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Industrialization of the Agricultural Sector for a Food Secure West Africa

*Towards an industrialization strategy of the agricultural sub-sectors
in West Africa, compatible with opportunities for growth,
local and regional demand and food security*

January 2014



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Abbreviations and acronyms

ACP	African, Caribbean and Pacific countries
3ADI	African Agribusiness and Agro-industry Development Initiative
AfDB	African Development Bank
AFI	Agro-Food Industry
CAAAP	Comprehensive Africa Agriculture Development Programme
CET	Common External Tariff
CILSS	Permanent Inter-State Committee for Drought Control in the Sahel
COPLA	Comercio y Pobreza en Latino América
DC	Developing Country
ECA	Economic Commission for Africa
ECA/SRO-WA	Economic Commission for Africa /Sub-Regional Office for West Africa
ECOWAP	ECOWAS Agricultural Policy
ECOWAS	Economic Community of West African States
EPA	Economic Partnership Agreements
FAO	Food and Agricultural Organization
FAOSTAT	Food and Agricultural Organization Statistics
GDP	Gross Domestic Product
GVC	Global Value Chain
ICE	Intergovernmental Committee of Experts
ICT	Information and Communication Technologies
IRAM	Institute for Research and Application of Methods of Development
LAC	Least Advanced Country
MDG	Millennium Development Goals
MIS	Market Information System
NEPAD	New Partnership for Africa's Development
NISD	National Institute of Statistics and Demography
PRA	Poverty Reduction and Alleviation (USAID project)
PRSP	Poverty Reduction Strategy Papers
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
RIAF	Regional Integration Aid Fund
RFAD	Regional Fund for Agricultural Development
SME	Small and Medium Enterprise
SMI	Small and Medium Industry
SSA	Sub-Saharan Africa
UCCAO	Central Union of Agricultural Cooperatives of the West (Cameroon)
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
WACIP	West African Common Industrial Policy
WAEMU	West African Economic and Monetary Union
WTO	World Trade Organization

Summary

The general objective of the present study is to contribute to the socio-economic development of the countries of the West African sub-region by proposing relevant strategies for the transformation of their economies. The specific objective is to explore solutions to make it possible for West Africa to reach a level of food self-sufficiency that can ensure its food security, by intensifying the production of food crops and further processing of raw unprocessed products. This analysis is justified by the fact that in spite of the enormous potential of agro-pastoral resources of West Africa, the takeoff for this sector remains slow.

In effect, West African countries in the past developed numerous strategies and created many support structures for agricultural development, but the results expected were not always reached, as witness the rampant food crisis which has persisted in all these countries for years and which obligates them to import agricultural products to cover annual food deficits. It is to attempt to explore other possibilities for accelerating agricultural development to guarantee the food security of Member countries that this study was carried out. It constitutes a contribution to the thinking on the strategies and policies to adopt in support of the structural transformation efforts of the agricultural sector in the sub-region. The study aims at raising the awareness of the decision-makers of West African countries on the importance of committing themselves resolutely in a process of industrialization of targeted agricultural sub-sectors, by highlighting successful models in this area.

After posing the problem of food security in West Africa, the study situates the agricultural sector in the economies of West African countries, underlining the weaknesses of agricultural policies implemented in the past, which have not made it possible to attract sufficient investment to the agricultural sector, nor to accelerate the processing of local agricultural products. It then provides a general overview of the agro-food industry in West Africa and provides a review of the investment climate in the sub-sectors.

Faced with little dynamism in the agricultural sector, which maintains food insecurity and in the context of the meager means at the disposal of most West African states (four-fifths are LACs), the study outlines a strategy for the industrialization of agricultural sub-sectors based on four models of agricultural value chains that are competitive but also complementary: (i) the industrialization model through a hierarchy of cooperatives; (ii) the industrialization model through an agro-food company, (iii) the industrialization model through the value chain built around a strategic partner, and (iv) the mixed industrialization model. The first two models emphasize the need to supervise small producers through cooperatives or other peasant organizations, in order to facilitate their access to inputs, financing and markets and to make it possible to defend their interests all along the chain. The third model places the emphasis on the promotion of the public-private partnership in agriculture in the form of an agricultural co-entrepreneurship, a model that aims at inclusive structural transformation of the agricultural sector, with an equitable sharing of revenues. The fourth and last model is a combination of the first three in cases where it is judged to be feasible.

Lastly the study proposes some orientations for the attention of the ECOWAS and its Member states, urging them notably to integrate the "value chain" approach in their strategies for the development of the agricultural sector and to adopt the strategy of industrialization of targeted agricultural sub-sectors to attract more investors in agri-business in order to better exploit the immense potential in agro-sylvo-pastoral resources of the West African sub-region.

1 INTRODUCTION

1. The rise in the world prices of agricultural products which culminated in a global food crisis in 2008 with serious repercussions on Africa in general and on West Africa in particular, has once again exposed the problem of food security in the sub-region. Since this period, this serious situation has for more than one reason raised the debate on food security at the level of sub-regional bodies and States as well as at the level of civil society, which organized broad protest movements more or less everywhere against the high cost of living.

1.1 Agriculture: a vital sector for West Africa...

2. The economies of most of the countries of West Africa are based on agriculture. In the ECOWAS zone, agriculture remains the biggest supplier of jobs in the economy: more than 60% of the population works in this sector which generates 35 % of the GDP of the sub-region and 16.3% of the value of its exports (CEDEAO-IRAM-LARES, 2008). In addition, the sector makes it possible to meet 80% of the food needs of the population (CEDEAO-IRAM-LARES, 2008). Moreover, the great diversity of ecosystems of the region offers a varied range of production (Blein *et al.*, 2008). The rise in the prices of agricultural products and the outlook for a potential sub-regional market of around 400 million consumers are important advantages for its development. In view of the importance of the sector, it is normal and obvious that eyes turn towards it when food security in West Africa is mentioned.
3. However, in fact agriculture is only directly concerned by one single dimension of the three main dimensions of food security which are availability, accessibility and use. In effect, as the main supplier of food products, the agricultural sector plays a fundamental role in the availability of food products. This role is nevertheless increasingly completed by industry in view of the changes observed in the food habits, notably of the urban populations, and also by the tertiary sector which imports food products to supplement domestic production.
4. Industry also comes into play, other than in the processing of agricultural products, in the use dimension of food security as it undertakes or contributes to the storage and preparation of food or food supplements.

1.2 ...which has seen production increase significantly over several decades...

5. During the course of the last thirty years, the regional agricultural sector has recorded significant performances. Agricultural production of all crops has increased on average by 3.7% per year, compared with a global average of 2.2% between 1980 and 2010 (CSAO, 2012). This growth is all the more significant in that compared with the demographic growth of a region, which remains the reference in this area, an average growth of 3% of the population can be noted. Even better, this population has considerably urbanized with 65% of rural inhabitants for 35% of urban inhabitants in 1980 compared with 55% and 45%, respectively, in 2010.

6. In 30 years, agricultural production has increased much more rapidly than the population and the availability of food has also increased from 1 700 to 2 400 kilocalories per person and per day. Food dependency regarding the rest of the world has not increased during the course of this same period, as it has stagnated at 20% (in kcal/pers/day) since 1980. The performances of the agricultural sector could only have been achieved at the cost of constant improvement in the productivity of agricultural labor which, after having declined for a long period, has been increasing at the impressive rate of 2.6% per year since 1980 (CSAO, 2012).

1.3 ...but which is struggling to modernize and industrialize

7. This series of welcome news outlined above must however be balanced by certain major facts:
 - (i) The number of non-producing consumers has grown continuously since 1950 when nine out of ten households were farmers compared with only five out of ten in 2010. A decreasing proportion of the population thus has to feed the rest of the population which is growing rapidly (CSAO, 2012).
 - (ii) The sharp rises in food prices recorded since 2005 have raised the import invoices of West African countries and amplified the agricultural trade balance deficit. The value of food imports culminated at 11.8 billion USD in 2007, before falling to 10.4 billion USD in 2010 (CEDEAO, 2012). The phenomenon is even more visible in certain mass consumption products such as rice and wheat. Cereals represent overall 42% of the food imports of the region. In spite of production having almost doubled during the last ten years, the region must still import 36% of its needs in rice from the international markets (AfricaRice, 2012). In 2009, the region imported the equivalent of 15 kg of rice per inhabitant, compared with 11.5 kg in 1980 (CSAO, 2012).
 - (iii) 10% of the population (more than thirty million people) still suffers from chronic under-feeding or malnutrition. In particular, according to FAO (FAO, 2009a), they are members of the families of farmers who are excluded from the market, agro-pastoralists or herders who are heavily dependent on herds that are threatened by recurring droughts and poor workers in the popular economy.
 - (iv) Regional rates of under-feeding have decreased but significant disparities persist: if certain countries of the Sahel are on semi-permanent alerts, others, even those who benefit from good climatic conditions, are not spared. Overall the majority of the countries of the region, or 11 out of 16, have malnutrition rates that vary from 10% to 20%, according to the IFPRI Global Hunger Index which considers their situation to be serious. On the contrary, four show situations considered to be alarming, with rates varying between 20% and 30%. These are: Niger (linked to the effects of climate shocks), Liberia, Sierra Leone (countries which have suffered from long civil wars) and Togo. Imports of manufactured products continue to increase. Industrialization in the service of agro-food is not yet a reality as the sub-region remains one of the least mechanized in the world and one of the least capable of transforming its raw agricultural products to support national revenues and even less the revenues of producers.
 - (v) The West African agricultural sector is characterized by a low use of fertilizers (about 5 kg/ha) compared with the Middle East and North Africa where the average use is 62 kg/ha. It exploits only 39% of the potential arable land and only 8% of irrigable land (Ouattara, 2010) and 65% of sown lands are prepared by hand while only 25% with the help of animals and less than 10% by tractor.

Harvest losses can reach 15% for cereals and legumes, 30% for roots and tubers and 40% for fruits and vegetables (FAO, 2009a). Agriculture in the West African region records the lowest yields in the world (about 1.2 MT per hectare in the region compared with an average of 3 MT per hectare in all developing countries). It should be noted that the increases in production observed in this region are due to increases in surfaces cultivated and not to factors that increase the productivity of the land (fertilizers, mechanization, use of improved seeds, etc.).

8. In spite of the fact that 25% of cereals consumed are currently imported and 3% originate from food aid, West African agriculture is unable to feed a population which is increasing at the rate of 3% per year and which by the year 2020 will consist of 45% of urban inhabitants. According to FAO (2006), the modernization and intensification of this sector is imperative for the sustainable development of the region. In view of its upstream and downstream impacts, investments in this sector produce important multiplier effects, (including demand for related agricultural products, inputs and services, agricultural and non-agricultural jobs, higher incomes, the creation of added value and increased flows of public revenues). Technological change often constitutes a trigger for development, on condition that markets react positively and absorb the surplus production. The effectiveness of this strategy requires setting up market information systems, stimulating agro-food industries and making available public infrastructures of support for production (for example, irrigated land development or transportation infrastructures).
9. Overall, agro-industry thus appears to be an important opportunity for stimulating agricultural development and for efficiently combating rural poverty. Nevertheless, doubts remain. To make best use of it, countries must identify and develop the main promising sub-sectors into which greater productive investments should be channeled to support agricultural productivity, through carefully considered accompanying political choices.
10. In the light of the observations above, it appears clear that countries of the West African sub-region should call into question their agricultural policies in order to make them more operational and allocate more means to agriculture, especially subsistence crops, in order to be able to ensure satisfactory, sustainable food security for their populations.
11. In fact, countries that have progressed the most in this area elsewhere in the world or in Africa share common characteristics according to many analysts of agricultural production systems: growing agricultural productivity, rising incomes, low vulnerability to natural catastrophes, improved human development indices, lower debts and both social and political stability.
12. Operations to revitalize agriculture, which States attempted to do following the food price crisis in 2007-2008, have had limited impact over time, as many observers feared. These operations, not coordinated at the regional level, were based on a massive return to subsidies for producers and already posed long-term sustainability problems in their design.

13. In parallel with the Comprehensive Africa Agriculture Development Programme (CAADP) of the NEPAD, more structural attempts at revitalizing agriculture were begun and States have initiated reviews of their investment plans. Today, the countries of the sub-region are thus seeking new approaches to launch and support transformational agricultural development, capable of stimulating a larger transformation of the entire economy (Dembele and Staaz, 2010).
14. The present report attempts to provide responses judged to be relevant for these concerns, on the basis of a review of the literature and agricultural policies in the sub-region, as well as experiences of the development of agro-industry in the sub-region and elsewhere.

