfy politically influential urban consumers, food prices were held below market levels, providing disincentives to domestic production. To control prices, governments relied on marketing boards to buy, store, and sell crops at government-set prices. The boards were characterized by overstaffing, inadequate budgets, and poor management. Exchange rate policies supported overvalued currencies, indirectly taxed farmers, and acted as a disincentive to produce export crops and other exports, thereby diminishing potential foreign currency earnings. Also, overvalued currencies made imported foods less expensive than domestically produced foods, further discouraging farmers from producing. Inaccessibility to extension services, inputs and credit, and government emphasis on industry also stymied agricultural production.

CONSTRAINTS FACING THE AGRICULTURAL SECTOR

Constraints facing the agricultural sector of Sub-Saharan Africa can be divided into domestic (endogenous) and external (exogenous) constraints. The domestic constraints include a low resource base and little use of modern farm inputs, poor infrastructure, environmental problems, unfavourable climate, civil strife and poor management of the economy (governance).

Domestic Constraints

Resource Constraints and Limited Use of New Technology

Poor production performance is rooted in low yields. Limited resources,

low level of use of suitable inputs and little new technology adoption are the principal factors constraining yield potential. Currently, yields for all major crops in the region are estimated to be lower than the world average of about 2.8 tons per hectare during 1992-94 (USDA, 1996). For example, the region's maize yields are only about 25 per cent of the world average. Regional adoption rate of high yielding varieties is very low. Fertilizer use in SSA is lower than in any other region in the world. The use of capital inputs is also very low. On the average, there are nearly 20 tractors for 1,000 hectares of arable land in use in the world. In Sub-Saharan Africa, the number is 1.2, low even compared with the developing countries of Latin America and Asia, where there are 12.5 and 8.6 tractors for every 1,000 hectares of arable land. Since Africa has not seen much improvement in technology, most increases in agricultural output have stemmed from area expansion. However, the long-term prospects for acreage expansion are not bright, because of the likelihood of moving into poor marginal lands. More than 20 per cent of all vegetative land is estimated to have been degraded due to human causes, with water and wind erosion accounting for the majority of the affected hectares (USDA, 1996). Much of this degraded area is in the Sahel, Sudan, Ethiopia, Somalia, Kenya and Southern Africa. Historically, farmers adjusted to resource constraints by using alternative and fallow cultivation. However, population pressures have encouraged continuous cropping at the expense of these sustainable agricultural techniques, leading to sharp declines in land productivity.

Weather Variability

Agricultural production in Sub-Saharan Africa is mainly rain-fed and hence very sensitive to drought. Large areas of the continent outside the forest zone have short growing seasons and highly variable rainfall. Soils are low in organic matter, which limits their moisture retention capabilities and further reduces the supply of water to growing plants. Given that rainfall in these countries can be highly variable, irrigation could reduce production shortfalls when rainfall is inadequate. However, limited water resources and capital results in only 4 to 3 per cent of arable land being irrigated. This is low when compared to other developing regions. In Latin America, 13 per cent of arable land is irrigated and

in Asia, 38 per cent is irrigated. These are quite comparable to the world average which is 19 per cent. However, investment in irrigation is costly and in most cases the returns are low. Most of the large scale irrigation schemes in the region were developed to increase production of cash crops. But then, yields in the irrigated areas are not significantly higher than those in rain-fed areas because of lack of complementary inputs, such as improved seeds, fertilizers etc) poor water control, and lack of maintenance of irrigation structures.

Political Conflicts

Civil wars and/or disturbances in many countries of the region have disrupted agricultural activities. In addition, the conflicts pose challenges of rehabilitating agricultural sectors disrupted by the dispersal of farming populations from their land, loss of crops and livestock, exhaustion of seed supplies, cutting of trees, and laying of mines on roads and in fields. According to the United Nations report, about 12 million people or about 2.5 per cent of the population are either refugees or internally displaced. In Angola, Ethiopia and Mozambique, agricultural output has responded positively and is expected to continue along this newly established growth path. Conversely, conflicts that persist in Burundi, Liberia, Rwanda, Sudan and recently in Zaire continued to stifle output.

