Agriculture and trade in Sub-Saharan Africa

A review

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Abstract: *Savanna Africa is characterized by smallholding agricultural systems that produce a mixture of food and cash crops in a single season. Crops can be rotated, intermixed, or grown in specialized plots. In the former rainforests nearer the equator, crops such as cassava and maize are sown in close proximity to cocoa and oil palms, while tea is sometimes grown in specialized plots or in plantations. Traditionally, the cash crops of the savanna have been cotton and groundnuts, with cocoa, oil palm and tea in the forest areas. Various UNCTAD and FAO reports have recently drawn attention to the declining terms of trade for these products and the serious impact this has been having on the African economies concerned through loss of foreign-exchange earnings and the lack of replacement exports. UNCTAD now proposes that this dependence on a few basic exports should be overcome by domestic programmes of diversification and product development sponsored directly by African governments, as well as by international measures to reduce fluctuations in export earnings. This paper questions how these proposals might affect the various systems of smallholder agriculture in Sub-Saharan Africa.*

Keywords: *export crops; African farming systems; UNCTAD proposals; research and extension in Sub-Saharan Africa*

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The recent report by the United Nations Conference on Trade and Development – UNCTAD (2004) on African trade performance and commodity dependence raises a number of issues about the slow development of smallholder agriculture in Africa south of the Sahara. One of the legacies of colonial administration of African territories – Belgian, French and British – was a system of well established agricultural research centres and extension bodies aimed at improving the performance of small farmers in the wider savanna areas dependent on rain-fed agricultural production. Contributions to this Journal indicate that many of these establishments are still in place and working to the same broad ethic of farm-management improvement. UNCTAD and Food and Agriculture Organization (FAO) reports often stress this region's foreign-exchange dependence on a narrow range of export crops as well as its tendency to fall behind in meeting the demand for foreign exchange. While UNCTAD places considerable emphasis on external trade factors in its reports, the broader question is whether agricultural farming systems in savanna Africa have responded to the challenge of earning foreign exchange and helping domestic economic growth while at the same time maintaining domestic food supply. This article looks at recent reports that discuss agricultural and economic development in Sub-Saharan Africa and the resulting

Table 1. Africa: total agricultural and cereal output, 1992–2000 (index numbers, 1989–91 = 100).

	1992	1993	1994	1995	1996	1997	1998	1999	2000
Africa									
Agriculture	104.2	107.1	109.7	112.8	124.0	122.1	126.8	129.2	128.8
Cereals	98.0	101.6	110.2	105.5	129.3	115.1	123.5	121.0	118.0
North Africa									
Agriculture	105.3	107.1	106.6	105.1	132.3	120.7	129.3	132.9	130.8
Cereals	105.1	86.1	94.2	82.5	155.5	89.0	122.8	106.5	94.2
Sub-Saharan Africa									
Agriculture	104.2	107.4	110.4	115.0	121.5	122.0	125.8	128.0	127.9
Cereals	98.4	106.1	109.9	112.0	123.4	119.3	123.2	123.0	122.0

Source: UNCTAD, 2001 and FAOSTAT.

implications for foreign-exchange earnings. The focus is on the Sub-Saharan region as whole rather than on individual countries and crops.

The state of agriculture

Agriculture in this region is characterized by smallholdings (commonly less than 5 ha), family labour and a lack of mechanization. Principal foodcrops vary from zone to zone: cassava in the forest, and maize and sorghum in the savanna. Cash crops, interplanted or sown separately, are cotton, groundnuts, and in the wetter areas coffee, cocoa and palm oil. Male out-migration is a characteristic of this region and the majority of farm cultivation is performed by women and children (FAO, 2002). Normally there is a short rainy season, around which planting is based, although in East Africa there are two short rainy seasons, with some specialization of crops suited to each. The livestock economy tends to be separate from the agricultural economy, although the benefits of manure application, where available, are well understood by smallholders.

Agriculture is crucial to economic growth in the region (UNCTAD, 2001). For the 1990s, annual average agricultural-growth rates for Africa as a whole, Africa south of the Sahara (SSA) and North Africa were 2.6, 2.5 and 2.8% (Table 1). In SSA, there was a 30% increase in agricultural production as a whole between 1989 and 2000, and a 22% increase in cereal production. In SSA, the agricultural-growth rate was slightly below the growth rate of the population (2.6% per annum), although in North Africa, it was well in excess of population growth (1.6%) (UNCTAD, 2001). Thus in SSA, agricultural production as a whole was not producing surpluses above population food needs over the decade.