1.4 Objectives of the study and structure of the analysis

15. The general objective of the study is to contribute to the socio-economic development of the countries of the sub-region by proposing relevant transformation strategies for their economies.
16. The specific objective is to explore solutions that can make it possible for West Africa to reach adequate food self-sufficiency and to ensure its sustainability through the intensification of subsistence crop production and further processing of raw products.
17. This study will serve as the theme for discussions at the 17th Meeting of the Intergovernmental Committee of Experts (ICE) that the ECA Sub-Regional Office for West Africa is organizing for February 2014 in Yamoussoukro, Côte d'Ivoire. The choice of this theme follows the Economic Report on Africa (ERA) for 2013 prepared by the ECA and entitled, *"Making the most of Africa's commodities: industrializing for growth, jobs and economic transformation"*, which, among other things, recommended ways and means for strengthening the role of the industrial sector as the engine of development.
18. The report of the present study consists of six chapters, including the introduction which provides the context, the justification and the problem of food security in West Africa, as well as the objectives of the study and the structure of the analysis. The second chapter presents the agricultural potential of West Africa. The third chapter provides a general overview of the situation of the agro-food industry in West Africa. The fourth chapter deals with the investment climate in the agricultural sub-sectors while the fifth outlines an industrialization strategy for agricultural sub-sectors based on four models of agricultural value chains that are competitive but complementary. The sixth and last chapter constitutes the conclusion of the study.

2 THE AGRICULTURAL POTENTIAL OF WEST AFRICA

19. The overall contribution of agriculture to economic growth depends partly on the quality of natural resources used in production, which is a good indicator of the absolute advantage of agricultural production. In West Africa, immense agricultural potential is still poorly exploited. This potential is based as much on the biodiversity of its ecosystems, which favor the cultivation of a broad variety of agricultural products, as on the abundance of its natural resources: arable land, water resources and labor.

2.1 Ecosystem biodiversity

20. The ecosystem of West Africa is very diverse. It ranges from the humid coastal zones to the semi-arid and arid northern zones of the Sahel and the Sahara with the central semi-humid sudanian zones in between. This ecosystem diversity makes it possible to set up important complementarities among countries and production basins thus facilitating the regional integration of agricultural economies and trade. If this diversity constitutes an enormous advantage, it still represents a big challenge for the agricultural development of Africa.
21. The sudanian transition zone hosts the majority of rural agricultural and pastoral migrations. This zone is heavily sought-after owing to the relative availability of arable land and pastures. The diversity of ecosystems also offers the possibility of trade in products founded on agro-ecological complementarities, the bases for market integration in the region, which in 2013 represented about 325 million consumers (FAOSTAT, 2014). The ECOWAS thus possesses considerable human potential for agricultural production. Moreover, several great African rivers cross the region: the Bénoué, the Niger, the Volta and the Mano, which provide the potential for the production of vegetables, maize and rice without or with very little need for fertilizer.
22. The subequatorial and sudanian zones also have some real advantages for reconstituting the organic base of their soils. Here, the integration of agriculture-herding is taking place gradually, but it remains low in the sudanian zone. The association of agriculture-herding thus offers opportunities for reducing the consumption of artificial inputs. It could be encouraged and developed in the coastal zones where farms sizes are very small (less than 1 ha).

2.2 Availability of irrigable agricultural land

23. West Africa is relatively well endowed with agricultural land. In effect, the region has about 249 million hectares of arable land of which 98 million were cultivated in 2011, representing 39% of the potential available land (see Table N°1). Mali, Nigeria and Niger alone cover nearly 65% of the potential arable land.
24. To this potential in arable land should be added the capacity to practice extensive pastoral herding (about 151 million hectares of available pasture) which is the best way to enhance the productivity of arid and semi-arid zones. This thus presents a real opportunity in view of the quality of land and its capacity for production.

Table N°1: Status of available arable land in West Africa

Country	Arable land (1000 ha)	Cultivated land (1000 ha)	% of arable land cultivated in 2011	Pastures (1000 ha)	Forests (1000 ha)
Benin	3 430	2 880	84.0	550	4 511
Burkina Faso	11 765	5 765	49.0	6 000	5 589
Cape Verde	75	50	66.7	25	85
Côte d'Ivoire	20 500	7 300	35.6	13 200	10 403
Gambia	615	455	74.0	160	482
Ghana	15 900	7 600	47.8	8 300	4 825
Guinea	14 240	3 540	24.9	10 700	6 508
Guinea-Bissau	1 630	550	33.7	1 080	2 012
Liberia	2 630	630	24.0	2 000	4 299
Mali	41 621	6 981	16.8	34 640	12 411
Niger	43 782	15 000	34.3	28 782	1 192
Nigeria	76 200	39 200	51.4	37 000	8 631
Senegal	9 505	3 905	41.1	5 600	8 433
Sierra Leone	3 435	1 235	36.0	2 200	2 706
Togo	3 720	2 720	73.1	1 000	267
ECOWAS	249 048	97 811	39.3	151 237	72 354

Source: FAOSTAT data (January 2014)

25. As for the forest areas of the region, they cover 92 million hectares in 1990 compared with 73 million in 2011, representing a decrease of 21 % during the course of these last 2 decades (FAOSTAT, 2014). Deforestation is the only explanation that can be given for this decrease.
26. Rainfall and soil quality constitute, among other things, agronomic advantages of the region with soils in the sub-equatorial and sudanian zones being wetter and richer, notably in nitrogen and phosphorus, as well as benefiting from a much more favorable tropical climate than the Sahelian area.
27. Each year, an average of 3 765 billion cubic meters of rain falls in West Africa, with a very unequal distribution among the regions. It is in the sub-equatorial and semi-humid zones that 77% of this rainfall is concentrated while the semi-arid to arid zones receive only 23% on a surface area that represents about 60% of the entire region. The potential for irrigating the semi-arid zone represents only 16 % of the regional potential (Roger Blein *et al*, 2008). The irrigable potential of West Africa (see Table N°2) is estimated at around 8.9 million hectares of which 47% were located in Ghana (21%) and Nigeria (26%) in 2011.

Table N°2: Irrigable potential of West Africa

Country	Surface areas in 2011 (1000ha)	Share of regional potential (%)
Benin	322	4
Burkina Faso	165	2
Cape Verde	-	-
Côte d'Ivoire	475	5
Gambia	80	1
Ghana	1 900	21
Guinea	520	6
Guinea-Bissau	281	3
Liberia	600	7
Mali	566	6
Niger	270	3
Nigeria	2 331	26
Senegal	409	5
Sierra Leone	807	9
Togo	180	2
ECOWAS	8 906	100

Source: AQUASTAT data (January 2014)

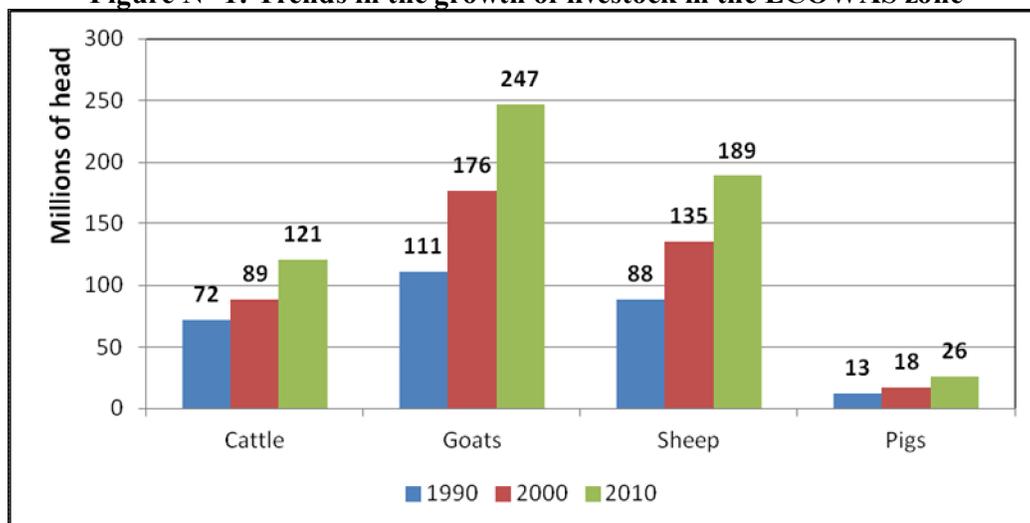
28. In order to increase the performances of its production, West Africa needs to get control of the parameters of production, the most important of which are the consequences of climate hazards. Several basin organizations already exist in the sub-region and each of them has an investment programme for the development of the irrigable potential in its area of intervention, as well as for the promotion of other activities notably energy and transportation. These are: the Niger Basin Authority (NBA), the Senegal River Development Organization (OMVS) and the Gambia River Development Organization (OMVG)¹.

2.3 Growth of the regional livestock and fishing resources

29. In West Africa, livestock growth has been observed since 1990. The Sahelian livestock has been largely rebuilt since the droughts of the 70s and 80s and young breeding stock are available. A part of the cattle herds has been replaced by small ruminants (sheep and goats), animals with a short reproduction cycle. According to FAO statistics, (see Figure 1 below), the number of head of cattle has grown from 72 million in 1990 to about 121 million in 2010, or a growth rate of 68 %. The greatest progress is observed with goats (122 %) where the number of head has almost doubled, from 111 million in 1990 to 247 million in 2010. The pig herd has recorded growth of 100% from 13 million head in 1990 to 26 million head in 2010. As for sheep, the growth rate is 115%, increasing from 88 million head in 1990 to 189 million in 2010.

¹ ECA/SRO-WA (2012), Harnessing agricultural potential for growth and development in West Africa. March, 2012

Figure N° 1: Trends in the growth of livestock in the ECOWAS zone



Source: ECA, from FAOSTAT data (January, 2014)

30. It can also be observed that herding ruminants contributes greatly to the dynamic of regional integration. In effect, Burkina Faso, Mali and Niger constitute the three large producers of cattle, sheep and goats and are net exporters to coastal countries, mainly Nigeria, Ghana and Côte d'Ivoire (CSAO, 2007).
31. To this livestock potential can be added that of fishing resources. Even though its macroeconomic share is low in the region (1.5% of GDP and 5% of the agricultural value added), fishing is a lever for poverty reduction in West Africa. Fish production has developed heterogeneously in all of the countries of the region. With the exception of Senegal, all the countries of the region are net importers of fish. According to ReSAKSS (2012), imports from outside the region reached around 1.5 million MT for a value of 1.65 billion USD in 2007. The water resources of the region offer enormous potential for increasing fish production. It is thus for countries to undertake vast programmes to increase fish production through fish farms, fish stocking in continental waters, the protection of maritime fishing resources and the accountability of local populations and decision-makers at all levels in the management of these resources.

2.4 Potential in terms of agricultural crops

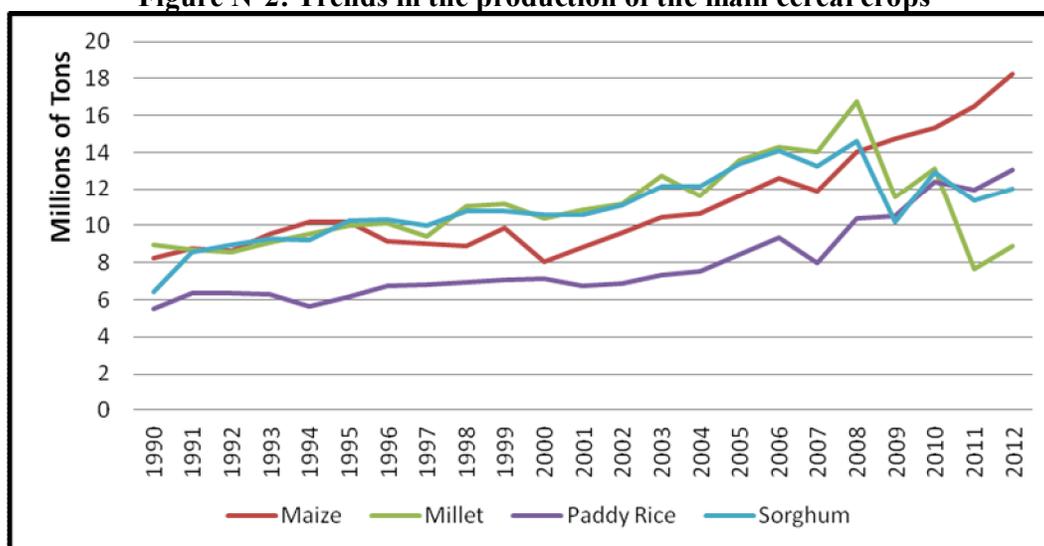
32. In West Africa, consumption models vary according to countries, regions or communities subject to different climates. In a study carried out by FAO in 2013, cereals, roots and tubers are the 10 most important crops in West Africa. Thus two main groups of countries can be identified on the basis of their consumption of the main food products (ACI, 2011) :
- Countries mainly dependent on cereals: they cover essentially the CILSS countries, including Burkina Faso, Gambia, Guinea-Bissau, Mali, Mauritania, Niger, Senegal, Sierra Leone and Chad. This group is subdivided between those which depend mostly on sorghum and millet (Burkina Faso, Gambia, Mali, Niger, Chad) and those which consume mostly rice (Guinea-Bissau, Senegal, Sierra Leone);

- The coastal countries, which rely equally on roots and tubers as well as cereals for their basic subsistence diets. These countries include: Benin, Côte d'Ivoire, Ghana, Guinea, Liberia, Nigeria and Togo. In some of these countries, plantains are also consumed in large quantities (in Côte d'Ivoire, in Ghana and in Guinea).

