

**BOAD**

BANQUE OUEST AFRICAINE  
DE DÉVELOPPEMENT



**Annual report**  
2009



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**T**he year 2009, which was marked by a global financial and economic crisis, had been a difficult year for WAEMU countries. It led to wider budget deficits, and the economic growth rate, initially set at 4.7%, finally stood at 3%.

Within this unfavorable context, BOAD was able to play a contra-cyclical role, as far as its circumstances permitted. It expanded its annual volume of support by 125% compared to the previous year by raising its commitments to FCFA 234.1 billion. This is the highest annual volume of financing that the Bank has recorded to date.

To achieve this result, the Bank took advantage of the onset of the implementation of the 2009-2013 Strategic Plan from the very beginning of the year. This Strategic Plan contributed to meeting more ambitious quantitative targets than those of the past. It also ensured real qualitative improvement in the Bank's interventions in the face of new challenges that economies must address, such as food insecurity, climate change, environmental degradation, difficulties in promoting private sector financing (in particular for SMEs), and low access to financial services by a large number of our fellow citizens.

In 2009, BOAD funding contributed to the execution of 37 investment projects, especially in agriculture but also in economic and financial infrastructure.

The Bank laid special emphasis on the implementation of the Agriculture Sector Emergency Support Program, which was launched in 2008 to help WAEMU Member States deal with the food crisis and guarantee food security. Thus a total of FCFA 59.7 billion was earmarked for the execution of eight (08) investment projects in agriculture.

During the same period, disbursements were made to the tune of FCFA 121 billion.

Thanks to prudent management, BOAD was not directly affected by the financial crisis. To guard against portfolio risks, it raised the level of monitoring of its commitments.

Net results for 2009 rose by 73% compared to the 2008 results, which had grown in a similar proportion compared to the 2007 results. Thus, as at end December 2009, the Bank recorded a net profit of FCFA 3.7 billion. This gain helped raise the Bank's equity to FCFA 154 billion.

Efforts deployed by the Bank also helped to mobilize financial resources totaling FCFA 92.3 billion, which testifies to the credibility of the institution among its partners.

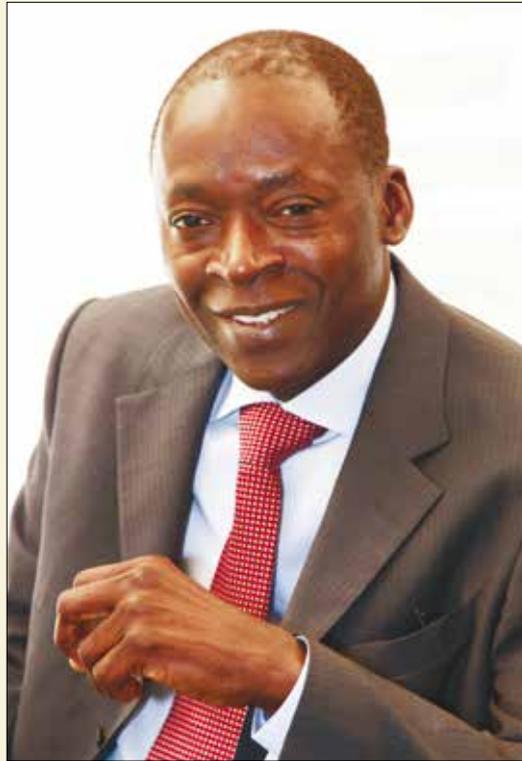
At institutional level, one important measure taken was the establishment within BOAD Board of Directors of a Credit Committee charged with speeding up the review and approval of some funding proposals considered both pertinent and urgent. In terms of governance, the

updating of some basic texts was also initiated. This was the case for the "Policy Statement," which complements some of the objectives stated in the Bank's Articles of Association by providing further details.

In addition, BOAD launched in 2009 a number of important studies. These include a study aimed at reviewing the feasibility of a harvest insurance mechanism within WAEMU and a study on climate change and its impact on food security within the Union. This issue of the Bank's annual report presents in Part II some findings from the second study.

I would like to stress that at the start of 2009, the Bank launched a study aimed at analyzing the feasibility of a BOAD concessional fund similar to IDA or ADF type. Finally, we embarked on a series of sectoral studies to improve our knowledge of markets where the Bank operates with a view to enhancing our operational performance.

Overall, our ambition is to turn BOAD into both a strategic partner for its member states and a leader in innovative funding for the private sec-



**ABDOULAYE BIO-TCHANÉ**

*Chairman*

tor within the WAEMU zone.

Allow me to pay tribute to the WAEMU authorities for their constant support to BOAD in the achievement of its mission.

I would also like to thank all shareholders of the Bank, our partners and our directors for their constant efforts.

At last, I cannot conclude without extending my congratulations to the entire staff of the Bank for their enthusiasm and commitment at work.

I hope that in 2010, together, we will be able to face new challenges, including those that are already on the Bank's agenda.

## LIST OF ABBREVIATIONS AND ACRONYMS

- AAF:** African Agriculture Fund
- ADF:** African Development Fund
- AFD:** Agence française de développement (French Development Agency)
- AFDB:** African Development Bank
- AGRA:** Alliance for Green Revolution in Africa
- BCEAO:** Banque centrale des États de l’Afrique de l’Ouest (Central Bank of West African States)
- BOAD:** Banque ouest-africaine de développement (West African Development Bank)
- BRVM:** Bourse régionale des valeurs mobilières (Regional Stock Exchange)
- CDM:** Clean Development Mechanism
- FCFA:** African Financial Community Franc
- DFI:** Domestic Financial Institution
- ECOWAS:** Economic Community of West African States
- EIB:** European Investment Bank
- FAO:** United Nations’ Food and Agriculture Organization
- FDC:** Development and cohesion fund
- FDE:** Energy Development Fund
- GDP:** Gross Domestic Product
- IDA:** International Development Association
- IDB:** Islamic Development Bank
- IFAD:** International Fund for Agricultural Development
- IFC:** International Finance Corporation
- IMF:** International Monetary Fund
- IPCC:** Intergovernmental Panel on Climate Change
- IRED:** Initiative Régionale pour l’Energie Durable (Regional Initiative for Sustainable Energy)
- M FCFA:** Million FCFA
- MDG:** Millenium Development Goal
- NEPAD:** New Partnership for Africa’s Development
- NICT:** New Information and Communication Technology
- OECD:** Organisation for Economic Cooperation and Development
- PACITR:** Programme d’actions communautaire des infrastructures de transport et routières (Community Action Plan for Road Infrastructure and Transport)
- PANA:** Programme d’Action National d’Adaptation (National Adaptation Program)
- PCA:** Business Continuity Plan
- PDMF:** WAEMU Capital Market Development Project
- PER:** WAEMU’s Regional Economic Program
- PROPARCO:** Promotion et Participation pour la Coopération économique (Branch of the French AFD Group)
- CREPMF:** WAEMU Regional Council for Public Savings & Financial Markets
- SME:** Small and medium-sized enterprises
- UNDP:** United Nations Development Program
- UNFCC:** United Nations Framework Convention on Climate Change
- WAEMU:** West African Economic and Monetary Union
- WAPP:** West African Power Pool

## BOAD &amp; FINANCING IMPLEMENTED IN 2009

<b>Date of establishment</b>	14 November 1973; start of operational activities in 1976	
<b>Shareholders</b>	<ul style="list-style-type: none"> <li>• WAEMU member states: Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo</li> <li>• BCEAO</li> <li>• Seven non-regional shareholders: AfDB, EIB, France, Belgium, Germany, EXIM BANK of India and People's Republic of China</li> </ul>	
<b>Mission</b>	To promote balanced development in member states and foster economic integration in West Africa	
<b>Vision by 2020</b>	To transform BOAD into a solid and world-class development bank in the regional common market.	
<b>Authorized capital as at 31/12/2009</b>	FCFA 700 billion	
<b>Subscribed capital as at 31/12/2009</b>	FCFA 676.1 billion	
<b>Total balance sheet as at 31/12/2009</b>	FCFA 1,326 billion	
<b>Bank staff complement as at 31/12/2009</b>	241 employees	
<b>FINANCING IN 2009</b>	<b>37 operations totaling FCFA 234.1 billion, as follows:</b>	
	Direct loans:	FCFA 212.6 billion, or 90.8%
	Indirect loans:	FCFA 5 billion, or 2.1%
	Equity investments:	FCFA 16.5 billion, or 7.1%
	<b>Sector-based breakdown of financing:</b>	
	Non-market sector :	FCFA 125.7 billion, or 50.7% (18 operations)
	Public market sector:	FCFA 13 billion, or 10.9% (1 operation)
	Private sector:	FCFA 95.4 billion, or 35.4% (18 operations)
	including Integration:	FCFA 170.6 billion, or 72.9% (25 operations)
<b>Approved aggregate, 1976-2009</b>	FCFA 1,435.1 billion for 510 operations	

### 1<sup>st</sup> January

#### Effectiveness of BOAD's 2009 -2013 Strategic Plan

Approved in December 2008 by the Bank's decision-making bodies, the implementation of BOAD's 2009-2013 Strategic Plan began in January 2009.

### 12-14 January

#### Working visit of the Chairman to BDEAC

At the invitation of the President of the Central African Development Bank (BDEAC), Mr. Anicet G. Dologuele, the Chairman, Mr. Abdoulaye Bio-Tchané, paid a working visit to BDEAC headquarters in Brazzaville, Republic of Congo, on 12-14 January. A cooperation agreement was signed during the visit.

### 19-20 January

#### 2<sup>nd</sup> round of AFD Group-BOAD annual meetings

The aim of the 2nd round of French Development Agency (AFD) Group-BOAD meetings, which took place on 19-20 January, was to promote a strategic partnership between both parties. The promotion of this cooperation led to, among others, the extension of a concessional credit facility in an amount of EUR 50 million to BOAD for funding agriculture.

### 27 February

#### Regional workshop on the validation of the intervention strategy for agricultural and rural development

A regional workshop aiming to validate BOAD's intervention strategy for agricultural and rural development was held on 27 February at the Bank's headquarters in Lomé.

### 25 March

#### Appointment of BOAD Vice-Chairman

During its 72nd meeting held in Abidjan, Côte d'Ivoire, BOAD's Board of Directors, following a proposal by Malian authorities, appointed Mr. Basary Touré as Vice-Chairman of BOAD for a five-year term.

### 1<sup>st</sup> June

#### Launch of operation code-named "1,000 trees for the City of Lomé"

Chairman Abdoulaye Bio-Tchané and Bank staff members celebrated Tree Day on 1st June by launching an operation code-named "1000 trees for the City of Lomé." This involved planting 1000 new trees in Lomé between 1st June 2009 and 1st June 2010.

### 15 June

#### BOAD's Board of Directors meeting in China

At the invitation of the People's Republic of China and as part of enhanced cooperation relations between BOAD and China, the Board of Directors held its 73rd meeting on 15 June in the premises of the People's Bank of China (PBC) in Shanghai, China, under the chairmanship of Mr. Abdoulaye Bio-Tchané, its Chairman.

### 16 June

#### BOAD – People's Republic of China Seminar

BOAD and the People's Bank of China (PBC) held a seminar in Shanghai on 16 June on "Cooperation and Development between China and BOAD." Organized on the sidelines of the 73rd Board meeting, this event was a follow-up to the China Economic Workshop held in Lomé on 22-23 November 2006. This event, which was attended by many Chinese economic operators, provided an opportunity to assess the cooperation between BOAD and the People's Republic of China through its financial institutions and to exchange views on strengthening their strategic partnership.

### 2-3 July

#### Workshop on improved access of local communities to loans in West and Central Africa

The Bank organized on 2-3 July, 2009 a workshop on improved access of local authorities to loans in West and Central Africa. This event led to the Board's decision to authorize the acquisition by BOAD of a 20% interest in the capital of African Municipal Credit, a banking institution being established with the aim of financing local communities in member states of the West African Economic and Monetary Union (WAEMU).

### 9-10 July

#### Validation workshop on studies pertaining to the WAEMU mortgage market

BOAD, in collaboration with the Central Bank of West African States (BCEAO) and the Regional Board for Public Savings and Capital Markets (CREPMF) organized a validation workshop on two studies pertaining to the evaluation of WAEMU mortgage market potential and architecture.

These two studies, aimed at promoting the mortgage and securitization market in WAEMU countries, were sponsored by the Bank to the tune of FCFA365 million. Arrangements are underway to create a mortgage refinancing fund in the near future.

### 17 July

#### Inauguration of an Information Center devoted to the private sector

To ensure better communication and dissemination of information on opportunities it offers the private sector, the Bank has set up an Information Center devoted to the private sector (CISP).

This center was inaugurated on Friday, 17 July by the Chairman in the presence of journalists from major national and international media.

### 25 September

#### Adoption of basic texts on IRED

The WAEMU Council of Ministers met in Lomé (Togo) on 25 September 2009 and approved draft texts relating to the adoption, implementation and financing of the Regional Initiative for Sustainable Energy (IRED).

To this end, the Council has set up an institutional mechanism which will be jointly managed by the WAEMU Commission, BCEAO and BOAD through a Steering Committee, a Technical Monitoring Committee and a Regional Coordination Unit.

The Council also adopted a draft decision on establishing an Energy Development Fund (FDE) which will be administered by BOAD.

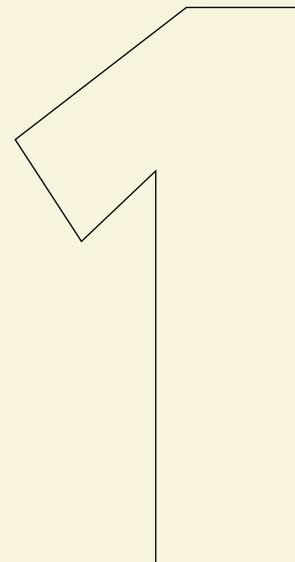
### 7-8 October

#### Validation workshop on studies relating to cotton seed and oil palm sub-sectors

BOAD, in collaboration with the WAEMU Commission and the Association of industrialists in the oilseed sector (AIFO), organized and hosted on 7-8 October a validation workshop on two studies on the cotton seed and palm oil sub-sectors within WAEMU. These two studies were sponsored by the Bank.

