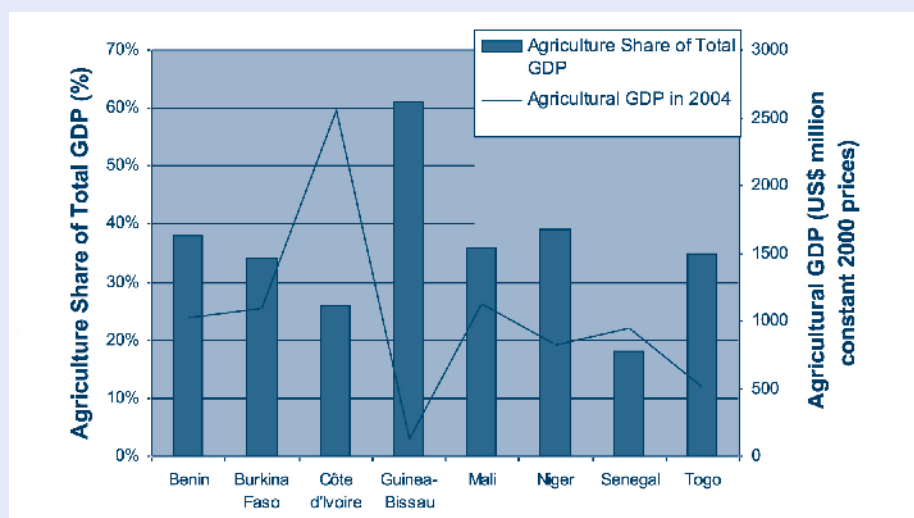


3. Agriculture, Rural Development, and Food Security

Agriculture plays a central role in the development of the UEMOA member countries, on average contributing to about 36% of total GDP in 2004 (FAO, 2005). Not only does agriculture contribute immensely to GDP, it is also the main income-generating activity for the majority of UEMOA's rural population (see Figure 3-1). Furthermore, agriculture production is essential to meeting the food consumption needs of an ever-growing population in this region.

Figure 3-1: Agricultural Share of Total GDP



Source: FAOSTAT, 2008.

- The UEMOA is characterized by a largely rural population practicing subsistence farming and export-oriented agriculture.
- The region has significant land, but much of this is infertile and plagued by erosion and degradation.
- About 13% of arable land is under permanent cultivation, leaving a potentially significant portion available for cultivation.
- Only 2% of the total arable land is irrigated. Expanded irrigation use, combined with sound water management, could rapidly expand production.
- Public sector retreat from the agricultural sector, combined with reduced donor support, hindered agriculture development in the last two decades. Food price increases and export crop revenue declines exacerbate the problem.
- Bioenergy, developed in a sustainable manner, can create new opportunities in rural areas while increasing food and fuel production.

3.1 AGRICULTURE PROFILE OF UEMOA MEMBER COUNTRIES

West Africa consists of four climatic zones from north to south: Saharan, Sahelian, Sudanic, and Guinean (humid, equatorial). Rainfall ranges from less than 100 mm to more than 3,000 mm. Agricultural production is weather dependent and rainfall patterns are variable, creating significant instability. Soils in the region are low in nutrients and degraded. The total land area of the UEMOA region is 345,415,000 hectares. Recent Food and Agriculture Organization (FAO) studies estimate that 33,802,000 ha comprise total arable land, slightly less than 10% of total land area. Of total arable land, 4,445,000 ha are under permanent cultivation, or 13% of total arable land (see Table 3-1).

Important river systems traverse the region: the Niger (2,090,000 km²), the Senegal (440,000 km²), the Gambia (69,900 km²), the Sassandra (68,200 km²), the Bandama (97,500 km²), the Comoé (78,100 km²), the Volta (412,800 km²), the Mono (22,000 km²), and Lake Chad (2,388,700 km²). These river flows are directly linked to rainfall, which is also dependent on the maintenance of ground cover and forest watersheds in these fragile regions.

