

Analysis and Strategic Priorities for West African Food Security and Poverty Reduction

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By Sarah Gavian¹ and Jean-Charles LeVallee²
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¹ Sarah Gavian is a Senior Associate with Abt Associates Inc., 4800 Montgomery Lane, Bethesda, Maryland, 20814.

² Jean-Charles LeVallée is a food security consultant in Ottawa, Canada. He is also the editor of the Food Security Development Gateway at <http://www.developmentgateway.org>.

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1. Introduction

Under its sixth strategic objective (SO6), USAID's West Africa Regional Program is working to improve the implementation of food security policies and programs in West Africa. Historically, USAID has worked with the *Comité Permanent Inter Etats de Lutte Contre la Sécheresse* (CILSS), an intergovernmental organization of nine Sahelian countries³ with a mandate to promote food security and fight the effects of drought and desertification in the region. In 2000, USAID/WARP supported CILSS in developing a food security and poverty reduction framework (*Cadre stratégique de sécurité alimentaire durable dans une perspective de lutte contre la pauvreté au Sahel*). The framework was approved in November of that year by the heads of the nine CILSS states. With the growing focus on integrating the people and issues of the Sahel into the larger West African community represented by the Economic Community of West African States (ECOWAS)⁴, the CILSS heads of state agreed that CILSS could extend its Food Security program beyond the boundaries of the nine CILSS member countries to the additional eight of the ECOWAS region.⁵

The task of developing a truly integrated food security perspective and strategy for West Africa is enormous, requiring significant collection and analysis of data, which at the present time are spotty, difficult to access, and even in cases, non-existent. More profoundly, such a task requires a process that encourages dialog between countries, identifies and establishes expertise, creates consensus and confers legitimacy. At this writing, there are several efforts underway to foster such a process, such as efforts to locate a CILSS representative at ECOWAS headquarters in Abuja and preliminary regional discussions concerning a common agricultural policy. Such institutional processes will take considerable resources and patience.

In the meantime, the objective of the current report is to serve as a very preliminary overview of the differences in food security data between the CILSS and nonCILSS members of ECOWAS. In addition to commenting on the food security diagnostic suggested by those data, we draw on the greater body of literature concerning food security theory, methods and information to address the issues, constraints, information requirements, processes and contacts needed to develop a truly regional food security strategy for West Africa.

³ Burkina Faso, Cape Verde, Gambia, Guinea-Bissau, Mali, Mauritania, Niger, Senegal, and Chad.

⁴ Also known by its French acronym of CEDEAO: Communauté des Etats de l'Afrique de l'Ouest.

⁵ The additional countries include Benin, Cote d'Ivoire, Ghana, Guinea, Liberia, Nigeria, Sierra Leone and Togo.

2. Data from the Cadre: Comparing the Sahel and the Coastal Regions of ECOWAS

The *Cadre* lays out in a series of tables principle characteristics of the Sahelian countries in terms of population, economic structure and growth, trade balances, inflation, development aid, and external debt. It also presents an overview of food insecurity in the Sahel based on social indicators (e.g., literacy, low birth weights, access to potable water and health services), poverty measures, agricultural indicators (area cultivated, food crop and livestock production, land and water resources), and food balance sheets (cereal production, imports, consumption and deficits). Tables for these data are included in Appendix 1 for both the Sahelian (CILSS) and Coastal regions of ECOWAS.⁶

The picture that emerges is of a rapidly growing, rapidly urbanizing population with much poverty and slow-growing economies that barely keep up with that population growth. With the exception of Nigeria – which is home to one half of all West Africans – most countries maintain trade deficits and extremely high debt loads. Development aid constitutes about 6% of total GDP, with a marked decrease in recent years. Incomes are unevenly distributed and poverty is extreme. Access to social services such as health, potable water, and education is poor. In spite of these adverse conditions, food availability, daily calorie and daily protein availability per capita has increased slightly over the last decade.

While there are some important differences in these core indicators between the drier Sahelian countries and more humid Coastal countries of West Africa, those differences do not alter this basic picture. Nevertheless, as will be argued in Sections 3 and 4, information on many likely influences on Coastal food insecurity were not presented in the *Cadre*. The data that were presented suggest that the Coastal countries have lower population growth rates, higher rates of urbanization, about the same degree of economic stagnation, somewhat less dependence on agricultural incomes, and better trade balances (due to Nigeria). Coastal agriculture is characterized by smaller per capita cropped areas (due in part to better soils and rainfall) and a greater production of roots and tubers (at the expense of cereal crops) than the Sahel. The Coast has slightly lower rates of poverty, and slightly higher access to social services. Per capita cereal availability and daily calorie supply are higher than in the Sahel while daily protein supplies are somewhat lower.

⁶ The data for the Sahelian countries are replicated as presented in the *Cadre stratégique de sécurité alimentaire durable dans une perspective de lutte contre la pauvreté au Sahel*. The data for Coastal West Africa were compiled as part of the terms of reference for this assignment. The data are drawn from the same sources, except where otherwise noted. It was not possible to find comparable data for

Population and Demography

- There were approximately 232 million West Africans in 1998, with fully one half coming (52%) coming from Nigeria (Table 1). Ghana accounted for 8% (or 18.5 million), followed by Cote d'Ivoire at 6.3% (14.5 million), Burkina Faso at 4.7% (11 million) and Mali at 4.3% (10 million). Taken together, the Sahelian countries constitute 23% of West Africa's population.
- West Africa is urbanizing. In 1998, 38% of the population lived in urban areas. Only 28% of Sahelians were urban residents as compared with 41% for the coastal populations. There was more intra-regional variation between Sahelian countries than between coastal countries.
- Overall, West Africa had an average growth rate of 2.7% from 1990 to 1998.⁷ With the exception of Cape Verde, the Sahelian countries had high growth rates, with six of the nine growing at 3% per annum or more. The average growth rate for the Sahel was 3.2% versus 2.5% for the coastal countries.

Economic Structure and Growth

- Combined GDP for West Africa in 1998 was 72.8 billion dollars. Of that, the Sahel accounted for 22 percent (Table 2).
- GDP per capita is \$294 in the Sahel versus \$318 for the coast, a difference of 8%.
- The service sector dominates both Sahelian (47% of GDP) and Coastal (41%) economies; however Sahelians depend more on agriculture (32%) than industry (21%) for their livelihoods, whereas Coastal populations depend more on industry (31%) than agriculture (28%).
- West Africa grew at a real rate of 3.1% per year from 1990-1999 (Table 21), Sahelian growth was stronger than that of the Coast (3.5% versus 3.0% for the decade). Due to rapid population growth, per capita income growth was completely stagnant across West Africa and in the Coastal region. The Sahel had a very small increase in per capita income growth (0.3%) during the decade.

Trade, Debt and Development Aid

- As a whole, West Africa maintains a negative trade balance (Table 3). Imports were 12% greater than exports in 1996, leading to a trade deficit of \$ -3 billion. That deficit was primarily due to the trade deficits run by Sahelian countries (\$ -4 billion) versus the overall trade surplus of the Coastal countries (\$1 billion). Particularly large trade gaps (defined here as imports relative to exports) were run by Niger, Mali and Burkina Faso. Nigeria alone accounts for 54 % of West African imports, 44% of West African exports and a trade surplus of \$966 million dollars.
- West African debt totaled \$75 billion dollars in 1998 and was divided between the Sahel and the Coast in roughly the same proportion as their populations and economies: 21% versus 79% (Table 4). By far the largest share of the region's

⁷ This is an average of the individual country growth rates weighted by their 1998 population.

debt was held by Nigeria (\$30 billion or 40%) but in terms of debt load Guinea Bissau (504%), Mauritania (273%), Sierra Leone (198%), Cote d'Ivoire (145%), Gambia (117%) and Guinea (102%) all maintain debt levels at least twice the size of their economies (as measured by GDP). All West African countries except the smallest (Cape Verde) and the largest (Nigeria) qualify for debt relief under the terms of the World Bank/IMF HIPC⁸ debt initiative.

- Development aid to West Africa was \$4.7 billion in 1998, or 6.4% of total GDP (Table 4). The Sahel received 46% of this assistance, which is a disproportionate share in per capita terms.

Social Development Indicators

- The proportion of West Africans lacking access to key social services is very high (Table 5). Forty-eight percent lack access to potable water (42% for the Sahel and 49% for Coastal counties). Forty percent lack access to health services (57% for the Sahel and 40% for Coastal countries). Sixty-two percent lack access to basic sanitation (67% for the Sahel and 61% for Coastal countries). Adult illiteracy is 47% in the region, considerably worse in the Sahel (70%) than in the countries of the Coast (40%). Similarly, the 38% of school enrolment for the region masks important differences between the Sahel (27%) and the Coast (42%).
- Data on income distributions are not easily computed at regional levels (Table 6). In both the Sahel and Coastal West Africa, the richest 20% of the population commands over 50% of the wealth while the poorest 20% survives only about 5% of the wealth. Some countries have slightly better income distributions than others (Ghana, Guinea, Cote d'Ivoire, Mauritania, and Senegal) but the differences are minor.
- Poverty rates are also difficult to compare across countries because such data are not collected on a regular basis (Table 7). Poverty is extremely high in West Africa, as in all of Africa. The share of the population living below the national poverty line in the Sahel ranges from 30% in Cape Verde to 69% in Mali. The range for the Coastal countries is about the same, 31% for Ghana to 68% for Sierra Leone. However on average, the Sahelian poverty rates are about 10 percentage points higher than the Coast. In Nigeria, West Africa's oil-rich giant, 43% of the population still lives in conditions of dire poverty.

Agricultural Indicators

- There is more agricultural land in the Sahel than along the Coast of West Africa (156 versus 128 million hectares) but a much smaller share of arable land available (11% versus 32%) (Table 15). Sahelians have about twice as much arable area available (0.5 versus 0.25 ha/rural resident) than do Coastal populations and actually cultivate about 46% more (.46 versus .32 ha cultivated per person, Table 8).

⁸ Highly Indebted Poor Countries. See <http://www.worldbank.org/hipc/>.

- Irrigation plays a bigger role in Sahelian agriculture than along the Coast. Although a smaller portion of arable lands in the Sahel has irrigation potential (13% versus 19% for the Coast), a much greater portion has actually been put under irrigation (20% versus 6% for the Coast). (Table 15).
- In terms of the types of crops analyzed in the *Cadre* West Africans devote more than half of their land area to cereals (73% in the Sahel and 61% along the Coast) (Table 8).