This workshop, which brought together stakeholders in the oil seed sector within WAEMU, was aimed at reviewing the findings of these studies and amending them with a view to drawing up a comprehensive action plan for developing this sector within WAEMU.





## **I. SOCIAL & ECONOMIC ENVIRONMENT**

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- 1.1. INTERNATIONAL ECONOMIC ENVIRONMENT
- 1.2. ECONOMIC CONTEXT WITHIN WAEMU

## 1.1. INTERNATIONAL ECONOMIC ENVIRONMENT

In 2009, the world economy suffered a recession, with a negative growth rate of 0.6% as a result of the international economic and financial crisis.

In developed countries, economic activity shrunk by 3.2% during the year as against 0.5% growth in 2008. Meanwhile, emerging and developing countries recorded real GDP growth of 2.4% in 2009 as against 6.1% in 2008. In Sub-Saharan Africa, economic growth remained weak, reaching about 2.1% as against 5.5% in 2008.

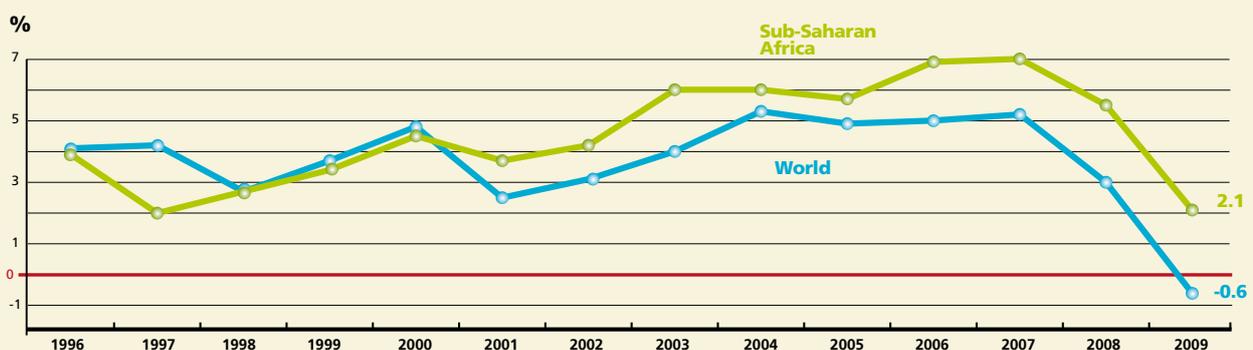
Correlatively, at global level, the year saw an easing in prices coupled with inflation limited to 0.1% as against 3.4% in 2008 as a result of a fall in world demand as well as a drop in the price of crude oil (-36.1% in 2009) and commodities (-18.9%).

Meanwhile, world production and international trade started recovering from the second half of the year. Confidence improved significantly in both the financial and productive sectors thanks to unprecedented support measures taken by public authorities. In advanced economies, consumption was more vigorous than anticipated especially in the United States while in major emerging and developing countries, internal consumer demand was very dynamic.

Monetary policy was highly expansionist as interest rate fell to the lowest levels ever recorded in most advanced economies and in many emerging countries. Meanwhile, the bottom lines of central banks reached unprecedented levels in major advanced economies. Public support to the financial sector was strongly instrumental in breaking the cycle of negative interactions between the financial and the productive sectors. In the meantime, budget policy played an important stimulating role in face of a marked slowdown in economic activity.

Source : IMF data (WEO 2009 and previous issues)

FIGURE 1 : TRENDS IN WORLD REAL GDP GROWTH FROM 1996 TO 2009 (%)





At the top: WAMU Council of Finance Ministers

Below: Inauguration of the Private Sector Information Center (BOAD Headquarters)

Financial markets recovered faster than expected as a result of a boost in activity in the second half of the year. Money markets stabilized and the tightening of conditions for bank loans eased. Stock markets recovered and issues of corporate bonds reached record levels. However, small and medium-scale enterprises, which have limited access to capital markets, continued to face difficulties in accessing credit. Overall, the financial situation improved but remained difficult.

## 1.2. ECONOMIC CONTEXT WITHIN WAEMU

### 1.2.1. OVERVIEW

In 2009, economic trends within WAEMU were affected by the global crunch: real GDP growth reached only 3% as against 3.7% in 2008 while inflation stood at 1.3% as against 7.4% in 2008.

Government finance management was marked by persistent liquidity difficulties as well as an overall deficit, excluding grants, which reached 7.2% as against 5% in 2008. This was due to a substantial increase in expenditure (+14.6%) resulting from major public investments. As at end December 2009, outstanding public debt accounted for 41.2% of GDP, down by 3 percentage points compared to end December 2008 thanks to debt relief secured by Côte d'Ivoire and Togo, which reached the decision point under the HIPC initiative in November 2008 and March 2009 respectively.

With regard to external trade, the current account deficit widened, reaching 7.4% of GDP as against 7.2% in 2008. This trend was attributed to an increase in grants and a net drop in imports due to a downward trend in oil prices. The overall position of the balance of payments stood at FCFA 257.0 billion as against FCFA 91.4 billion in 2008.

In terms of human development, WAEMU countries still rank among countries with low human development index (HDI). However, there has been an improvement in five out of the eight countries in the Union between 2000 and 2007 (Table 3).

Source : WAEMU Commission

FIGURE 2 : REAL GROWTH RATE OF WAEMU COUNTRIES IN 2009 (%)

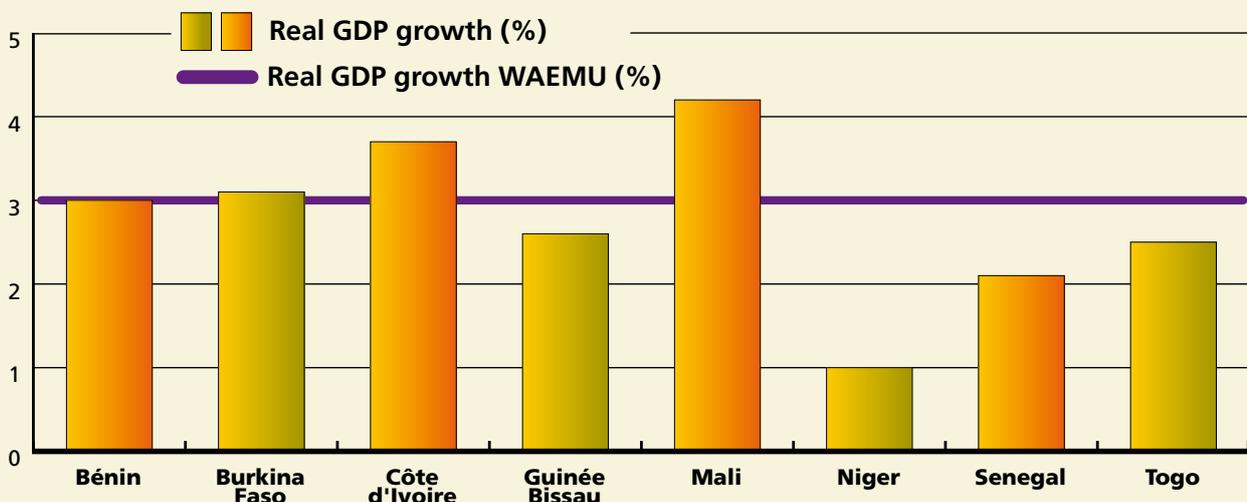


TABLE 2 : REAL GDP GROWTH RATE IN WAEMU FROM 2000 TO 2009 (%)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*
BENIN	4.9	6.2	4.4	3.9	3.1	2.9	3.8	4.6	2.7	2.7
BURKINA FASO	1.6	6.6	4.7	8.0	4.6	7.1	6.4	3.6	5.2	3.1
CÔTE D'IVOIRE	-2.3	0.1	-1.6	-1.7	1.6	1.8	1.2	1.6	2.3	3.7
GUINEA BISSAU	7.5	0.2	-7.1	0.6	3.2	3.8	1.8	2.7	3.3	2.5
MALI	-3.3	11.9	4.3	7.6	2.3	6.1	5.3	4.3	5.0	4.2
NIGER	-2.8	7.4	5.3	7.6	-0.8	7.2	4.8	3.3	9.5	1.0
SENEGAL	5.1	4.6	0.7	6.7	5.8	5.3	2.1	4.7	2.4	2.1
TOGO	-0.9	-2.3	-0.2	4.8	2.5	1.3	1.9	2.1	1.8	2.5
<b>UEMOA</b>	<b>-0.1</b>	<b>3.8</b>	<b>1.3</b>	<b>3.9</b>	<b>3.5</b>	<b>4.4</b>	<b>3.1</b>	<b>3.3</b>	<b>3.7</b>	<b>3.0</b>

\* Estimates.

Sources : Semi-annual reports on the implementation of multilateral monitoring (WAEMU Commission) of December 2009 and previous issues.

Human poverty fell slightly in most Member States between 2005 and 2007 (Figure 3). This trend reflected a general improvement in three aspects of human development: health and life expectancy, literacy and standard of living. Overall, in spite of progress recorded, living conditions remained generally precarious, with persistent difficulties in accessing basic social services such as drinking water, electricity, health infrastructure, sanitation and education.

The above data on human development are not yet available for 2009. However, it may turn out that the international economic and financial crisis coupled with the increasingly palpable effects of climate change may have had a negative impact on economic performance in recent years, despite efforts by Member States to achieve the millennium development goals (MDGs) as well as social progress more generally.

This possibility underlines the need to briefly specify some areas that

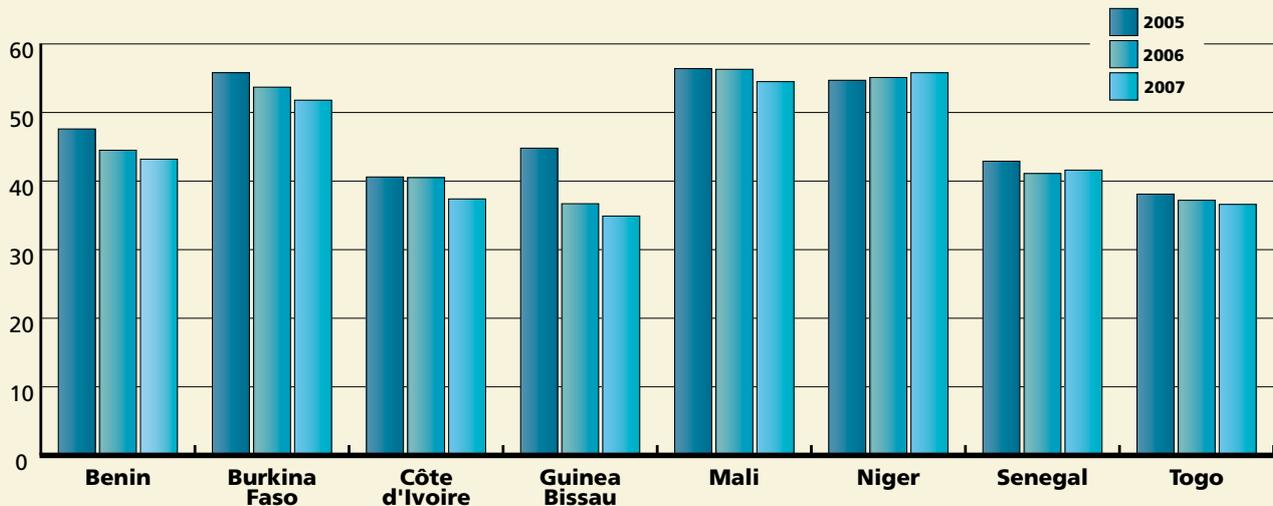
were particularly affected by the international economic and financial crisis. It also suggests the need for a better understanding of the impact of climate change on social and economic development in WAEMU countries. The following two sections will address these issues.

TABLE 3 : TRENDS IN HDI IN WAEMU COUNTRIES BETWEEN 1995 AND 2007

Pays	1995	2000	2005	2006	2007	2005	2006	2007
BENIN	0.403	0.424	0.437	0.459	0.492	2.9	3.8	4.6
BURKINA FASO	0.337	0.353	0.370	0.372	0.389	7.1	6.4	3.6
CÔTE D'IVOIRE	0.436	0.432	0.432	0.431	0.484	1.8	1.2	1.6
GUINEA-B.	0.350	0.365	0.374	0.383	0.396	3.8	1.8	2.7
MALI	0.321	0.352	0.380	0.391	0.371	6.1	5.3	4.3
NIGER	0.296	0.321	0.374	0.370	0.340	7.2	4.8	3.3
SENEGAL	0.449	0.473	0.499	0.502	0.464	5.3	2.1	4.7
TOGO	0.514	0.521	0.512	0.479	0.499	1.3	1.9	2.1

Source : UNDP Human Development Report 2008/2009

**FIGURE 3 : TRENDS IN THE HUMAN DEVELOPMENT INDEX (HDI) IN WAEMU MEMBER STATES (%)**



Source : UNDP Human Development Report, 2009

### 1.2.2. IMPACT OF THE INTERNATIONAL FINANCIAL CRISIS

The international financial crisis had no direct effects on the Union's financial institutions thanks to their low level of integration into the international financial system. The effects of the crisis were mainly felt in the productive sector.

Consequently in 2009, the effects of the international financial crisis were felt in: (1) a slowdown in external demand, which led to a downturn in activity in export-oriented sectors, (ii) a fall in the price of major export commodities, and (iii) a decline in inflows of financial resources. In fact, the crisis affected almost all sectors of the economy in WAEMU countries.