2.4.1 Performances of cereals

33. In West Africa, production curves follow the same trends for all of the main cereals (see Figure N°2). Production continues to rise due to an expansion of surface areas cultivated owing to the abandonment of fallows and increased deforestation. Nevertheless, while the production of dry cereals such as millet and sorghum has amplified during these last few decades, it has regressed since the food price crisis of 2007-2008, giving way to maize and paddy rice.

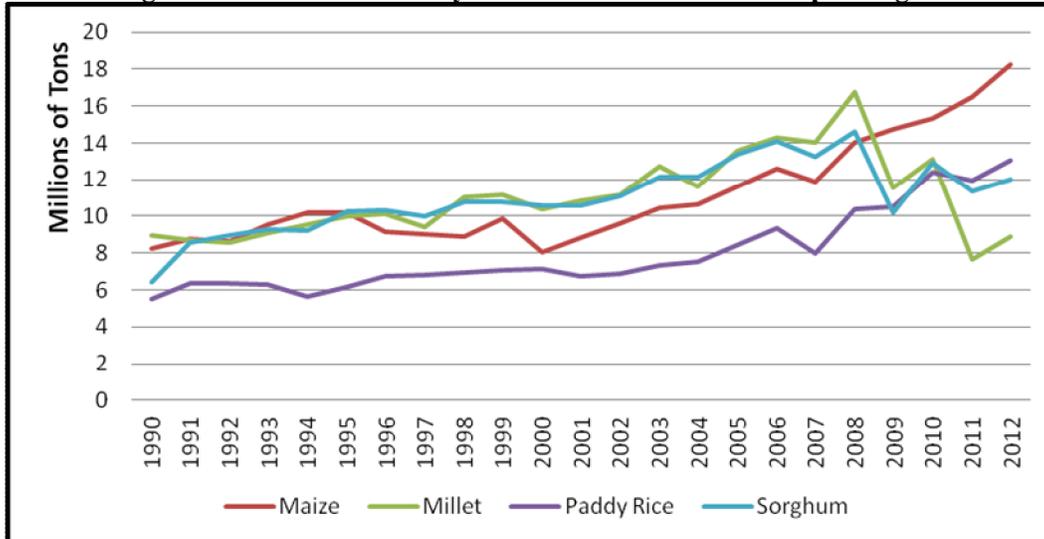
Figure N°2: Trends in the production of the main cereal crops



Source: ECA from FAOSTAT data (January 2014)

34. The analysis in terms of yields per hectare for the four main cereals (maize, sorghum, paddy rice and millet) produced shows that yields have not increased significantly since the 1990s (see Figure N°3). Compared with rice, it can be seen that the yields of other cereals have remained low. It was only after the food price crisis of 2007-2008 that an improvement in rice yields was observed. Nevertheless, a slight increase in maize yields can be noted which are on average around 1.44 MT per hectare.
35. Overall, there has been little improvement in the yields of millet and sorghum (less than one MT per hectare) during the course of these last few decades, owing to the almost complete absence of public investments because they are not considered to be a priority for investments in spite of their immense role in the food security for rural households which consider them to be part of the main harvests of the region (FAO, 2013). However, the potential for growth is enormous considering the potential increase of these yields.

Figure N°3: Trends in the yields of the main cereal crops in kg/ha

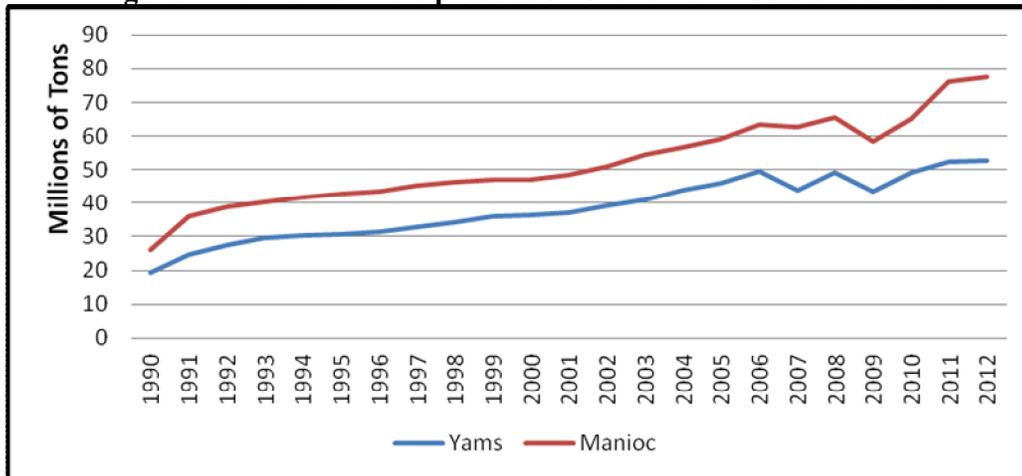


Source: ECA from FAOSTAT data (January 2014)

2.4.2 Performances of roots and tubers

36. The production of roots and tubers (manioc, yams) is preponderant in the forest zones which places West Africa in the position of one of the world's major repositories. During the course of the last two decades, production has increased. It is on average 3.8 million MT for manioc and 5.2 million MT for yams. The largest producers are Nigeria, Ghana and Côte d'Ivoire. For manioc, Nigeria adopted a law in January 2005 which obligates bakers to incorporate 10% of manioc flour in wheat flour for making bread and other bakery products.

Figure N°4: Trends in the production of the main roots and tubers

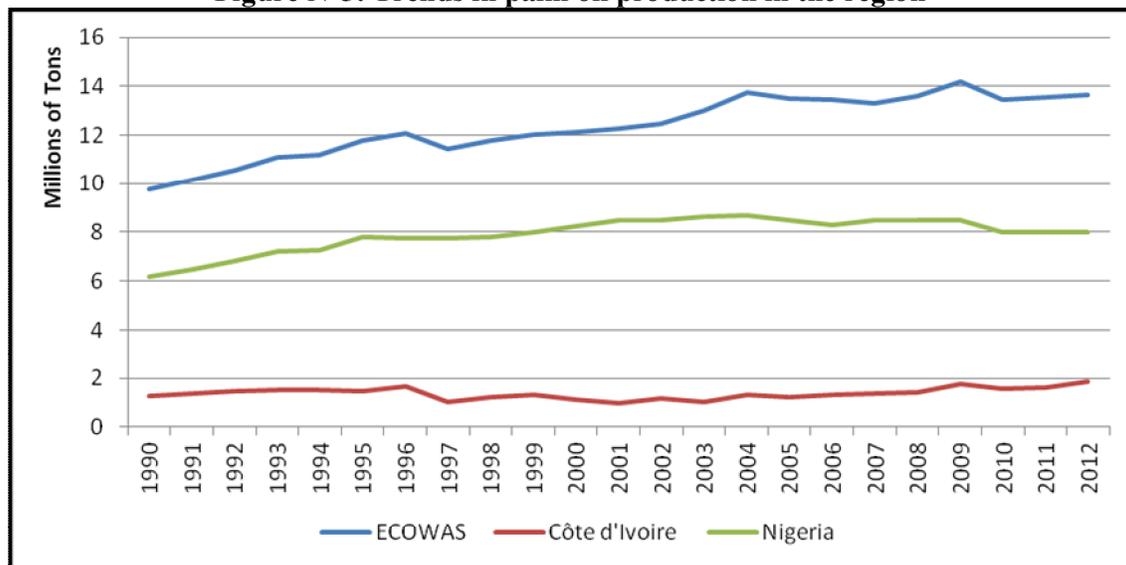


Source: ECA from FAOSTAT data (January 2014)

2.4.3 Performances of palm oil

37. The West African region, particularly Nigeria, is a great producer of palm oil. The average annual production is around 12.3 million MT. Nigeria alone produces nearly 64% of all of regional production. Its greatest growth was observed in Nigeria during the course of the last two decades with an increase in production of 33% between 1990 and 2012 (see Figure N°5). In Côte d'Ivoire, the production of palm oil has not seen a notable increase. Annual production is around 1.4 million MT. It can be observed therefore that the growth of the production of palm oil in West Africa is the outcome of the extension of production in Nigeria.

Figure N°5: Trends in palm oil production in the region



Source: ECA from FAOSTAT data (January 2014)

2.5 Potential in terms of trade

38. The importance of agriculture in the national economies no longer needs to be proven. It is at the origin of multiple social challenges such as employment and food security. In West Africa, the agricultural sector contributes up to 35% of the formation of the regional gross domestic product (GDP) and participates for 15% of export revenues that can reach 30% if Nigeria is excluded (FAO, 2013). Agricultural exports represent around 6 billion USD, or 16.3% of all the exports of goods and services of the region compared with 5.4 billion USD of imports of agro-food products (Roger Blein, 2008). This export capacity of agriculture ensures for States foreign exchange resources, contributing to financing imports of consumer goods, equipment or intermediate goods for industry and services. According to AGRITRADE², Nigeria is the main importer of the region, with its imports having grown from 25% in 2012 to 5 billion Euros (mainly cereals, sugar and rice but also fruits and milk products). At the same time, Ghana has become a key access point for entering the regional West African market, with imports of agricultural and food products having risen by 20% in 2012.

² AGRITRADE, Executive Brief Updates 2013: West Africa: Agricultural trade policy debates and developments, CTA, December, 2013.

39. The growth of urban markets seems to be a key driver for the growth of value chain products and for local agricultural systems. This could bring about the opening up of potential value-generating market outlets for local production if appropriate marketing and processing strategies are implemented in the region.

2.6 Agro-food policies in West Africa

40. To deal with the multiple challenges facing regional agriculture, initiatives have been set in place during these last few decades. Thus in 2002, the African Union Commission launched the Comprehensive Africa Agriculture Development Programme (CAADP). African states participating made the commitment to allocate 10% of their national budgets to agriculture, with the aim of reaching an annual agricultural growth rate of 6%. Following the regional agricultural policy of the ECOWAS (ECOWAP), seven (7) countries of West Africa (Burkina Faso, Ghana, Guinea, Mali, Niger, Senegal and Togo) have been able to raise the priority granted to agriculture, reaching the objective of 10%, and encouraging others to do the same (ReSAKSS, 2011).
41. At the regional level, the ECOWAS developed its Regional Agricultural Investment Programme (RAIP) to complete the National Agricultural Investment Programmes (NAIPs) by concentrating on a limited number of key regional strategic issues linked to production, commerce and access to food commodities as well as to the generally promising environment for regional investments. It aims at strengthening the interdependence among countries and accelerating the transformation of agriculture in the sub-region. In many countries of the region, the implementation of the NAIPs has already started. It is thus urgent to support this implementation process and to guide it in order to transform the strategic framework into an efficient action plan. Moreover, as the finalization process of these programmes should continue through 2015, it is also necessary to evaluate their impact on the growth and development of priority sub-sectors in the region.