Food Balance

- The food balance computations used in the *Cadre* were based solely on cereals, which are the basis of Sahelian calorie consumption. As is evident in the production data, the coastal countries grow and consume a far greater share of other crops, particularly roots and tubers. Thus any assessment of food balance that does not include nutritive values for other crops such as roots and tubers and pulses is likely to understate calorie availability in the coastal countries relative to the Sahel. (Likewise, omitting conversions for animal products may understate available protein for Sahelians relative to coastal dwellers).
- Sahelian countries consume an average of 189 kg/cereal per person per year and produce 79% of their cereal consumption. Coastal countries consume much less cereal per person (114 kg per year) and produce about the same relative proportion (71%) (Table 17). The rest comes from imports of both commercial supplies and food aid.
- Taking three-year averages to stabilize inter-annual fluctuations, per capita food supplies in the Sahel increased a very slight 1.6% over the decade represented by the 1987/88-1989/90 to the 1996/97-1998/99 growing seasons. The comparable figure for the Coastal countries was 4.0%. Each component of food availability increased less for Sahelian countries than for Coastal ones: gross and net production, reserves, imports, and exports. The Coastal countries managed to increase food exports 125% while maintaining per capita food availability.

Food Consumption

- The daily calorie supply in West Africa has increased 15% in the last decade of to nearly 2,600 kcal in 1999 (Table 21).⁹ The region's supply of protein has also increased during the 1990-99 period by a somewhat lesser 9%. The Sahel registered much smaller increases in both calorie (5%) and protein supply (6%) than the Coastal countries (18% and 10% respectively). Sahelians consume fewer calories than their coastal neighbors (-15%), but more protein (+11%).

⁹ The analysis of daily calorie and protein consumption was not included in the CILSS *Cadre* and has been added here to supplement that analysis.

3. Generalizing the *Cadre* from CILSS to ECOWAS

The *Cadre* reflects and summarizes at least two decades of increasingly sophisticated thinking on food security in one of the world's driest and poorest regions. Furthermore, the document itself is the outcome of a participatory debate that involved drawing information and insights from representatives and residents of the nine CILSS member countries. The major findings from the *Cadre* concerning the basic elements of Sahelian food insecurity are an accurate reflection of Sahelian realities, namely that:

- The apparent stability of the food balance hides underlying food insecurity;
- Food crises are frequent and repeated (although no longer prone to developing into generalized famines);
- The causes of Sahelian food security are primarily related to agriculture:
 - Climate: low and erratic rainfall is the primary source of rural food insecurity, which is the major form of Sahelian food insecurity;
 - Poverty (low access to land, agricultural inputs, low incomes and unequal access to basic services)
 - Agricultural price fluctuations due in part to erratic rainfall and poor physical infrastructure.
- Political instability is considered a minor factor due to the Sahel's relative freedom from conflict and trend toward democratization.

The *Cadre* thus highlights the main qualities of Sahelian food insecurity using national data. That basic understanding of the major elements of Sahelian food insecurity was constructed to develop high level political consensus over regional strategies or specific objectives:

1. Promote a productive, diversified, sustainable and regionally integrated agriculture;
2. Developing, fluidifying and sub-regionally integrating the national markets;
3. Sustainably improving the conditions for access to food and basic social services for vulnerable groups and zones;
4. Improving the mechanism for the prevention and management of circumstantial crises, consistently with the building up of structural food security; and
5. Build the capacity of food security bodies and promote of good governance in food security.

Cast in such general terms, these strategies provide a harmonized framework for CILSS countries to develop more tailored action plans and implementation strategies. As they cover, at least implicitly, the four internationally recognized pillars of food security (availability, access, utilization and risk), these four of these five strategies are sufficiently general to apply to the broader ECOWAS context. Even in the Sahel and most certainly in the Coastal countries, the first strategic objective should be rewritten to better incorporate urban food insecurity by including the non-agricultural as well as the agricultural sector.

It is important to note, however, that *Cadre* was drawn from years of assessments of the dynamics of poverty or chronic food insecurity for the populations of the Sahel. As such, the *Cadre* itself does not provide such a rigorous assessment, nor was it designed to describe conditions outside the Sahel. Extending the rich CILSS experience to ECOWAS will require:

- A proper regional food security diagnostic: At present, there is a dearth of analyses that address West African food insecurity in a comprehensive manner. With the long-term involvement of CILSS, FEWSNET, and WFP/VAM, much is published on the Sahel and very little on the Coastal countries. Efforts to formulate a food security vision and plan for West Africa would require food security and vulnerability profiles for each of the ECOWAS countries, ideally using a consistent framework adapted either from CILSS or any of the other major food security players. The purpose of such analyses would be to determine numbers of food insecure people by type of food insecurity and elements of vulnerability in the ECOWAS region.
- Operationalizing that vision would also require an assessment of the regional food security infrastructure and relevant food security policies as well as the potential for building capacity and regional linkages. The purpose of such an analysis would be to determine which institutions and policies are relevant to the diagnosis and improvement of food security and food security policies in the region. How can USAID work to best enhance the capacity of these institutions to improve the state of food security information and information systems, contingency and response planning, as well as policy formulation and implementation?
- Finally, developing a regional vision for concerted action on food security would require attention to *process*: national brainstorming, fact-finding, consultation, consensus building, and networking. In part as the result of USAID's long-term commitment to CILSS, national institutions in the Sahel share a common food security language, including a conceptual framework, methodologies, baselines, and reporting systems. Agreement and political commitment now extends to the highest political levels. Such a process must be undertaken in the rest of the region and must be driven by the underlying imperatives of those countries. CILSS may have a technical role to play in assisting (and learning from) analysts and institutions to its south but must take care not to attempt to motivate or lead such a process for them.

4. Deepening and Broadening the Analysis

One major finding of this study has been how difficult it is to understand the dimensions of food insecurity in Coastal West Africa. Two analysts quite familiar with African food insecurity were unable to unearth much relevant information using standard internet search techniques. In part, the shortage of published information may be due to a lack of food crises in these regions of West Africa, or at least a perception that such emergencies are due conflict-induced refugee movements. Furthermore, there is likely to be additional information available through Agricultural Ministries, project offices and universities in

each country. It is therefore with caution that we recommend possible options for broadening and deepening the understanding of regional food insecurity.

Deepening the Analysis

A regional diagnostic of food security would require a more rigorous analysis of the three pillars of food insecurity laid out - but not developed – in the *Cadre*: food availability, food access, and food utilization. The information presented in the discussion above and appendix only hit upon a few indicators of these concepts. There are guidelines available by groups such as FIVIMS, FEWSNET, WFP/VAM, and Save the Children/UK that describe the steps to assessing vulnerability to food insecurity and these will not be repeated here. Below we note a few of the aspects of availability, access, and utilization not included in the *Cadre* that are likely to be most important to Coastal West Africa.

Food Availability

- A. In terms of production, a future assessment of West African food security will require a more thorough analysis of agricultural production, including levels, trends, and variability for a broader range of both food (including pulses and fish) and export crops (such as cotton, coffee, oils, forestry products etc which provide key revenues for food imports).
- B. In terms of net imports, there is a need to focus on 1) capacity to import and 2) nature of food trade flows. In terms of capacity to import, nearly all countries in the Sahel maintain a common currency (CFA) pegged to the free-floating French Franc. While Benin, Cote d'Ivoire, Guinea and Togo also use the CFA, Nigeria, Ghana, Sierra Leone, and Liberia do not, introducing a major factor influencing import capacity and regional trade flows. In addition, the handling of oil revenues from Nigeria will also exert a major influence on food availability not only in Nigeria, but for its markets in neighboring countries. There have been numerous studies of West African cross boarder food trade. These should be reviewed and assessed with an eye toward more thoroughly describing trade amongst coastal countries and between the coast and the Sahel.
- C. There is a need to expand the analysis of food availability beyond food imports to include mechanisms which can be used to stabilize (or disrupt) food supplies, e.g. buffer stocks, or misuse of tariffs, poorly targeted subsidies, and corruption;
- D. Food Balance sheets must be revised to incorporate the nutritive value of non-cereal crops such as roots, tubers and pulses. Such crops are standard in food balance computations in East Africa. Ideally ways would be found to factor in animal products, but this is much more difficult and less common.
- E. There may also be a need to incorporate information on multiple crop seasons, as in East Africa, rather than the single growing season that dominates Sahelian agriculture.

Food Access

Because of the importance of the agricultural sector in the Sahel, the *Cadre* focuses on rural food insecurity and in particular, on the role of agricultural and natural resource assets in household livelihood systems. Food access depends on the level and variability of incomes and assets, which in turn depend on income diversification, poverty levels, price volatility, remittances, reliance on wage incomes, etc. There is a need to see whether the assets, livelihood strategies and resilience of populations in the CILSS countries is comparable to that of the Coastal countries, with particular focus on women, children, urban populations, ethnic groups, socio-economic classes, HIV/AIDS infected and affected households, fishing communities, and conflict-affected populations.

Food Utilization

There is a need to include information related to the third pillar of food security, food utilization. Analyses would include a comparison of protein-energy malnutrition and micro-nutrient (e.g. iron, vitamin A, and iodine) deficiency disorders for mothers and young children. Such assessment would require a tighter assessment of the link between health and social factors (e.g., poor weaning practices, imperfect access to safe potable water, inadequate sanitation, low adoption of fortified foods, food quality, literacy and schooling) and nutritional outcomes.

Broadening the Analysis

There are several cross-cutting themes that influence two or more aspects of food security (availability, access and utilization).

Water

Access to water is a key factor underlying food insecurity in Africa. Too little or too much water can destroy crops and thus both the availability and access to food; a shortage of potable water causes families (usually women) to spend inordinate amounts of time searching for water at the expense of other important activities such as generating income or caring for children, thus undermining household food security. Poor water quality erodes health, thus altering nutritional requirements and the ability to utilize food properly.

The *Cadre* correctly and emphatically stresses the importance of water to Sahelian food security: “For the essentially rural population {of the Sahel}, the principal cause of household food insecurity comes from production deficits caused by erratic rainfall.”¹⁰ The map below (Figure 1) shows the dramatic difference in annual rainfall from north to south across all of Africa, including West Africa. Not only does it rain considerably more in the south, but also the dry periods are much shorter, permitting much access to water throughout the year. The *Cadre* data suggest that Sahelians adjust to their harsh

¹⁰ Page 15. Translation by Gavian.

conditions by maintaining greater cropped areas per person and a greater reliance on irrigation (Table 15). Nevertheless, extensive cropped areas and a highly variable climate make Sahelians very vulnerable to drought-induced crop failures.