Deforestation rates in the UEMOA region average 1.61% annually, twice that of sub-Saharan Africa as a whole. Rates are highest in Togo, which recorded a 4.5% annual rate in 2005. Population

Table 3-1: Agricultural Areas

Country	Total land area (thousand ha)	Arable land (thousand ha)			Permanent crops (thousand ha)		
	2005	1980	1990	2005	1980	1990	2005
Benin	11,062	1,500	1,615	2,750	85	105	267
Burkina Faso	27,360	2,745	3,520	4,840	40	55	60
Côte d'Ivoire	31,800	1,955	2,430	3,500	2,300	3,500	3,600
Guinea Bissau	2,812	255	300	300	48	117	250
Mali	122,019	2,010	2,053	4,800	40	40	40
Niger	126,670	10,212	11,036	14,482	8	11	18
Senegal	19,253	2,341	2,325	2,550	9	25	48
Togo	5,439	1,950	2,100	2,490	85	90	140
Total	346,415	22,968	25,379	35,712	2,615	3,943	4,423

Source: FAOSTAT, 2007.

growth is a major driver of deforestation and land degradation. High average population growth rates of 3%—significantly higher than the 2.5% of all sub-Saharan Africa—place heavy demands on the ecosystems of the region. The population within the eight UEMOA countries grew from 40 to 80 million between 1980 and 2005.

Overall, agricultural areas under irrigation are limited in the UEMOA region. In 2003, agricultural land under irrigation represented 571,000 ha—less than 2% of the total arable land (see Table 3-2). This compares to 39% in South Asia and 29% in East Asia (World Bank, 2007). Potential underground water sources exist, but appear limited, although a comprehensive assessment is needed. With known pressure on water tables, expansion of irrigation has limits, as aquifer replenishment is variable. These factors pose constraints on irrigation initiatives without better studies.

Table 3-2: Water Use and Irrigated Land

Country	Share of total water use (%)			Irrigated land (thousand ha)			
	Agriculture 2000	Industry 2000	Domestic 2000	1979-1981	1989-1991	1999-2001	2003
Benin	45.4	23.1	31.5	9	10	12	12
Burkina Faso	86.3	0.8	13.0	10	19	25	25
Côte d'Ivoire	64.5	11.8	23.7	44	66	73	73
Guinea Bissau	82.3	4.6	13.1	17	17	24	25
Mali	90.1	0.9	9.0	60	78	224	236
Niger	95.4	0.5	4.1	23	66	72	73
Senegal	93.0	2.6	4.4	62	85	104	120
Togo	45.0	2.4	52.6	1	7	7	7
Regional	75.3	5.8	18.9	226	348	541	571

Source: FAOSTAT, 2007.

Like irrigation, there is low use of other modern agronomic practices. Sub-Saharan Africa has the lowest use of fertilizer in the world, at 10% of average global use. Similarly, there are far fewer tractors per hectare than in other developing regions. As a result, yields per hectare are lower than those achieved in other developing countries.

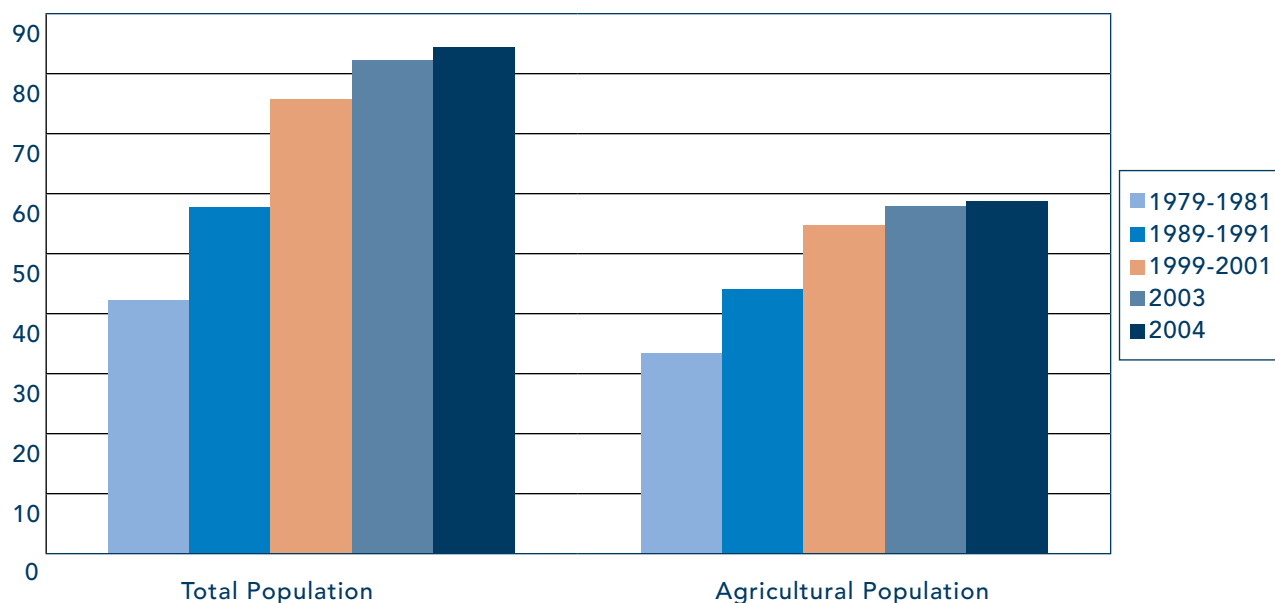
Total UEMOA population, as well as the agricultural share of the population, is shown in Table 3-3 and Figure 3-2. As evidenced, agriculture accounts for a major share of total population in all of the UEMOA countries.