3 SITUATION OF THE AGRO-FOOD INDUSTRY IN WEST AFRICA

42. The sub-region has an important agricultural potential that remains far from being exploited. As an example, Côte d'Ivoire and Ghana are the first and second cocoa producers in the world, respectively, with an average production of 1 200 000 MT/year and 700 000 MT/year, respectively, during the decade of 1999-2009, whereas the volume of this production that is processed endogenously in both countries is not more than 20%. Mali, the primary producer of cotton in Africa, processes only 2% of its production (WACIP, 2010).
43. This chapter examines the situation of the agro-food industry in the sub-region. It deals with the different characteristics and then covers the main obstacles encountered by the agro-food industry in the sub-region.

3.1 The main characteristics of the agro-food industry in West Africa

44. The agro-food industry covers all the activities of manufacturing, distribution of agricultural supplies, on-farm production and storage operations and the processing and distribution of the products and articles manufactured. To this must be added commercial activities in the forestry and fishing sectors (FAO, 2007; Henson and Cranfield, 2008).

45. The agro-food industry of the sub-region is essentially made up of Small and Medium Enterprises (SMEs) characterized by their small size and which can be grouped into several categories (see Table N°3).

Table N°3: Characteristics of the different categories of agro-industrial enterprises in West Africa

	Artisanal	Semi-artisanal	Semi-industrial	Industrial
Size	Very small	Small	Medium	Large
Labor	Family or social	Family	Large scale and moderately specialized	Large scale and specialized
Products	Traditional products	More or less standard products, stable duration of conservation	Diversified products, stable duration of conservation	Products comply with standards and criteria for quality, marketed under brand-names
Organization	Informal enterprise little or no formal organization	Beginnings of formal organization	Formal, employees placed in well-defined positions, accounting systems	Modern (administrative services, divisions and branches)
Investments	Limited to non-existent, essentially manual operations	Some machines	Large-scale mechanization	Large-scale, modern mechanizations
Production	Low level of production	Production levels regular and higher	More mechanized processes	High production capacity
Types of markets	Local and very targeted	Local distribution	National distribution, even sub-regional	All markets (local, regional, international)
Distribution	Short distribution circuits, direct sale to consumers	Direct sales and/or through intermediaries	Long distribution circuits	Long, professional distribution circuits
Proportion %	75		25	

Source: Iboudo and Kambou (2009).

3.2 The constraints on agro-food industries in West Africa

3.2.1 Inadequate infrastructures and high commercial transaction costs

46. The development of infrastructures is an indispensable factor for any policy aiming at developing productive capacities and their economic transformation. They make an essential contribution to the creation of a community market.
47. Inadequate transportation infrastructures and poor quality roads and bridges in most countries of the sub-region constitute a major handicap for the efficient delivery of agricultural products to different markets, leading to high post-harvest losses. To that can be added the very limited access and the high cost of other basic infrastructures such as electricity, telephone lines and ICTs. According to data from 2009 published by the World Bank, the penetration rate of ICTs remains very low in the sub-region in spite of the efforts made. Moreover, there is a lack of specialized infrastructure for the maintenance and storage of perishable agricultural products and of laboratories that can test and certify the compliance of products with health and phytosanitary standards for the global food trade.

3.2.2 An unfavorable macroeconomic framework

48. Agriculture, like other sectors of the economy, needs a favorable macroeconomic environment, where inflation is under control and exchange rates are stable. This stability favors the competitiveness of exports of agricultural products to global markets and could attract more investments to the agro-food industries. Private sector actors from the sub-region have also raised tax issues as a major constraint on investments and productivity. Moreover, export products are taxed as a percentage on the sales price, whereas local imports are collected on the basis of the volume of the product. In addition, private investors are not only dissatisfied with the high costs of taxes, but also with the multiple taxes to pay. Nevertheless, structural efforts have been made by certain countries of the sub-region to promote agro-food industries in their countries, notably Ghana and Nigeria.

3.2.3 Agricultural policies that need improvements

49. In the aftermath of independence in the sixties, West African states very early showed their willingness to make agriculture the driver of their economies, but they relied on export crops to the detriment of subsistence crops. Nevertheless, this choice was amended in the seventies by a willingness to develop both subsistence production and export crops. The objective was to produce subsistence crops in large enough quantities that countries could be as independent as possible from foreign markets. (CEA/BSR-AO, 2009).
50. The first decade of the 3rd millennium saw new political commitments in favor of agriculture, at the regional, sub-regional and national levels. The adoption of the Comprehensive Africa Agriculture Development Programme (CAADP) and the Maputo Declaration on Agriculture and Food Security in Africa made it possible to lay the foundation for strengthening investment in regional agriculture. On this occasion, African leaders made the commitment to increase their budget allocations for agriculture to 10% over five years (2003-2008). This commitment, which was not echoed by many

States, led to the adoption of a new declaration approving and supporting the African Agribusiness and Agro-industry Development Initiative (3ADI) in Abuja (Nigeria) in March 2010. On this occasion, they reiterated their willingness to devote 10% of their budgets to agriculture. (AU, 2010).

51. In the West African sub-region, the ECOWAS Agricultural Policy (ECOWAP), the WAEMU Agricultural Policy (PAU) and the CILSS Strategic Framework for Food Security. To this effect, many initiatives have been implemented to the benefit of agriculture at the level of States which has made it possible to obtain results which are encouraging overall.
52. In Senegal, measures in favor of agriculture have been applied during these last few years. Among others, the following may be cited: the Agro-Sylvo-Pastoral Act (LOASP), the REVA Plan (Return to Agriculture), the National Agricultural Development Plan (PNDA) and the Great Offensive for Agriculture, Food and Abundance (GOANA) launched by President Abdoulaye Wade in April in 2008 with the aim of ending Senegal's food dependency.
53. In Niger, with the advent of the 7th Republic in 2011, President Issoufou Mahamadou took the option of ensuring food security and sovereignty through the implementation of his Initiative 3Nö (Nigériens Nourish Nigériens), which has begun to produce some palpable results in the field.
54. In spite of all these efforts, the performance of West African agriculture remains poor. According to the country, harvest losses can reach 15% for cereals and leguminous seeds, 30% for roots and tubers and 40% for fruits and vegetables (FAO, 2009). If the objective of high-performance agriculture is an aspiration of States motivating the adoption of their agricultural policies, the effective application of them has not in general allowed them to reach the expected results.

3.2.4 Low investments in the agricultural economy

55. The increase in investments in African agriculture in order to favor its development forms part of the priorities of the NEPAD and the African Union through the CAADP, and the agricultural programmes of the ECOWAS (ECOWAP) and the WAEMU (PAU). However, in spite of the unwavering objective of growth in agriculture in the development plans of countries of the sub-region and the speeches of their leaders, West African agriculture is not a priority for the allocation of public and private investments. The allocation of 10% of national budgets to the agricultural sector advocated by the Maputo Action Plan remains a target that is beyond reach for many countries. One of the bottlenecks in the agricultural sector consists of the low level of capital mobilization in production, with the simultaneous inefficiency of this mobilization.
56. Credits granted to small producers who are responsible for more than 90% of production, are insignificant and difficult to access. The structural adjustment programmes, in liquidating the agricultural development banks, contributed to depriving the West African agricultural sector of adapted instruments and mechanisms for financing. Agricultural producers are as a result obligated to fall back on systems of micro-finance, which, apart from the low amounts of credit that they can grant, practice

prohibitive interest rates. Very few producers use improved seed, fertilizers, pesticides and modern agricultural equipment except for cash crops (CEA/BSR-AO, 2009).

57. The structural adjustment programmes also led to the elimination of subsidies for inputs and agricultural equipment and to the liberalization of market circuits for products and inputs as well as to the paralysis of the agricultural extension services, of agricultural research and credit, thus blocking any significant technological change in agriculture. The growth in production observed is attributable to an extension of surface areas under cultivation rather than to improvements in yields. The low level of investments and technological innovations perpetuates the low productivity of land and labor and is reflected in the poverty of the majority of the population. The lack of encouragement of agribusiness has not made it possible for agriculture to reach the levels of production that could close the gap in food products.

3.2.5 Inadequate processing of agro-pastoral products

58. Policies that have been conducted for over half a century in the processing of food products have not made it possible to build real foundations for the development of the sub-sector in West Africa. In effect, local production for export is subject to little or no processing to obtain part of the added value of the value chain, or to respond to the changing food needs of a growing population which is urbanizing at a rapid rate. The wealth thus created is transferred to countries of the North which are endowed with appropriate processing structures. The countries of West Africa are among the biggest producers of coffee and cocoa, whereas Switzerland and Germany are the biggest producers of chocolates and ground coffee in the world.
59. Thus, in the absence of an adaptation of the sub-sectors to the sociological and economic changes that West African societies are undergoing, a de-connection of supply from demand is very real. One of the consequences is the aggravation of the current situation characterized by food habits oriented towards imported finished products originating from outside the region. Their acquisition is naturally financed by the revenues from the sale of cash crops, often in their raw state, revenues which are themselves at the mercy of the constraints and somersaults of the international markets.
60. For certain products such as rice, processing operations must necessarily be associated with a production programme to avoid certain situations recently experienced in certain countries of the sub-region, in spite of the measures taken in the face of the food price crisis of 2008. While the encouragement of the rural populations to grow paddy rice had some remarkable results, it turned out that the capacity of the processing plants for paddy rice into white rice was too low for the volume of harvests obtained. The consequences were overflowing warehouses when consumers were unable to find enough edible rice on the market. To ensure food security in the future, the objectives of processing, conservation, storage and packaging of food products should be central to meeting the needs of the sub-regional market, indeed of conquering the international markets (CEA/BSR-AO, 2009).
61. However, there are many obstacles in this processing sector: inconsistent quality and irregular availability of agricultural raw materials; low access to technologies and equipment adapted to the processing of limited volumes; poor control over processing operations; unavailable industrial inputs (packaging, labels); low level of training of

staff and absence of support-advice; non-existent or inappropriate financing systems; consumers unprepared to pay for quality products, etc. The development and/or transfer of agro-food technologies in order to process local commodities into stable products with sustainable conservation and complying with manufacturing standards thus appears to be an imperious necessity to meet the needs of a growing population subject to the influence of a rapid urbanization process. Added to these obstacles are the problems related to the lack of quality infrastructures, in particular as regards transportation and electricity infrastructures.

62. Briefly, it is not an exaggeration to conclude that the policies in favor of agriculture which been conducted since the independence era have not made it possible to establish real foundations for agricultural development and particularly for the production and processing of subsistence crops in West Africa. The development of this agro-sylvo-pastoral potential can be accelerated by the generalization of the value chain approach in the development of the agricultural sector.

3.2.6 Persistent corruption and political uncertainties

63. Corruption, smuggling and political uncertainty continue to fragilize existing enterprises and make countries unpromising for investment. Surveys undertaken by FAO on some foreign investors confirm the existence of informal payments. In certain cases, these payments can reach 5% of annual sales (FAO, 2012). Half of the countries of the sub-region rank poorly on the corruption perception index (CPI) of Transparency International. Countries such as Gambia, Guinea, Guinea-Bissau and Sierra Leone rank at the bottom of the CPI for 2013. They belong to the 25 most corrupt countries in the world. This situation also constitutes a brake on investments in this sector.

3.2.7 Difficulties in accessing financing

64. Financing problems remain omnipresent in the agro-food industry of the sub-region owing to the considerable increase in credit risks that limit the possibilities of viable loans. Consequently, the agricultural SMEs/SMIs are faced with inadequate financial resources in the long term, with excessive guarantee requirements and prohibitive interest rates. For example, in Gambia, the commercial bank borrowing rates vary between 20% and 25%, while the cash deposit rates vary between 9% and 11%, according to FAO (2008). The absence of mechanisms to mitigate these risks limits investments in the sector of agro-food industries.

3.2.8 Insecurity and other endogenous or exogenous factors

65. The multiplication of wars experienced by certain countries in the sub-region, notably Liberia, Sierra Leone, Guinea-Bissau and Côte d'Ivoire, has contributed to reducing investments in the agro-food industry and has also compromised efforts to promote integration and the economic and social development in West Africa.
66. To these major constraints should be added the poor organization of producers and farmers, implying high production and distribution costs for agricultural products. A better organization of farmers and producers would facilitate access to agricultural inputs and credit for the small operators of SMEs, most of which operate in the informal

sector. According to a study in 2007 carried out by the World Bank, the informal sector in West Africa represents 60% of the total added value.