Generally, there was a slowdown in growth due to a downturn in activity in the building and civil industry sector, wood processing, textile industries and trade.

For example, in Côte d'Ivoire, a significant proportion of production in the wood processing industry had to be stored during the first few months of the year for lack of external orders, essentially as a result of the crisis in the real estate sector in industrialized countries. In Côte d'Ivoire alone, nine (09) out of eighty-eight (88) registered businesses went into liquidation. Moreover, 3,200 employees were laid off for economic reasons and 3,600 found themselves temporarily unemployed.

In the textile sector, there was a 41.2% decline within WAEMU during the first nine months of 2009 compared to the same period in the previous year. The trade sector was also affected as the retail trade turnover index calculated by BCEAO fell by an average of 5.3% during the first nine months of 2009 as against an increase of 10.3% over the same period in 2008. In the most severely affected countries, the index dropped by 20.4% in Senegal, 17.8% in Benin, 16.3% in Guinea Bissau, 9.4% in Togo, and 5.9% in Burkina Faso.

Beyond its direct effect on output in the productive sectors, the financial crisis led to uncertainties in the execution of some investments, both

public and private. Consequently, investments other than foreign direct investments and portfolio investments, which had recorded net inflows of FCFA 175.5 billion in 2008 and FCFA 781.6 billion in 2007, fell short by FCFA 41.5 billion in 2009. The mining sector, which is becoming the main engine of growth in several countries of the Union, was the most severely affected. For example, the mining project planned by Arcelor Mittal Group in Senegal and valued at FCFA 1,100 billion was postponed. Against this backdrop, the employment situation deteriorated, raising the risk of worsening poverty across the Union.

As regards government finance, the effects of the global crunch crisis led to a widening in the overall budget deficit in 2009 as a result of a marginal increase in revenues and a significant increase in expenditures. This also increased the risk of accumulating domestic payment arrears.

With regard to external accounts, the crisis led to a decline in the Union's exports, revenue from tourism and remittances by migrant workers. The balance of services also deteriorated. However, the current account deficit shrank thanks to a downward trend in imports.

Remittances by migrant workers, estimated on average at 3.0% of GDP across the WAEMU zone, are one of the major sources of foreign exchange in some Member States. In 2009, the volume of remittances was affected by the downturn in economic activity in industrialized countries. Given that job losses in these countries concerned primarily unskilled jobs traditionally held by immigrants, this situation could only have a negative impact on the volume of transfers by migrant workers.

According to World Bank projections, Sub-Saharan Africa may be the second most affected region in terms of drop in remittances by migrants as a result of the crisis, with a decline that could range between 1.3% and 6.8% in 2009, following increases of 14.4% and 6.3% in 2007 and 2008 respectively.

On the monetary and financial front, the indirect effects of the crisis were felt in the banking system through, among others, a downturn in activity in the productive and external sectors as well as a higher risk of deterioration in the quality of bank portfolios. This situation was reflected in a tightening in bank lending and a slowdown in the pace of expansion of credit to the economy. In response, the Central Bank softened monetary policy and strengthened consultation with the banking system.

Other support measures for the economy included pursuing under the authority of the Council of Ministers actions previously initiated at community level to boost agricultural production, reduce energy shortfalls and clear all domestic payment arrears of Member States. These actions also involved implementing specific measures to support sectors in distress.

Measures taken at community level are estimated at FCFA 1,490 billion, which will be invested in the regional economy between 2008 and 2013. This amount represented 4.3% of the Union's nominal GDP in 2008.

Finally, other measures at country level included support to sectors most affected by the crisis.

### 1.2.3. EFFECTS OF CLIMATE CHANGE

Today, climate change is more than ever before a major development issue at global level and particularly in Africa, one of the continents most severely affected by its impact. Climate change is creating problems in sectors such as agriculture, sanitation and water treatment and management as well as wreaking havoc on basic and modern transportation, communication, health and education infrastructure, and coastal housing, thus negatively affecting poverty reduction efforts.

It is reported that as a result of the effects of an unstable climate, Africa is experiencing an annual loss of 1 to 2 percentage points in its GDP. In addition, West Africa is among the regions of the world that are witnessing the worst developments in terms of rainfall. According to the Global Humanitarian Forum, climate change is causing 300,000 deaths each year as well as malnutrition among 45 million people, with a social cost estimated at US\$ 1,300 billion.

In 2009, West Africa and WAEMU countries in particular suffered serious floods, a phenomenon due to climate change in the sub-region.

Torrential rains razed to the ground several villages as well as thousands of housing units in cities and damaged infrastructure such as bridges, roads, hospitals, and schools in Burkina Faso, Benin, Niger, Senegal and Togo, among others. These floods caused at least 160 deaths, made nearly 600,000 people homeless, and displaced thousands. The immediate effects of these developments were a worsening in the health situation (resurgence of diarrheal diseases, malaria, etc.), serious disruptions in the academic year and educational programs, worsening poverty in rural and urban areas, and the isolation of some regions.

Flooding in the largest hospital in Ouagadougou (Burkina Faso) had serious consequences on patients as well as public health.

On the economic and financial front, these events had different effects depending on the country. The flooding of several thousands of hectares of farmland and the isolation of some farming areas as a result of the collapse of several bridges after the torrential rains of 2008 in Togo

**TABLE 4 : ESTIMATED COST OF DAMAGE CAUSED BY FLOODS FROM 2000 TO 2008 IN WAEMU COUNTRIES**

	<b>Minimum impact (USD)</b>	<b>Maximum impact (USD)</b>
BENIN	14,635,620	30,040,455
BURKINA FASO	7,363,935	15,114,902
CÔTE D'IVOIRE	110,250	226,294
GUINEA BISSAU	78,750	161,639
MALI	5,860,665	12,029,353
NIGER	8,545,725	17,540,594
SENEGAL	11,955,105	24,538,543
TOGO	8,466,525	17,378,031
<b>WAEMU</b>	<b>189,000,000</b>	<b>388,000,000</b>

Source : BOAD-sponsored study on climate change and food security in WAEMU (2009)

contributed to the persistence of abnormally high prices for grains, the main staples in that country. In Senegal, floods and rising water levels in River Senegal and River Gambia caused significant harvest losses especially for rice, maize, and banana production in regions such as Saint-Louis, Tambacounda and Kedougou. In Burkina Faso, over 9,000 hectares of crops were destroyed by floods, considerably reducing the supply of foodstuffs and agricultural products.

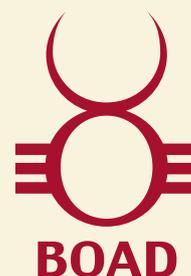
These phenomena weighed heavily on the resources of member states and populations and generated a substantial amount of international aid. According to the study on climate and food security within WAEMU commissioned by BOAD, floods caused damage estimated at between FCFA 85 and 175 billion in member states between 2000 and 2008.





## II. BOAD'S ACHIEVEMENTS IN 2009

- 2.1. ACTIVITIES AIMING TO POSITION THE BANK AS A STRATEGIC INSTRUMENT FOR MEMBER COUNTRIES
- 2.2. PARTNERSHIP WITH BUSINESSES AND SEARCH FOR INNOVATIVE FUNDING
- 2.3. PROMOTING PARTNERSHIPS AND EXTENDING CAPITAL MARKET STRUCTURES AND INSTRUMENTS
- 2.4. COOPERATION ACTIVITIES AND RESOURCE MOBILIZATION
- 2.5. ORGANIZATION, OPERATIONS AND GOVERNANCE



In 2009, BOAD recorded the highest level of financing since its inception. The total amount of assistance provided rose from FCFA 103.8 billion in 2008 to FCFA 234.1 billion in 2009, representing an increase of 125%. Through this assistance, the Bank supported Member States' efforts in financing 37 investment projects especially in agriculture and economic infrastructure.

The distribution of annual financing between the market and the non-market sectors was as follows:

Direct loans granted by the Bank amounted to FCFA 212.6 billion, or 90% of total commitments. These helped finance agricultural and food security projects, build road infrastructure, and develop the productive capacity of public and private businesses in the Union.

Indirect loans totaling FCFA 5 billion, or 2.1% of total loan approvals for the financial year, went toward refinancing two national financial institutions with the aim of supporting the development of SMEs and SMIs within the WAEMU zone.

In 2009, the Bank acquired shares amounting to FCFA 16.5 billion, or 7.1% of total amount, to boost long-term resources of regional or national financial institutions as well as businesses.

New approved financing raised the aggregate amount of the Bank's financial assistance to the economies of member states to FCFA 1,435.1 billion

In 2009, disbursements reached FCFA 121.1 billion as against FCFA 100.5 billion in 2008. Out of a total of FCFA 1,435.1 billion of financing approved by the Bank as at December 2009, almost 69.5% has already been disbursed.

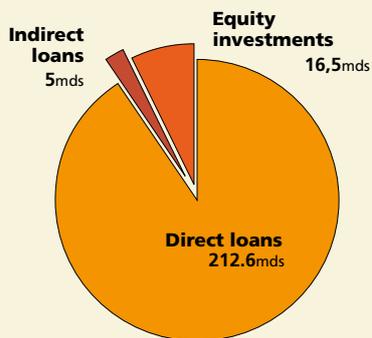
The Bank's financial assistance to regional projects amounted to FCFA 170.6 billion in 2009, or 72.9% of its commitments, covering 25 projects. In 2008, this type of financing reached FCFA 38.5 billion.

TABLE 5 : **SECTORIAL DISTRIBUTION OF APPROVALS IN 2009**

	<b>Approvals (Million FCFA)</b>	<b>Number of operations</b>	<b>% of approvals</b>
<b>NON MARKET SECTOR (a)</b>	125,700	18	53.7
Including a special agricultural program	59,700	8	25.5
<b>MARKET SECTOR (b = i + ii)</b>	108,400	19	46.3
Private (i)	95,400	18	40.8
Public market (ii)	13,000	1	5.5
<b>TOTAL (a+b)</b>	<b>234,100</b>	<b>37</b>	<b>100%</b>

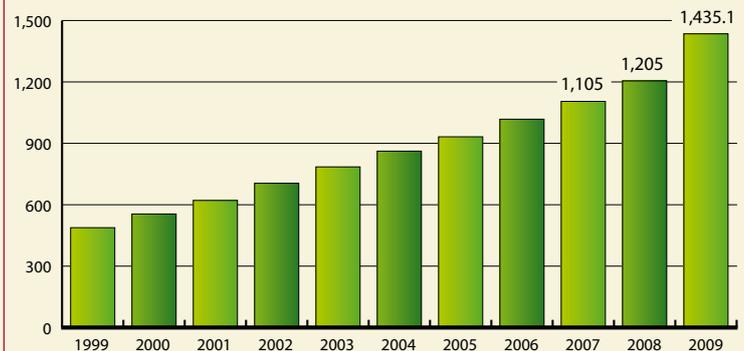
Source : BOAD

**FIGURE 4 : DISTRIBUTION OF APPROVED FINANCING IN 2009 BY TYPE OF FINANCING**



Source : BOAD

**FIGURE 5 : TRENDS IN AGGREGATE NET COMMITMENTS OF BOAD FROM 1999 TO 2009 (billions of FCFA)**



In addition, the Bank financed nine (09) studies in preparation for investment projects worth a total of FCFA 2.46 billion during the financial year.

In accordance with key objectives stated in the 2009-2013 Strategic Plan, the Bank's achievements for 2009 can be summarized as follows:

## 2.1. ACTIVITIES AIMING TO POSITION THE BANK AS A STRATEGIC INSTRUMENT FOR MEMBER COUNTRIES

### 2.1.1. FINANCING AGRICULTURE AND FOOD SECURITY

With regard to agricultural development, BOAD contributed through its financial assistance to the implementation of eight (08) projects aimed at developing agricultural potential and thus supported member countries in their efforts to mitigate the residual effects of the food crisis that occurred in 2008.

The Bank financed at least one agricultural project in each member state for a total amount of FCFA 59.7 billion. Resources mobilized through a special issue of debt securities authorized by the Council of Ministers were used for this purpose.

These projects were intended to significantly increase agricultural production, especially through the establishment or rehabilitation of 14,000 hectares of irrigated land, technical and organizational capacity building for farmers, rural credit, and supply of quality seeds, fertilizers and small agricultural machinery.

In addition, after financing in 2008 two studies relating to the promo-

tion and development of oil seed sector within the WAEMU zone (see "cotton seed" and "oil palm" sub-sectors), BOAD organized on 7-9 October 2009, in conjunction with the WAEMU Commission a regional workshop to validate the findings of the studies. This workshop, which was attended by representatives of farmers, relevant public authorities, and members of the Association of industrialists in the oil seed sub-sector, generated an important brainstorming session on the future of the oil seed sub-sector in WAEMU economies.

Furthermore, at the end of November 2009, BOAD launched a feasibility study on harvest insurance within WAEMU. The aim is to ensure that climatic risks are taken into account in agricultural activities. Findings from the study are expected by mid-2010.