**Table 3-3: Total UEMOA Population and Agricultural Population
(Including Forestry and Fishing)**

Country	Total population (thousands)					Agricultural population (thousands)				
	1979 – 1981	1989 – 1991	1999 – 2001	2003	2004	1979 – 1981	1989 – 1991	1999 – 2001	2003	2004
Benin	3,461	4,654	6,225	6,736	6,918	2,340	2,948	3,360	3,438	3,463
Burkina Faso	6,823	8,923	11,909	13,002	13,393	6,291	8,247	10,987	11,988	12,345
Côte d'Ivoire	8,433	12,503	15,826	16,631	16,897	5,474	7,449	7,786	7,635	7,571
Guinea Bissau	792	1,017	1,368	1,493	1,538	693	868	1,133	1,225	1,257
Mali	7,047	9,049	11,909	13,007	13,409	6,270	7,759	9,644	10,312	10,549
Niger	5,588	7,654	10,748	11,972	12,415	5,101	6,871	9,430	10,425	10,782
Senegal	5,539	7,345	9,395	10,095	10,339	4,468	5,642	6,929	7,345	7,488
Togo	2,523	3,453	4,558	4,909	5,017	1,736	2,260	2,721	2,842	2,873
Total	40,206	54,598	71,938	77,845	79,926	32,373	42,044	51,990	55,210	56,328

Source: FAO, 2007b.

**Figure 3-2: Total UEMOA Population and Agricultural Population
(Including Forestry and Fishing) (Millions)**



Source: FAO, 2007b, Table A1.

Average annual per capita economic growth in the sub-Saharan region from 1990 to 2007 was 0.61% (World Bank, 2008), although from 2004 on, it has been better than 3% annually. Among UEMOA members, the agricultural population has a lower per capita GDP than national averages. For example, per capita agricultural GDP was only about half of national per capita GDP in both 2003 and 2004 in the UEMOA region. The gap between the agricultural per capita income and the national average varies widely by country (see Table 3-4).

Over the last 30 years, agriculture has played a large part in total GDP in UEMOA member countries. On average, agriculture has maintained a 30% share of GDP or higher since 1979, accounting for as much as 36% of total GDP in 2004 (see Table 3-5). There is significant country to country variation. In Guinea Bissau, agriculture made up 61% of total GDP in 2004. However, in Senegal, agriculture's share of total GDP was merely 18%.

The agricultural production systems in West Africa are characterized by a dual system combining subsistence farming with export-oriented agriculture. The traditional food crops, such as millet, sorghum, maize, rice, and cassava, are principally destined for national or regional consumer needs. Export crops, which were introduced during the colonial period, include cotton, groundnuts, cocoa beans, coffee, sugar and cashews.

Food staples in the UEMOA include yams, rice, wheat, maize, and cassava, among others. Cereals represented 50% of total food staple consumption in the UEMOA in 2003, constituting the major food base in the region. Yams and cassava each made up less than 13% of total food consumption.