Figures in Table 2 show that there was considerable variation among African countries regarding agricultural growth. While 30 countries experienced declines in *per capita agricultural output* between 1990 and 2000, 10 countries had moderate increases (ie less than 1% per annum), and 12 countries exceeded 1% (UNCTAD, 2001). The majority of negative cases were in SSA (including South Africa), although a significant number were also in the highest performance group. Good weather in most of SSA from 1993 until 1998 (with the exception of 1997) made a significant contribution to agricultural growth, which averaged 3.9% per annum for 1993–96 and 3.1% for 1995–98.

According to FAO (2002), changing sectors of the economy have played an increasing role in SSA's economic growth. FAO notes that real GDP growth has varied between 2.5% and 3.7% in the region between 1997 and 2001. Some countries, for example, Uganda, Ghana and Cameroon, have averaged around 5% growth, but Côte d'Ivoire, Kenya, Nigeria and South Africa averaged less than 2% in the same period. FAO observes that since the 1980s industrial growth has fallen behind GDP growth, and there appears to be a shift towards a higher dependency on growth in sectors such as *agriculture* and *services.*

While African countries have in the past experienced surges of investment and growth, they have not been able to establish a virtuous circle of investment, savings and exports. These changes have been accompanied by a change in attitudes to industrialization. With the move to trade liberalization and the decline in state-owned enterprise (including the marketing boards), the industrial sector has lost importance. As already observed, industrial growth in SSA is becoming more and more dependent on agricultural growth, either through backward linkages or through demand originating from the rural population (UNCTAD, 2001, p 7).

UNCTAD further observes that there appears to be a very weak relationship between agricultural policy reforms and output growth. Deregulation of agricultural markets seems to have failed to trigger the expected supply response in most countries. Increases in agricultural output in the mid-1990s were associated with improved terms of trade, which also played a major role in the second half of the 1990s. But agricultural performance generally deteriorated, with adverse weather conditions towards the end of the decade, as well as the worsening of the terms of trade after 1997. This has led to a precarious situation for food crops in most of southern Africa.

The other major contributor to economic growth is exports of goods and services. Africa characteristically has been an important supplier of commodity crops such as cotton, groundnuts, cocoa and coffee for many years. Unfortunately, Africa's share of world trade has been in decline since the 1980s (Table 3). In SSA particularly, the share of world exports declined from 2.5% in 1980 to 0.9% in 1999, and the share of world imports declined from 2.1% to 1.0%. The reasons for this are taken up in the new UNCTAD report on trade performance, which is discussed below.

Table 2. Distribution of agricultural growth in Africa, 1990–2000.

	Number of countries in which agricultural output is:			
	Negative	**Positive, but negative per capita**	**Positive, below 1% per capita**	**Higher than 1% per capita**
Africa	12	19	10	12
North Africa	1	0	2	2
Sub-Saharan Africa (including South Africa)	11	19	8	10

Source: UNCTAD, 2001 and FAOSTAT.

Table 3. Africa's share of world exports and imports, 1980–99 (%).

	1980	**1990**	**1995**	**1999**
Exports				
Africa	4.6	2.3	1.6	1.6
North Africa	2.2	1.1	0.7	0.7
Sub-Saharan Africa	2.5	1.2	0.9	0.9
Imports				
Africa	3.6	2.4	1.8	1.9
North Africa	1.5	1.2	0.9	0.9
Sub-Saharan Africa	2.1	1.1	0.8	1.0

Source: UNCTAD, 2001.

Table 4. Composition of exports from Sub-Saharan Africa, 1980, 1990, 1997 (share of total exports, %).

	1980	**1990**	**1997**
Crude petroleum	75.6	61.3	54.7
Non-oil primary commodities	19.7	22.8	26.6
Manufactures	4.0	15.5	18.4
Unclassified	0.7	0.4	0.3

Source: UNCTAD, 2001.