External Constraints

The major external factors include adverse movement in the terms of trade and declines in foreign trade, aid and foreign investment.

Trade

One of the most serious of these external factors is Africa's worsening terms of trade, with declining traditional export both in price and quantities, and increasing inputs, also in both price and volume. According to the World Bank, the regions export price index declined from 136 in 1980 to 98 in 1994 while the import price index increased from 94 in 1980 to 106 in 1994 (1987 = 100). Consequently, the terms of trade declined from 145 in 1980 to 92 in 1994 (African Development Indicators, 1996).

Price levels for the region's primary exports have been uneven. Prices for many agricultural commodities (including cotton and sugar) rose during the period

1986 - 90, but prices for many others (coffee, cocoa and tobacco) have remained steady or fallen. In addition, the regions world market share of coffee, cotton and cocoa have been falling with the expansion in output of these commodities by the Asians (specifically Indonesia, Malaysia and China) at lowercost .

The import policies of the Western industrialised countries have also played a major and other negative role in Africa's export performance. Notwithstanding the benefits of the third Lome-convention, protectionism and restrictive agricultural practices, especially in the European Community and the USA, have resulted in an over-supply of some agricultural commodities, and thus dampened worldwide demand and weakened world price. Tariff and non-tariff barriers to trade by the Western industrialised countries have discouraged value-added or semi-processed agricultural imports from SSA.

Whereas, the results of the study carried out by the Organisation for Economic Cooperation and Development Centre (OECD), in association with the World Bank, on the assessment of the implications of trade reforms as proposed under the General Agreement on Tariffs and Trade (GATT) using the Rural/Urban - North/South using the (RUNS) model indicated that the structure of production changes significantly allowing each region's comparative advantage to take precedence over artificial barriers.

Inter-Regional Trade

Trade among African States is low. In 1990, regional trade accounted for only about 6 per cent (US\$41,400 million) of Africa's export volume. During 1984 - 90, no growth was recorded. Most African States produce similar products for export, generally primary agricultural or mineral products, and as most of the value added is carried out in Western industrialised countries, there is little African demand for these products. In addition, their transport infrastructure is geared for export to Western Europe, Japan and North Africa rather than to nearby countries. In Southern Africa, for example, only 4 per cent of the export trade of the 10 member Southern African Development Community (SADC) is transacted between SADC members.

African States have tried various methods of improving their trade

performance, and of developing overall regional economic cooperation. Some attempts have failed but two recent groupings with better long-term prospects of success are the SADC and the Economic Community of West African States (ECOWAS). ECOWAS has as its eventual goal the removal of barriers to trade, employment and movement between its 16 member States, as well as the rationalisation of currency and financial payments among its members. Its membership is drawn from Francophone as well as Anglophone States with as much economic diversity as Nigeria and Togo. Significant progress has been made though there is still a long way to go before all of the above objectives are fully met.

Foreign Debt and Investment

Heavy debt burden constrain agricultural development as little or nothing is left for investment after paying debts falling due. In 1960 the regions external debt amounted to less than US \$3,000 million and the average debt service ratio was only 2 per cent of exports. During the 1970s and the 1980s, the debt increased rapidly from \$51,620 million on the average in 1975-84 to \$130,838 million in 1985-89 and in the 1990s it is put at an average of \$180,331 million. Total external debt as a percentage of total exports of goods and services increased from 96 per cent of exports in 1980 to 362 per cent in 1989. In 1994 the debt export ratio was 144 and 109 for concessional and non concessional debts respectively. Although the regions debt represent only 20 per cent of the developing world total and not large by Latin American standards, nevertheless the debt/GDP ratio is as high as 46 and 34 for the concessional and non-concessional debts respectively. Africa's ability to service its debts has been hampered by severe falls in foreign exchange earnings.

The level of foreign investment has been decreasing during the past decade. Africa's share of developing countries inward investment declined from 7.5 per cent of the total in early 1980s to about 5.5 per cent by the early 1990s. Foreign investment has diminished for a number of reasons: the region has yet to broaden its investment base beyond energy and mining, which remain the prime attractions. And while foreign investors are attracted by the region's vast raw materials and

low-wage economies, they are fearful of internal political volatility, and the uncertainty of obtaining the enforcement of contracts. These condition combined with the deteriorating human and physical infrastructure have virtually extinguished investor confidence.