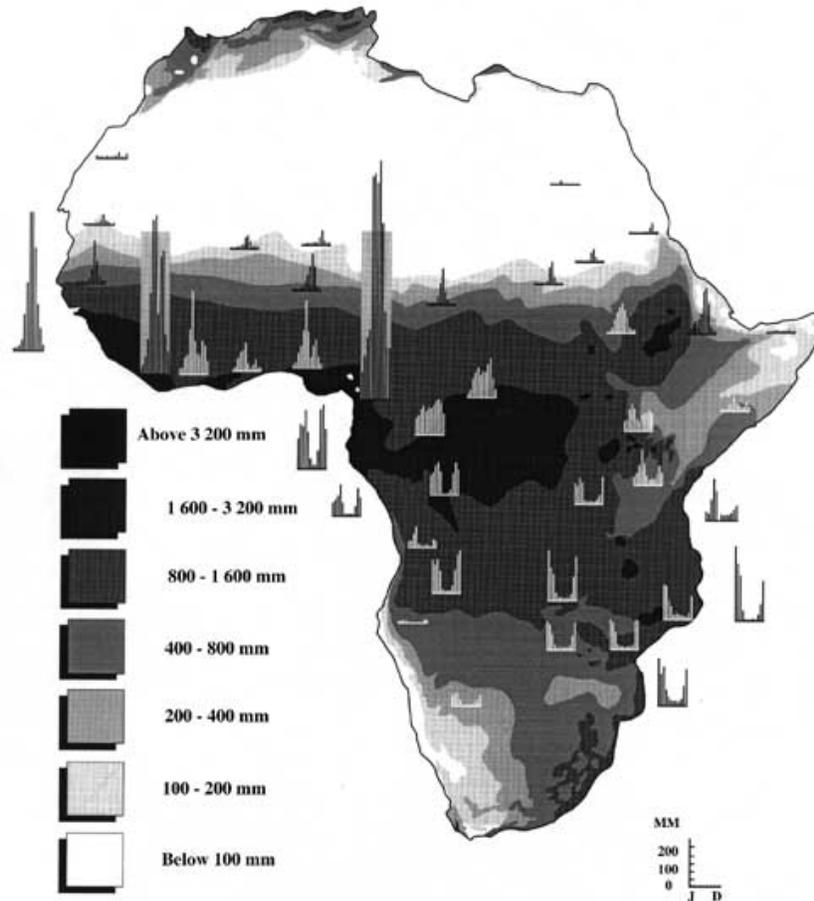


Figure 1: Average Annual Rainfall Across Africa

Source: Institute for Security Studies

<http://www.iss.co.za/Pubs/Monographs/No6/MeanAnnualRain.html>

Coastal agriculture is more reliable; clay soils and high humidity permits coastal farmers to plant manioc and yams which are considered as food security crops because they can be stored for months underground and harvested when need is greatest. However, excessive rainfall can also destroy crops (as in Kenya and Tanzania in 1998, Mozambique in 2000, Guinea in 2001), increase post-harvest losses and contaminate water supplies. Reflecting these concerns, USAID's Famine Early Warning System Network has broadened its study of climate from drought to flood monitoring. The influences of climate and climate change on food security in Coastal West Africa will differ greatly from those in the Sahel and interventions designed for monitoring or mediating rainfall shortages will be ill suited to these wetter conditions.

HIV/AIDS

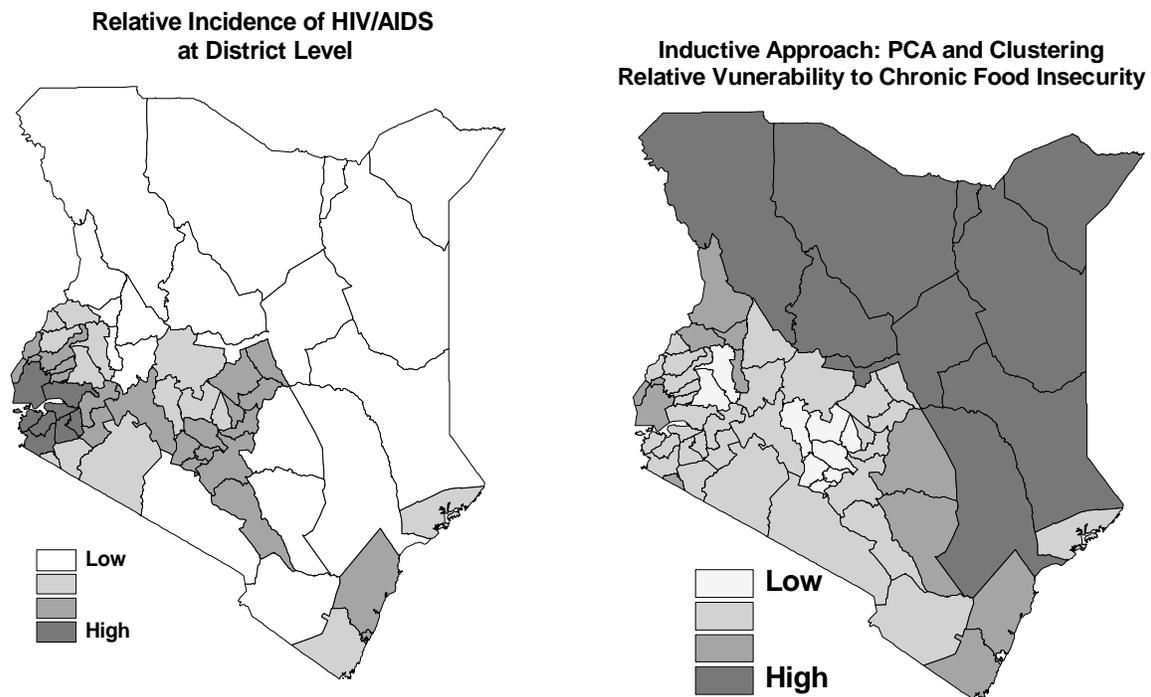
HIV/AIDS is ravaging Africa, destroying lives, livelihoods, food security and prospects for economic growth. The disease is both reflects and causes conditions of dire poverty. There is overwhelming evidence of the links between food security and HIV/AIDS (IFPRI 2002, FANTA 2001, Loewenson and Whiteside 2001). Being food insecure increases vulnerability to HIV/AIDS by provoking behaviors such as migration or sex work that are conducive to HIV/AIDS; it also weakens health and compromises the immune system. HIV/AIDS makes both the infected and affected more vulnerable to food insecurity by eroding capacity for food production (loss of labor and capital for inputs as well as killing agricultural service staff and researchers), eroding food access (impoverishing households, increasing dependency ratios) and eroding food utilization (decreasing capacity for food and child care and increasing consumption needs).

Of an estimated 28 million Africans infected with HIV/AIDS in 2002, 5.7 million live in West Africa (Table 22). This is more than the population of Togo or Sierra Leone. It is roughly equal to the population of Benin, or to the combined population of Cape Verde, Gambia, Guinea Bissau and Mauritania.

Prevalence rates among adults remain fairly low in the Sahel except in Burkina Faso. Nearly 90% of West African HIV/AIDS victims come from the Coastal countries, in particular Nigeria (62%) and Cote d'Ivoire (14%). Cote d'Ivoire has the highest national adult prevalence rate in all of West Africa, followed by Burkina Faso and Sierra Leone (7%), Nigeria and Togo (6%) and Benin (4%). While these rates are low relative to the tragedies reported in East and Southern Africa (e.g., Botswana 39%, Zimbabwe 34% or South Africa 20%), already there are over 2 million AIDS orphans in West Africa. These are children that must be fed, cared for, educated, taught a trade, and raised to serve as solid citizens rather than destabilizing forces in society.

HIV/AIDS does not necessarily occur in those areas typically considered chronically food insecure. In a 2001 district-level comparison of HIV/AIDS and chronic food insecurity, WFP/Kenya showed a nearly inverse pattern (Figure 2). HIV/AIDS-induced food insecurity occurs at the individual household level and is very difficult to track by traditional food security diagnostic methods which tend to focus on aggregate food balance sheets and district crop production figures. Monitoring and preventing food insecurity in the face of the HIV/AIDS epidemic will require a broader toolkit than is currently offered by CILSS. The main question to be addresses is to what extent is HIV/AIDS contributing to food insecurity in West Africa and what can be done to mitigate those effects?

Figure 2: Comparing HIV/AIDS Incidence to Areas of Chronic Food Insecurity in Kenya



Source: Maps 9 and 10, Haan et al, 2001.

Governance, Conflict and Political Instability

Despite serious soil and climate constraints, low farm productivity and the persistence of hunger, food insecurity in Sub-Saharan Africa must, at some point, be understood as a failure of governance. Many governments in the region fail to provide essential public goods such as civil peace, rule of law, and investments in public infrastructure, services, and research. So long as these essential public goods remain scarce, remedial efforts by others will have limited impact.