Table 3-4: Per Capita GDP and Per Capita Agricultural GDP of the Agricultural Population

Country	Per capita GDP (US\$ constant 2000 prices)					Per capita agricultural GDP of the agricultural population (US\$ constant 2000 prices)				
	1979 – 1981	1989 – 1991	1999 – 2001	2003	2004	1979 – 1981	1989 – 1991	1999 – 2001	2003	2004
Benin	317	305	362	387	387	131	163	243	278	295
Burkina Faso	187	203	222	236	238	66	70	78	77	88
Côte d'Ivoire	967	668	675	615	591	295	239	315	330	338
Guinea Bissau	163	183	154	135	137	84	92	98	99	102
Mali	218	182	210	234	232	96	101	105	115	107
Niger	275	199	172	175	170	92	82	78	80	76
Senegal	420	421	466	492	509	126	119	122	119	126
Togo	362	310	292	289	291	121	150	171	172	176
Total	363.62	308.87	319.12	320.37	319.37	126.37	127	151.25	158.25	163.5

Source: FAO, 2007b, Table A9.

Table 3-5: Agricultural Share of Total GDP (% share of GDP)

Country	1979 - 1981	1989 - 1991	1999 - 2001	2003	2004
Benin	28	34	36	37	38
Burkina Faso	33	32	33	30	34
Côte d'Ivoire	20	21	23	25	26
Guinea Bissau	45	43	53	60	61
Mali	39	47	40	39	36
Niger	31	37	40	40	39
Senegal	24	22	19	18	18
Togo	23	32	35	34	35
UEMOA Average %	30	34	35	35	36

Source: FAO, 2007a.

3.2 FOOD SECURITY

The UEMOA region remains food deficient. The decline of malnutrition, which went from a regional average of 33% of total population over the period 1979 to 1981 (14.2 million people) to a regional average of 21% over 2001 to 2003 (16.3 million people), has not reduced the number of undernourished people. (see Table 3-6) Undernourishment remains prevalent and continues to represent a major challenge. Food insecurity is a daily concern for more than 40% of the population (CILSS, 2002) and is likely to increase with rising fuel and food prices.

Food insecurity exists when people do not have physical, social, or economic access to food (FAO, 2003). A number of factors contribute to food insecurity in the UEMOA, including low productivity, rural poverty, rapid urbanization, population growth, minimal diversification of rural income sources, and limited availability of agricultural products. Poverty eradication is essential to improve access to food. The vast majority of those who are undernourished either cannot produce or cannot afford to buy enough food. They have inadequate access to means of production such as land, water, improved seeds and plants, appropriate technologies, and farm credit. In addition, wars, civil strife, natural disasters, climate-related ecological changes, and environmental degradation have adversely affected millions of people. Although food assistance may be provided to ease their plight, it is not a long-term solution to the underlying causes of food insecurity (FAO, 2007b).

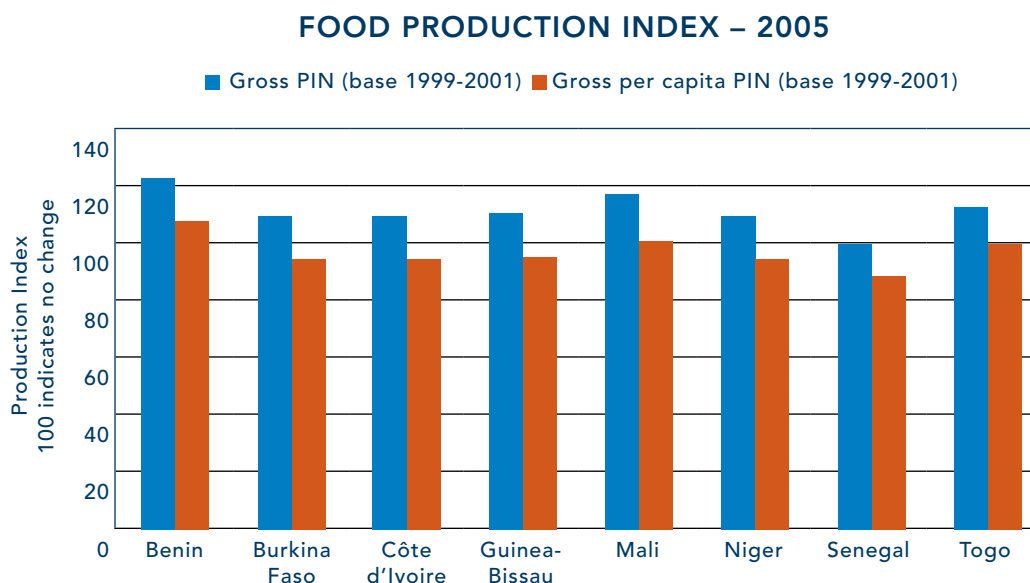
In the UEMOA region, gross food production increased between 2000 and 2005 but per capita food production fell, demonstrating the difficulty in outpacing population growth with domestic production (see Figures 3-3 and 3-4).