THE STRUCTURAL ADJUSTMENT PROGRAMME AND ECONOMIC DEVELOPMENT

Basic Features

During the 1970s and 1980s, many economies became unbalanced because of the unstable world market conditions, characterised by the following: sharp rises in oil prices during the 1970s followed by equally precipitate declines in the mid 1980s; rising world inflation during the 1970s, followed by corrective policies, especially in the United States, that included monetary restraints and rising interest rates, leading to a world recession in the early 1980s; and wide swings in the major exchange rates throughout the two decades.

A large number of developing countries were unable to cope and several governments made the situation worse by trying to finance their imbalances rather than stabilise their economies. The two main policy approaches for correcting macro-economic imbalances are: expenditure reduction including lower government budget deficits and slower creation of money; and the second is relative price adjustments particularly exchange rate devaluation. The macro-economic imbalances that many developing countries faced were characterised as that of an excess aggregate demand over aggregate supply. Consequently, African governments came under severe pressure from a variety of sources to liberalise their public economic policies.

During the 1970s and early 1980s, the most direct pressure came from the IMF. It insisted on conditionality for its support to the developing countries to address what was ostensibly regarded as short-term balance-of-payments problems. That is, the IMF required specific policy changes, usually in the area of exchange rate devaluation and reductions in government spending before a new loan agreement could be signed. In most cases, the packages of stabilization and adjustment measures includes: liberalisation of the pricing and marketing of

agricultural commodities as a means of stimulating production; streamlining, liquidating or privatising parastatal enterprises; promoting and facilitating the activities of the non-governmental sector; reducing public consumption and subsidies; restricting the money supply and increasing interest rates; increasing public revenues by improving tax collection and raising tax rates and fees charged for public services; and currency depreciation. By 1992, 32 African countries had launched Structural Adjustment Programme or had borrowed from the IMF to support reform policies. Additional pressures have come from the World Bank and US Agency for International Development (USAID). Specifically, the 1981 World Bank study proposed four major and basic policy changes which it felt were critical, namely: the correction of over-valued exchange rates; the improvement of price incentives for exports and agriculture; the protection of industry in a more uniform and less direct way; and precaution in direct government control.

Results

Evidence provided by the World Bank and from studies carried out in some countries by local experts (for example in Nigeria by Ojo et al, 1993, 1996) suggests that economic reforms have in general led to improved economic performance, but at the same time there are some outstanding problems. In 1994, the World Bank studied 29 countries in Sub-Saharan Africa which had undertaken adjustment strategies in the 1980s. The report found that 6 countries, Ghana, Tanzania, The Gambia, Burkina Faso, Nigeria and Zimbabwe which have made the most improvement in macro-economic policies between 1981 - 91 also performed best in economic terms. These countries achieved a median increase in export growth of 8 per cent while those with inefficient policy reforms sustained export decline of 0.7 per cent. Agricultural output advanced more quickly by 2 per cent in the countries which had substantially reduced their taxation of export crops, while agricultural production declined by 1.6 per cent in countries which taxed their farmers more (World Bank, 1994). Studies by Ojo et al (1993, 1996) in Nigeria also confirmed that agricultural output and exports responded positively to the SAP policies of improved producer prices, but that the exchange rate devaluation policy had also increased cost of imported inputs thus

constraining their use.

Elements Affecting Growth

Several elements of the policies appear to have adverse effects on the economies of the countries concerned as well as on the living conditions of their population. These elements relate in particular to the deflationary and pro-cyclical effects of the demand management measures embodied in the programmes.