### 2.1.2. ENVIRONMENTAL ACTIVITIES

The Bank pursued the implementation of its environmental and social policy. It established an operational division in charge of sustainable development and environment, thus confirming the Bank's commitment to being deeply involved in this area. In addition, the Bank

#### BOX 1

#### ROAD PROJECTS FINANCED BY BOAD IN 2009

Road infrastructure constitutes an important development tool within the WAEMU region as it facilitates trade within member states as well as between each Member State and its neighboring countries. It is therefore a key factor in regional integration, poverty reduction, and economic growth. As part of its mission to promote development within WAEMU, BOAD contributes in no small measure to the implementation of highway projects in the zone. In 2009, the following highway projects were financed:

- **Asphalting of Djougou-Ouaké- Togo border road in Benin.** This project will ensure the planning and asphalting of a 38-km road section. This will open up the central

part of the Northern region of Benin and boost trade between Benin and countries of the sub-region;

- **Construction of a multi-way interchange in Bamako.** This project involves the planning of the trunk road (RN5) into a four-lane highway over a 4-km stretch and the construction of a multiple interchange at Rond Point de la Paix in Bamako district. This will ease traffic in the district and improve the safety and mobility of users;

- **Asphalting of Manantali-Mahina road in Senegal and Mali.** This involves the construction of a stretch of road of 87 km located on the Dakar-Bamako road and of 14 km of local highways at Manantali. This project will improve regional road

infrastructure services with the aim of boosting economic and social exchanges between Member States. This project benefitted from two (2) loans: one to Senegal and the other to Mali for sections located on either side of their common border;

- **Development of the lagoonal area in Lomé.** The aim of the project is to upgrade and provide drainage for five (5) urban roads totaling 5,692 m in the lagoonal area in Lomé and to clean up the Eastern and Bè lagoons. It will help improve traffic flow in the area and enhance the quality of life of people living in the project area;

- **Paving of streets and sewerage in Porto-Novo.** The project will ensure the paving of 5,200

continued its initiatives aimed at ensuring that the sub-region benefits from the provisions of the Clean Development Mechanism (CDM) set up under the Kyoto Protocol on greenhouse gas reduction.

This flexibility mechanism has created a flourishing carbon market, with a traded value estimated at US\$ 64 billion in 2007 and US\$ 120 billion in 2008. The Bank pursued various actions to enable member states to have a presence in that market. It participated in the Copenhagen Summit held in December 2009 and took the opportunity to lay the foundations for stronger cooperation on climate issues with financial institutions and international organizations advocating environmental issues.

As part of some of its recent civic-minded actions, the Bank launched on 1st June as part of the celebration of Tree Day, a program code-named "1000 trees for the city of Lomé." This was a symbolic way of contributing to reforestation and promoting green spaces in the city that hosts the Bank's headquarters.

m of streets, the construction of drainage along these streets, and the construction of a 2,700-ML primary collector for rainwater drainage in Porto-Novo. It will considerably improve the urban environment and health situation in the project area as well traffic flow within Porto-Novo;

- Planning of urban sections of community road 1 (C41) in Guinea Bissau. The aim of the project is to rebuild Avenue du 14 Novembre into a four-lane highway over a 7,500m stretch and to upgrade the 2,000-meter-long QG-Antula road section in Bissau. These sections are the segments of community road 1 (CU1) within WAEMU's priority network covered by the Community Infrastructure and Road Transport Action Plan (PACITR);

- **Asphalting of Boundiali-Tingrela road.** This project will permit the asphalting a 124-km highway. This road forms part of community road CU6 under the WAEMU Community Infrastructure and Road Transport Action Plan (PACITR). It will also facilitate the implementation of additional work required to improve drainage along the highway as well as the rehabilitation of highly degraded segments of this section;

- Reinforcement of the Ouagadougou-Pô-Ghana border road on community road CU8. BOAD's complementary loan to the Government of Burkina Faso will help complete planned work over a 156-km stretch and construct a check point adjacent to Paga in Ghana;

- **Rehabilitation of Bella-Gaya-Benin border road.** The aim of the project is to rehabilitate this 73-km long and 10-m wide highway. This road forms part of the community road stretching from Cotonou in Benin to Dosso in Niger and falls under the WAEMU Community Infrastructure and Road Transport Action Plan (PACITR).

In addition to these public projects, BOAD also provided assistance amounting to FCFA 14.3 billion to SOCOPRIM for the construction of a toll bridge in Abidjan.

### 2.1.3. ECONOMIC INFRASTRUCTURE

The Bank pursued its actions in non-market infrastructure development, especially basic and modern infrastructure, granting a total of FCFA 66 billion, or 28% of financing implemented in the fiscal year, to the construction of highways and the paving of major roads and streets. The ten (10) projects funded are as follows:

- planning and asphaltting of Djougou-Ouaké- Togo border road in Benin;
- construction of multi-way interchange at Rond Point de la Paix and upgrading the urban section of the trunk road RN5 and Avenue Kwame N'krumah in Bamako, Mali;
- planning of urban sections of the community road 1 (C41) in Guinea Bissau;
- asphaltting of Manantali-Mahina road (Senegal and Mali sections);
- development of the lagoonal area in Lomé, Togo;
- paving of streets and drainage work in Porto-Novo, Benin;
- asphaltting of Boundiali-Tingrela road in Côte d'Ivoire;
- reinforcement of the Ouaga-Pô-Ghana border road in Burkina Faso; and
- rehabilitation of the Bella-Gaya-Benin border road in Niger.

In another regard, improving people's access to electricity remained one of the major concerns of BOAD. Alongside BCEAO and the WAEMU Commission, BOAD contributed to the implementation of the Regional

#### BOX 2

#### ENERGY DEVELOPMENT FUND (FDE)

FDE was established by the WAEMU Council of Ministers through a decision taken on 25 September 2009. Its aim is to contribute to improving access to energy in member states and promote sustainable energy development by providing concessional financial support for eligible projects under the Regional Initiative for Sustainable Energy (IREG).

Within the framework of IREG, FDE intervenes mainly in the following areas: i) emergency plans and investment projects, ii) audits and investment project studies, iii) capacity building and technical assistance, iv) preparation

and execution of business plans, v) reform to legal and regulatory frameworks, and vi) support for restructuring and streamlining of the energy sector.

FDE resources will be made up of: i) initial funding totaling FCFA 250 billion from BOAD's own resources, ii) expected contributions from development partners, iii) amounts accruing from the operations of the Fund, and iv) all resources to be mobilized by the Fund.

Fund resources will also include concessional loans and non-repayable assistance mobilized by WAEMU

from development partners willing to contribute to the sustainable development of the energy sector in the sub-region.

The Council of Donors, chaired by the Governor of BCEAO and comprising the Chairman of WAEMU Commission and the Chairman of BOAD decides on financing granted from the Fund's resources. BOAD is in charge of managing the Fund. In this regard, the Fund will benefit from the governance principles of BOAD and use its personnel, organization, and services.



Cement factory "Les Ciments du Sahel" (Senegal).

Initiative for Sustainable Energy (IRED). It is worth recalling that IRED project represents the strategic areas of a community vision of all WAEMU citizens having access by 2030 to energy at lower cost within a vast integrated and harmonized electric power trading market at the level of West Africa. This regional market will produce clean energy and will be based on a dynamic public-private partnership.

IRED covers four strategic areas: 1) developing a diversified, competitive, and sustainable energy supply; (ii) setting up a regional plan to control electric power consumption; iii) accelerating the establishment of a regional electric power trading market in West Africa; and iv) setting up a mechanism dedicated to financing the energy sector.

Financial requirements for the implementation of the program are estimated at about FCFA 15,000 to 20,000 billion. The short-term component of the program aims to reduce the current shortfall and covers an emergency option intended to accelerate the implementation of ongoing projects and improve existing networks. Also proposed under this short-term component are the launch of additional regional projects and the expansion of projects likely to reduce the shortfall by 2010. The cost of the emergency program is estimated at FCFA 500 billion.

The institutional and financial arrangements for the implementation of IRED approved by the WAEMU Council of Ministers include: i) a Steering Committee, ii) a Technical Monitoring Committee; iii) a Regional Coordination Unit; iv) an Energy Development Fund (FDE), which is concessional in character, and v) an Infrastructure Investment Fund, which is private in character.

All of these bodies are made up of representatives of the WAEMU Commission, BCEAO, and BOAD. The legal texts governing the functioning and organization of these governing bodies within IRED were adopted by the relevant authorities.

FDE is now operational and will begin its activities in the first half of 2010. Meanwhile, arrangements to establish the Infrastructure Investment Fund are underway at the level of BOAD.

#### 2.1.4. ASSISTANCE TO MEMBER STATES

As regards technical assistance to member states and their institutions, the Bank provided support in various ways, especially in taking account of environmental and social components in structuring projects and the organization of forums or emergency support to mitigate the effects of natural disasters. Commitments in respect of this assistance totaled approximately FCFA 151 billion in 2009.

## 2.2. PARTNERSHIP WITH BUSINESSES AND SEARCH FOR INNOVATIVE FUNDING

### 2.2.1. AGRICULTURE

In line with its interventions to support government initiatives in favor of the agricultural sector, BOAD supported private initiatives in this economic sector. Consequently, as part of a plan to expand an agrobiological farm, the Bank granted a FCFA 2.5 billion loan to AGRINA in Senegal.

The Bank also acquired interests in the share capital of both the Fund for Agriculture in Africa (FAA) and GEOCOTON SA (see below).

### 2.2.2. COMMERCIAL INFRASTRUCTURE

With respect to commercial infrastructure, the Bank funded five projects totaling FCFA 61.3 billion, representing 11.4% of approved financing in 2009. These projects involved electricity, road infrastructure, biotechnology, and the modernization of telecommunications equipment.

#### ■ Electricity

As regards the electricity sector, the Bank granted aid worth FCFA 12.5 billion to SENELEC to undertake a significant project involving the construction of a 125-MW power plant in Senegal. Implemented as part of a public-private partnership, the project will increase electricity gene-

ration, ensure that coverage meets demand for electric power, and better secure power supplies for a portion of the Senegalese population.

#### ■ Road infrastructure

Through funding worth FCFA 14.3 billion granted to a private company in Côte d'Ivoire (SOCOPRIM) and as part of a public-private partnership, BOAD supported the construction of a 1,500-meter toll bridge. The construction of this bridge will reduce congestion on the two existing bridges in Abidjan, reduce traveling time in the area, and create a direct and fast link between neighborhoods in north-eastern and southern Abidjan.

#### ■ Telecommunications

To support the private sector in carrying out investment projects aimed at modernizing telecommunications equipment, expanding the range of services offered, and increasing the ratio of phones to population, the Bank funded two projects in this sector to the tune of FCFA 21.5 billion. The projects focused on:

- Extending and modernizing SONATEL's mobile and fixed telephone networks in Senegal at a cost of FCFA 14.3 billion (voice and data transmission, Internet, and TV);
- Extending Spacetel Benin's GSM network at a cost of FCFA 7.2 billion to increase the mobile network capacity of this operator in Benin.

#### ■ Technology industries

To promote biotechnology and information and communication technologies (ICTs) in the sub-region, the Bank granted the government of Côte d'Ivoire FCFA 13 billion for the creation of a free zone dedicated to biotechnology and ICTs. The free zone is primarily intended to host service firms specializing in the above-listed sectors, contribute to direct job creation, and promote the export of biotechnology and ICT products and services.

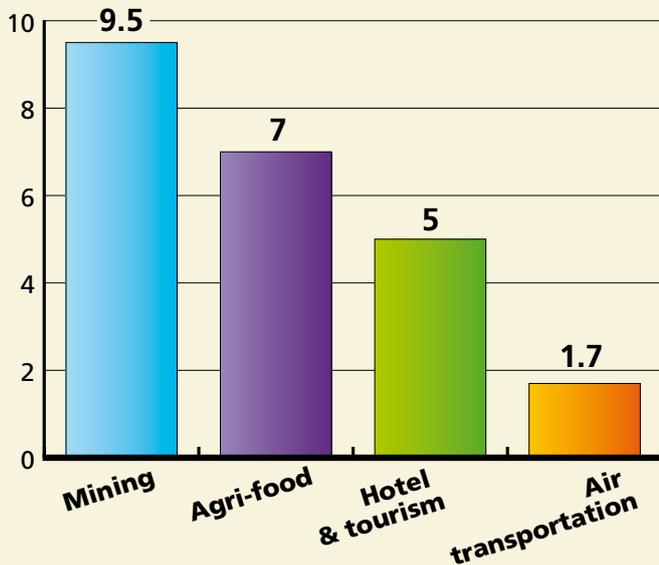
### 2.2.3. OTHER ECONOMIC ACTIVITIES

BOAD continued its partnership with the private sector notably by granting direct loans totaling FCFA 23.2 billion. Representing about 9.9% of 2009 approvals, this benefited five projects in the mining industry (40.9%), the agri-food industry (30.2%), the hotel and tourism industry (21.6%), and the air transportation industry (7.3%).

#### ■ Mining sector

With a view to increasing its uranium production capacity, SOMAIR (Société d'Exploitation des Mines de l'Air) benefited from funding worth FCFA 9.5 billion. This project stems primarily from the existence of a forward market for uranium. It is part of a pro-investment institutional framework that reflects the significance of mining in Niger's economy.

**FIGURE 6 : DISTRIBUTION OF APPROVED FINANCING FOR ECONOMIC ACTIVITIES IN 2009**



Source : BOAD

#### ■ Agri-food sector

BOAD granted PALMCI, a company in Côte d'Ivoire, FCFA 7 million to rehabilitate and increase its production capacity. This funding made available to the company will enable it to renew its aging plantations and rehabilitate its production facilities in order to improve productivity and comply with environmental standards.

#### ■ Hotel and tourism sector

As part of its actions to promote tourism by increasing the supply of hotels in the Union, BOAD supported the two following hotel projects:

- The Benin Marina Hotel renovation and extension project, which aims to modernize the hotel's surroundings and increase its accommodation capacity from 200 to 250 rooms by constructing 50 bungalows. The loan

amount granted is FCFA 3 billion;

- The Hotel Peace & Love extension project in Cotonou, Benin, which aims to increase the hotel's accommodation capacity from 16 to 102 rooms thanks to funding worth FCFA 2 billion.