Table 3-6: Number of Undernourished People as a Share of Total Population

Country	Number of undernourished people (millions)				Proportion of undernourished in the total population (%)			
	1979 – 1981	1990 – 1992	1995 – 1997	2001 – 2003	1979 – 1981	1990 – 1992	1995 – 1997	2001 – 2003
Benin	1.3	1.0	0.9	0.9	37	20	17	14
Burkina Faso	4.2	1.9	2.0	2.1	62	21	19	17
Côte d'Ivoire	0.7	2.3	2.3	2.2	8	18	16	14
Guinea Bissau	0.3	0.3	0.4	0.5	41	24	31	37
Mali	4.5	2.7	3.4	3.5	64	29	32	28
Niger	1.9	3.2	3.9	3.7	33	41	42	32
Senegal	1.3	1.8	2.2	2.2	23	23	25	23
Total	14.2	13.2	15.1	15.1	33	22	23	21

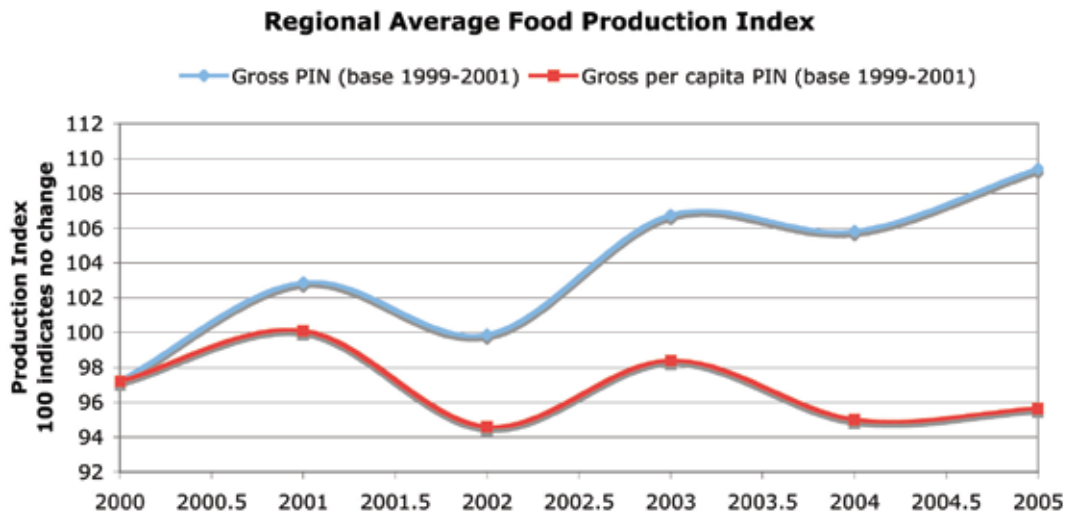
Source: FAO, 1999, 2007b, Table A11.

Figure 3-3: Food Production Index 2005



Source: FAOSTAT, 2008.

Figure 3-4: Regional Average Food Production Index



Source: FAOSTAT, 2008.

In 2003, imports made up a 7% share of food staple consumption. While cereal imports are fairly insignificant in comparison to total cereal consumption, wheat and rice imports account for a large share of consumption. In particular, in 2003 wheat imports fulfilled nearly 75% of total wheat consumption and rice (milled) imports met almost 36% of rice consumption needs in UEMOA member countries (see Table 3-7). Rising prices for these commodities (see Figure 3-5) present a serious issue for local consumers and national budgets.