67. Protectionist measures, mainly in developed countries, and the volatility of the prices of basic agricultural products also constitute brakes on investments in the agro-food industry. Moreover, tariff and non-tariff barriers for agricultural products, especially processed food, and the proliferation and rigor of international health and phytosanitary standards adopted for export markets to manage the risks to food safety and health can discourage investments in food processing for export. In effect, in the countries of the sub-region, the main actors of the agro-food industry are small operators for whom compliance with standards is very costly. Subsidies granted to producers in industrialized countries often make products originating from economies of the sub-region less competitive on the international market.
68. The agro-food sector is also in competition with increasingly higher food aid in certain countries. In practice, aid received in the form of food products is either distributed for free (in the case of humanitarian emergencies), injected onto the market in order to regulate prices (policy of State price regulation), or sold at relatively low prices in order to guarantee access for the greatest number. If aid programmes have the merit of relieving the food problems of the people, they are not without consequences on the competitiveness of local agricultural enterprises. Once on the market, food aid significantly competes with products of local industries (to the extent that their prices are more competitive). Many sub-sectors are subject to this form of unfair competition.

4 INVESTMENT CLIMATE IN THE AGRICULTURAL SUB-SECTORS

69. The emergence of industry requires a set of frameworks and pre-existing conditions that can facilitate setting it up and developing it and which make it possible to deal with a multitude of challenges. This set of frameworks and conditions forms the investment climate.
70. In this chapter, the role that the investment climate plays in the agriculture sector is highlighted. An analysis of the investment climate is conducted here to bring out the special characteristics of the agriculture sector. Agricultural policies implemented to improve this climate are also analyzed.

4.1 Overview of the investment climate in West Africa

4.1.1 Doing Business Indicators

71. According to the ranking of the World Bank's "Doing Business 2014" report on the indices of the ease of doing business in the world, only eight sub-Saharan countries, Mauritius (20th), Rwanda (32nd), South Africa (41st), Botswana (56th), Ghana (67th), Seychelles (80th), Zambia (83rd) and Namibia (98th) rank among the first one hundred countries. Among these countries, only Ghana is a West African country. The fourteen other countries (Cape Verde (121st), Sierra Leone (142nd), Liberia (144th), Nigeria (147th), Gambia (150th), Burkina Faso (154th), Mali (155th), Togo (157th), Côte d'Ivoire (167th), Benin (174th), Guinea (175th), Niger (176th), Senegal (178th), Guinea-Bissau (180th)) are all ranked between 120 and 181. This ranking suggests that West Africa is an area where it is expensive to do business.
72. From 2012 to 2013, Côte d'Ivoire was the only country of the sub-region among the ten countries that had improved the most in at least three areas defined by "Doing Business 2014". Côte d'Ivoire has undertaken 4 reforms aiming at making it easier to do business: creating a one-stop shop to make it easier to start a business, streamlining procedures for obtaining a building permit from the one-stop shop (Service du Guichet Unique du Foncier et de l'Habitat), simplifying procedures and reducing taxes on property transfers and creating a specialized commercial court to enforce contracts.
73. The detailed analysis of the components of the indicators in the "Doing Business 2014" report reveals that the duration and procedures for starting a business are quite long, transborder trade is difficult, the number of days to have electricity installed is also long (minimum 1 month and 25 days) and obtaining a building permit is very difficult with long procedures and quite long periods for completion (2 months and 15 days minimum).
74. Another indicator provided by the "Doing Business 2014" report is the *distance from the border*. It makes it possible to conduct a time analysis of performances recorded by each country in the improvement of the business climate. Out of the 50 countries that had most reduced the distance of the border since 2005 were 9 ECOWAS countries:

Burkina Faso, Mali, Sierra Leone, Ghana, Guinea-Bissau, Côte d'Ivoire, Senegal, Togo and Niger. During this period, they undertook on average 14 reforms aiming at making it easier to do business.

75. This shows that even if in general these countries do not rank high in the Doing Business index, they have nevertheless made efforts to improve the business climate and these efforts are to be encouraged.

4.1.2 Governance and the quality of institutions

76. Governance and the quality of institutions are important factors taken into account by national and foreign investors. Better institutions facilitate the emergence of enterprises and make it possible for the population to enjoy their benefits. In effect, high quality institutions and governance make it possible to reduce the risks that investors must face and make administrative processes easier.

77. The analysis of governance during the period 2000-2011 shows that no matter which indicator is chosen, the ECOWAS has a score that is lower than average. The net result is that according to the World Bank's Worldwide Governance Index, its score is 3.75. This illustrates the fact that in general the quality of the institutional framework of the ECOWAS countries is not very good. Nevertheless, it should be noted that Cape Verde, with a score of 5.82, is the country with the best institutions.

Table N°4: Status of institutions in ECOWAS countries

Country	Government Effectiveness	Rule of law	Regulatory Quality	Political stability and absence of violence	Control of corruption	Voice and Accountability	Worldwide Governance Index
Benin	4.11	3.92	4.19	5.96	3.72	5.45	4.56
Burkina Faso	3.77	4.07	4.56	4.86	4.56	4.27	4.35
Cape Verde	5.08	5.82	4.70	6.75	6.03	6.54	5.82
Cote d'Ivoire	2.71	2.27	3.41	1.42	2.94	2.55	2.55
Gambia	3.78	4.43	4.21	5.51	3.87	3.24	4.17
Ghana	4.89	4.92	4.76	4.89	4.82	5.54	4.97
Guinea	2.92	2.29	2.96	1.67	3.11	2.56	2.58
Guinea-Bissau	2.68	2.40	2.81	3.80	2.92	3.42	3.00
Liberia	2.15	2.20	2.07	2.11	3.28	3.60	2.57
Mali	3.50	4.38	4.20	5.19	3.93	5.35	4.43
Niger	3.35	3.58	3.90	4.06	3.35	4.30	3.76
Nigeria	2.96	2.47	3.17	1.42	2.76	3.56	2.72
Senegal	4.48	4.66	4.51	4.42	4.45	4.96	4.58
Sierra Leone	2.46	2.74	2.90	3.77	3.21	4.00	3.18
Togo	2.12	3.20	3.37	4.26	3.21	2.63	3.13
ECOWAS	3.40	3.56	3.72	4.01	3.74	4.13	3.76

Source: WGI data (2012)

Note: All indicators have been standardized and brought to the scale of 0 to 10. The higher the score, the better is the performance for this indicator. The Worldwide Governance Index is the average of the six other indicators. All values presented are averages from 2000 to 2011

4.1.3 Investment climate in the agricultural sector

4.1.3.1 Difficulties related to infrastructures

78. Infrastructures play an essential role in the agro-industries. They condition their emergence by making them more or less competitive. In effect, the malfunctioning of infrastructures generates additional costs, affects the quality of the goods produced and is a factor in the loss of competitiveness. The literature identifies three essential factors: water, energy and transportation.
79. According to a table provided by Yepes *et al* (2008), West Africa has a low road density compared with that of the SADC. Thus, the density of paved roads in the SADC is more than double that of the roads of the ECOWAS. Energy generated remains low. In 2003, only 31 Megawatts were supplied to one million inhabitants while in the SADC is up to 175 Megawatts. In addition to this limited capacity, only 18% of the population had access to electricity. As for water, only 33% de la population had access to it. Apart from this deficiency, the costs of infrastructures are high. The table below indicates that the cost of infrastructures is higher than that of other developing countries. According to a study carried out by the National Technical Studies and Development Office (BNETD, 2009), the average price paid for water delivered to businesses was 930.63 in Senegal while it was only 202.63 was paid in Thailand. They explain this net difference by the fact that the tax rates are high.

Table N°5: Comparative prices of infrastructures

Cost of service	Sub-Saharan Africa	Other developing regions
Electricity rates (\$ per kWh)	0.02-0.46	0.05-0.10
Water rates (\$ per cubic meter)	0.86-6.56	0.03-0.60
Road freight rates (\$ per MT-k)	0.04-0.14	0.01-0.04
Mobile telephone rates (\$ per basket of services per month)	2.60-21.00	9.9
International telephone rates (\$ for a 3- minute call to USA)	0.44-12.50	2.0
Internet dial-up service (\$ per month)	6.70-148.00	11

Source: Vivien Foster (2008)

80. This sad table should not obscure the efforts that have been undertaken. According to the World Bank's Logistics Performance Index (LPI), all the countries of West Africa (except for Burkina Faso, Liberia, Nigeria and Gambia) are above the average in sub-Saharan Africa which is 2.46 out of 5. This tendency reflects the fact that the countries of West Africa are engaged in a process that could be described as a "qualitative leap" in spite of the lack of infrastructure.
81. In general, the availability and the quality of infrastructures make it possible to favor the business climate for agri-business. For example, the Agribusiness Indicators report on Ghana indicates that infrastructures are generally in good condition and favor the participation of the private sector in agri-business. The same report on Gambia indicates that electricity is one of the constraints holding back the agro-industries. Similarly, the WACIP (2010) indicates that, "for industrialization of the cotton sector to become

attractive and confirm the competitiveness of the availability of raw materials, the cost of the electricity supplied to the manufacturing sector should be 30FCFA/kWh (0.06\$/kWh) maximum. Only Nigeria and Ghana fulfill this condition. These countries' fixed prices have long attained half the threshold referred to above (0.03 \$/kWh). These two countries are, however, not big producers of cotton within the Community.

4.1.3.2 Investment and Research & Development

82. In 2003, in the framework of the CAADP, the heads of state undertook the commitment to allocate 10% of their national budgets to the agricultural sector. This was to provide support to agriculture and make it a lever for growth and poverty reduction. In Africa, only fourteen countries (Burundi, Burkina Faso, Ethiopia, Ghana, Guinea, Madagascar, Malawi, Mali, Niger, the Democratic Republic of Congo, Senegal, Togo, Zambia and Zimbabwe) have reached or exceeded this objective of 10% in one or two years since 2003 (ReSAKSS, 2012; IFPRI, 2013). Among those countries which have achieved this are only 7 countries in West Africa. However, agriculture contributes about 30% of the GDP of the region.
83. Research & Development, which constitutes the bedrock for innovation and the source of cheaper processing, receives little attention. For example, Burkina Faso, Ghana and Nigeria devote 0.36%, 0.60% and 0.43%, respectively, of revenues generated by agriculture to R&D.

4.1.3.3 Perception of the private sector of the business environment in agri-business³

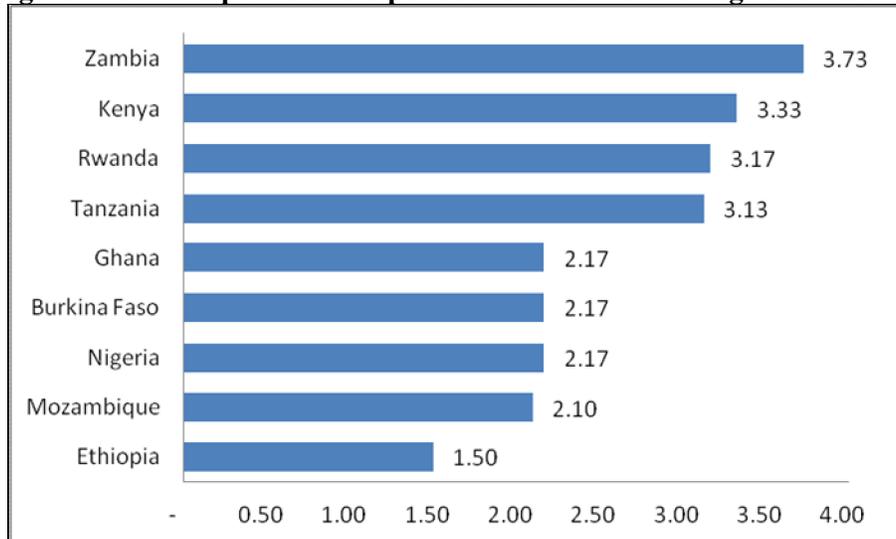
84. This part is mainly based on the agribusiness indicators provided by the World Bank in 2012. These indicators were obtained from surveys conducted in the following 9 sub-Saharan African countries: Burkina Faso, Rwanda, Ethiopia, Mozambique, Tanzania, Nigeria, Kenya, Zambia and Ghana.

a) Political environment of agribusiness

85. Zambia is the country with the best political environment with a score of 3.73. West African countries (Ghana, Burkina Faso and Nigeria) all have a score lower than the average and for the three countries this score is 2.17. This is in general due to a set of state policies that are inefficient and/or that generate long administrative procedures if they exist; the absence or the heavy burden of regulations in certain areas regarding the State on one hand; on the other hand, from this paradox have arisen a plethora of professional organizations and in many other cases no concrete action to meet the challenges of agribusiness.