Some of the measures contained in the adjustment packages tend to give priority to demand management aimed at reducing deficits in the public sector and on current account in the short-term, as well as at containing monetary expansion. While such measures appear to be necessary to secure an efficient use of resources, they may provoke undesirable contractionary effects upon the level of economic activity, notably in the form of shortages of imported inputs and spare parts, capacity under-utilisation, slow-down in the implementation of productive projects, and discouragement of potential new projects and investments. Some of the measures involved (notably price increases, tightening of credit and of public expenditures, and currency depreciation) also tend to have immediate adverse effects upon the standard of living and bring additional hardship to the rural and urban poor through a restricted or more expensive supply of food, of agricultural inputs such as fertilizers and other basic necessities. Similarly, they tend to raise the cost and restrict the supply of essential social services. For instance, rural infrastructural development is needed to facilitate transportation, distribute seeds, tools, and inputs, and market output.

Moreover, the deflationary measures appear to contain a pro-cyclical bias. Stabilisation programmes are normally resorted to as a means of coping with balance-of-payments disequilibria which arise to a large extent from shortfalls or a deteriorating trend in export earnings and from unanticipated levels of debt service. The programmes are thus often adopted at times, when external demand remain depressed. The deflationary measures embodied in such programmes, therefore, reduce the ability of the domestic markets of developing countries to provide the stimulus to local production that world markets are failing to generate. Improvements in market infrastructure, however, require investment, and the

likelihood of a significant increase in investment in these countries is slim. According to the World Bank, domestic savings in the countries successfully implementing adjustment policies did not increase markedly and prospects for further increase are not encouraging because of low incomes.

To stimulate agricultural growth, private agents are needed to assume functions formerly performed by the State, and redefine the role of the State and improve efficiency in the delivery of public goods. Public institutions previously played a large role in the functioning of African agriculture in terms of providing credit, delivering inputs, and supporting research and extension services. Therefore, the withdrawal of the State from the agricultural sector without defining its new role and the lack of any other institutions to take its place, failed to stimulate growth in the sector.

The adoption of these deflationary measures constitutes a critical element of the conditionality clauses and the often quite wide-ranging performance criteria embodied in stand-by arrangements and related credits provided by IMF. Developing countries have in some cases been unable to meet such criteria. The non-fulfilment of conditionality clauses and/or performance criteria has led to the suspension of the credit lines agreed to under stand-by arrangements negotiated by for example, countries like The Gambia, Sierra Leone and Sudan. Similarly, out of the five extended agreements in force at some point during the 1980s, four were cancelled before the foreseen expiry date (UNCTAD, 1987). Access to other forms of credit may also be withdrawn as a result of the collapse of such arrangements, further limiting the financial resources available with which to implement structural reforms. In other cases, negotiations between developing countries and international financial institutions have been stalled as conditionality requirements have been regarded by developing countries as jeopardizing unduly both their development prospects and the living conditions of their population.

Adjustment with Growth

Sub-Saharan African countries have been endeavouring to ensure what has been called adjustment with growth or "growth-oriented adjustment". Measures adopted in this connection relate to increased mobilisation of domestic resources

(both financial and human) and to the allocation of resources in such a way as to develop the productive basis as well as to protect the poor from undue hardship. For example in Nigeria, the government launched programmes such as: 'Better Life for Rural Dwellers; National Directorate of Employment; Directorate for Food, Roads and Rural Infrastructure etc. to mitigate the social impact of the SAP and stimulate growth.

At the same time, there appears to be an emerging perception within the international community of the need to support adjustment with growth. As regards financial institutions, the new perception has been translated into the expansion or establishment of lending facilities, such as the special facility for Sub-Saharan Africa of the World Bank and the Structural Adjustment Facility of the IMF, which provide credits of a longer-term nature than the traditional stand-by arrangements of the IMF, and thus more suitable to the promotion of the long-term development programme of developing countries. There has also been some recognition that, especially for the least developed countries (which most countries in Sub-Saharan Africa belongs), a narrower range of economic criteria monitored over a longer period, would be more appropriate.