Crude petroleum is the most important export category from SSA, followed by non-oil primary commodities and manufactures (Table 4). Since 1980, the relative value of petroleum has declined and the share of commodities and manufactures has increased. Petroleum is an important export for only a few countries (eg Nigeria). For the majority of SSA countries, the share of commodities in total exports is much higher than shown in Table 4 (UNCTAD, 2001, p 28).

Individual African countries have their speciality exports depending on climate and soils and historic circumstances (Table 5). Cocoa beans are mainly grown in West Africa in the forest zones; coffee in the Ivory Coast and East Africa Highlands; cotton in Mali and northern Nigeria; tobacco in east and central Africa; sugar in southern Africa and Mauritius; tea in east Africa; and meat in southern Africa. More interesting perhaps is the order of export growth in these commodity products in the period 1980–2000. The front-runners are vegetable materials, fruit and nuts (non-oil) and meat. These exports have been doubling every 10–11 years. In the middle range are tobacco, cotton and tea, which are doubling exports every 23 years. The lowest growth of all is in sugar, cocoa and coffee, which would double their exports levels every 35–60 years. As the UNCTAD reports emphasize, those countries that can diversify away from traditional commodity exports and develop new products for new markets are those that are likely to gain most from the export trade. Also interesting is the dominance of some countries in individual product markets: Ivory Coast for cocoa; Zimbabwe for tobacco; Mauritius for sugar; and Kenya for tea. These examples suggest the presence of a strong infrastructure for these products in these countries.

Policy implications

In its 2001 report on economic development in Africa, UNCTAD suggested a reorientation of domestic policy treatment of these issues (UNCTAD, 2001, p 49). In the 1970s, SSA countries' favourable terms of trade and aid flows allowed investment and growth to be raised in much of the region. However, the failure to increase domestic savings and diversify and expand exports meant that once the external environment deteriorated from the late 1970s onwards, growth could not be sustained. UNCTAD suggests these problems originated in development strategies that were pursued without adequate attention to *agricultural productivity* and industrial competitiveness. Policies were underpinned by a strong bias against nascent private entrepreneurs, accompanied by extreme optimism about the capacity of the state in promoting development.

Following a period of structural adjustment and market liberalization in the 1980s, UNCTAD sees the need for a reassessment of the role of government intervention in these countries. *Agriculture, international trade and finance* are the three principal areas in which the role of government intervention needs to be reconsidered. Encouraging agrarian capital formation and productivity growth requires a policy that increases the profitability of investment and lowers risk by providing a stable environment and lowering technical and financial restraints on the capacity and willingness to invest. This is a role for governments, and provision of such services as are needed is unlikely to come from other sources. An objective assessment needs to be made of the impact of dismantling agricultural marketing boards on incentives and supply restraints. There is also a need to focus on growth-enhancing policies, including promotion of exports of dynamic products, rather than concentrating on trade liberalization (UNCTAD, 2001, p 51).

From the agricultural-development point of view, these recommendations suggest a restoration of investment in agricultural science research institutions and a strengthened extension service, on the one hand, while on the other they suggest a fresh emphasis on product and market development to find opportunities worth exploiting and developing. These may be in the agricultural

Table 5. Dominant agricultural exports by countries of origin in Sub-Saharan Africa, 2000.

SITC code	Commodity	Share of total SSA exports	Growth, 1980–2000	Top four exporting countries in SSA, and shares
072	Cocoa	6.6	1.6	Côte d'Ivoire (70.3) Ghana (21.1) Cameroon (7.2) Togo (0.3)
263	Cotton	5.5	3.1	Mali (21.7) Zimbabwe (14.5) Côte d'Ivoire (12.0) Chad (11.7)
071	Coffee	4.7	1.2	Côte d'Ivoire (25.7) Ethiopia (21.6) Kenya (13.0) Uganda (10.6)
121	Tobacco	3.9	3.1	Zimbabwe (64.4) Malawi (25.3) UR of Tanzania (4.2) Uganda (2.9)
061	Sugar	3.0	2.0	Mauritius (38.2) Swaziland (19.4) Zimbabwe (16.4) Malawi (6.8)
074	Tea	2.5	3.0	Kenya (76.9) Uganda (6.2) Malawi (6.0) UR of Tanzania (5.4)
057	Fruit and nuts (not oil)	2.4	6.6	Côte d'Ivoire (34.1) UR of Tanzania (17.0) Mozambique (10.7) Cameroon (9.7)
011	Meat	1.4	6.3	Botswana (47.5) Namibia (31.3) Sudan (10.8) Zimbabwe (5.7)
292	Other vegetable materials	1.3	7.3	Kenya (34.5) Ethiopia (21.3) Sudan (10.1) Zimbabwe (9.3)