³ All the indicators presented in this section are on a scale of 0 to 5. The higher the score, the better is the perception of the environment.

Figure N°6: Perceptions of the political environment for agribusiness

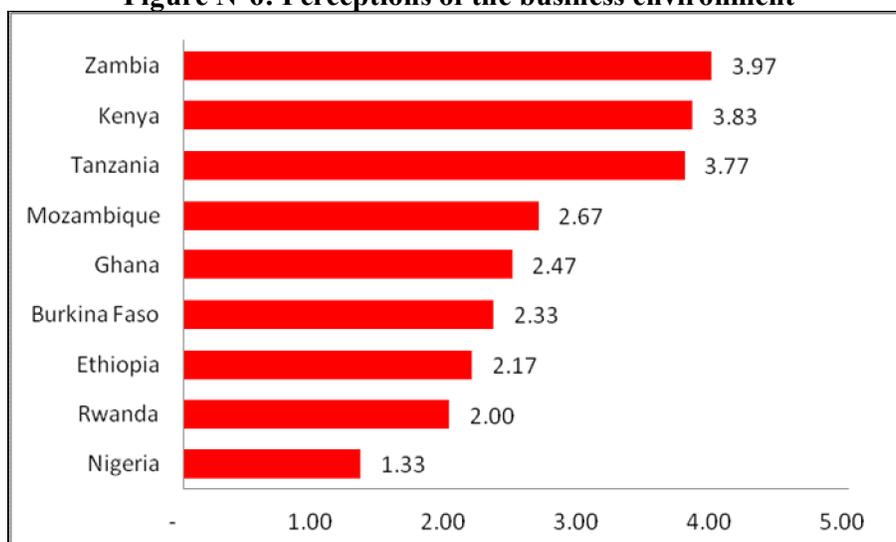


Source: ECA from data in the World Bank's Agribusiness Indicators reports for 2012

b) Business environment of agribusiness

86. The business environment for agribusiness revolves around three essential points: the markets for fertilizer, seeds and mechanization. The country which has the best business climate for agribusiness is Zambia, with a score 3.97. West African countries have lower scores: Ghana (2.47), Burkina Faso (2.33), and Nigeria (1.33). The analysis of different markets in these countries shows that the market for mechanization is poorly perceived by the private sector while the markets for fertilizer and seeds are relatively well perceived. In effect, all the countries have scores of less than 2. In general, tractors are imported and the market is dominated by subsidiaries of the large agricultural equipment manufacturers (John Deere, Massey Ferguson, Farmtrac, Mahindra). This means that the establishment of local firms is limited in this area. Local firms thus need to be subsidized by the State in order to make the sector more competitive through a reduction in the price of tractors to expand the mechanization of agriculture. Quite often programmes set up by governments do not have the expected effect or are poorly perceived by the private sector. In Ghana for example, in 2007 the Government undertook a programme in to import tractors and re-sell them at reduced prices through subsidization. However, the private sector complained that the tractors were of poor quality, did not correspond to the characteristics of the soils and that the administrative procedures to obtain subsidies were long and complex (Agribusiness Indicators: Ghana, 2012).

Figure N°6: Perceptions of the business environment



Source: ECA from data in the World Bank's Agribusiness Indicators reports for 2012

4.2 Policies to favor investment in the agricultural sector

87. Many policies undertaken to improve the business climate in the region at the regional, as well as at the national levels have led to reforms and to a net improvement in the business climate. Some of these policies concern the agricultural sector directly: the CAADP, the ECOWAP, the WACIP, etc.
88. The CAADP was adopted in 2003 by the NEPAD in order to exploit the agricultural potential and to make it into a driver for growth. It is supported by four essential pillars which are:
- Pillar I: extend areas under sustainable land management and served reliable water management systems;
 - Pillar II: increase market access through improved rural infrastructure and other trade-related interventions;
 - Pillar III: increase food supply and reduce hunger across the region by raising smallholder productivity and improving responses to food emergencies;
 - Pillar IV: improve agricultural research and systems in order to disseminate appropriate new technologies.
89. Based on the CAADP, in 2005 the ECOWAS adopted a regional agricultural policy, the ECOWAP. It is based on two components: (i) a regional component which aims at strengthening the cooperation among countries around common problems, the management of interdependencies and trans-border issues or relations of the region with the international environment; and (ii) an operational component that consists for each country of the development of a national agricultural investment plan. The implementation of this Programme has been undermined by the problem of financing. According to Benkhala (2011), the financing of the ECOWAP/CAADP remains low and the number of countries that were able to benefit from support for the implementation of their agricultural investment plan remains limited.

90. The African Agribusiness and Agro-industry Development Initiative (3ADI) is a framework programme launched during the High-Level Conference on the Development of Agribusiness and Agro-industries in Africa held in Abuja (Nigeria) in March 2010. It aims at increasing the private sector investment flows to the African agricultural sector, by mobilizing resources for the agri-business and agro-industries development from national and international financial systems. This programme still forms part of the same approach as the CAAPD and uses it for support. In effect, the 3ADI framework programme breaks down as follows: (i) CAAPD pillar II as an overarching institutional framework; (ii) integration into regional organizations, alliances and initiatives; (iii) priority for national and regional markets; (iv) public support for engaging the private sector; and (v) synergistic and complementary financial mechanisms.
91. In 2007, the ECOWAS set up the West African Common Industrial Policy (WACIP) which aligned with the different sectoral policies implemented, notably the ECOWAP. It aims at favoring the acceleration of industrialization in West Africa, through support in favor of the endogenous industrial processing of local raw materials, the development and diversification of productive industrial capacities and the strengthening of regional integration and the export of manufactured goods. The programme seeks to implement a promising framework to favor the emergence of industries that fully exploit the high potential in agricultural raw materials of the sub-region. In effect, one of the specific objectives is to diversify and expand the industrial production base of the region, by gradually increasing the processing rate for local raw materials from 15-20% to an average of 30% in 2030, by supporting the creation of new industrial production capacities and by the development and upgrading of existing ones (WACIP, 2010). As proof, among the 44 results expected are the implementation of the ECOWAS Agribusiness strategy; the adoption of the ECOWAS Common External Tariff (CET); the harmonization of business laws among all the Member states; the improvement of the business environment and favoring more industrial investments; and increased access to industrial investment financing for micro-enterprises, SMEs/SMIs and large enterprises of the region, among many others. The WACIP provides a very good regional framework which can inspire Member states to adapt specific policies according to the structure of their economies.
92. These programmes constitute a solid foundation for the emergence of agribusiness and agro-industry. However, they encounter many difficulties in their implementation. This observation has been underlined by the ECA (2011) in its report, "Harnessing Agricultural Potential for Growth and Development in West Africa" in which it stated that the implementation of these programmes is slow owing to many challenges, notably (i) the lack of capacity to articulate and domesticate continental programmes at the national level, (ii) the lack of financial resources to implement national programmes, (iii) political instability which diverts resources towards security and defense priorities, and (iv) the voluntary character of continental initiatives.
93. In conclusion, the general business climate in West Africa is unfavorable for business in general and agricultural activity in particular. Many reforms have been carried out in most countries and they have contributed to a net improvement in the business climate, but much remains to be done.

5 WHICH STRATEGY FOR THE INDUSTRIALIZATION OF THE AGRICULTURAL SUB-SECTORS

94. Agriculture in West Africa is characterized by small subsistence farms, low mechanization and poor agricultural production systems based on rudimentary knowledge. This is partly the consequence of a certain lethargy in the development of the sector and poor basic support infrastructures. Private investment in agricultural systems as well as in the distribution chains is hampered by the absence of viable financial structures capable of responding to the needs and demands of rural economic agents.
95. The emergence of peasant organizations and the development of a dynamic private agro-industrial sector are likely to create more wealth and to improve the competitiveness of agricultural products by the increase in production and agricultural productivity as well as by the processing of an increasingly larger proportion of basic agricultural products, the creation of upstream and downstream links between agriculture and the other sectors and a gain in competitiveness on the world markets.
96. Faced with these observations and in the context of the limited means of West African states (four-fifths are LACs), an outline of an industrialization strategy for agricultural sub-sectors could be based on four models of agricultural value chains that are competitive but complementary: (i) the model of industrialization through a hierarchy of cooperatives; (ii) the model of industrialization through an agro-food company, (iii) the model of industrialization through the value chain built around a strategic partner, and (iv) the mixed industrialization model. These models have been inspired by examples provided in a preceding report of the ECA/SRO-WA which is currently in press (CEA BSR-AO, 2012a).

5.1 Model of industrialization through a hierarchy of cooperatives

97. Growers and farmers are by nature actors in the agricultural sub-sectors. They are organized to produce, but still do not have the means to stock and sell their products to clients chosen in advance, at the best prices and at the right time. They are happy to sell their production on the periodic village markets without checking on the price. Thus they sell raw products from their fields, without any value-adding processing and generally at low prices that do not allow them to live decently. At the other end of the chain, in-country or overseas, their raw products serve as raw materials for people who conduct successive processing and then re-sell the products ready for consumption at four to twenty times more to the final consumers. All these actors belong to supply chains. In this type of chain, growers and farmers see other actors earning a lot of money by adding value to their products by sizing, packaging, machining, marketing or cooking, to make them available to final consumers. If they belonged to a value chain including all these interdependent actors, the peasants who produce them would have more luck making themselves heard and would seek to earn more, for example by selling directly to wholesalers rather than small unscrupulous buyers.
98. It is possible for the actors of the same sub-sector to organize their own value chain. However, for developing countries such as those in the West African sub-region, this will not happen on its own, because the actors are for the most part poor, illiterate and

poorly informed on the approach to adopt. As observed in certain countries here or elsewhere, the State can set up a public or para-statal body which would be in charge of motivating the creation of producers' cooperatives for each agricultural product identified and to assist them in the building the essential links of the value chain, which are: the suppliers of services for inputs, technical equipment, structures for the collection and marketing of products, as well as structures for product processing, for governance and for financing of the value chain. This approach has already been practiced in most of the countries of the sub-region concerning cash crops: coffee, cocoa, cotton, etc. The case of the UCCAO in Cameroon illustrates this approach.

99. Created on October 17, 1958, the mission of the Union des Coopératives de Café Arabica de l'Ouest (UCCAO) in Cameroon was to ensure the supervision of producers and the sale for export of coffee produced by its members. In 1978 it became the Union Centrale des Coopératives Agricoles when it was decided to diversify its activities. The UCCAO is one of the rare cooperatives created by the State which survived the turbulence of the liberalization of the cocoa-coffee sub-sector in the nineties. It is governed by Law n°92/006 of August 14, 1992, relating to Cooperative Societies and Common Initiative Groups. It should be noted that just before this liberalization, it had the monopoly for marketing *robusta* coffee in West Cameroon and for exporting *arabica* coffee from Cameroon.
100. The actors of the value chain are represented by the six cooperative members present in each department of the administrative region of West Cameroon. The UCCAO and these cooperatives ensure the governance of the coffee value chain from end to end, a product that it sells for export. Through it, the peasant world, made up essentially of very small operators, has the opportunity to express itself and to benefit from the technical and financial support of the government.
101. Today the UCCAO is a multi-dimensional company, operating with the coffee and cocoa collected by its members, followed by green beans, that it produces, processes and sells for export. The UCCAO has an electronic sorting plant with a capacity of 16 000 MT. After being sorted and packaged, the green coffee is sold for export, notably in Western Europe and North America. In order to favor the consumption of coffee from Cameroon through the promotion of the UCCAO brand on the local and international markets, it set up a coffee-roasting facility in 1975, which puts on the market its brand names of roasted, ground coffee: Délice (100% *arabica*) and Force II (70% *arabica*, 30% *robusta*) packed in aluminum foil bags of 250g, 500g et 1000g. The UCCAO is also the sponsor of a limited liability company for the production of fruit juice, for which the fruits are mostly cultivated in its Bafolé farm in West Cameroon.
102. Owing to its reserves drawn from their management, the UCCAO and its member cooperatives achieve important public works in the rural areas for the improvement of the living conditions of the peasant populations: rural electrification, improvement and development of lowlands, village water supply, construction of schools and health centers, culverts, clearing and maintenance of rural roads and tracks, etc. The main services for members are:
 - promotion of the cultivation of coffee and particularly of *arabica* coffee through the regeneration of plantations;
 - availability of construction materials;
 - availability of basic necessities;