FUTURE DIRECTION OF POLICY FOR A SUSTAINED DEVELOPMENT OF THE AGRICULTURAL SECTOR

The analysis so far shows that the key to progress in Sub-Saharan Africa lies in a sustainable growth of agricultural production. It must be remembered that agriculture still provides 30 to 60 per cent of GDP and 60 to 90 per cent of employment in most countries in Africa. Although industrial growth rates have been relatively high, there is some evidence that they have been tapering off particularly since the introduction of the Structural Adjustment Programme [1980s]. Also, industrial development has uniformly failed to provide the increased employment opportunities required to absorb the urban unemployed, let alone the rural labour surpluses that exist in some countries because of severe population pressure on available land. Hence the renewed emphasis on the role of the agricultural sector and on the need for increased food production. Self-

sufficiency would obviate the need for expensive imports of food and thus save valuable foreign exchange, and allowing for imports of capital goods for further development of the sector and other sectors of the economy. In order for agriculture to contribute significantly to growth, employment and foreign exchange earnings, there is a need for an action plan which gives the private and informal sectors bigger roles in the execution of development programmes. This must be complemented by deliberate and concerted efforts by the governments to provide desired incentives and channel increased public expenditures towards improved services, infrastructure and protection of the environment. This calls for refocusing policies and priorities coupled with a more vigorous implementation of known successful approaches based on factor endowments for stimulating growth.

Some of the elements of an effective strategy for sustaining agricultural production in Sub-Saharan Africa are outlined as follows:

- [i] Agricultural Research and Extension: the twin challenge for agricultural research in tropical Africa is to enable farmers to produce enough food for a growing population, while sustaining the natural resource base so that future agricultural production will not be jeopardized. To address these issues of resource sustainability and crop productivity, the various local and international Agricultural Research Institutes should be well funded. In addition, adequate provision should be made for extension services in order to ensure that proven research results are disseminated to farmers.
- [ii] Reforms in the input supply system; the region has considerable potential to expand food production. Its crop yields are lowest in the world and any increase in the use of modern inputs such as fertilizer could substantially improve production. To increase farmers' access to fertilizer, for example, governments should encourage private sector to freely procure [through imports or by domestic production] and distribute fertilizer. There is an urgent need to expand substantially the domestic supply of fertilizer so as to achieve the desired growth in consumption and yields. It is also

very important to increase the use of capital inputs not necessarily heavy machines, but simple farm equipments that are environment and human friendly as well as affordable. In addition, small scale irrigation schemes should be promoted. Credit incentives should also be used to promote the use of modern farm inputs such as tying them to the purchase and installation of water pumps for irrigation in addition to the provision of technical support and extension service.

- [iii] Environmental Protection: there is the urgent need to protect the rural environment and arrest the current high rate of environmental degradation through appropriate management of land, water and forest resources. In particular, results of resource management research by the International Institute of Tropical Agriculture [IITA], such as alley cropping and appropriate rotations and vegetative covers would need to be promoted. From the results of about two decades of research on African soils and the ecological social setting in which African farmers cultivate their crops, IITA has concluded that the essential principle for preventing or retarding soil degradation is to maintain a cover of organic matter on the top soil. This cover mimics and replaces the effects of the forest ecosystems in protecting and regenerating the productive capacity of the soil. Organic mulch protects the soil from structural damage, rain and excessive temperatures, supplies organic matter to replace that lost in microbiological activity by earthworms and other soil fauna and reduces nutrient leaching and acidification. In addition, governments need to promote and fund afforestation and erosion control schemes, as well as watershed management activities.
- [iv] Greater integration of crop and livestock subsectors: for increased productivity in both sub-sectors, there is need for integration. This should be supported with improved animal health services,

- improved adaptive research in livestock breeding, and development of improved delivery of inputs and marketing system using private commercial channels, supported with credit.
- [v] Fishery development: to keep pace with the growing demand for fish, to supplement protein sources; resource management, monitoring and surveillance of capture fisheries deserve support. Incentives for more active private involvement in aquaculture operation, supported by substantial extension work will be required. Adequate supply of fishing inputs and fingerlings holds the key to success in this sub-sector.
 - [vi] Intersectoral linkages: there is a good deal of room for strengthening the relationship between agriculture and industry in the development process. In sub-saharan African, there is an urgent need to strengthen the domestic manufacture of farm inputs and the development of industries to process agricultural raw materials, as agro-industrial firms are important sources of growth for the agricultural sector. For instance, the fertilizer plants in existence in some Sub-Saharan African countries like Nigeria have substantially reduced importation of this commodity. Such complementary projects should be encouraged.
 - [vii] Infrastructural development: to strengthen the production, processing, storage and marketing aspects of agriculture, there is urgent need for the improvement in basic infrastructure such as transportation, electricity, water, marketing and storage infrastructure. Also required are health, education and communication infrastructure in the rural areas where most agricultural activities are carried out.
 - [viii] Improved sectoral and macro-economic policy setting: at the sectoral level, better pricing policies are expected to improve agricultural output substantially. For example, price support schemes for selected food crops may be considered in order to