#### ■ Air transportation

BOAD granted a FCFA 1.7 billion loan for the creation of an airline specializing in medical evacuation and charter transport. Promoted in Senegal by the SUNSET JETS corporation, the project aims to operate a jet designed for medical evacuation and charter transport in West Africa and in particular from Senegal to the sub-region, the Maghreb, South Africa, Europe, and North America.

Furthermore, the Bank took a stake in the share capital of Africa Sky (ASky) (see below).

#### 2.2.4. SME/SMI REFINANCING AND PROMOTION

To help Domestic Financial Institutions (IFN) in WAEMU Member States obtain resources suitable for financing SMEs and SMIs, BOAD awarded FCFA 5 billion to Diamond Bank (Benin) and the Malian Solidarity Bank (Mali) through a refinancing framework agreement and a refinancing line, respectively.

#### 2.2.5. EQUITY INVESTMENTS

The Bank invested a total of FCFA 16.5 billion in the equity of various companies. Bank-acquired holdings in 2009 involved an airline (ASky, FCFA 2.733 billion), the Fonds CAURIS Croissance II (FCFA 7 billion), CICA-RE (FCFA 1 billion), the Fund for Agriculture in Africa (FCFA 2.5 billion), the Crédit Municipal Africain (FCFA 1 billion), and GEOCOTON SA (FCFA 2.242 billion). It should be noted that since CAURIS, a company specializing in venture capital, was created, BOAD has confined its equity investment interventions to strategic operations.

Among the factors that motivated BOAD's intervention in some of these operations are the following:

Depending on circumstances, equity investments aim to strengthen beneficiary institutions' own funds and their shareholder base and/or take into account regional interests. Equity investments made in 2009 involved the following companies:

- **Africa Sky (ASky):** The final communiqué issued by the 13th Ordinary Session of the WAEMU Conference of Heads of State and Government in March 2009 indicated that the Conference valued the diligence ASky promoters showed in the creation of this airline. As part of its continued financial assistance to the project, the Bank contributed to setting up the company's share capital through an equity investment totaling FCFA 2.733 billion. The objective is to offer regular, safe, and reliable air routes at competitive rates to countries in the sub-region with a view to promoting trade both within WAEMU and between WAEMU, Africa, and the rest of the world. The ASky corporation, with headquarters in Lomé, launched its air services on 15 January 2010.
- **Crédit Municipal Africain (CMA):** Still under creation, this financial institution will specialize in financing WAEMU cities with populations of over 100,000. This institution is designed to provide financial resources to local governments in the form of loans for investment financing in their fields of competence. Plans are being made to set up CMA's headquarters in Mali, with influence over other countries targeted by the project. To support this private sector initiative and the decentralization policies of WAEMU Member States, BOAD provided over 20% of the financial institution's share capital/acquired holdings.
- **GEOCOTON SA:** Given its experience in the cotton sector and its considerable financial commitments to cotton businesses within WAEMU, GEOCOTON SA (formerly DAGRIS and previously known as the French Textile Development Company – CFDT), is proving to be a key actor in developing the cotton sector in the West African sub-region. The



Headquarters of the Regional Stock Exchange (BRVM) in Abidjan

Bank's FCFA 2.242 billion holdings in this company's share capital is an opportunity for BOAD to continue contributing to the development of the cotton sector in the sub-region.

- **Fund for Agriculture in Africa (FAA):** Created at the request of a group of founding partners and instituted by the African Development Bank (AFD), the International Fund for Agricultural Development (FIDA), and the Alliance for Green Revolution in Africa (AGRA), the Fund aims to intervene in Africa-based enterprises (companies or cooperatives) involved in cereal, livestock, dairy, fruit, and seed production or benefitting from micro-finance. FAA interventions should contribute to increased private agricultural production and hence to improved food security in Africa and especially in the WAEMU sub-region. To support pro-agricultural actions in Africa and in the WAEMU zone in particular, BOAD subscribed FCFA 2.5 billion to this fund.

### 2.2.6. GUARANTEE, ARRANGEMENT AND ADVISORY ACTIVITIES

In 2009, guarantee activities for bond issues in the WAEMU regional capital market recorded transactions amounting to FCFA 10 billion. However, it should be noted that ongoing reforms related to regulating the regional capital market are expected to reduce the guarantee requirement surrounding bond issues. The issuer rating system will replace – at least partially – a system of guarantees so that guarantee activities for debt security issues in the regional capital market could become secondary for BOAD.

Since they are generally aware of the fact that promoting loan guarantee activities results in improved bank financing for WAEMU companies, BOAD and AFD sponsored a study that is ongoing, which aims to recommend ways of improving the overall performance of institutions and guarantee instruments in WAEMU. The study is expected to examine the suitability of current instruments in view of the need to securitize risk incurred by the Bank including in dealing with financing activities involving small and medium-sized enterprises.

Moreover, in September 2009, the Bank's governing bodies adopted an agreement mechanism for sharing risks with partner institutions. The mechanism comprises an agreement between two institutions through which one may make commitments, part of which is on behalf of the other, thus transferring the risk to the latter. For BOAD, this may involve making a global commitment for funding on a given transaction, with part of this commitment made on behalf of another financial institution, which would assume the client's possible insolvency risk. Risk-sharing agreements may be signed as appropriate with first class institutions such as EIB, PROPARGO, DEG, AFD, IFC, etc.

Risk-sharing is crucial to the Bank because it will (i) strengthen its position in the sub-region's private sector by raising its intervention level, and (ii) stimulate funding arrangement activities (see below) and improve its investment income without increasing its risk. It addresses the Bank's need to modernize and improve its means of intervention while complying with risk-sharing rules agreed upon with external donors considered privileged partners.

To promote innovative financing, the Bank has focused on developing financing arrangement and advisory activities. By late 2009, Bank-arranged financing amounted to FCFA 112 billion.

## 2.3. PROMOTING PARTNERSHIPS AND EXTENDING CAPITAL MARKET STRUCTURES AND INSTRUMENTS

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### 2.3.1. REGIONAL CAPITAL MARKET DEVELOPMENT PROJECT

The implementation of the WAEMU Capital Market Development Project (PDMF/WAEMU) continued in 2009 in synergy with other Union institutions and agencies (BCEAO, the WAEMU Commission, and CREPMF) and in partnership with donors such as the International Development Association, the French Development Agency and the Canadian International Development Agency. Following PDMF/WAEMU restructuring in 2008, PDMF activities were refocused around components of technical assistance and infrastructure credit facilities.

As regards technical assistance and institutional support, reforms – undertaken as part of the Project – continue to aim at stimulating activities and developing the regional capital market. Most have reached the final stage except for reform on pricing, for which the contract was signed in November 2009. Measures have been taken to accelerate these reforms to improve the market's contribution to the economic development of member states.

### 2.3.2. PROMOTING THE REGIONAL MORTGAGE MARKET

In partnership with BCEAO and CREPMF, BOAD is charged with promoting a mortgage and securitization market within WAEMU. It was within this framework that it organized and hosted in July 2009 a validation workshop for two studies related to the project, which it had financed in 2008. Statutory instruments relating to the mortgage market project were forwarded to the WAEMU Commission for examination during the next ordinary session of the Union's governing bodies. It should be noted that BOAD plans to offer third-party securitization services to facilitate the launch of this market. Finally, measures spearheaded by BOAD are being taken to create a mortgage refinancing fund in 2010.

### 2.3.3. OTHER STRATEGIC PARTNERSHIPS

Together with the French Development Agency (AFD), BOAD has put in place the basis for a strategic partnership under which one initiative consists of organizing an annual bilateral meeting to discuss development issues of common interest. These annual meetings involve both technical services and senior executives from both institutions. The second meeting was held on 19-20 January 2009 at BOAD headquarters and the third took place in Paris on 17 March 2010.



Top table for China/BOAD Seminar in Shanghai

Moreover, it should be emphasized that the Bank focuses on developing co-financing with partners in order to attract resources to the Union and share risk as well as experience. It also seeks partnerships that will enable it to intervene as executing agency for technical and financial partners in various sectors such as agriculture (IFAD, IDB), basic infrastructure (World Bank, AfDB, IDB), or even private projects such as AfDB. To foster such synergies, the Bank has begun reviving or concluding partnership agreements with external partners such as IDB, FAO, IFC, and the European Union's Development Center (CDE).

The Bank is seeking a new partnership framework with institutional investors in order to increasingly mobilize savings within the WAE-MU zone.

## 2.4. COOPERATION ACTIVITIES AND RESOURCE MOBILIZATION

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### 2.4.1. COOPERATION ACTIVITIES

In compliance with its statutory provisions and the strategic directions of its 2009-2013 Strategic Plan, the Bank continued to actively increase its capital base and diversify its shareholder base, initiating or continuing trade with Japan, Spain, South Korea, the Austrian Development Bank, etc. It is also considering potential cooperation ties with financial institutions in African countries such as Nigeria and Ghana.

Moreover, the Bank continued to implement measures aimed at mobilizing financial and technical resources from various bilateral and multilateral partners. To this end, the Bank signed two credit agreements with the AFD Group. In addition, an OPEC Fund credit facility was approved by the Bank's Board of Directors, and negotiations are taking place with EIB on processing guidelines relating to new financial assistance.

Following its participation in the Copenhagen Summit in December 2009, BOAD and some financial institutions and international environmental protection organizations concluded partnership agreements specifically on climate change, aimed at, among other things: i) consolidating Bank expertise on carbon finance and Clean Development Mechanism (CDM) methodology, ii) assisting vulnerable groups by implementing country-based adaptation plans, iii) promoting and financing projects eligible for the Clean Development Mechanism, iv) promoting the Carbon Fund, and v) certifying BOAD as Observer at the United Nations Framework Convention on Climate Change (UNFCCC). BOAD will ensure that these commitments are effectively met.

In addition, the Bank solicited its traditional partners, notably the People's Republic of China, Belgium, the AFD Group, and EIB for contributions to be made at the appropriate time to finance energy projects under the Regional Initiative for Sustainable Energy (IREN).

Furthermore, in a bid to strengthen and deepen its relations with the People's Republic of China, BOAD organized a seminar on cooperation between China and WAEMU countries in Shanghai on 16 June 2009. This seminar was held a day after the 73rd meeting of BOAD's Board of Directors, which took place in that city.

#### 2.4.2. RESOURCE MOBILIZATION

To build its capacity for financing member states, the Bank continued to actively mobilize resources from its bilateral and multilateral partners as well as from regional capital markets.

During 2009, BOAD mobilized loan resources worth a total of FCFA 92.3 billion.

To this end, the Bank signed two credit agreements with the AFD Group totaling EUR 70 million (about FCFA 45.9 billion), distributed as follows:

a) A concessional credit line worth EUR 50 million (FCFA 32.8 billion) for financing agricultural projects that contribute to sustainable food security in the eight WAEMU countries, plus a EUR 500,000 subsidy, representing about FCFA 328 million, for building Bank capacity;

b) A PROPARCO-granted credit line worth EUR 20 million (FCFA 13.1 billion), for financing private sector investment projects.

Under a special internal lending program, out of a total of FCFA 100 billion approved by the Council of Ministers to finance agricultural production recovery projects, FCFA 46.35 billion, or the balance of this program, was issued in the form of BOAD bonds in 2009.

The Bank's Board of Directors also approved a credit line granted by the OPEC Fund worth EUR 20 million (FCFA 13.1 billion) for financing private sector projects.

Moreover, as part of measures required for mobilizing resources for the Energy Development Fund and for implementing IRED, the Bank secured non-refundable assistance worth EUR 5 million (about FCFA 3.28 billion) from one of its shareholders, Belgium.

Within the framework of the WAEMU Capital Market Development Project (PDMF/WAEMU), the 61.9 million (DTS denominated) infrastructure credit line component entered the disbursement phase. As at December 2009, drawings amounted to about USD 15 million.

#### 2.4.3. CURRENT PROJECTS

In 2009, BOAD initiated two major projects relating to the mobilization of loan resources. The first involves rating BOAD and ensuring that it accesses the international capital market under secure and profitable conditions. To this end, following an international call for tenders, a consulting firm was selected. This firm is currently assisting the Bank in its preparations for a future rating request to an international rating agency. BOAD is planning to submit this rating request in 2011.

The second project involves evaluating the feasibility of a BOAD concessional fund of IDA- or ADF-type. This project examines whether it is both possible and advisable to implement a new institutional mechanism or vehicle for mobilizing additional concessional resources.



An overview of BOAD  
Headquarters Extension

## BOX 3 BOAD'S POLICY STATEMENT

### MAJOR DEVELOPMENTS JUSTIFYING THE POLICY STATEMENT REVIEW

These include:

#### 1. At the level of BOAD's economic, financial, and institutional environment :

- The continuing market reforms, with primary emphasis on the private sector, which is the engine of growth;
- The Union's institutional framework, following the creation of the WAEMU Commission, which is specifically responsible for defining sector-based economic policies within the Union;
- The financial sector, for which strengthening and diversification (following the creation of the regional capital market in 1998 and the development of the banking sector) require new initiatives, especially the provision of financial services;
- Issues related to sustainable development, environmental and social accountability, money laundering control, and the fight against corruption, which, though not specifically mentioned in the current Policy Statement, are included in BOAD-financed development projects;
- Food, energy, and financial crises that have compounded the already precarious state of WAEMU countries. To meet the challenge of sustainable development, the Union must deepen structural reforms and carry out investments crucial to improving

human capital, strengthening infrastructure, and expanding and diversifying its production base. As the Union's financial arm, it is BOAD's duty to use every means available to actively address all pro-development needs regarding consultancy and short, medium and long-term financing (including seasonal credit, working capital requirements as a supplement to physical investments, etc.).