- production and availability of cooperative members for selected surfaces;
 - availability of fertilizers on credit to cooperative members;
 - reasonable loans for agricultural machinery;
 - clearing and maintenance of agricultural tracks;
 - provision of low cost construction materials;
 - collection, processing and marketing of coffee and other agricultural products.
103. The organization is managed by a Director General, who is a member of the Board of Directors. The Board is elected for a mandate of three years renewable once during a General Assembly of representatives of cooperatives designated according to the tonnage they have delivered to the Union. Its capital amounts to 870 million FCFA, divided up among the member cooperatives.
104. Owing to its economic weight and its reliable management, the commercial banks have shown their confidence by granting pre-financing loans for coffee-marketing campaigns.
105. The main missions of the UCCAO include the responsibility for the supervision of cooperatives in agricultural production and the social supervision of their members. As such, it has:
- a center for training and re-training for its members and for its staff;
 - a heavy machinery park for clearing and maintenance of rural roads as well as for the needs of its members;
 - a seed farm for the production of selected plants that it puts at the disposal of its members.
106. In the past, the renown of the UCCAO made it a choice partner in the definition and implementation of agricultural policy in the region of the high plateaus of western Cameroon. It is systematically sought after for its technical opinions on all rural development projects involving the province of the West, and even for their management. For more than 20 years, in effect, the UCCAO has managed several projects and programmes for the State: the high plateaus project of the West, the soybean project, the post-harvest losses project, the lowlands management project, the vegetable crop development project, the electrification project for agricultural areas and various studies on coffee cultivation and fertilizers conducted with the Cameroon Institute of Agricultural Research for Development (IRAD).
107. Over time, the UCCAO has become an important partner in the area of agricultural research on maize, coffee and beans. It is also an unavoidable partner of the State, which entrusts to it large loans received from IFAD, the CCCE and the World Bank, for the benefit of the rural inhabitants, under the High Plateaus of the West Project (PHPO), the Soybean Project and the Rural Development Project of the West Province (PDRPO). It is also a partner of the State in different programmes of extension and agricultural research with which protocols and agreements are signed.
108. This example, which is unique of its kind in francophone Africa, illustrates the development that can be achieved by a value chain governed by a well structured system of agricultural cooperatives. The factors which have made it possible for the UCCAO to prosper are essentially: the public-private partnership with the State, good management that has guaranteed the approval of banks and a good knowledge of the national and

international markets. Over time, the cooperative system can function practically like a business, with easy access to bank financing and other funders, the processing of its basic products and the national and international marketing of its finished or semi-finished products. From the beginning, it can be seen that the action of the State in setting up the value chain was a determining factor.

5.2 Model of industrialization through an agro-industrial firm supervising small producers

109. This model of industrialization can be illustrated by the example of the SOCAS in Senegal, which manufactures tomato concentrate by buying the raw products from peasants or independent groups that it has initiated to production operations, that it supervises and with which it signs firm purchase contracts. The model is related to an agricultural value chain governed by an agro-industrial firm which partly produces its own raw materials, supervises small producers from whom it purchases raw products and ensures the processing and marketing of finished products.
110. The SOCAS is a company incorporated under Senegalese law, a subsidiary holding 53% of the S.F.C.V, a company of family origin set up in Senegal in 1944. It manufactures industrial tomato products in Senegal from fresh tomatoes harvested on-site. Its agricultural operations, which are entirely equipped with drip-irrigation systems, also contribute to research by testing several dozens of varieties every year which will be recommended for producers in the Senegal River Valley.
111. Initially, the objectives of the SOCAS were, from 1987 on, (with another company operating in the same sector since 1979 and later re-purchased by the SOCAS) to meet all the requirements of Senegal in terms of tomato concentrate from fresh tomatoes produced on the spot and even exported throughout the West African sub-region. To do this, the Company had concluded with the State a contract-development plan, which guaranteed their protection on the domestic market in exchange for agricultural production commitments and fulfilling domestic market requirements. This most-favored customer clause was cancelled on the liberalization of imports in 1994. In spite of this, its agricultural as well as industrial production capacities have increased during these last few years, going from 300 MT/day in 1974 to 2 000 MT/day in 2006.
112. Today the SOCAS is a public limited liability company, with capital of 726 million FCFA, which employs more than one hundred full-time staff, recruits a thousand temporary staff during the harvest and enables more than 5 000 peasant families to live in the Region of Saint-Louis (Senegal River Valley).
113. In the Senegal River Valley, the SOCAS manufactures most of its tomato paste which it produces hygienically in bulk form in Dagana and cans all of its production in Savoigne where it has refrigerated facilities. Since 2006, it manufactures itself the empty cans that it uses in Savoigne, in an ultramodern unit. Its production capacity is over 100 000 MT of fresh tomatoes, which corresponds to 18 000 MT of paste, or enough to meet national requirements. Its turnover is on the order of 15 billion FCFA, which places it among the large sub-Saharan tomato paste production factories. Its headquarters, its offices and stores are located in Dakar.

114. Its activities are financed by many banks: SGBS, BICIS, Crédit Lyonnais, Attijari Bank, Crédit Agricole, BOA and ECOBANK. It imports inputs, some of which it redistributes to the small producers that it supervises.
115. The SOCAS purchases all the tomatoes it needs from peasants or independent groups that it has initiated to this production, whom it supervises and with whom it concludes firm purchase contracts. It has laboratories integrated into the production units, designed to model and validate its ideas before applying them on an industrial scale.
116. The company has also diversified its activities by becoming a producer/exporter of vegetables in Senegal. This activity has expanded since the growing season of 1996/97 with exports of fresh green beans, dried tomatoes and basil paste. It has also started to produce onion seeds and aromatic plants. It is taking a growing interest in new products and has purchased shares in an Italian company responsible for identifying new products that can be manufactured in Senegal.
117. It sells finished products on the national market, but has begun to export new products resulting from its diversification. To date, the SOCAS exports 600 MT of fresh green beans and 300 MT of dried tomatoes by sea and by air.
118. This example illustrates how an agro-industrial company can supervise a value chain in a community and contribute not only to creating wealth, but also to creating jobs and combating poverty in the rural areas. However, the public-private partnership initially played a determining role in the creation of the SOCAS Company and in setting up the value chain.

5.3 Model of industrialization through an agricultural value chain built around a strategic partner

119. The model of industrialization through an agro-industrial firm supervising small producers such as the SOCAS in Senegal (see 5.2 above) is an important step towards improving the living conditions of small producers. However, if firms are expected to come by chance to propose setting up operations in the country, it could take too long by comparison with the requirements of accelerated development that almost all West African countries are engaging in these last few years. One of the possibilities of attracting investors to agri-business is the promotion of the public-private partnership in agriculture in the form of an agricultural co-entrepreneurship.

5.3.1 The agricultural co-entrepreneurship

120. The co-entrepreneurship is a form of Public-Private Partnership (PPP) adapted to African conditions. However, in contrast to the classic PPP, the agricultural co-entrepreneurship (that can also be called a joint-venture) aims at making a larger and more equitable redistribution of the benefits of the PPP on the people and entities concerned, notably the inhabitants of the project zone. It also aims at regionalizing investments to promote solidarity among people and to provide meaning to the Global development partnership (MDG 8).

121. The goal of the agricultural co-entrepreneurship is to associate the State or a local authority (custodian of the lands to exploit), three partners:
- A strategic partner with a technological package, financing and know-how to make the proposed agricultural co-enterprise work;
 - A group of national investors including the local authorities and peasants occupying the lands to be exploited;
 - A pool of other possible regional or foreign investors wishing to invest in the co-enterprise.
122. The State or the local authority and these three partners create a co-enterprise of which they are the partners, to exploit an area of lands ceded by the State or the local authorities, following the law set up to govern PPPs in the agricultural sector and according to the pre-defined terms of reference. It is this association of mutually beneficial interests that underlies the idea of an agricultural co-entrepreneurship.
123. The co-enterprise thus created will be in charge of governing the value chain for the agricultural product(s) planned in the terms of reference of the PPP. Apart from the employees working on the surface area put into operation by the agribusiness company, it will also be in charge of supervising the small producers in the peripheral zones of the project to gradually increase production, while building with them one or more value chains. It will naturally be in charge of the processing of raw products and the export of finished products.

5.3.2 Implementation process of the agricultural co-entrepreneurship

5.3.2.1 Initial measures

124. The process of implementing the agricultural co-entrepreneurship starts with a major pre-condition: the political will and collective determination to make agriculture one of the drivers of development and social well-being. In materializing its political will, the State must create a favorable environment for the emergence of co-enterprises by taking, consistent with the common policies adopted at the sub-regional (ECOWAP, PAU) and regional (CAADP) levels, the necessary political, judicial and institutional measures. Moreover, the State must set up a body to manage the co-entrepreneurship, which could be an existing body that would be endowed with additional missions for this purpose.

5.3.2.2 The management authority of the agricultural co-entrepreneurship

125. The management authority of co-entrepreneurship is the keystone of the system. All countries that have succeeded in setting up a dynamic PPP system have had recourse to such an organ. In the United Kingdom, the Private Finance Initiatives (PFI), an initial form of the PPP created in 1992 are managed by Partnerships UK, the Public Private Partnerships Programme (4Ps) and other territorial bodies. In the United States and Canada, Public-Private Partnerships are managed by the National Council for Public-Private Partnerships and the Canadian Council for Public-Private Partnerships. In France, partnership contracts (CDP) are managed by the Mission for Support to Public-Private Partnership Contracts (MAPP). Following the lead of these developed countries, the West African States that are planning to promote co-entrepreneurship (form of PPP adapted to development and to combating poverty) should comply with the logic of

entrusting its management to a specialized body that has a thorough mastery of the principles and practices of PPP.

126. Once set up, it is up to the management authority of the agricultural co-entrepreneurship: i) to identify and map the zones and types of crops to be exploited by an agricultural co-entrepreneurship; ii) to carry out feasibility studies and to select profitable projects; iii) to develop project files for consultation by the partners; iv) to set up and to carry out a publicity plan through the international media on business projects available; v) to launch open consultations with potential strategic partners and to select the best offers; vi) to organize business affairs to make up the two groups of partners associated with the State; vii) to assist the group of private national investors in locating financing for their share of the capital of the co-enterprise; and viii) to contribute to facilitating the management of the collection and marketing of the products of the co-enterprises created, notably by favoring the creation of cooperatives of small peasant producers.

5.3.2.3 Possible sources of financing

127. Concerning the financing of the contributions of the State and nationals in agricultural enterprises, some avenues are possible. The share of the State or of the local authorities in the capital of the co-enterprise can be settled in part by the taxes from the rental of the lands ceded to the co-enterprise, completed if necessary by a loan from international lenders with the guarantee of the strategic partner. The peasants residing on land ceded could become their partners (small shareholders) in the co-enterprise, by financing their share in the capital from a fraction of the estimated value per hectare of land (unimproved) allocated to the co-enterprise by the public authority. The other national, regional or international private partners should prove their commitment by contributing their share.

5.3.3 Practical case of starting up an agricultural co-enterprise

128. It is more practical to illustrate the complex mechanism of the creation of an agricultural co-enterprise by an example. Let us suppose that a State S having unimproved irrigable lands along the Niger River decides to allocate a land area of 10 000 hectares at the concessional price of 2 million FCFA/hectare to an agricultural co-enterprise to be created. Let us also suppose that to start up, the co-enterprise will need a fund (cash contribution) assessed at 5 billion FCFA. The share capital for the creation of the co-enterprise could be set at 25 billion FCFA.

129. The negotiations for the constitution of the co-enterprise should take into account the interests of all the potential partners interested in the project. These interests will then be taken into account in the following manner:

- At the national level, the partners in the co-enterprise will be: i) the State S, ii) the local authorities (municipalities, prefectures, etc.) and the inhabitants of the region that hosts the project as well as private national enterprises, and iii) the other regions of the country; these three national partners, indispensable for the social stability of the co-enterprise could receive for example 60%, 30% and 10%, respectively, of the revenues drawn from the concession of land and would make up the National Group;

- At the regional level, the partners in the co-enterprise will be: i) the National Group above, ii) the partners from the countries bordering the Niger River, and iii) the other African partners; these three regional partners of the co-enterprise will receive, for example, 40%, 30% and 30% respectively of the African part of the share capital of the co-enterprise and will make up the African Group;
- At the global level (as the approach aims at a new form of globalization but mutually beneficial to the parties), the partners in the co-enterprise will be: i) the African Group above, ii) the strategic partner chosen from the open consultation at the global level, and iii) a pool of other possible foreign investors wishing to participate in the co-enterprise; these three global partners of the co-enterprise will receive for example 60%, 30% and 10% of the share capital of the co-enterprise and will make up the statutory associates of the co-enterprise.