USAID sees democracy and governance as key to policy development and implementation. Others argue, for example, that it is not the forces of globalization per se which erode food security but poor management of that process by national governments. Writes Paarlburg:

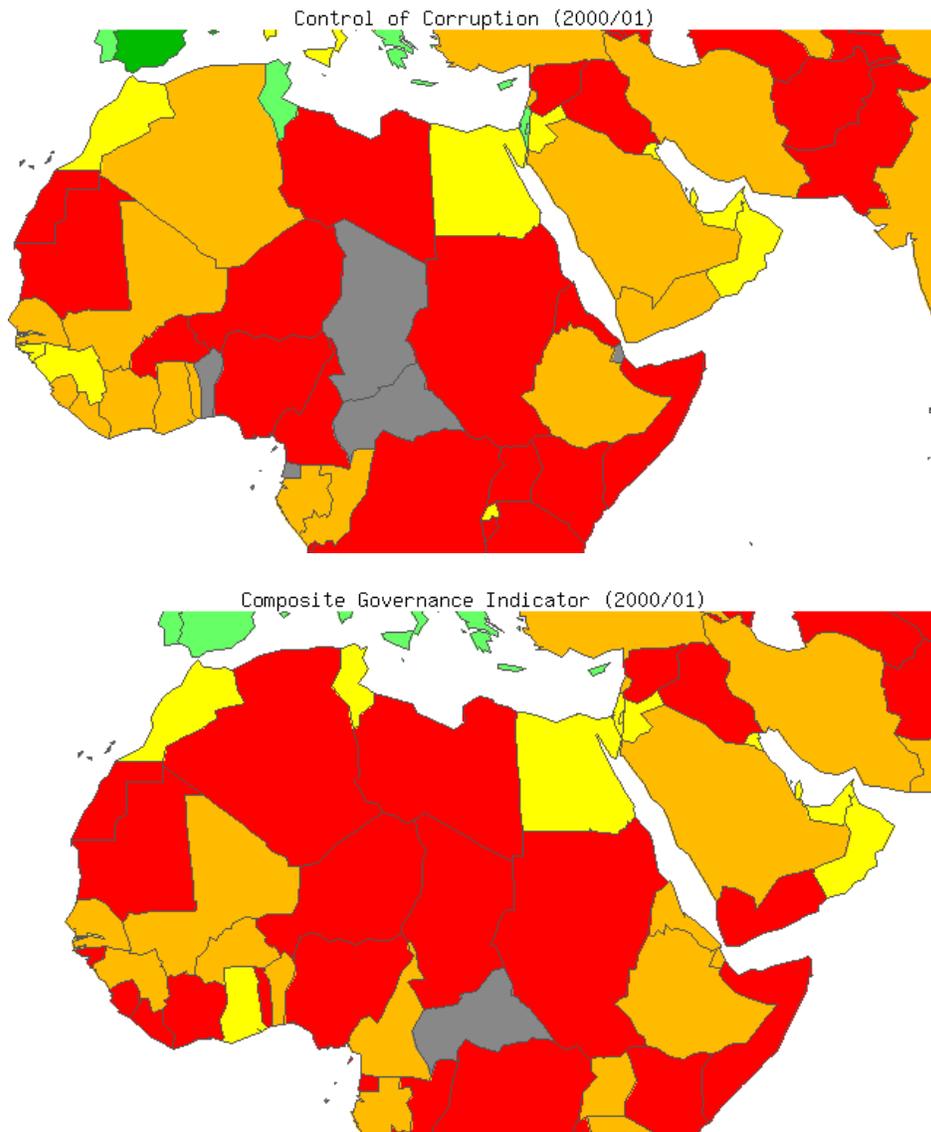
We began by asking how the challenge of providing improved nutrition and food security for all has been altered by globalization. We end with a conclusion that the forces of globalization have not necessarily shifted responsibility for ending hunger away from traditional governance institutions such as nation-states. National governments in many regions of the developing world (particularly East

and Southeast Asia) have managed, despite globalization, to act effectively to reduce the hunger and malnutrition problems facing so many of their citizens. They did this by establishing and maintaining internal peace, by providing rule of law, and by making the public investments in rural infrastructure and agricultural research needed to support farm productivity growth and facilitate rural poverty reduction. (Paarlburg, 2002, page 50)

Figure 3 illustrates the low marks given by the World Bank to West Africa for control of corruption (top) and a composite governance indicator composed of six measures (control of corruption, voice and accountability, political stability/no violence, government effectiveness, regulatory quality, and rule of law). In terms of corruption, some of the Coastal countries are a bit better than the Sahel, but in terms of overall governance, the whole region is fairly weak.

Figure 4 illustrates the degree of economic freedom in African countries as defined by the Heritage Foundation (based on trade regulation, government, intervention, monetary policy, foreign investment, wage/ prices, property rights, black market, fiscal burden of government, banking and finance). Much of West Africa is considered economically “mostly unfree”. The dynamics of the relation between such indices of governance and economic freedom and their relation to food access, availability, should be included in analyses of ECOWAS food security.

Figure 3: Control of Corruption in West Africa and Composite Governance Indicator



Color Coding: The above map depicts the percentile rank on the governance indicator, subject to a margin of error. Percentile rank indicates the percentage of countries worldwide that rate below the selected country. Each country color pattern follows a simple quartile distribution (for illustrative purposes): the best quartile (over 75th percentile) is in green (with top 10% colored in darker green), the second best quartile (over 50th) is in yellow, the third (over 25th) is in orange, and the fourth is in red. If data is unavailable for a country, it is colored in dark gray.

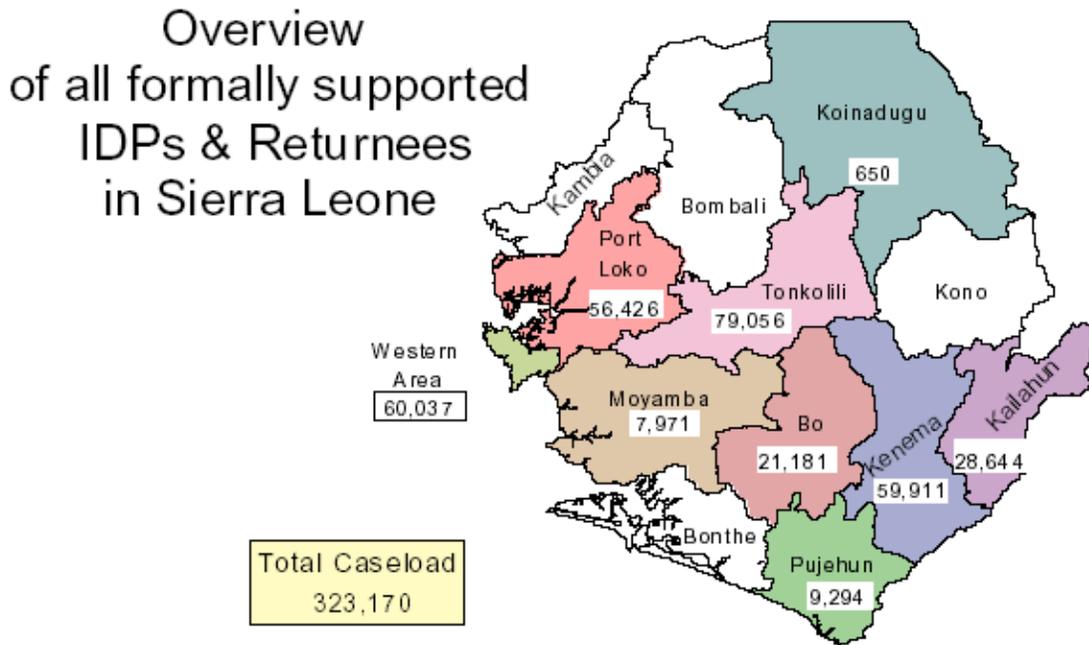
Source: <http://info.worldbank.org/governance>

Refugees and Internally Displaced Persons

The most glaring juxtaposition between failed governance and food crisis are West Africa's refugee and internally displaced populations (IDPs). According to UNHCR, At the end of 2001, there were 3.6 million refugees in Africa, up 3% from the preceding year. Of those 20%, or 787,000 were in West Africa. In addition, there were 644,000 internally displaced and returnees in West Africa, or 30 percent of the African total. Major concentrations are found in Guinea, Liberia, Nigeria and Sierra Leone. Figures 5 and 6 show the distribution of IDPs in the latter two countries.

Not only do refugees and IDPs need food assistance but their presence can either destabilize or help build the local economy, depending on the nature and longevity of the settlement camps. A robust analysis of West African food security must account for these communities and monitor the conditions underlying their creation.

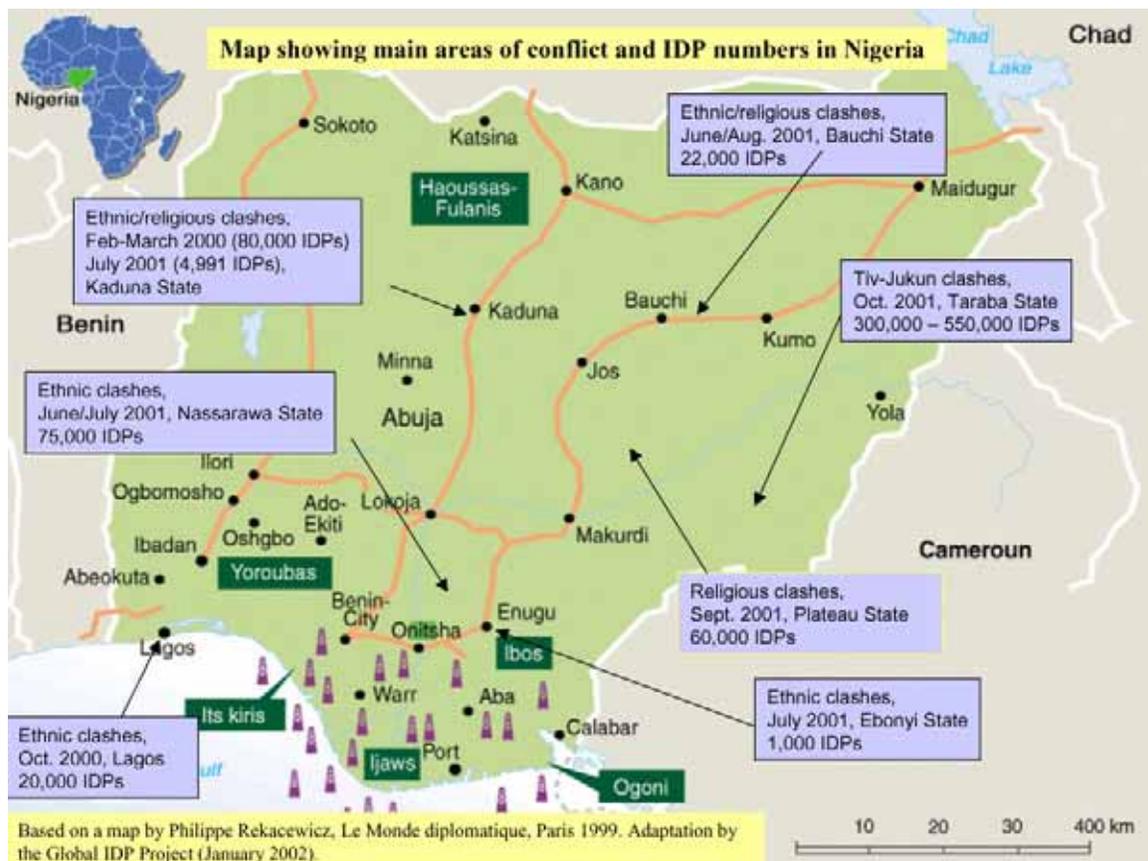
Figure 5: Internally Displaced Persons in Sierra Leone 2001



Source: Global Internally Displaced Persons Project, <http://www.db.idpproject.org>.