#### 2. At the level of BOAD itself:

- A scale-up and a diversification of activities supported by the creation of special instruments (CAURIS, GARI, FOAI, etc.) and funds such as the Development and Cohesion Fund, in which the Bank is active in the non-market sector, along with an enlargement of the Bank's scope of assistance to the education and health sectors; the gradual modernization of management in all areas (finance, operations, support activities) as well as governance, accompanied by increased Bank activity in the more fragile private sector, especially given the increasingly competitive environment in which the Bank operates.
- Finally, the 2009-2013 Strategic Plan adopted in December 2008 by the Bank's governing bodies is the result of a constant effort to adapt BOAD's actions to the changing environment in order to better meet the financial requirements of member states. In addition to conventional financing (loans, shareholding, etc.), the directions defined by the Bank's governing bodies

through the Strategic Plan also include a diversified offer that comprehensively covers customer needs: investment advice, securitization, mortgage refinancing, etc. Thus, while consolidating its structuring role in WAEMU economies, the Bank will strive to maintain and strengthen its financial integrity.

The Policy Statement must take the following developments and directions into consideration:

### PROPOSALS FOR POLICY STATEMENT REVIEW

Major adjustments carried out involve the following aspects:

- BOAD's basic and statutory objectives, which can be attained only in collaboration with BCEAO and the WAEMU Commission, which was created later;
- Scope and basis for action, which were finalized to include the significance and diversity of short, medium and long-term financial requirements and new concerns relating to the environment, gender issues, money laundering, terrorism, etc.;
- Financing activities: Several funds have been created since the last review in a bid to diversify Bank actions; and
- The chapter on intervention procedures, which once reviewed will include new financial policies adopted by the Bank.

## 2.5. ORGANIZATION, OPERATIONS AND GOVERNANCE

### 2.5.1. MODERNIZING TEXTS

#### ■ General Policy Statement Review

The Policy Statement (DPG) specifies the objectives stated in BOAD's Articles of Association and defines the key principles governing its intervention in member states. It was last reviewed in June 1992.

Since then, there have been major developments on the international scene as well as within the Union and within BOAD itself. At Bank level, for example, its governing bodies assigned new orientations to the institution in December 2008 following the adoption of the 2009-2013 Strategic Plan. These changes required a review of the Policy Statement. This took place in December 2009 following the examination of the draft statement by its governing bodies.

### BOX 4 BOAD'S CREDIT COMMITTEE

At the 75th meeting of the Board of Directors held on 15 December 2009 in Cotonou, Board members endorsed the creation of a Credit Committee. This decision was taken in compliance with BOAD's strategic directions for the 2009-2013 period.

The setting up of a Credit Committee will create conditions necessary for making funding decisions more promptly in cases considered urgent. Creating a Credit Committee within BOAD's Board of Directors does not require amending the Bank's Articles of Association.

In fact, it is clear from the Bank's Articles of Association, namely Article 16, that only the Board of Directors has full powers to

grant credit. Moreover, the last paragraph of Article 13 states that Committees could be created within the Bank's Board of Directors to implement functions listed under Article 16. However, the Board of Directors is required to inform the Council of Ministers of the decision to create a Credit Committee within its structures.

Today, project financing requires flexibility and swiftness, both in request processing and decision-making. Therefore, in view of its frequent quarterly meetings, it was considered appropriate that the Bank's Board of Directors delegate part of its authority to a Credit Committee for greater speed in approving specific funding requests.

The Credit Committee will thus treat requests related to business opportunities that should be seized quickly before they are lost (financing arrangements and syndicated loan operations, for example) and urgent activities relating to operations that are of strategic significance to the Bank or its member states. The Committee may also be called upon to deal with operations in crisis situations or accidental economic and social emergencies (natural disasters, threat of famine, acute energy crisis, etc).

The composition of the Credit Committee takes into consideration the representativeness of each shareholder category and the need to control the costs of meetings and general operations

Major changes involved the following aspects: i) BOAD's fundamental and statutory objectives, the implementation of which requires the collaboration of both BCEAO (mentioned in the previous version) and the WAEMU Commission, which was created after 1992; ii) intervention area and principles, which were modified to include the scope and diversity of long, medium and short-term financial requirements as well as new concerns (environment, gender issues, money laundering, terrorism, etc.); iii) financing activities aimed at diversifying Bank actions; and iv) intervention policies, which were reviewed to include new financial policies adopted by the Bank.

#### ■ Reviewing project assessment and monitoring manuals

To harmonize Bank procedures with Strategic Plan objectives, a review of project appraisal and monitoring manuals was initiated in 2009. The rural development project appraisal manual was updated as part of this operation. Other manuals such as those related to road infrastructure project appraisal and monitoring and the Bank's loan disbursement policy are currently under review.

of this new body. The final composition also takes into account the need to preserve the quality of decisions to be made since all Directors will be involved.

Given the current composition of the Board of Directors, it has been agreed that the Credit Committee will comprise six members, distributed as follows:

- BOAD Chairman, who will act as Chair;
- The Governor of the Central Bank of West African States (BCEAO) or his/her representative;
- Three directors appointed from among Category A shareholders; and

- One director appointed from among Category B shareholders.

Any category A Credit Committee member unable to attend a meeting will be represented by an alternate, and any category B member unable to attend will be represented by an alternate chosen from among the same Director category. Should the BCEAO representative be unable to attend, he/she will be replaced by a Governor-appointed representative.

The Credit Committee's function involves making decisions on financial assistance through loans and loan guarantees. In order not to strip the Board of Directors of its statutory powers,

an overall limit was imposed on all financial support decided upon by the Credit Committee. This limit may not exceed a third of annual commitment authorizations for loans and loan guarantees. Moreover, a maximum of FCFA 5 billion is to be proposed for leveling out risk taking for each transaction and beneficiary. However, it is clear that in light of experience, the Board of Directors may decide to review the set limits. Any support granted must meet the general requirements set by the Board of Directors pursuant to Article 34 of the Bank's statutes.

### 2.5.2. INSTITUTIONAL REFORMS

#### ■ Setting up a Credit Committee

In compliance with the strategic directions, the Board of Directors gave its approval to the setting up of a Credit Committee within its structures. This will create conditions necessary for making funding decisions more promptly in urgent cases.

#### ■ Rationalization and modernization of the Bank's internal working groups

In accordance with 2009-2013 Strategic Plan orientations, the functions and operation method of working groups within the Bank have been revised for greater efficiency.

### 2.5.3. INFORMATION SYSTEMS

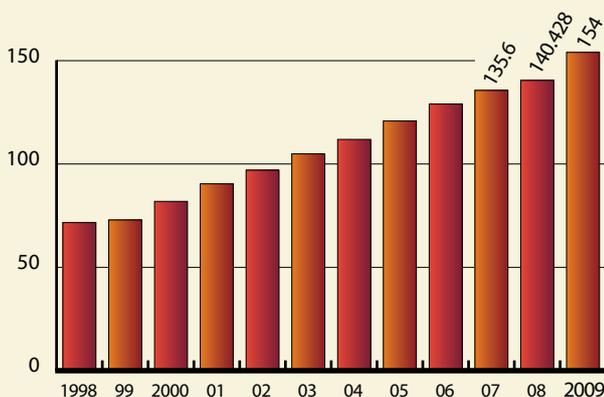
The Bank continued to upgrade its information systems by initiating new projects. For example, it re-designed its website using innovative design and increased the automation of administrative processes on the Intranet, and it is currently formalizing email use as a working tool.

To completely modernize these information systems, a study on developing an information system master plan was conducted.

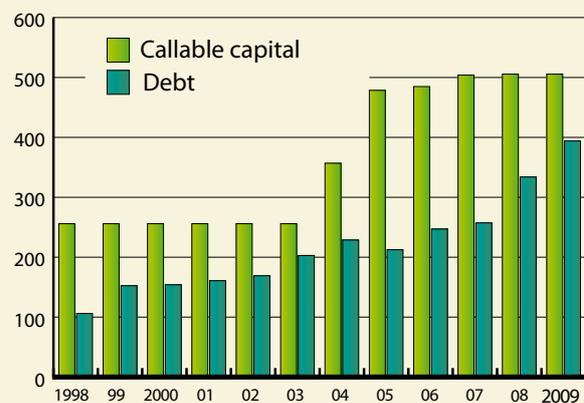
The development of the Business Continuity Plan (BCP) has continued, specifically by selecting a temporary data back-up site.

Sources : BOAD

**FIGURE 7 : EQUITY FROM 1998 À 2009**  
(FCFA billions)



**FIGURE 8 : CALLABLE CAPITAL AND DEBT FROM 1998 TO 2009**  
(FCFA billions)



#### 2.5.4. **INSTITUTIONAL COMMUNICATION AND KNOWLEDGE MANAGEMENT**

Bank actions in 2009 primarily aimed to strengthen both its image and visibility and systematize internal information dissemination and knowledge sharing.

As regards knowledge management, the Bank began modernizing its documentary information tools in compliance with recommendations from studies on modernizing the Documentation and Archives Center as well as the orientations of BOAD's 2009-2013 Strategic Plan.

As regards communication and marketing, the Bank strengthened its relationship with national, sub-regional, and international media. It continued its traditional image-building and activity-promotion actions.

To make its activities more visible, it created a TV show called «Face à 8» to regularly provide the eight WAEMU countries with information on Bank activities and various development concerns.

Regarding internal communication, the Bank took action to promote its Strategic Plan and ease information flow between its structures by setting up a dispatch and alert system.

In the marketing field, the Bank initiated the development of terms of reference for a marketing study on the financing of the market sector. This study should provide reliable information for developing a marketing and sales plan as recommended by the Strategic Plan.

#### 2.5.5. **MANAGEMENT OF ASSETS AND WORKING ENVIRONMENT**

To achieve an improved and high-quality working environment, technical equipment and furniture at headquarters were upgraded and consolidated. Furthermore, the Bank continued the extension of its office space at its headquarters, which started over a year ago. Progress has been made in the construction of 150 new offices, which completion of the construction of new premises now envisaged for mid-2010.

#### 2.5.6. **HUMAN RESOURCE MANAGEMENT**

During the 2009 fiscal year, BOAD continued with its efforts to modernize its human resource management policy, aligning its staff with the new organizational chart, promoting agents, launching the objectives and performance assessment system, implementing a social activities plan, and conducting a series of studies on work earnings and volume. It also reviewed staff regulations in order to update them.

To support all other human resource processes, targeted programs for individual and group training were implemented to build up staff skills. The systematic approach adopted by the Bank in this regard

TABLEAU 6 : : **BOAD PERSONNEL FROM 2007 TO 2009**

	<b>Number at 31.12.2007</b>	<b>Number at 31.12.2008</b>	<b>Number at 31.12.2009</b>
PROFESSIONAL STAFF	111	104	107
SUPPORT STAFF	137	134	133
TECHNICAL ASSISTANTS	1	1	1
<b>TOTAL</b>	<b>249</b>	<b>239</b>	<b>241</b>

Source : BOAD

will enable it to have at its disposal the positions, personnel and skills needed for its operations.

As of 31 December 2009, the Bank's personnel (operational, seconded, and unassigned) totaled 241 including 240 employees and one technical assistant.

By end 2009, a BOAD ethical charter was enacted as regulation, on the basis of which professionalism, discipline, loyalty, teamwork and integrity became the institution's core values.

#### 2.5.7. FINANCIAL MANAGEMENT

##### A. ASSETS

The Bank's total assets rose from FCFA 1,195 billion on 31 December 2008 to FCFA 1,261 billion on 31 December 2009. The Bank's financial position remained sound and was marked by:

- A balanced financial structure with equity capital (about FCFA 154 billion) representing 23% of total assets excluding uncalled capital;
- An evolution path that requires an increase in the Bank's capital despite the fact that its debt remained within the statutory limit. These amounts outstanding represented about 78% of equity capital at end 2009, which is close to the 100% limit, and 266% of equity as against an upper norm of 300%.

Although maximum regulatory standards have not yet been met, it is generally accepted in the case of international financial institutions such as BOAD that a process of capital increase should be triggered when the ratio of outstanding loans to callable capital reaches 70%.

A capital increase proposal sheet was scheduled for consideration by BOAD's governing bodies during the first half of 2010.

## B. BANK OPERATIONS

Bank operations showed the following characteristics (see Annex 14):

- Dominance of proceeds from loans (over 80% of operational proceeds), which constitute the Bank's main source of income;
- Sound control of debt costs (4.5%), despite the effect of special agricultural program resources, the financial costs of which are borne by member states; and
- Continuation of a prudent provision policy in view of the current position of a number of private market sector projects.

The Bank's portfolio net degradation rate stood at 6.12% on 31 December 2009 as against 6.63% on 31 December 2008. This improvement is the result of a combination of various measures undertaken by the Bank's management such as the creation of a committee charged with the close monitoring of distressed loans, better field monitoring to speed up portfolio stabilization, and the use of a range of legal debt recovery methods. The Bank continued to actively monitor and improve the quality of its portfolio.

Given these developments, Bank operations continued to experience increasing profits for the 2009 fiscal year. Net profit at end 2009 was FCFA 3.7 billion as against FCFA 2.16 billion at end 2008 and FCFA 1.25 billion at end 2007. These positive results are used in full to consolidate the Bank's equity. The Bank continued to ensure control of its expenses in a bid to maintain the provision of attractive rates consistent with development funding requirements.

### 2.5.8. AUDITS

To strengthen good corporate governance, the Audit Committee established within the Bank's Board of Directors continued its activities in 2009.

The combination of all audit functions (internal audit and operational evaluation, management audit, and financial audit) within a single structure resulted in increased synergy among these various functions and strengthened the Bank's internal audit system. During the period, the internal audit missions covered all Bank operational areas and contributed through specific recommendations to strengthening the internal audit. The management audit function became operational and continued its activities by establishing an operational report and initiating the implementation of cost accounting management.

Moreover, the Bank was audited regularly by BCEAO and by an internationally renowned firm of auditors, whose recommendations are followed by the internal audit bodies and the Audit Committee.