encourage their production and stem the current tide of hunger in sub-saharan Africa. For export crops, on the other hand, government should refrain from undue intervention in trade, while promoting commodity exchanges which are fully run by the private sector. At the macro-level, there is urgent need to stabilise and evolve realistic exchange and interest rates as well as keeping the inflation rate down to stimulate both local and international investment in the agricultural sector.

- [ix] Political stability and social security: social and political stability are generally associated with higher economic growth rates. Ethnic conflicts and civil wars currently plaguing most Sub-Saharan African countries need to be resolved. Also, there is need for government to make adequate provision for social security to stem the increasing wave of crimes particularly in the urban areas, in order to encourage increased local and foreign investment in agriculture.
- [x] If African governments implement their plans for economic liberalisation encompassing generally higher agricultural producer prices, revised and realistic foreign exchange rates, together with other publicly unpopular policy measures, they will require increased outside support. The OAU and the UN have launched a number of major initiatives supporting Africa's economic development. The African Priority Programme for Economic Recovery (AAPER) was adopted by the OAU in 1985, followed by the United Nations Programme of Action for African Economic Recovery and Development 1986 - 1990 (UN-PAAERD) and the latest the African Alternative Framework to Structural Adjustment Programmes for Socio-economic Recovery and Transformation (AAF-SAP) which was proposed by the Economic Commission for Africa in 1989 in Addis Ababa. This later programme was designed to counter the effects of IMF and World Bank Structural

Adjustment Programme. The US\$128,000 million African Development Programme endorsed by the UN in 1986 (Under the UN-PAAERD) and the IMF facilities were moves in the right direction.

Compounded with the struggle to provide basic food needs, most sub-saharan African countries have also been striving to meet their crippling burdens of debt. Any real boost to debt servicing capacity will have to come from an increase in the demand for Africa's goods hence the need to dismantle trade barriers, particularly as most of the modern inputs required to improve agricultural productivity are imported. Therefore, improvements in the financial conditions of the countries through increased exports of agricultural commodities and processed and semi-processed agricultural commodities will support increase in imports of essential inputs and expand agricultural production.

Finally, it is virtually impossible in the foreseeable future for countries in Africa South of the Sahara to compete in the industrial and manufacturing front with the already industrialised nations and the Asian States already firmly established as a result of lack of the requisite technology and protectionism. This is where the regional groupings such as ECOWAS and SADC etc. become very relevant. Growth in the short to medium-term will have to be based on building up consumer markets of a viable size within the continent particularly in the area of agricultural inputs and processed agricultural commodities.

SUMMARY AND CONCLUSION

This paper has attempted to review economic trends in Sub-Saharan African countries particularly the role of agriculture in the economies of countries in Africa South of the Sahara. Much of the failure to remain self-sufficient in food production can be traced to both internal and external problems. Among the major internal factors were government policies of encouraging export cash crop production principally by setting relatively lower producer prices for domestic food crops and over valued exchange rates which encouraged imports while discouraging local production. The major external causes were declining world prices for primary commodities, increased protectionism by the developed

economies and currently the debt problem.

The tendency towards real adjustment of agricultural strategies and policies is currently the order of the day in Sub-Saharan African countries. Africa is a resilient continent. It has withstood drastic changes during the past three centuries and especially during the past three decades. It has moved from colonial domination to independence in less than two generations. Recent history elsewhere, particularly in Asia, suggests that the unacceptable economic deterioration of the past 20 years can be reversed. What is still available in most countries South of Sahara is abundant areas of land and since the region does not have a comparative advantage in manufacturing, it is only logical to promote agricultural development as the basis of growth in these economies.