Note: A returnee in this context is referred to as a person who has been a refugee outside the country, has returned to Sierra Leone and is presently receiving humanitarian assistance.

Figure 6: Internally Displaced Persons in Nigeria (2000?)



Source: Global Internally Displaced Persons Project, <http://www.db.idpproject.org>.

Food Aid

There is much international (and internal) debate on the conditions under which food can be used to support food security in developing countries (e.g., the Food Aid Convention signed by the US and other developed countries in 1999). Food aid remains an important tool in the US food security arsenal, however, and this issue for USAID is how to use this inherently costly, somewhat inefficient, resource to best effect in reducing African food insecurity over the long term? Focus could be mostly on Title II, but with discussion of emergency food, the particular problems of 416(b) and with some discussion of the potential usefulness of program food aid in selected circumstances. Additional analysis could also focus on WFP's development-focused food aid programs in selected African countries. Possible issues to be addressed include:

- trade-offs in use of food aid for emergency feeding vs. its potential as a resource for long term development
- how food aid and development assistance can be combined to confront factors resulting in high food insecurity
- the comparative true costs of US-sourced food aid vs. local purchases on third country purchases,

- approaches to combining USAID development assistance with WFP (or EC) food resources at the country or sub-country level to achieve food security objectives,
- options for increasing the impact of US NGO Title II food aid programs with those of other donors, and
- targeting food aid to prevent or mitigate the effects of HIV/AIDS.

Other Important Analyses

The following is but a partial list of critical issues in West African food security. A careful analysis is needed to determine (and build consensus on) the impact of economic and trade liberalization, the GATT Agreement on Agriculture, and other important market developments on food security at the regional, national, community and individual levels, and how can more open markets improve – rather than erode – food security for West Africans. There are of course many other important dimensions of food security, such as natural resources, fiscal/monetary policies, migration, coping mechanisms, and diseases and malnutrition. Further elaboration of priority issues – as well as the approach to defining opportunities, constraints and strategies, should be integrated into a regional process of food security reflection and brainstorming.

Conclusion

The CILSS *Cadre stratégique de sécurité alimentaire durable dans une perspective de lutte contre la pauvreté au Sahel* offers a useful description of the major elements of food insecurity in the Sahel and represents both consensus and momentum towards finding Sahelian solutions for those problems. After extending the analyses in the *Cadre* to the nonCILSS countries of ECOWAS (ie, Coastal West Africa), this report finds those analyses insufficient to understand – and act to improve – food security in the rest of the region. Additional analyses are required to deepen and broaden the assessment of West African vulnerability to food insecurity. More importantly, the process by which CILSS developed the *Cadre* – rather than the specific findings of the *Cadre* itself – should be adapted to serve as a model for developing a vision for building food security in the rest of West Africa.

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Appendix 1: Extending the *Cadre* Tables to cover Coastal West African Countries

Table No. 1: Urbanization and Population Growth

Country	Total Population	Urban Population (%)		Population Growth Percent Change from 1980 to 1998	Population as Share of ECOWAS
		1980	1998		
Sahelian Countries					
Burkina Faso	10,955,000	9.0%	17.0%	2.7%	4.72%
Cape-Verde	428,000	21.4%	59.3%	1.7%	0.18%
Gambia	1,336,000	17.0%	30.4%	3.6%	0.58%
Guinea Bissau	1,134,000	16.0%	22.5%	2.7%	0.49%
Mali	10,006,000	19.0%	29.0%	3.2%	4.32%
Mauritania	2,568,000	27.0%	55.0%	3.2%	1.11%
Niger	9,798,000	13.0%	20.0%	3.9%	4.23%
Senegal	9,234,000	36.0%	46.0%	3.0%	3.98%
Chad	7,233,000	19.0%	23.0%	3.5%	3.12%
Sahelian Subtotal	52,692,000		28.4%	3.2%	22.73%
Coastal Countries					
Benin	5,948,000	27.3%	40.7%	2.8%	2.57%
Côte d'Ivoire	14,492,000	40.3%	45.2%	2.0%	6.25%
Ghana	18,549,500	31.2%	37.4%	2.6%	8.00%
Guinea	7,082,000	19.1%	31.4%	2.3%	3.05%
Liberia	2,962,000	35.0%	43.7%	2.7%	1.28%
Nigeria	120,817,000	26.9%	42.2%	2.6%	52.11%
Sierra Leone	4,855,000	24.1%	35.3%	2.2%	2.09%
Togo	4,458,000	22.9%	32.3%	2.6%	1.92%
Coastal Subtotal	179,163,500				77.27%
ECOWAS Total	231,855,500				100.00%

Notes

- Source for Total Population figures for CILSS Members: Diaper/Cerpod
- Source for Urban Population figures for CILSS Members: World Bank
- Urban Population figures for Cap Vert, Gambie, Guinée Bissau in the 1980 column are 1975 figures

Table No. 2: Macroeconomic Data by Sector of the Economy

Country	Population (thousands)	GDP (millions USD) 1998	GDP per Person (USD) 1998	Agriculture as a Percent of GDP, 1998	Industry as a Percent of GDP 1998	Services as a Percent of GDP 1998
Sahelian Countries						
Burkina Faso	11,300	2.6	230	33.3%	27.2%	39.5%
Cape-Verde	400	0.5	1,250	12.2%	19.1%	68.7%
Gambia	1,200	0.4	333	27.4%	13.7%	58.9%
Guinea Bissau	1,200	0.2	167	62.4%	12.7%	24.9%
Mali	10,700	2.7	252	46.9%	17.5%	35.6%
Mauritania	2,500	1.0	400	24.8%	29.5%	45.7%
Niger	10,100	2.0	198	41.4%	17.0%	41.7%
Senegal	9,000	4.7	522	17.4%	24.1%	58.5%
Chad	7,300	1.7	233	39.8%	14.3%	45.9%
Sahelian Subtotal	53,700	15.8	285	31.6%	21.3%	47.1%
Coastal Countries						
Benin	5,948,000	2.18	367	38.6%	13.5%	47.9%
Côte d'Ivoire	14,492,000	10.55	728	26.0%	22.7%	51.3%
Ghana	18,549,500	7.3	394	10.4%	6.9%	82.7%
Guinea	7,082,000	4.02	568	22.4%	35.4%	42.1%
Liberia	2,962,000	N/A	N/A	N/A	N/A	N/A
Nigeria	120,817,000	30.8	255	31.7%	41.0%	27.3%
Sierra Leone	4,855,000	0.84	173	44.2%	23.9%	32.0%
Togo	4,458,000	1.35	303	42.1%	21.1%	36.8%
Coastal Subtotal	179,163,500	57.04	398	28.0%	31.1%	41.0%
ECOWAS Total	231,855,500	72.84	313	28.8%	29.0%	42.3%

Notes

Source: World Bank

Source for Ghana GDP: UNDP GNP figures for Ghana

Table No. 3: Trade Balances for Goods and Services

Country	Exports of Goods and Services (thousands USD)	Imports of Goods and Services (thousands USD)	Trade Balance (thousands USD)
Sahelian Countries			
Burkina Faso	272,000	921,000	- 649,000
Cape-Verde	124,500	284,500	- 160,500
Gambia	123,000	349,000	- 226,000
Guinea Bissau	56,000	128,000	- 72,000
Mali	355,000	1,483,000	- 1,128,000
Mauritania	602,000	833,000	- 231,000
Niger	112,000	719,000	- 607,000
Senegal	1,211,000	2,250,000	- 1,039,000
Chad	180,000	416,000	- 236,000
Sahelian Subtotal	3,035,500	7,383,500	- 4,348,000
Coastal Countries			
Benin	638,372	762,604	-124,232
Côte d'Ivoire	5,031,047	3,926,908	1,104,139
Ghana	1,954,299	2,395,492	- 441,193
Guinea	781,045	862,393	- 81,348
Liberia	N/A	N/A	N/A
Nigeria	13,912,784	12,946,744	966,040
Sierra Leone	127,973	237,012	- 109,039
Togo	466,267	607,174	- 140,907
Coastal Subtotal	22,911,787	21,738,327	1,173,460
ECOWAS Total	25,947,287	29,121,827	- 3,174,540

Notes

Source: World Bank

Table No. 4: Economic Growth, Debt and Development Aid

Country	Annual GNP Growth (%)		Inflation (%) 1998	GNP Growth per Person (%) 1990-1998	Development Aid				Exterior Debt			Share of ECOWAS	
	1975-1990	1990-1998			Total (millions USD)		Per Person (USD)		Total (millions USD) 1998	% of GNP 1998	Debt Service % of Exports 1998	Aid (%)	Debt (%)
					1992	1998	1992	1998					
Sahelian Countries													
Burkina Faso	3.2	4.1	3.1	1.7	433.8	397.5	46	37	1,399	54.5	10.7	8.5	1.9
Cape-Verde	N/A	4.7	2.8	2.2	119.0	129.8	330	315	244	49.8	9.9	2.8	0.3
Gambia	3.3	3.6	1.8	0.1	110.6	37.8	111	31	477	116.7	9.7	0.8	0.6
Guinea Bissau	2.5	- 1.2	7.7	- 3.4	104.2	95.7	104	82	964	503.7	25.6	2.1	1.3
Mali	2.1	3.7	4.8	0.8	431.8	349.3	48	33	3,201	120.4	12.6	7.5	4.2
Mauritania	2.0	4.1	8.8	1.3	200.1	177.1	95	68	2,589	272.5	27.7	3.8	3.4
Niger	1.5	2.4	3.0	- 1.0	365.1	291.4	44	29	1,659	82.1	18.4	6.3	2.2
Senegal	2.4	3.2	2.2	0.5	670.3	502.1	87	56	3,861	83.1	23.2	10.8	5.1
Chad	1.6	3.1	4.1	0.1	239.1	167.4	41	23	1,091	65.5	10.6	3.6	1.4
Sahelian Subtotal					2,674.0	2,148.0			15,485			46.1	20.5
Coastal Countries													
Benin	3.0	4.8	4.2	1.8	269.3	210.4	55	35	1,647	72.2	10.6	4.5	2.2
Côte d'Ivoire	1.3	4.1	3	1.3	756.6	798.3	59	55	14,852	145.4	26.1	17.1	19.7
Ghana	1.7	4.3	17.6	1.5	612.3	700.9	38	38	6,884	91.8	28.4	15.1	9.1
Guinea	N/A	4.7	4.3	2	448.4	359.2	73	51	3,546	102	19.5	7.7	4.7
Liberia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nigeria	1.5	3.5	10.5	0.6	258.6	204.0	3	2	30,315	78.8	11.2	4.4	40.2
Sierra Leone	0.6	- 4.1	26.9	-6.4	133.4	106.3	31	22	1,243	197.7	18.2	2.3	1.6
Togo	2.2	1.6	2.7	-1.4	222.6	128.4	59	29	1,448	97.4	5.7	2.8	1.9
Coastal Sub Total					2,701.2	2,507.5			59,935			53.9	79.5
ECOWAS Total					5,375.2	4,655.5			75,420			100.0	100.0