The Bank also regularly circulated vital information about itself especially over financial performance and commitments, results of evaluations of Bank-financed operations, and new management rules put in place.

**ANNUAL REFLECTION**

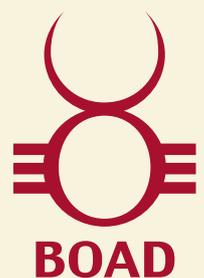
# **CLIMATE CHANGE AND FOOD**



# SECURITY IN THE WAEMU COUNTRIES\*



\* Extract from a BOAD-sponsored study on climate change and food security in the WAEMU zone (2009). For a full report, visit [www.boad.org](http://www.boad.org)



**C**limate change is a major threat to economic development, particularly as regards growth in the agricultural sector, and to the attainment of food security in the WAEMU zone. All land, coastal, and marine ecosystems as well as human systems will be affected by the negative impacts of increasingly variable climatic phenomena. According to the Intergovernmental Panel on Climate Change (IPCC), most of the increase in average global temperatures recorded since the middle of the 20th century is likely due to man-made concentrations of greenhouse gases. A considerable portion of this change may be linked to human activity and could therefore be controlled by a change in lifestyle and consumption.

Signs of climate change have been observed within the WAEMU zone for several years and were initially described as climate anomalies before being accepted as possibly irreversible aspects of climate change. Signs of climate change are being observed more and more frequently within the WAEMU zone in the form of extreme meteorological phenomena that have a negative impact on health, education, and agriculture and thus gravely threaten food security in the sub-region.

It is now increasingly recognized that because of the negative effects of climate instability, Africa is experiencing an annual loss of about 1% to 2% of GDP. Moreover, West Africa is among the areas in the world where the most unfavorable changes in rainfall have been recorded over the period 1900-2000.

Even though the December 2009 Copenhagen Summit did not meet expectations, it had the merit of increasing awareness among the international public of climate change and its ensuing risks. It has also made the protection of the planet a political priority for country leaders.

BOAD would like to share the results of one of its studies, carried out with the support of CILSS (Permanent Inter-State Committee for the fight against Drought in the Sahel), on climate change and its impact on agriculture and food security in the countries of the WAEMU zone.

After a short review of evidence of climate change among member states, the effects and impacts of this change on food security will be analyzed and possible measures for adapting to it will be discussed.

## I. EVIDENCE OF CLIMATE CHANGE IN THE WAEMU ZONE

Climate change in the WAEMU zone takes various forms, the main ones being an unequivocal rise in air temperatures, a worrying rise in sea levels, increased variability in rainfall, and an upsurge in extreme hydro-climatic phenomena. The worst of it is that there is great uncertainty over future environmental changes now that previous data have become obsolete.

### I.1. AN UNEQUIVOCAL RISE IN AIR TEMPERATURES

Global warming must be regarded as fact given changes in temperatures that have been recorded since the 19th century. Records show a generally upward trend throughout the world. Thus, the average surface temperature has increased by  $0.6^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$  since 1861. Records show that the 20th century probably experienced the most significant warming of any century for a thousand years. Moreover, the 1990s and 2000s were the warmest decades in the last hundred years. The linear warming trend over the last 50 years from 1956 to 2005, which is in the order of  $0.13^{\circ}\text{C}$  per decade, is almost twice that of the hundred years from 1906 to 2005.

In the WAEMU zone, temperatures have changed slightly more rapidly than the global trend suggests, rising from  $0.2^{\circ}\text{C}$  to  $0.8^{\circ}\text{C}$  since the end of the 1970s in Sahelian, Sahelian-Saharan, and Sudanese regions (ECOWAS-CSAO/OECD-CILSS, 2008). However, this rise is greater with minimum temperatures (up to  $+1^{\circ}\text{C}$ ) than with maximum temperatures (up to  $+0.5^{\circ}\text{C}$ ). As regards coastal countries such as Togo or Benin, average temperature increases of between  $0.5$  and  $1.1^{\circ}\text{C}$  have been recorded over the last twenty years (1986-2006) compared to the period 1961-1985.

According to projections, global warming in Africa will continue to be more significant than at the global level throughout the 21st century. The rise in average temperatures between 1980 and 1999 and 2080 to 2099 will range from  $3^{\circ}\text{C}$  to  $4^{\circ}\text{C}$  over the whole continent, or 1.5 times the global level. It will be in the order of  $+3^{\circ}\text{C}$  within coastal areas (Senegal and Guinea Bissau) and coastal equatorial areas (Côte d'Ivoire, Benin, and Togo) and in the order of  $+4^{\circ}\text{C}$  in the continental Sahel (Mali, Burkina Faso, and Niger).

### I.2. A WORRYING RISE IN SEA LEVELS

According to data on tides, a 10 to 20 cm rise in average sea levels has been recorded over the course of the 20th century. On a global level, the total rise over the century is estimated to be 0.17 m. This rise has been caused by the thermal expansion of the seas as well as by melting ice, which is related to the recorded rise in temperatures. Average sea levels have risen at an average annual rate of 1.8 mm from 1961 to 2003. This phenomenon has accelerated since 1993 to about 3.1 mm per year.

For the coastal countries of the WAEMU, an annual average rise in sea levels of 2 mm was recorded over the 20th century, particularly on the Senegalese coasts, representing an accelerated rate compared to the previous decade. This has been accompanied by a rise in sea levels of several meters and by considerable coastal erosion, with the coast receding by 1 to 2 meters per year in parts of Côte d'Ivoire and Benin. A rise in sea levels as high as 10-15 m per year has also been recorded in some places and the average gap between coastlines in 1954 and 1995 has reached about 50 meters over the whole coast of Benin (National Communications, Benin, 2001). The maximum recession recorded between 1981 and 1996 coastlines is about 150 meters.

In Senegal, future projections predict an average rise in sea levels of between 20 cm and

86 cm by 2100, or an annual rate of between 2 to 8.6 mm (National Communications, Senegal, 1997). In Benin, data from various studies predict coastline recession of 50 m by 2025 then 100 m by 2050 if no measures for protecting the coast are taken.

### **I.3. INCREASED VARIABILITY IN RAINFALL AND UNCERTAIN FUTURE CHANGES**

The current climate in Africa is practically the same as it has been for the past 2,000 years. However, Africa has experienced periods of rainfall that are very different from those of the past, with dry and rainy periods alternating.

The countries of the WAEMU zone are located in tropical to semi-arid climatic areas typical of the Sahelian climate in the North to sub-humid to humid climates in coastal countries. Average accumulated annual rainfall in agricultural areas covers a very wide range, from 300 mm per year in semi-arid climates to 2,500 mm per year in humid climates. The semi-arid and sub-humid areas of the sub-region have unimodal rainfall, with the major part of rain falling between July and September. Further South, the humid climates of Côte d'Ivoire, Togo, and Benin have two rainy seasons and two dry seasons in alternation.

In recent years, the WAEMU zone has experienced severely reduced rainfall. A clear break in rainfall was recorded in the years from 1968 to 1972. This considerable reduction in rainfall is evident from changes in rainfall indices in the Sahelian and Sudanese regions of the Union, with severe shortfalls in 1972-73 and 1982-84. In the Union's Sahelian countries, annual rainfall dropped by 20% to 40% between 1931-1960 and 1968-1990 as opposed to 15% in the tropical rain forest areas.

Starting in the 1990s and 2000s, much more favorable rainfall conditions have prevailed. These conditions are associated with sometimes intense and increasingly frequent rains often leading to

floods and considerable damage in some countries of the WAEMU zone. The droughts of the 1970s and 1980s and recurrent heavy rains in the 2000s, which struck the region and its inhabitants over these decades, were extreme events, no doubt amplified by climate change.

However, there remains considerable uncertainty over future patterns of change in rainfall. The Western part of the Union (Senegal, Guinea Bissau, and Mali) will likely experience a reduction in rainfall of 5% to 20% over this century. In contrast, increased rainfall is predicted for the continental Sahel (Burkina Faso and Niger) in the order of 5% to 15%, and insignificant change in rainfall is likely in the Union's Gulf of Guinea countries. The countries along the West Coast (Senegal and Guinea Bissau) and including the South West of Mali will experience dryer conditions. In contrast, wetter conditions are predicted for the continental Sahel and the coastal countries of the Gulf of Guinea.

### **I.4. AN UPSURGE IN EXTREME HYDRO-CLIMATIC PHENOMENA**

More than 80% to 90% of natural disasters are linked to hydro-climatic events such as droughts, heavy rains, and flooding. According to the IPCC, it has been credibly established that heavy rains, devastating floods, and heat waves will become more frequent.

The WAEMU zone has not been spared by these events. A significant rise in the number of floods after heavy rains has been recorded, particularly in recent years. The number of such events has gone from an average of less than two a year before 1990 to more than eight or even twelve per year in the 2000s. According to the World Food Program (WFP), these floods are considered the worst in recent decades. More than 1.2 million people have been affected in the WAEMU zone.

## II. THE EFFECTS AND IMPACT OF CLIMATE CHANGE ON FOOD SECURITY

In the countries of the WAEMU zone, agriculture relies heavily on rainfall, with almost 96% of agricultural production consisting of rain-fed cultivation.

Thus the effects of variability and climate change through drought and floods have a somewhat negative impact on productivity and agricultural production, the availability of food for agricultural households and markets, and the price of agricultural products.

This dependence of agriculture on climate hazards remains one of the main factors behind the vulnerability of rural households and a considerable restraint on development because farmers favor strategies that minimize risks.

### II.1. CURRENT AND FUTURE EFFECTS OF CLIMATE CHANGE ON THE AGRICULTURAL SECTOR AND ECONOMIC INFRASTRUCTURE

- **Current and future effects on water resources**

Many waterways and rivers are shared by Member States and run through the whole sub-region. These waterways and river basins play an important role in the socioeconomic development of coastal countries through agriculture, fishing, irrigation, hydro-electricity, and navigation. The WAEMU zone also has significant groundwater deposits made up of surface water tables and fossil groundwater tables, the careful use of which can contribute to the development of agriculture. Variation in rainfall also affects variation in river flows throughout the Union.

Since the 1970s, the average drop in river flows has been estimated at about 30% to 60%. As an example, the flow of the River Niger fell by almost 30% between 1971 and 1989 while that

of the Senegal and Gambia rivers fell by almost 60%. The 1970s and 1980s were also marked by a considerable reduction in water table recharge. Overall, the fall in river flows has had a negative impact on agriculture and fishing and therefore people's food security.

However, the return of more favorable rainfall since the 1990s has contributed to a rise in the flow of these waterways. Climate change, which is marked by extreme phenomena such as droughts, floods, increased evapotranspiration, changes in amounts of rainwater run-offs, and increased salt water intrusion will have a severe effect on the availability of water in the waterways of the region. Furthermore, water resources in the region will be affected by increased demand for water for various purposes including irrigation.

- **Current and future effects on agriculture**

The conclusions of most country reports and various studies on the effects of climate change are that these will lead to a shift in seasons, which has become very frequent in all WAEMU countries.

These seasonal shifts lead to the replanting of seeds, which creates bad crop years, with a resulting fall in revenue and purchasing power, rural exodus, and famine through an extension in the lean period, the seasonal migration of farmers, and changes in cultivation practices. In general in recent years, the beginning and end of the rainy seasons have become increasingly unpredictable for farmers. This makes agricultural planning risky.

The same is true of low growth periods (LGP) for crops, which is a characteristic of the period favorable to the development and productivity of crops. A trend toward a shorter crop LGP has also been recorded since the end of the 1960s, corresponding to the desiccation of the countries in the North of the Union. Studies predict reduc-

tions in LGPs by 2020 of over 30% in already precarious semi-arid areas. Some areas with satisfactory LGPs that enable crops to complete their growing cycle will experience a reverse trend by 2050. Consequently over the next 100 years, we could see an expansion in arid and semi-arid areas and a reduction in land suitable for agriculture and in the potential for agricultural production, thus making access to food difficult.

- **Current and future effects on livestock farming**

In general, in view of the climatic conditions on the horizon, climate change will potentially damage livestock farming. The effect of increased temperatures, lower rainfall, expected disruptions in the seasonal cycle, and a shorter growing season will lead to a drastic reduction in the size of pastures, a shortfall in fodder output, and a deterioration in watering opportunities.

Meanwhile, the level of transhumance will likely increase. As all of these factors contribute to exacerbating conflicts between farmers and pastoralists, this new climatic environment should increase climate-sensitive animal diseases.

- **Current and future effects on coastal ecosystems and fishing**

Rising sea levels will lead to increased flooding in low-lying coastal areas, salt water intrusion, and coastal erosion. The rise in sea levels has a direct effect of coastal submersion and erosion, including its corollaries, namely an increase in the size of flood-prone areas and higher salinity in estuaries and coastal water tables. Thus in Senegal, most sandy coasts are eroding at a rate leading to coastline recession of 1.25 m to 1.3 m per year. In Togo, data on coastal erosion under present conditions record an average of 5 m per year. With climate change, coastline recession will gradually increase by 10 m per year.

According to a study on the effects of rising sea levels, five of the countries classified as the most

vulnerable are located within WAEMU. These are Côte d'Ivoire, Guinea Bissau, Togo, Benin, and Senegal. The rising sea levels anticipated in the context of global warming could threaten their coastal areas, particularly delta areas and estuaries. Salt water intrusion into fresh water will permanently alter the hyaline characteristics of these waters, which could lead to the extinction of the freshwater ichthyic fauna (freshwater fish).

In Senegal, in view of the impact of climate change, about 6,000 km<sup>2</sup> of low-lying areas consisting mostly of estuary areas are predicted to flood. The distribution and quantities of fish and shellfish could change, disrupting the country's fishing activities. Along the Senegalese coasts, which are known for their fish, the impact of climate change together with overfishing will seriously threaten fisheries.