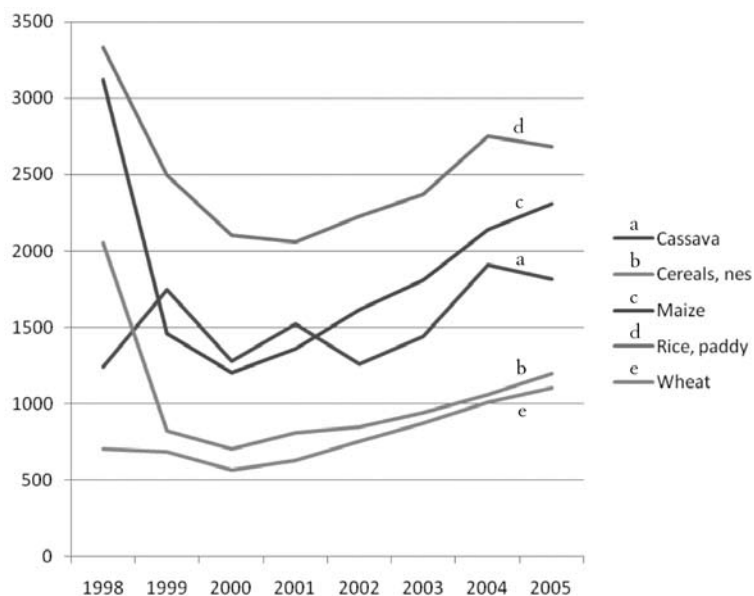
Gross production suffered additional setbacks in 2007–2008 due to a number of weather-related shocks (see Box 3-1).

Past agricultural policies in many UEMOA member countries have also promoted an expansion of export crops to earn foreign exchange. In five of the member countries, non-food production increases have outstripped food production increases since 2000. Senegal, the only country with a decrease in gross food production since 2005, saw the largest non-food production increase at nearly 230% (see Figure 3-6). Subsidy policies in developed countries through the 1990s created surplus production in the global market that reduced food import prices for a number of years, reinforcing this approach. Surpluses have now globally declined for a variety of reasons, putting pressure on prices. Countries that did not anticipate these increases are now making painful adjustments.

Box 3-1: Food Security in West Africa: Recent Events

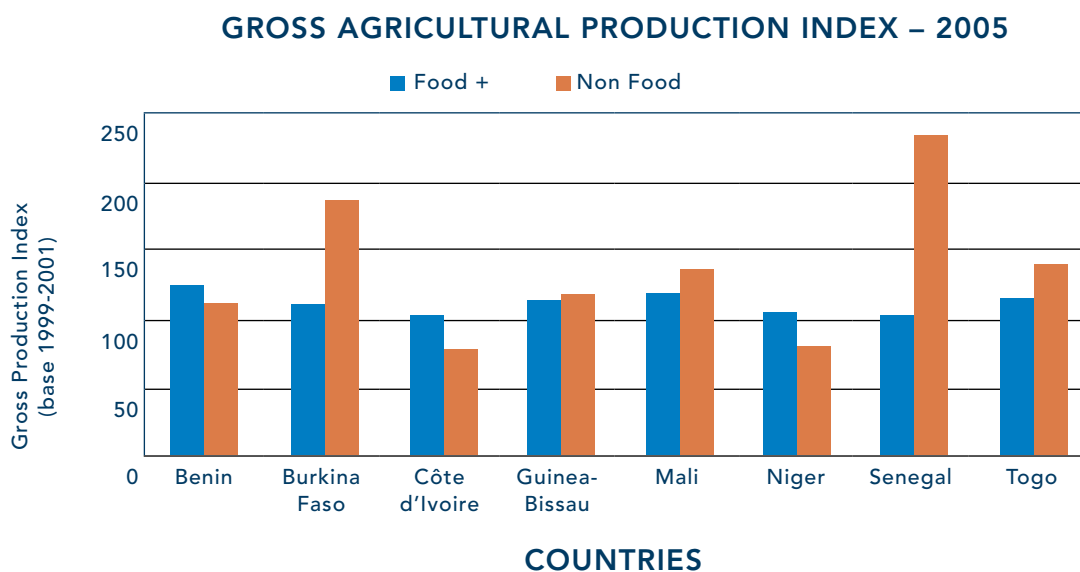
The West Africa subregion was hit by three different shocks that began during 2007, and are impacting food security and nutrition. Initially, the subregion was beset by a late and erratic start to the rainy season, which then gave way to torrential rains and widespread flash flooding. The rains ended earlier than normal, which shortened the rainy season and compromised agricultural production. These production deficits, coupled with the global trends of increasing prices for food and fuel, have led to unusual price increases for locally produced cereals and sharp increases for imported commodities (FAO et al., 2008).