Notes Source: UNDP

Table No. 5: Key Social Development Indicators

Country	Population Without Access To:			Adult Illiteracy 1998	School Enrolment 1998
	Potable Water	Health Services	Sanitation		
Sahelian Countries					
Burkina Faso	58%	30%	63%	78%	22%
Cape-Verde	35%	18%	73%	27%	78%
Gambia	31%	N/A	63%	65%	41%
Guinea Bissau	57%	36%	54%	63%	34%
Mali	34%	80%	94%	62%	26%
Mauritania	63%	70%	43%	59%	42%
Niger	39%	70%	81%	85%	15%
Senegal	19%	60%	35%	65%	36%
Chad	58%	N/A	N/A	61%	32%
Sahelian Subtotal	42%	57%	67%	70%	27%
Coastal Countries					
Benin	44%	58%	73%	62%	42%
Côte d'Ivoire	58%	40%	61%	56%	40%
Ghana	35%	75%	68%	31%	N/A
Guinea	54%	55%	69%	N/A	28%
Liberia	N/A	N/A	N/A	N/A	N/A
Nigeria	51%	33%	59%	39%	43%
Sierra Leone	66%	64%	89%	N/A	N/A
Togo	45%	N/A	63%	45%	61%
Coastal Subtotal	49%	40%	61%	40%	42%
ECOWAS Total	48%	44%	62%	47%	38%

Notes

Source: *Rapport mondial sur le développement humain 2000, UNDP.*

Data refers to figures for the most recent year available during the period: 1990-1998 for Potable Water and Sanitation; 1981-1993 for Health Services.

Regional totals computed using 1998 population figures.

Table No. 6: Poverty and Income Distribution

Country	GDP Per Person (USD, 1998)	Distribution of Income or Consumption (Percent Change 1987-1998)		
		Poorest 20th Percentile	Richest 20th Percentile	Discrepancy (% richest divided by % poorest)
Sahelian Countries				
Burkina Faso	230	5.5	55.0	10.0
Cape-Verde	1,250	N/A	N/A	N/A
Gambia	333	4.4	52.8	12.0
Guinea Bissau	167	2.1	58.9	28.0
Mali	252	4.6	56.2	12.2
Mauritania	400	6.2	45.6	7.4
Niger	198	2.6	53.3	20.5
Senegal	522	6.4	48.2	7.5
Chad	233	N/A	N/A	N/A
Coastal Countries				
Benin	367	N/A	N/A	N/A
Côte d'Ivoire	728	7.1	44.3	6.2
Ghana	399	8.4	41.7	5.0
Guinea	568	6.4	47.2	7.4
Liberia	N/A	N/A	N/A	N/A
Nigeria	255	4.4	55.7	12.7
Sierra Leone	173	1.1	63.4	57.6
Togo	303	N/A	N/A	N/A

Notes

Source: Rapport mondial sur le développement humain 2000, UNDP.

Table No. 7: Average Income Levels and Percentage of Population Living Below Poverty Line

Country	GDP Per Person (USD, 1998)	Population Living Below the National Poverty Line				Population Living Below the International Poverty Line (\$1 PPP)
		Year of Survey	Rural	Urban	Total National	
CILSS Members						
Burkina Faso	230	1998	51%	17%	45%	N/A
Cape-Verde	1,250	N/A	46%	17%	30%	N/A
Gambia	333	1992	66%	33%	64%	54%
Guinea Bissau	167	1991	58%	24%	49%	N/A
Mali	252	1994	69%	49%	69%	N/A
Mauritania	400	1990	N/A	N/A	57%	31%
Niger	198	1994	66%	48%	63%	61%
Senegal	522	1994/95	86%	41%	65%	N/A
Chad	233	1995/96	67%	63%	64%	N/A
Non-CILSS Members						
Benin	367	N/A	N/A	N/A	33%	N/A
Côte d'Ivoire	728	N/A	N/A	N/A	37%	12%
Ghana	399	N/A	N/A	N/A	31%	78%
Guinea	568	N/A	N/A	N/A	40%	N/A
Liberia	N/A	N/A	N/A	N/A	N/A	N/A
Nigeria	255	N/A	N/A	N/A	43%	70%
Sierra Leone	173	N/A	N/A	N/A	68%	57%
Togo	303	N/A	N/A	N/A	32%	N/A

Notes

- Source: National Figures from UNDP and World Bank; Source for Côte d'Ivoire and Guinée: Millenium Development Indicators UNSTAT (World Bank)
- The National Poverty line is defined by UNDP as "An income level that is considered minimumly {sic} sufficient to sustain a family in terms of food, housing, clothing, medical needs, and so on". (http://unstats.un.org/unsd/mi/mi_dict_xrxx.asp?def_code=440)
- The International poverty line is defined by UNDP as "The proportion of people below \$1 a day is the percentage of the population with average consumption expenditures less than \$1.08 a day measured in 1993 prices converted using purchasing power parity (PPP) rates." (http://unstats.un.org/unsd/mi/mi_dict_xrxx.asp?def_code=429)

Table No. 8: Cultivated Land Per Person and Crop Distribution

Country	Cultivated Land Per Person (hectares)	Percent of Cultivated Land Dedicated to Cereals	Percent of Cultivated Land Dedicated to Other Crops
CILSS Members			
Burkina Faso	0.40	84%	16%
Cape-Verde	0.20	50%	50%
Gambia	0.10	61%	39%
Guinea Bissau	0.10	N/A	N/A
Mali	0.40	75%	25%
Mauritania	0.10	80%	20%
Niger	1.10	68%	20%
Senegal	0.20	56%	44%
Chad	0.20	73%	27%
CILSS Averages	0.46	73%	27%
Non-CILSS Members			
Benin	0.35	65%	35%
Côte d'Ivoire	0.48	48%	52%
Ghana	0.30	46%	54%
Guinea	0.19	57%	43%
Liberia	0.24	62%	38%
Nigeria	0.28	66%	34%
Sierra Leone	0.13	72%	28%
Togo	0.60	76%	24%
Non-CILSS Averages	0.32	61%	39%

Notes

Source for CILSS Members: CILSS

Source for Non-CILSS Members: FAOSTAT

Table No. 9: Production of Roots and Tubers (in millions of tonnes)

Country	Sweet Potato		Cassava		Yams		Total Roots and Tubers	
	Average 1994-1998	1999 Total	Average 1994-1998	1999 Total	Average 1994-1998	1999 Total	Average 1994-1998	1999 Total
CILSS Members								
Burkina Faso	15.8	13.6	1.8	2.0	41.0	46.0	58.6	61.6
Cape-Verde	4.4	3.8	2.8	3.0	N/A	N/A	7.2	6.8
Gambia	N/A	N/A	6.0	6.0	N/A	N/A	6.0	6.0
Guinea Bissau	N/A	N/A	15.9	16.5	N/A	N/A	15.9	16.5
Mali	15.0	15.8	5.0	10.5	12.2	14.8	32.2	41.1
Mauritania	2.0	2.0	N/A	N/A	N/A	N/A	2.0	2.0
Niger	38.7	35.0	195.0	230.0	N/A	N/A	233.7	265.0
Senegal	2.6	0.3	54.0	42.0	N/A	N/A	56.6	98.9
Chad	58.0	65.0	256.0	275.0	240.0	240.0	554.0	580.0
CILSS Total	136.5	135.5	536.5	585.0	293.2	300.8	966.2	1,077.9
Non-CILSS Members								
Benin	53.0	40.0	1,551.0	2,063.0	1,395.0	1,628.0	2,999.0	3,731.0
Côte d'Ivoire	104.0	42.0	1,643.0	1,600.0	2,905.0	2,933.0	4,652.0	4,575.0
Ghana	82.0	90.0	6,794.0	7,845.0	2,229.0	3,249.0	9,105.0	11,184.0
Guinea	135.0	135.0	668.0	900.0	97.0	88.0	900.0	1,123.0
Liberia	17.0	18.0	245.0	361.0	56.0	20.0	318.0	399.0
Nigeria	1,201.0	1,662.0	31,714.0	32,697.0	23,582.0	25,873.0	56,497.0	60,232.0
Sierra Leone	46.0	20.0	269.0	240.0	N/A	N/A	315.0	260.0
Togo	5.4	9.0	551.0	694.0	600.0	666.0	1,156.4	1,369.0
Non-CILSS Total	1,643.4	2,016.0	43,435.0	46,400.0	30,864.0	34,457.0	75,942.4	82,873.0

Notes

Source: FAO

Table No. 10: Production of Vegetables (in millions of tonnes)