In Côte d'Ivoire, coastline recession would reach 4.5 m to 7.4 m per year as a result of coastal erosion. Coastal oil palm, coconut, pineapple, bananas, and rubber tree plantations in Côte d'Ivoire are also threatened by rising sea levels and coastal storms. A significant part of plantations on the coastal strip in Côte d'Ivoire will be destroyed, including 580,000 ha of oil palm and 37,000 ha of coconut tree plantations.

- **Current and future effects on forest resources and biodiversity**

The natural forests of the Union have undergone profound change essentially as a result of the dryness of the climate, successive droughts, and anthropogenic activity such as agricultural clearing, use of wood for heating, overstocking and pruning, and bush fires. Changes in temperatures and rainfall have already caused the extinction of some plants and the migration of some species to wetter areas.

In Niger, surveys on extinct or threatened forest species show how lower rainfall leads to the disappearance of many forest species. Floods,

torrential rains, and flooding lead to the loss of ligneous and herbaceous plant species. Violent winds accompanied by stormy rains also damage forests, vegetation, and the soil.

In Togo, climatic disruptions will severely harm the biodiversity of natural forests and forest plantation productivity will be affected in coastal areas and the plateaus. Further pressure on forests resulting from demographic growth will lead to overexploitation and deforestation, in turn affecting the climate, which will become dryer.

Moreover, this potential trend could be aggravated by excessive temperatures and periods of drought. In fact, a reduction in water resources combined with a rise in temperatures and deforestation would pose serious threats to forests and forest biodiversity, particularly in dry areas.

Losses in ecological breathing activity due to increased temperatures would transform forest ecosystems into a net source of CO<sub>2</sub> emissions. This could lead to a decline or even the extinction of the most sensitive species in a large number of forest ecosystems and to increased risks of fires and insect infestations and insect-borne diseases. The destruction of the forest biomass would result in a significant increase in net CO<sub>2</sub> emissions into the atmosphere and contribute to global warming.

Thus over the next few years droughts amplified by climate change could have significant negative effects on tropical forests and the social and economic structures that dependent on them. Projections to 2025 show an overall loss of forested areas in WAEMU Member States despite attempts at reforestation.

- **Current and future effects on transportation systems**

Because of the upsurge in heavy rains and flooding in recent decades and the rise in sea levels, transportation infrastructure has been seriously

affected. There have been a number of cases of roads, bridges, railroad lines, and tracks being destroyed. According to the IPCC, these phenomena will intensify and become increasingly frequent. In consequence, infrastructure may be seriously damaged over the decades ahead.

## **II.2. CURRENT AND FUTURE IMPACT OF CLIMATE CHANGE ON THE AGRICULTURAL SECTOR AND FOOD SECURITY**

- **Impact on agricultural production**

In most of the countries in the WAEMU zone, yields and crop production vary significantly because of climate change. The total cereal production of the zone has gone from 4.4 million tons in 1961-965 to 11 million tons in 1999-2000. However, there is substantial year-to-year variation as a good crop year can be worth double the worst over this period.

Extreme events such as floods and droughts linked to climate change have had a negative impact on agricultural production, as in the case of the 2009 floods in Senegal. The heavy flooding that occurred on that occasion caused damage and significant losses in agriculture in various areas of the country. Rising water levels in various rivers led to losses and crop damage (corn, rice, banana plantations, etc.).

Several analyses of long term prospects to the year 2050 show that without appropriate measures to adapt to climate change a reduction in cereal production in the WAEMU zone is expected, in the order of 5% to 20% in the coastal countries and 20% to 50% in the Sahelian countries.

These effects will probably be aggravated by soil degradation resulting from deforestation and erosion. To this can be added rising salinity in coastal agricultural land, groundwater, and surface water because of rising sea levels and water

pollution. Productivity losses caused by climate change could in the long term affect all aspects of food security (accessibility, availability, supply, market prices, and human health and nutrition). However, there are a number of policy initiatives in place aiming at climate governance, adaptation, and attenuation with a view to promoting agricultural development and food security.

- **Impact on livestock farming and fishing**

At regards livestock, the effects of climate change on livestock are as follows:

i) In years of drought:

- Significant reduction in milk and meat production due to the lack of suitable pasture and of watering difficulties. Most pastoralists adapt by storing animal fodder for their cattle (cowpea and groundnut haulm, millet and sorghum residues, bush straw, etc.) or industrial residue (rice middlings, cotton-seed cake, etc.);

- Drastic falls in fodder production (above ground and herbaceous), significant mortality in livestock as a result of watering difficulties and the unavailability of pasture, and having "to go further and further away to find nothing."

ii) In years of heavy rainfall/floods: high sensitivity of animals to some parasite- and insect-borne diseases and significant loss of livestock from floods. In Senegal for example, the heavy, unseasonable rains of January 2002 came with a significant and sudden fall in temperature, with average lows of 14°C in the areas affected, causing the death of livestock, with more than 100,000 bovines and sheep decimated.

As regards fishing, droughts, in particular, result in severe reduction in reproduction potential (fall in stocks) and falls in catch.

- **Impact on nutrition and health**

In the countries of the WAEMU zone, malnutrition is already at worrying levels and is worsening from year to year because of extreme climatic events such as droughts and floods. Thus in 2008 for example, the malnutrition emergency threshold was crossed in Niger, Mali, and Burkina Faso, with more than 10% of children under five being severely malnourished, and in Benin, resulting in almost 150,000 people being displaced and a resurgence in malaria and respiratory infections in children.

In addition, poor access to nutrition and health services caused by the destruction of infrastructure (bridges, roads, railroads, etc.) compounded the problem.

- **Impact on transportation systems**

Damage to transport systems from floods will generate significant reconstruction and maintenance costs. The destruction of communication channels could affect the availability and supply of food products, particularly in the landlocked areas and countries of the Union.

Adapting civil engineering, construction, and public works practices will be necessary to take account of the climate change dimension in the choice of techniques and materials.

- **Impact on supply, demand, and cost in agricultural products**

In the WAEMU zone, production and food availability levels vary depending on the year's rainfall profile.

Thus in years of low rainfall there is a reduction in supply and an increase in demand and this prices. In fact, not only traditional consumers but also a large majority of producers turn quite rapidly to the market to cover production shortfalls. These production shortfalls also lead to a lean period is longer than in normal years.

In years of favorable rainfall, supply increases in relation to demand and leads to a reduction in prices. The lean period is shorter or even non-existent as a result of significant supply in family-held stocks and markets. Other factors such as the food crisis have influenced prices and stocks at both the local and international levels.

### III. MEASURES FOR ADAPTING TO CLIMATE CHANGE

As in most areas in the world, the WAEMU zone must react quickly to face up to the effects of climate change. This means that it must develop and implement adaptative measures. Theoretical frameworks already exist in the various international bodies responsible for agricultural and environmental issues for ways in which the agricultural sector can adapt to climate change. These international theoretical frameworks and particularly the data available in National Action Adaptation Plans should inspire the establishment of a framework suitable for the WAEMU zone.

According to the United Nations Framework Convention on Climate Change (UNFCCC), adapting to climate change entails an adjustment in practices, procedures, and structures to current and projected climate change. This can happen in reaction to or in anticipation of change. Adaptation is necessary at all levels in addition to measures for minimizing climate change. This is a process of socialization and social and political education expressed through local decision-making mechanisms.

The response to climate change must include measures and strategies of adaptation and attenuation and must take account of damage resulting from climate change, shared advantages, sustainability, equity, and appropriate responses to risks.

Adapting to climate change in the agricultural sector should enable good regional, national, and local governance on food security, which can respond to the degree of vulnerability in the environment and the society. The adaptation measures advocated for the agricultural sector consist of a package of possible solutions that can enable decision-makers to confront extreme climatic events.

Given the threats and the vulnerability of agricultural systems and food security to current and future impacts of climate change, some key ideas are listed below and set out as six main types of adaptation and/or attenuation measures that may help confront climate change and its future effects.

- **Forecasting, prevention, management, and preparation for future disasters**

The rise in future disasters marked by more frequent and more violent climatic phenomena has become a reality as a result of global warming. Thus the risk management of disasters must play an increasingly central role in confronting the effects of climate change on food security.

Accordingly, the experience gained from natural disasters must be identified, analyzed, and used systematically to improve planning for actions to be taken during a disaster. Closer cooperation will have to be developed between, on the one hand, climate change experts specializing in forecasting, the monitoring of natural disasters, national and international services focusing on risk management in disasters and food security, and, on the other, the population. Initiatives aiming at reducing the risks posed by disasters must be encouraged. Prior operational planning must also be strengthened.

- **Improving the resilience of agricultural, forestry, livestock, and fishing systems**

The region's agricultural, forestry, livestock, and fishing systems face multiple attacks linked es-

pecially to variability in rainfall and the rise in temperatures. These factors contribute to changes in agricultural seasons.

Thus improving the resilience of agricultural, forestry, and livestock systems to confront this new climatic environment should include: (i) developing varieties of plants and livestock adapted to water stress and/or heat, redefining adapted crop calendars, and producing quality seeds; (ii) developing management methods for water designed for agriculture through the preservation of water and soil and by protecting crops against extreme climatic phenomena, supported by irrigation; (iii) developing irrigated crops and diversifying and intensifying crops; and (iv) adopting rational management methods for soil fertility.

- **Sustainable regional governance for food security**

In every country, the main concern of those involved has been to create reserves, or stocks, for food security in order to re-supply local markets with food products. This approach has led to the creation in every country of dedicated national structures such as the Office National de la Sécurité Alimentaire (ONASA – National Agency for Food Security) in Benin, the Agence Nationale de Sécurité Alimentaire du Togo (ANSAT – National Agency for Food Security of Togo), the Office des Produits Vivriers du Niger (OPVN – Agency for Food Products of Niger], etc.

These physical stocks play a determining role in the regulation of cereal markets and in the attenuation of food crises. The structures have reliable storage capacities but usually poor operational capability to deal with food crises on a national or regional scale. In addition, changes in people's food habits do not make their task any easier.

The regional dimension of governance for food security must be explored. Creating regional stocks of agricultural products could be envisaged to support national structures more effi-

ciently in terms of supply. Also, establishing a regional pool of agricultural products would offer a much more reliable alternative for supplying markets. This pool could rely on current national and regional mechanisms (CILSS, FAO, Few-Net, country-specific, etc.) in monitoring food security (prices, markets, availability, and cereal balances).

- **Agricultural insurance and harvest insurance**

Agriculture remains the sector most influenced by the climate and climatic variation. In such a context, developing agricultural insurance as a tool for reducing the vulnerability of agricultural systems alongside credit systems and agricultural technical advice is increasingly essential in promoting agricultural development and compensating producers for their losses.

In most cases, this consists of insurance against drought, though it is also possible to imagine under different conditions insurance against risks of floods and/or excessive water, crop pests, etc. This type of insurance system has been a success in India and Malawi. In Senegal, the government launched an initiative in this area in 2007, creating an insurance company specialized in agriculture, the CNAAS (the National Agricultural Insurance Company of Senegal), which is funded by the State, private insurance companies, and producers' associations.

In the WAEMU countries, agricultural insurance is often seen as a tool for reducing the vulnerability of the population. However, its feasibility has been widely questioned, particularly over the issue of the providers of and subscribers to this kind of insurance. BOAD has financed a study on this topic, with initial results expected in the second half of 2010.

- **The sustainable management of forests: reconciling agriculture and forest farming**

Today, adaptation and attenuation represent two major challenges. Agriculture and forest

farming have a positive role to play in adaptation to climate change and the minimization of that change. Therefore, reconciling the preservation of the environment and improving means of subsistence while promoting a reduction in emissions from deforestation and the degradation of forests in Sub-Saharan Africa should be a direction to prioritize.

The main challenge is to create agricultural environments that allow the antagonism between the preservation of the environment and the acquisition of means of subsistence to be resolved. The advantages derived from forest ecosystems such as water storage, the fight against erosion, the preservation of biodiversity, land rehabilitation, and nutrition and food production must be preserved while insuring sustainable development.

To achieve this, climate, means of subsistence, and adaptation and attenuation must be linked. Forest farming should be an essential component of this approach. The integration of large-scale forest farming in the agricultural landscape would create an efficient carbon sink while ensuring sustainable food production. It would also contribute to adaptation to climate change.

The sustainable management of forests is also a way to enlarge carbon sinks through vast reforestation and the preservation of forest ecosystem programs. It is at the heart of the problem of carbon capture and the carbon market.

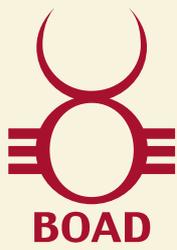
- **The carbon market within the framework of the Clean Development Mechanism (CDM)**

Established in 2004 within the framework of the Kyoto Protocol, this market should present opportunities for poor countries to benefit from credits generated by reducing greenhouse gases. However, since the mechanism was implemented, the share of CDM projects on the continent has remained negligible. For example, the WAEMU zone has no eligible CDM projects to date.

One of the major constraints on the eligibility of African CDM projects, particularly those in the WAEMU zone, is ignorance of eligibility procedures, the poor technical and scientific capabilities of project sponsors, and the small size of the projects.

In this context, the CDM approach, which consists of gathering several small projects, in one country or shared among countries within a sub-region, for example, into one larger project could be considered. In addition to the new institutional reforms required by the CDM approach, the regional approach could be one of the ways to promote this type of project in the countries of the Union. Thus BOAD initiated a reflective process on the regulatory, legal, and institutional framework for the carbon market during a regional workshop held in Lome on November 24-26, 2008. The conclusions of this meeting revealed that the carbon market presents a real opportunity for WAEMU countries to structure their sustainable development programs. BOAD anticipates approving its first CDM projects in 2010.

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