Figure 3-5: Food Staple Prices 1998 to 2005 (US Dollars/tonne)



Source: FAOSTAT, 2008.

Figure 3-6: Gross Agricultural Production: Food versus Non-Food Production



Source: FAOSTAT, 2008.

3.3 AGRICULTURAL SUPPORT

Reduction in support for the agricultural sector by governments, multilateral organizations, and bilateral agencies further contributed to food insecurity. The stagnation of agriculture, especially in the food crop sector, was compounded by the public sector's steady retreat from its main

Table 3-7: 2003 Consumption and Imports of Food Staples

Item	2003 Consumption (tonnes)	2003 Imports (tonnes)	Consumption from Imports (%)
Cassava	3,349,502	-	0
Cereals	13,365,904	4,715	0
Maize	2,532,675	129,856	5
Rice (Milled Equivalent)	3,216,534	1,142,995	36
Wheat	971,101	726,461	75
Yams	3,471,654	6,019	0
Grand Total	26,907,370	2,010,046	7

Source: FAOSTAT, 2008.

supporting functions of marketing, seed supply, credit schemes, and producer price guarantees. The overall impact of these policies has been:

- Disengagement of the state from production activities, transformation, and commercialization.
- Privatization of agricultural services to replace functions traditionally fulfilled by the state.
- Liberalization of prices and markets for products, agricultural inputs, and agricultural services.
- Decentralization through the transfer of power to the territorial bodies and the reinforcement of their planning capacity.

After the public sector's withdrawal, investments in the rural sector stagnated as the private sector did not step in to replace state funding.

As public sector involvement waned, national producer groups became influential players in the organization of the economy and in the formulation of agricultural policy. These groups include the Confederation of Faso Farmers (CPF) in Burkina Faso, the National Council for Rural Coordination (CNCR) in Senegal, the National Council of Farm Policy (CNPFP/N) in Niger; the National Council of Farm Organizations (CNOP) in Mali, and the National Association of Organizations of Agricultural Producers of Côte d'Ivoire (ANOPACI). At the subregional level, this evolution has led to the creation of the Council of Sahelian Farmers and the Network of Farmer Organizations and Agricultural Producers of West Africa (ROPPA).

Against this backdrop, the common agricultural policy of the UEMOA has identified three major challenges, which also serve as objectives of the common agricultural policy:

- Feeding the population of the region against the backdrop of strong demographic growth and urbanization while reducing dependence on the international market for food supplies.
- Increasing agricultural production in a sustainable manner via increased productivity.
- Reducing poverty in the rural sector by improving revenues and farmer status.

3.4 SUMMARY

- Rainfall in the region is very unpredictable, subjecting production systems to significant instability. Deforestation is a significant concern and has rainfall impacts.
- Only about 13% of arable land is under permanent cultivation; this leaves a potentially significant portion of arable land available for cultivation.
- Only 2% of the total arable land is irrigated. Expanded irrigation use should expand production, but in arid and semi-arid zones this must be done with caution. Water availability throughout the region is constrained by a number of ecological factors.
- West Africa is characterized by a largely rural population (68% of the subregion's population). Agriculture production is characterized by a dual system combining subsistence farming with export-oriented agriculture.
- The agricultural population, most of which is located in rural areas, has a lower per capita GDP than national averages in all UEMOA member countries.
- Agriculture has maintained a 30% share of GDP or higher since 1979, accounting for as much as 60% of total GDP in 2004 for UEMOA member countries.
- Gross food production is growing in the region, but struggling to keep pace with population growth.
- Past agricultural policies, led by export promotion and reduced food crops per capita; state retreat from the agricultural sector; and reductions in support by multilateral and bilateral donors have left the UEMOA member countries in a difficult situation, threatened by food price increases and export crop revenue declines. This situation, compounded by rising fuel prices, is placing increased pressures on already fragile economies.