Source: derived from UNCTAD, 2004.

sector or outside it. Tourism springs to mind in the latter situation. Government sponsorship and investment should be undertaken as an acceptable development technique. Discriminatory policies against agricultural producers, such as low prices for food crops (to protect urban consumers) and taxes on exports, should be discontinued. Major policy changes are needed to encourage export growth and domestic development.

Report on trade performance and commodity dependence

The UNCTAD (2004) report on trade performance and commodity dependence is a further elaboration of the above development thesis for the SSA region. Most African countries have been losing market shares in commodity exports to other developing countries, while at the same time most have been unable to diversify into manufactured exports. Africa's difficulties in maintaining market shares for its traditional commodities are stated to derive from its inability to overcome structural constraints and modernize its agricultural sector, combined with the high cost of trading. The failure to increase productivity in agriculture relates to land tenure and small-scale farming, rudimentary technology and policies that reduce the role of state institutions in innovation and investment. As a result, SSA has lost its comparative advantage in producing cocoa, tea and coffee *vis-à-vis* the new and more competitive producers in Asia and Latin America, say UNCTAD. The loss of market shares for cotton and sugar is largely the result of high subsidies and domestic support for less competitive producers in the USA and Europe.

Africa's difficulties in breaking into trade in market-dynamic products are also related to significant changes that have occurred in recent years in international trade in agricultural products. World trade has shifted from traditional commodity exports to non-traditional ones such as fruits, vegetables, fish and seafood, which have a high income elasticity and lower rates of protection in industrial and large developing countries. Africa's lack of response is said to reflect an inability to tap into cheaper finance, efficient logistics and increased capital resources and skills. Problems also arise in meeting sanitary and phytosanitary requirements in importing countries for food exports.

On the trade side, UNCTAD identifies price volatility, the declining terms of trade for commodity products, restrictions on market access, greater claims on margins in the value chain, and subsidies in importing countries as working against SSA interests. While market-access issues may be partially resolved by further developments in the World Trade Organization (WTO) forum, UNCTAD argues that these characteristics of the commodity trade have to be overcome by policy actions within the SSA countries themselves – hence its emphasis on product development, development of the infrastructure of science and services, and development of market outlets for specific products.

Policy prescriptions

> Governments [in SSA] have a critical role in macroeconomic management and in encouraging and promoting horizontal and vertical diversification toward higher-value-added products through an integrated programme of 'supply side responses' such as the provision of fiscal and other incentives, extension services, trade facilitation , market research and quality control (UNCTAD, 2004, p 47).

While the need for sound macroeconomic management may seem obvious, it is clear that the circumstances of the last two decades have not been kind to SSA countries. Nevertheless, some stability in export earnings and political management is essential if steady export growth in the commodity sector is to be encouraged. Governments have a critical role in ensuring a stable macroeconomic framework underscored by appropriate exchange rates, fiscal and monetary policies. UNCTAD says the real exchange rate in particular must be at a level that ensures competitive exports and encourages new investments in the domestic sector.

UNCTAD identifies that institutional capacity should be built up in research, provision of public goods, quality improvement, production adjustment and diversification of the product mix. The emphasis in research is on market intelligence rather than on R&D *per se*, but the general point is made that a policy of diversification will not succeed without adequate back-up research. The public goods identified are market research, infrastructure development and handling services and processes for the export industry. Quality improvement refers to systems of quality assurance – a gesture towards some of the functions of the old marketing boards. Production adjustment refers to the need for systems to deal with changes in productive capacity as market needs change, and diversification is the pursuit of all the higher-value-added products that might form the export mix in the future. Vertical diversification is stressed as downstream development in quality systems and technological upgrading that will be required to remain in contact with foreign markets. UNCTAD also sees scope for expanding regional economic cooperation and integration in SSA. Greater coordination in customs procedures, reducing tariffs and non-tariff barriers, and improving transport and communications, could be achieved through the New Partnership for Africa's Development (NEPAD). Opportunities exist for intra-regional trade in food items such as maize, cassava and fish, as well as in live animals and bovine meat.