Country	Onions		Tomatoes		Green Beans		Total Vegetables	
	Average 1994-1998	1999 Total	Average 1994-1998	1999 Total	Average 1994-1998	1999 Total	Average 1994-1998	1999 Total
CILSS Members								
Burkina Faso	19.5	17.0	12.5	9.0	3.8	3.8	35.8	29.8
Cape-Verde	1.3	1.6	3.5	4.5	1.4	2.0	6.2	8.1
Gambia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Guinea Bissau	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mali	46.6	64.6	26.2	34.4	1.3	1.3	74.1	100.3
Mauritania	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Niger	181.4	181.7	64.2	65.0	N/A	N/A	245.6	246.7
Senegal	61.4	60.8	24.1	19.3	5.8	6.0	143.5	86.1
Chad	14.0	14.0	N/A	N/A	N/A	N/A	14.0	14.0
CILSS Total	324.2	339.7	130.5	134.9	12.3	13.1	467.0	487.7
Non-CILSS Members								
Benin	8.0	12.0	108.0	108.0	N/A	N/A	116.0	120.0
Côte d'Ivoire	N/A	N/A	134.0	130.0	N/A	N/A	134.0	130.0
Ghana	31.0	39.0	203.0	215.0	N/A	N/A	234.0	254.0
Guinea	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Liberia	N/A	N/A	1.0	1.0	N/A	N/A	1.0	1.0
Nigeria	566.0	596.0	620.0	879.0	N/A	N/A	1,186.0	1,475.0
Sierra Leone	N/A	N/A	29.0	25.0	N/A	N/A	29.0	25.0
Togo	N/A	N/A	6.0	5.0	N/A	N/A	6.0	5.0
Non-CILSS Total	605.0	647.0	1,101.0	1,363.0	N/A	N/A	1,706.0	2,010.0

Notes

Source: FAO

Table No. 11: Production of Fruits (in millions of tonnes)

Country	Citrus		Mangos		Total Fruits	
	Average 1994-1998	1999 Total	Average 1994-1998	1999 Total	Average 1994-1998	1999 Total
CILSS Members						
Burkina Faso	1.1	1.1	N/A	N/A	1.1	1.1
Cape-Verde	N/A	N/A	0.4	0.4	0.4	0.4
Gambia	N/A	N/A	0.6	0.7	0.6	0.7
Guinea Bissau	8.2	8.2	4.5	4.5	12.7	12.7
Mali	N/A	N/A	40.8	50.0	40.8	50.0
Mauritania	N/A	N/A	N/A	N/A	N/A	N/A
Niger	N/A	N/A	N/A	N/A	N/A	N/A
Senegal	N/A	N/A	74.9	75.2	74.9	75.2
Chad	29.9	30.0	32.0	32.0	61.9	62.0
CILSS Total	39.2	39.3	153.2	162.8	192.4	202.1
Non-CILSS Members						
Benin	12.0	12.0	12.0	12.0	24.0	24.0
Côte d'Ivoire	57.0	58.0	8.0	9.0	65.0	67.0
Ghana	237.0	300.0	4.0	4.0	241.0	304.0
Guinea	214.0	215.0	84.0	83.0	298.0	298.0
Liberia	7.0	7.0	N/A	N/A	7.0	7.0
Nigeria	2,875.0	3,240.0	663.0	729.0	3,538.0	3,969.0
Sierra Leone	75.0	80.0	12.0	7.0	87.0	87.0
Togo	12.0	12.0	N/A	N/A	12.0	12.0
Non-CILSS Total	3,489.0	3,924.0	783.0	844.0	4,272.0	4,768.0

Notes

Source: FAO

Table No. 12: Total Livestock (in millions of heads, 1999)

Country	Cattle	Sheep	Goats	Camels	Pigs	Poultry	Total TLU	% of ECOWAS TLU
CILSS Members								
Burkina Faso	4,550	6,350	7,950	13	590	21,000	4,956	7%
Cape-Verde	22	9	112	N/A	636	417	159	0%
Gambia	360	190	265	N/A	14	680	307	0%
Guinea Bissau	520	280	315	N/A	340	850	500	1%
Mali	6,058	5,975	8,524	289	65	24,500	6,238	9%
Mauritania	1,395	6,200	4,133	1,185	N/A	4,100	3,236	5%
Niger	2,174	4,312	6,469	404	39	20,000	3,212	4%
Senegal	2,955	4,300	3,595	7	330	45,000	3,381	5%
Chad	5,582	2,431	4,968	700	23	4,800	5,400	8%
CILSS Total	23,616	30,047	36,331	2,598	2,037	121,347	27,388	38%
Non-CILSS Members								
Benin	1,438	645	1,183	0	470	23	1,284	2%
Côte d'Ivoire	1,377	1,416	1,111	0	327	31	1,282	2%
Ghana	1,288	2,658	2,931	0	332	19	1,527	2%
Guinea	2,368	687	948	0	84	11	1,838	3%
Liberia	36	210	220	0	120	4	92	0%
Nigeria	19,830	20,500	24,300	18,000	4,855	126	37,333	52%
Sierra Leone	420	365	200	0	52	6	361	1%
Togo	275	840	1,357	0	284	8	469	1%
Non-CILSS Total	27,032	27,321	32,250	18,000	6,524	228	44,187	62%
ECOWAS Total	50,648	57,386	68,581	20,598	8,561	121,575	71,574	100%

Notes

Source: FAOSTAT

TLU=Tropical Livestock Units, where camel = 1, cattle=.7 and small ruminants = .1 (sheep and goats). H.E. Jahnke, 1982. Livestock Production Systems and Livestock Development in Tropical Africa.

Table No. 13: CILSS Agricultural GDP by Sector

Country	Year Data Taken	Percent Share of Agricultural GDP					
		Source	Fishing	Agriculture (Food Crops)	Cotton and Peanuts	Livestock	Forest
Burkina Faso	1992	National Statistics	1%	65%	12%	26%	9%
Cape-Verde	1992	National Statistics	27%	58%	0%	12%	4%
Gambia	1995	National Statistics	8%	61%	21%	23%	8%
Guinea Bissau	1995	Estimate	1%	63%	3%	25%	11%
Mali	1994	National Statistics	3%	64%	14%	28%	5%
Mauritania	1995	National Statistics	32%	15%	0%	51%	2%
Niger	1993	National Statistics	1%	62%	1%	31%	6%
Senegal	1995	National Statistics	15%	47%	13%	35%	4%
Chad	1995	Estimate	6%	65%	11%	20%	9%
Sahel Total	1995	Estimate	7%	57%	7%	30%	6%

Notes

Source: World Bank and National Statistics

It was not possible to find internationally published national accounts data broken down by agricultural subsector to replicate these figures for the Sahel and therefore be assured of a comparable set of figures for Coastal West Africa.

Table No. 14: CILSS Total Cultivated Land (in hectares)

Country	1979	1989	1999
Burkina Faso	9,600	16,250	20,800
Cape-Verde	2,300	2,780	2,780
Gambia	2,250	2,650	3,000
Guinea Bissau	N/A	N/A	17,000
Mali	111,000	138,000	234,500
Mauritania	2,400	28,500	50,000
Niger	5,800	65,000	80,000
Senegal	25,000	46,750	51,400
Chad	16,800	18,500	21,000
Total Sahel	175,150	318,430	480,480

Note:

It was not possible to find internationally published data to replicate these figures for the Sahel and therefore be assured of a comparable set of figures for Coastal West Africa. FAOSTAT data for cultivated area did not match these series.

Table No. 15: Arable Land, Pasture, Forests, and Irrigation

Country	Agricultural Land (ha)	Arable Land (ha)	Arable Land Per Rural Resident (ha)	Pasture (1,000 ha)	Forest (1,000 ha)	Irrigable Land (ha)	Irrigated Land (ha)	Percent Irrigable Land that is Irrigated	Percent Arable Land that is Irrigated
Sahelian Countries									
Burkina Faso	9,487,000	3,487,000	0.4	6,000	7,668	160,000	20,800	13.0%	4.6%
Cape-Verde	67,000	42,000	0.1	25	1	3,100	2,780	89.7%	7.4%
Gambia	378,000	185,000	0.2	194	53	50,000	3,000	6.0%	27.0%
Guinea Bissau	1,424,000	344,000	0.4	1,080	594	N/A	17,000	N/A	N/A
Mali	33,275,000	3,341,000	0.4	30,000	6,601	1,000,000	234,500	23.5%	29.9%
Mauritania	39,714,000	464,000	0.3	39,250	2,453	152,000	50,000	32.9%	32.8%
Niger	15,529,000	4,368,000	0.5	11,160	1,396	220,000	80,000	36.4%	5.0%
Senegal	8,002,000	2,314,000	0.5	5,688	4,184	460,000	51,400	11.2%	19.9%
Chad	48,430,000	3,430,000	0.7	45,000	18,006	335,000	21,000	6.3%	9.8%
Sahelian subtotal	156,306,000	17,975,000	0.5	138,397	40,956	2,380,100	480,480	20.2%	13.2%
Coastal Countries									
Benin	2,710,000	1,900,000	0.3	550	N/A	300,000	12,000	4.0%	15.8%
Côte d'Ivoire	20,350,000	2,950,000	0.2	13,000	N/A	475,000	73,000	15.4%	16.1%
Ghana	13,950,000	3,600,000	0.2	8,350	N/A	1,900,000	11,000	0.6%	52.8%
Guinea	12,185,000	885,000	0.1	10,700	N/A	520,000	95,000	18.3%	58.8%
Liberia	2,595,000	380,000	0.2	2,000	N/A	600,000	3,000	0.5%	157.9%
Nigeria	70,000,000	28,200,000	0.3	39,200	N/A	3,137,000	233,000	7.4%	11.1%
Sierra Leone	2,740,000	484,000	0.1	2,200	N/A	807,000	29,000	3.6%	166.7%
Togo	3,630,000	2,510,000	0.6	1,000	N/A	180,000	7,000	3.9%	7.2%
Coastal subtotal	128,160,000	40,909,000	0.2	77,000	N/A	7,919,000	463,000	5.8%	19.4%
ECOWAS total	284,466,000	58,884,000	N/A	215,397	N/A	10,219,100	943,480	N/A	N/A

Notes

Source: FAO/AQUASTAT

Table No. 16: CILSS Cost of Cereal Imports and Impact on Trade Balances

Country	Cost of Cereal Imports (\$1,000 USD)		Imports of Goods and Services (\$1,000 USD, 1996)	Exports of Goods and Services (\$1,000 USD, 1996)	Impact of Cereals on Goods and Services Trade Deficit
	1989/91	1996/98			
Burkina Faso	52,013	63,370	921,000	272,000	9.7%
Cape-Verde	12,131	11,302	284,500	124,500	6.9%
Gambia	17,448	31,018	349,000	123,000	13.7%
Guinea Bissau	14,714	22,467	128,000	56,000	30.6%
Mali	38,697	28,811	1,483,000	355,000	2.6%
Mauritania	51,316	108,175	833,000	602,000	46.7%
Niger	34,483	27,782	719,000	112,000	4.6%
Senegal	150,913	203,467	2,250,000	1,211,000	19.5%
Chad	10,795	22,272	416,000	180,000	9.3%
CILSS Total	382,510	518,664	7,383,500	3,035,500	11.9%

Notes

Source: CILSS, FAO

Import and Export data for Cape Verde is for 1998.