On a concluding note, it may be important to emphasize that the promotion of agriculture will also depend on the availability of skilled labour to run them, as for instance in the case of policy research. Research holds the key to the realisation of the contributions of different sources of agricultural growth. The concern over incomes, living standards and quality of rural life within the context of agricultural development requires more, not less, farm management research as macro economic policy research, to be relevant and valid, must be based on strong micro economic foundations. Research of relevance to agricultural development can be classified into production enhancing research, production maintenance research, value enhancing research and socio-economic research (Idachaba, 1996). The challenge therefore, in Sub-Saharan African is to develop macro-economic policy analysis capacity within agriculture beyond the conventionally narrow pre-occupation of food and agriculture policy analysis to include foreign exchange rate, international trade, monetary and fiscal policy, GATT, and regional economic blocks to mention a few, as this paper has attempted to undertake.

REFERENCES

1. Euromonitor: "International Marketing Data and Statistics 1995", 19th edition, Euromonitor, London.
2. EUROPA, "Africa South of the Sahara 1987"; Europa Publication's Limited, London.
3. EUROPA: "Africa South of the Saharan 1995", Europa publication's Limited, London.
4. Evbuomwan, G.O: "An Empirical Analysis of the Prices of Nigeria's Agricultural Export Commodities", Central Bank of Nigeria (CBN), Economic and Financial Review (EFR), Volume 34 March 1996, No.1
5. Evbuomwan G.O: "A Review of the Federal Government Fertilizer Subsidy Scheme in Nigeria", Central Bank of Nigeria Economic and Financial Review, Vol.29, No.3, September, 1991.
6. Ezenwe, Uka: "Regional Dimensions of Structural Adjustment in West Africa", Presidential Address delivered at the NES 1996 Annual Conference, Uyo Nigeria.
7. Idachaba, Francis: "Boosting Agriculture through Policy Making" Business Times (A weekly Nigerian Newspaper) Monday, November 4, 1996, page 5 ,
8. International Institute of Tropical Agriculture: "Towards Sustainable Agriculture in Sub-Saharan Africa". Printed by Intec Printers Limited, Ibadan, Nigeria.
9. McNamara, Robert S.: "The Challenges for Sub-Saharan Africa". Sir John Crowford Memorial Lecture, Washington, D.C. November 1, 1985.
10. Ojo, M.O., Balogun, E.D. and Evbuomwan, G.O. (Mrs.): "Sustaining Agriculture Production in a Deregulated Economy", C.B.N. EFR, Vol. 31, No.2. June, 1993.
11. Ojo, M.O. and Akanji, O.O. (Mrs.) "The Impact of Macroeconomic Policy reforms on Nigerian Agriculture" CBN, EFR. Vol.34, No. 2, June, 1996.
12. Telahum Makonnen: "Traditional Subsistence Farming in Africa and Planning for its Development". Paper prepared for the Workshop on Policies and Programmes for Increased Food and Agricultural

Production in Traditional Subsistence Farms Organised by the United Nations, Economic Commission for Africa (Joint ECA/FAO Agriculture Division) in Arusha, Tanzania, 10-14 December, 1984.

13. **The World Bank: "Trends in Developing Economies Extracts", Volume 3, Sub-Saharan Africa". The International Bank for Reconstruction and Development/THE WORLD BANK, 1818 H Street, N.W. Washington,D.C. 20433, U.S.A. 1995.**
14. **The World Bank : "Adjustment in Africa, Reforms, Results, and the Road Ahead". Oxford University Press, New York 1996.**
15. **The World Bank: "World Development Report 1994" Oxford University Press, New York.**
16. **The World Bank: "African Development Indicators 1996" The World Bank, Washington DC.**
17. **The World Bank: "World Development Report 1996" Oxford University Press New York.**
18. **United Nations: "The Least Developed Countries - 1987 Report", Prepared by the United Nation's Conference on Trade and Development (UNCTAD) Secretariat, United Nations, New York, 1988.**
19. **United States Department of Agriculture (USDA): "Food Aid Needs Assessment", Situation and Outlook Series, International Agriculture and Trade Reports, Economic Research Service GFA - 8, November, 1996.**