At the international level, UNCTAD sees the possibilities of positive action in the areas of international commodity agreements, market access, compensation for subsidy-related income losses, compensatory financing mechanisms, and through overseas development assistance (ODA). Developing countries could examine the feasibility of establishing supply-management schemes for a selected number of commodities for which they are major producers and exporters. Once this feasibility is established, the next stage would be to work out a financing mechanism at the international level to help these countries develop a system of supply rationalization and diversification into other products in order to remove excess supply from markets. Market access could be improved by concessions from Organisation for Economic Cooperation and Development (OECD) countries and also by the steady movement of competitors such as Asia and Latin America out of commodity markets. Compensation for subsidy-related income losses relates to a proposal by the President of Burkino Faso for protectionist countries to pay African cotton producers for income losses arising out of domestic crop subsidies. Compensatory financing mechanisms might be possible during commodity price slumps if suitable arrangements could be set up in advance. ODA could be directed to improving human and physical infrastructure and institution building to help towards a steady and sustained diversification programme in Africa. In summary,

> Africa can only reduce its commodity dependence and launch itself on a high and sustainable growth trajectory within the context of a major overhaul of its domestic policies and complementary international policies. The primary responsibility for overcoming these problems lies with African Governments themselves. With the adoption of the New Partnership for Africa's Development, Governments have made it clear that they are assuming their responsibilities. However in the light of the above analysis and other research conducted by the UNCTAD secretariat, global economic conditions and externally induced shocks have an important impact on domestic conditions in African countries. It therefore behoves the international community to assume its share of responsibility by supporting a consistent and coherent policy framework that does not frustrate Africa's own efforts at economic restructuring and diversification (UNCTAD, 2004, p 62).

Implications for agricultural policy

Commentators have noted that the UNCTAD prescription has shifted away from the free-market model of development in vogue since the 1980s. It now recognizes that the required infrastructure for product and market development will only be accomplished with government guidance and assistance. The burden is too great for small-scale producers. Some of the development and quality-assurance functions of the old marketing boards need reinventing. ODA could be directed at this kind of objective.

The reports are less sure on the problems of smallholder agriculture. There is no assessment of the widespread R&D network of research stations and international aid by the likes of the Consultative Group on International Agricultural Research (CGIAR). There is no assessment of staffing levels and skills in the extension arms of the various ministries of agriculture. There is no assessment of the potential of African farming systems, apart from odd remarks about the plentiful supply of land, and no assessment of resource restrictions, eg on water, and service industries. All these would be involved in any diversification and new product-development programme, as well as competition from food crops.

It seems to me that diversification and new product programmes are not without their own risks. Somehow new product development has to be dovetailed with supply chains, overseas marketers and consumer preferences. This process is likely to be slow as well as uncertain. I believe there will be setbacks for some of these programmes in today's global marketing scene.

On the social side of smallholder agriculture, a new balance is needed in the gender of the labour supply. The dependence on women has been shown by FAO (2002) to be a considerable restricting factor in improved productivity. In the past, the rewards from urban employment (including estates) have tended to be *additional* to the rewards/income derived from smallholder agriculture. Quite a large improvement in cash-crop income would be needed to compensate for this source of income. Education for women may be a better strategy in the long run, especially if urban wages rise too fast. Another possibility could be the development of estate farming. If management skills can be found and cronyism avoided, the restrictions on the scale of African farming could be overcome. As specialist crops and products are identified, and markets developed, estate agriculture may offer a way ahead (without reverting to the post-war groundnut model in East Africa).

Of the international solutions discussed, I find the NEPAD proposal the most promising. If intercountry trade within SSA can be harmonized and encouraged, more realistic price expectations can be formed for some exportable products. Trade will always have its fluctuations, but the promise of short supply chains and nearby consumers offers the most hopes for producers. I believe the other international proposals to be more difficult to negotiate and to finance, and thus less likely to benefit producers even in the long run.

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