It was not possible to find internationally published data to replicate these figures for the Sahel and therefore be assured of a comparable set of figures for Coastal West Africa. FAOSTAT data for similar series did not match those published in the *Cadre*.

Table No. 17: Supply and Demand for Cereals, 1996-1999

Type	Consumption		Production		Imports	
	Kilograms Per Person Annually	Percent of Total Consumption	Kilograms Per Person Annually	Percent of Cereal Consumption	Kilograms Per Person Annually	Percent of Cereal Consumption
CILSS Members						
Dried Cereals	140	74.0%	133	95.0%	7	5.0%
Rice	35	18.5%	15	43.0%	20	57.0%
Wheat	14	7.5%	0	0.0%	14	100.0%
CILSS Total Cereals	189	100.0%	149	79.0%	40	21.0%
Non-CILSS Members						
Dried Cereals	52	45.4%	44	84.7%	8	15.3%
Rice	44	38.5%	26	59.5%	18	40.5%
Wheat	16	13.9%	0	0.7%	16	99.3%
Non-CILSS Total Cereals	114	100.0%	81	71.1%	33	28.9%

Notes

Source: Diaper/CILSS for CILSS Members

Source: FAOSTAT for Non-CILSS Members

Table No. 18: Production and Consumption of Cereals

Category	CILSS Members			Non-CILSS Members		
	1987/88 - 1989/90 Growing Season	1996/97 - 1998/99 Growing Season	Percent Change	1987/88 - 1989/90 Growing Season	1996/97 - 1998/99 Growing Season	Percent Change
Population	40,790,000	51,244,000	+ 25.6%	126,640,004	162,185,294	+ 28.0%
Gross Production (1,000 tonnes)	7,812	9,364	+ 19.9%	20,096	26,507	+ 32.0%
Prod. Availability (1,000 tonnes)	6,440	7,639	+ 18.6%	14,288	18,846	+ 32.0%
Change in Availability (1,000 tonnes)	+ 63	+ 13	- 79.4%	- 252	+ 74	-129.4%
Imports (1,000 tonnes)	1,266	2,089	+ 65.0%	2,334	3,933	+ 69.0%
Exports (1,000 tonnes)	62	47	- 24.2%	51	115	+ 125.0%
Per Capita Prod. Availability (kg)	158.0	149.0	- 5.7%	78.4	79.8	+ 2.0%
Per Capita Imports (kg)	31.0	41.0	+ 32.0%	18.4	24.3	+ 32.0%
Per Capita Food Aid (kg)	7.6	3.3	- 56.6%	19.1	22.3	+ 17.0%
Per Capita Consumption (kg)	185.0	188.0	+ 1.6%	110.6	115.3	+ 4.0%

Notes

Source: Diaper/CILSS for CILSS Members

Source: FAOSTAT (WFP for food aid shipments) for Non-CILSS Members

Table No. 19: Impact of Production and Imports on Cereal Availability

Category	CILSS Members			Non-CILSS Members		
	1987/88 - 1989/90	1996/97 - 1998/99	Percent Change	1987/88 - 1989/90	1996/97 - 1998/99	Percent Change
RICE						
Available Production (tonnes)	474,000	766,000	+ 61.6%	2,388,043	3,439,807	+ 44.0%
Per Capita Availability Prod (kg)	11.3	14.7	+ 30.0%	29.7	27.6	- 7.2%
Imports (tonnes)	682,000	1 047 000	+ 53.5%	1,136,000	1,667,000	+ 46.7%
Per Capita Imports (kg)	17.0	20.3	+ 19.0%	19.5	19.5	- 0.3%
Share of Rice in Average Consumption	14.7	18.6	+ 26.5%	41.4	38.6	- 6.6%
WHEAT						
Available Production (tonnes)	7,000	13,000	+ 86.0%	76,516	64,853	- 15.2%
Per Capita Availability Prod (kg)	0.2	0.2	0.0%	0.9	0.6	- 34.6%
Imports (tonnes)	402,000	690,000	+ 71.6%	827,000	2,071,000	+ 150.4%
Per Capita Imports (kg)	9.7	13.7	+ 41.2%	12.4	17.9	+ 44.2%
Share of Wheat in Average Consumption	5.8	7.4	+ 27.6%	11.1	15.3	+ 37.3%
DRIED CEREALS						
Available Production (tonnes)	5,959,000	6,859,000	+ 15.1%	11,161,912	14,897,271	+ 33.5%
Per Capita Availability Prod (kg)	146	134	- 8.2%	48.6	52.6	+ 8.2%
Imports (tonnes)	181,000	352,000	+ 95.0%	86,000	98,000	+ 14.0%
Per Capita Imports (kg)	4.3	6.6	+ 53.0%	1.2	3.1	+ 163.7%
Share of Dried Cereals in Average Consumption	80.0	74.5	- 7.0%	45.2	44.4	- 1.9%

Notes

Source: Diaper/CILSS for CILSS Members

Source: FAOSTAT for Non-CILSS Members

Appendix 2: Other Tables of Relevance to Discussions of West African Food Security

Table 20: Real Economic Growth in West Africa 1990-2000

Country	Real GDP in Millions 1995 \$			Per Capital GDP, in Millions of 1995 \$		
	1990	2000	Average Annual Growth 1990-2000	1990	2000	Average Annual Growth 1990-2000
Sahelian Countries						
Burkina Faso	1,743	2,841	5.0%	194	246	2.4%
Cape-Verde	381	670	5.8%	1116	1569	3.5%
Gambia	347	494	3.6%	374	379	0.1%
Guinea Bissau	217	252	1.5%	230	210	-0.9%
Mali	2,107	3,101	3.9%	240	273	1.3%
Mauritania	887	1,318	4.0%	445	495	1.1%
Niger	1,813	2,197	1.9%	235	203	-1.5%
Senegal	4,150	5,806	3.4%	566	616	0.9%
Chad	1,311	1,664	2.4%	225	211	-0.6%
Sahelian Subtotal	12,956	18,342	3.5%	302	312	0.3%
Coastal Countries						
Benin	1,705	2,595	4.3%	366	414	1.2%
Côte d'Ivoire	9,198	11,890	2.6%	731	743	0.2%
Ghana	5,236	7,978	4.3%	345	413	1.8%
Guinea	3,075	4,465	3.8%	501	548	0.9%
Liberia	384	549	3.6%	179	189	0.5%
Nigeria	24,864	32,947	2.9%	289	289	0.0%
Sierra Leone	1,211	763	-4.5%	298	173	-5.3%
Togo	1,304	1,479	1.3%	378	327	-1.4%
Coastal Subtotal	46,594	62,116	2.9%	347	346	0.0%
ECOWAS Total	59,550	80,459	3.1%	336	337	0.0%

Source: African Development Bank

Table 21: Daily Calorie and Protein Consumption

Countries	Daily Calorie Supply (kcal)			Daily Protein Supply (grams)		
	1990	1999	% change	1990	1999	% change
Sahelian Countries						
Burkina Faso	2,084	2,376	14%	61.4	69.2	13%
Cape-Verde	3,009	3,166	5%	71.7	72.8	2%
Gambia	2,460	2,598	6%	51.6	51.4	0%
Guinea Bissau	2,486	2,245	-10%	50.2	45.6	-9%
Mali	2,313	2,314	0%	64.8	66.8	3%
Mauritania	2,562	2,703	6%	79.1	74.1	-6%
Niger	2,153	2,064	-4%	56.1	59.0	5%
Senegal	2,317	2,307	0%	68.9	64.0	-7%
Chad	1,688	2,206	31%	48.0	66.3	38%
Sahelian Subtotal	2,176	2,293	5%	61.0	64.9	6%
Coastal Countries						
Benin	2,318	2,489	7%	55.9	58.8	5%
Côte d'Ivoire	2,395	2,582	8%	50.1	49.6	-1%
Ghana	1,831	2,590	41%	42.3	50.4	19%
Guinea	1,988	2,133	7%	50.2	45.5	-9%
Liberia	2,101	2,089	-1%	38.2	37.2	-3%
Nigeria	2,376	2,833	19%	56.0	62.7	12%
Sierra Leone	1,986	2,017	2%	41.8	46.3	11%
Togo	2,469	2,528	2%	56.8	59.6	5%
Coastal Subtotal	2,283	2,698	18%	52.9	58.3	10%
ECOWAS Total	2,257	2,599	15%	54.9	59.9	9%

Source: Nutritional Status, Table 2.4. African Development Bank online data

Table 22: HIV/AIDS in West Africa as of 2000

Countries	Adults and children	Adults	Adult rate	Women	Children	Orphans	Deaths
Sahelian Countries							
Burkina Faso	440,000	380,000	7	220,000	61,000	270,000	44,000
Cape-Verde							
Gambia	8,400	7,900	2	4,400	460	5,300	400
Guinea Bissau	17,000	16,000	3	9,300	1,500	4,300	1,200
Mali	110,000	100,000	2	54,000	13,000	70,000	11,000
Mauritania	...	...	...	...	...	...	...
Niger	...	...	...	...	...	...	...
Senegal	27,000	24,000	1	14,000	2,900	15,000	2,500
Chad							
Sahelian Subtotal	602,400	527,900	N/A	301,700	78,860	364,600	59,100
Coastal Countries							
Benin	120,000	110,000	4	67,000	12,000	34,000	8,100
Côte d'Ivoire	770,000	690,000	10	400,000	84,000	420,000	75,000
Ghana	360,000	330,000	3	170,000	34,000	200,000	28,000
Guinea	...	...	...	...	...	...	...
Liberia	...	...	...	...	...	...	...
Nigeria	3,500,000	3,200,000	6	1,700,000	270,000	1,000,000	170,000
Sierra Leone	170,000	150,000	7	90,000	16,000	42,000	11,000
Togo	150,000	130,000	6	76,000	15,000	63,000	12,000
Coastal Subtotal	5,070,000	4,610,000	N/A	2,503,000	431,000	1,759,000	304,100
ECOWAS Total	5,672,400	5,137,900	N/A	2,804,700	509,860	2,123,600	363,200