130. The calculation of the composition of the share capital of the co-enterprise following the plan above requires a decision-making tool. Taking the above example of a co-enterprise to which 10 000 hectares of land was ceded at the concessional price of 2 million FCFA/hectare, the calculations with a decision tool (see Appendix 1) are shown in Table 6 below, which indicates the shares and percentages of all the partners. It can be seen that after this division, the share of a peasant whose 3 hectares could be ceded to the co-enterprise will be 675 000 FCFA, a share for which the co-enterprise will pay the corresponding dividends every year. It is important to note that groups of African investors own 62% of the share capital of the co-enterprise in this example.

Table N°6: Example of globalized capital of a co-enterprise (Millions of FCFA)

Partners	% of Capital	Total share	Type of payment	Cash for co-enterprise	Cash for the State S
Local authorities (municipalities, prefectures, í) of the region of the project	11.16%	2 790	Revenues from land		
STATE S	22.32%	5 580	//	5000	-5000
Other regions of the country	3.72%	930	//		
National partners or partners from countries bordering the Niger River	17.36%	4 340	Cash		4 340
Other African partners	7.44%	1 860	Cash		1 860
Strategic partner chosen at the international level	30.00%	7 500	Cash		7 500
Pool of other possible investors	8.00%	2 000	Cash		2 000
Capital of the co-enterprise	100.00%	25 000	-	5 000	10 700

Source: ECA calculations

131. This formula for the division of the capital of the co-enterprise avoids having the strategic partner invest alone with the State in a classic PPP, which could turn out to be a seizure or a land-grab. It aims at interesting all those who, from far or near, have rights on the lands ceded or who can be impacted by the cession, in such a way as to avoid the social tensions that could result from such a project. This is a formula which would apply to the equitable exploitation of another type of natural resource.

5.3.4 Advantages and disadvantages of the agricultural co-entrepreneurship

Advantages

132. The advantages of the agricultural co-entrepreneurship are numerous, including:
- ❖ Increase in agricultural production and processing of local products;
 - ❖ Enhancement of agricultural land that has remained unexploited for decades;
 - ❖ Reduction of the cost of importing food products;
 - ❖ Introduction of new technologies;
 - ❖ Improvement of the commercial balance sheet of the State;
 - ❖ Creation of rural and urban employment;
 - ❖ Combat rural migration by the creation of well-paid employment and the improvement of living conditions in the rural areas;
 - ❖ Creation of added value and improvement of the GDP;
 - ❖ Strengthening of business and regional integration;
 - ❖ Insertion of the sub-region into global trade í etc;

Some disadvantages and threats

133. The disadvantages and threats that the agricultural co-enterprise could face are essentially the following:
- ❖ Complex implementation process, necessitating a lot of dynamism on the part of the co-enterprise management organ;
 - ❖ Lack of interest by the local peoples of the zones concerned;
 - ❖ Lack of strategic partnership, especially owing to the poor business environment in countries of the sub-region (see Doing Business 2010 of the World Bank);
 - ❖ Lack of interest and/or financing by national and/or regional partners.

134. Nevertheless, these disadvantages/threats should not constitute obstacles for the development of agricultural co-enterprises, as one of the roles of the management authority is also to find the ways and means to surmount them. All in all, the agricultural co-entrepreneurship and the value chains that it is likely to engender can be choice solutions to boost agriculture in general and food production in particular and to contribute to sustainably resolving the food crisis in West Africa by increasing domestic supply. However, to get there, a large dose of political will and collective determination is necessary.

135. In any case, if measures are not taken upstream for a rational management of land and water resources of the West African sub-region as in the rest of the continent, the risk of deterioration is great in the context of the rush for African lands.

5.4 Mixed model of industrialization of agricultural sub-sectors

136. This model of industrialization is an alloy of the three preceding models, combining cooperatives and agro-industrial firms. It can be illustrated by the pineapple sub-sector in Ghana and the public-private partnership industrialization of the cashew nut sub-sector in Tanzania.

5.4.1 Mixed model of industrialization of the pineapple sub-sectors in Ghana

137. The export of pineapples from Ghana started to increase in the eighties and grew constantly at the rate of 10 000 MT per year on average during the nineties. It went from less than 5 000 MT in 1986 to more than 70 000 MT in 2003 before falling into a period of stagnation (Marie Halbach & Dr. Frank van Laerhoven, 2011). This spectacular progression was made possible by a policy supported by assistance for the creation of cooperatives to accompany small producers of pineapples in several regions of the country, following a programme that was minutely designed and implemented by the Ministry of Food and Agriculture (MoFA). Among these cooperatives are: i) the Pinex Co-operative farmers and marketing society, which groups the producers of pineapples in the zone located in Hohoe in the Volta region 230 km from Accra; ii) the Gomoa Okyereko Pineapple Growers, founded in 2004 and operating in Okyereko; the New Generation founded in 2005 of which the largest part of the members is located in the district of Dangme West; iv) the Oboadaka Cooperative Pineapple Growers and Marketing Society operating 50 km North of Accra; v) the Ekumfi-Atwia Cooperative, grouping the producers of Ekumfi-Atwia located 120 km West of Accra and linked by contract with Wad African Foods Limited (WAD), a firm that buys the pineapples from the cooperative, processes them and exports dried pineapples to Switzerland; and vi) the Fruit Farmers Cooperative Society Nsakyé, a young association of producers created in 2009.

5.4.2 Mixed model of industrialization in a public-private partnership: the cashew sub-sectors in Tanzania

138. The following industrialization model describes the cashew value chain in Tanzania⁴. The analysis is based on the UNIDO model for the diagnosis of industrial value chains (ONUDI, 2011), which reviews the actors at all levels of the chain: suppliers of services (inputs and various supplies), technology and innovations concerning production and processing, markets and marketing of products, governance of the value chain, financing of the value chain, policies and institutions (Stefano Ponte, 2008).

139. The main actors of the cashew value chain (those who produce, transfer and own the products) are the farmers, the Primary Cooperative Companies, the regional cooperative unions, the transformers, the exporters, the roasters and the retailers (including the stores and street-vendors).

140. There are two distinct marketing channels: the domestic market and the export market. About 40% of raw cashew nuts are transformed in the country, whereas 60% are exported, mainly to India for more complex processing, which generates considerable added value and employment there. All the raw cashew nuts go through the warehouse system whether they will be processed locally or exported, except for those that are processed fraudulently in makeshift shelters for the local market.

⁴ This example is drawn from the report of Stefano Ponte (2008) entitled 'Developing a 'vertical' dimension to chronic poverty research: Some lessons from global value chain analysis'. Working Paper No. 111. Danish Institute for International Studies. www.chronicpoverty.org

141. **Suppliers of services** include the Cashewnut Board of Tanzania (CBT), the District Agricultural and Livestock Offices, the government research and extension services, national financial institutions and NGOs. The activities of service suppliers in the value chain are described below.
142. **The suppliers of inputs:** they generally supply the pesticides, the insecticides and the crushing machines. The inputs in primary production also include agricultural inputs and plantation equipments. The suppliers of inputs are private licensed businesses and many of them have sub-contracts with the local governments.
143. **Research:** The National Agricultural Research Institute, Naliendele, as well as various universities such as the University of Dar Es Salaam (UDSM), support the development of appropriate technologies for production and processing in the cashew nut value chains. However, these institutions are faced with financial and technical challenges in their effort to assume their responsibilities of support.
144. **Training and education:** the institutions engaged in technical training and management including CAMATEC, Small Industries Development Organization (SIDO), Naliendele Research Institute, and the Vocational Education Training Agency (VETA).
145. **The District Agricultural and Livestock Offices:** they offer classic training services, agricultural advice in the field and advice through the press, sometimes in collaboration with NGOs and community organizations. They sometimes have staff working directly in village communities. Theoretically each village is supposed to have an agent of the Government to provide support to farmers in agricultural production.
146. **The suppliers of financial services:** Banking institutions play an important role in the chain. With the guarantee of the government, the National Microfinance Bank and CRDB Bank offer credit to the primary cooperative companies for the purchase of cashew nuts from farmers. The transformers also obtain loans to purchase products and for capital investment. Nevertheless, access to financial products remains a challenge for the majority of small producers and their organizations.
147. This example shows a value chain supported by the State and its institutions in which small producers are relatively well protected and accompanied. In this chain, a State organ plays a primordial role, the Cashewnut Board of Tanzania (CBT). This is the type of value chain that would be appropriate for most consumer food products in West Africa.

5.5 Mechanisms of support for the industrialization of agricultural sub-sectors

148. To resolve upstream the problems encountered in the industrialization of agricultural sub-sectors, it would be preferable to set up a number of support programmes for agricultural development. This support could be provided through the following five programmes:

- **Programme of procurement for inputs and agricultural equipment:** to develop national and sub-regional capacities for the production of agro-pastoral and zoo-technical inputs and agricultural equipment, with a view to improving agricultural production and productivity;
- **Integrated Programme of enhancement of irrigable lands:** starting from the principle that large-scale irrigation is not within the reach of the ordinary peasant farmer, this programme aims at assisting Member states in the creation of co-enterprises including the private sector in the sub-region for the enhancement of land and water resources not exploited to date;
- **Programme for financing the rural areas and research-development:** this programme will be dedicated to the strengthening of agricultural credit, to the promotion of micro-finance in rural areas and to the reactivation of research-development, with a view to improving and/or transforming production systems and ensuring that production activities upstream and downstream are functioning (improved seed, various inputs, techniques for processing and conservation, etc);
- **Programme for the processing, conservation and storage of agricultural products:** this programme aims at creating added value by the processing of local products for daily consumption, while adapting the supply of food to modes of consumption and respecting the required health standards;
- **Programme for the management and diversification of export industries:** with a view to improving the quality and the standards of export food products, increasing their competitiveness in international trade, but above all involving national and sub-regional investors in the export industries; this programme will also encourage the development of intra-regional business by contributing to the dissemination of agricultural information, by promoting complementarity among basins of production/consumption and by contributing to setting up a sub-regional stock for food security.

149. The implementation of these programmes aims at the industrialization of agricultural sub-sectors, with a double objective: i) in the short and medium term, continue to support peasant production as in the past (inputs, training, credit, systems of collection-storage-marketing,¹), encourage their organization, collaboration and exchange of experiences among producers throughout the sub-region; ii) in the long term, to promote agribusiness to fill an important gap, through a regional Public-Private Partnership oriented towards development.

6 CONCLUSION AND RECOMMENDATIONS

150. This study has revisited the recent performances of the agricultural sector in West Africa to show that the notable progress recorded in the area of production as well as in organization and the incentives to produce and distribute have not made it possible to record these successes in the value chain approach to development which includes industry.
151. Agriculture in West Africa remains characterized by small subsistence operations, little mechanization and poor systems of agricultural production founded on rudimentary knowledge. This is partly the consequence of a certain lethargy in the development of the sector and the low level of basic support infrastructures. Private investment in agricultural systems as well as in the distribution chains are hampered by the absence of viable financial structures capable of responding to the needs and demands of rural economic agents.
152. The emergence of peasant organizations and the development of a dynamic private agribusiness sector are likely to create more wealth and to improve the competitiveness of agricultural products by increasing production and productivity as well as ensuring the processing of an increasingly larger proportion of basic agricultural products, the creation of upstream and downstream links between agriculture and the other sectors and increased competitiveness on the world markets.
153. Agro-industry is however sensitive to several factors that influence investments. These factors include access to markets and natural resources, quality infrastructures and a stable macroeconomic and political environment. Moreover, there are sectoral factors that constrain investments in this sector such as the interdependence of enterprises all along the supply chain and the need for specialized infrastructures, such as for example cold storage facilities. In addition, agro-industry is strongly influenced by external factors such as protectionist commercial measures, price trends for basic products and market volatility.
154. To face the multiple challenges of regional agriculture, initiatives have been set up during these last few decades. Thus, in 2002, the African Union Commission launched the CAADP. Participating African states made the commitment to allocate 10% of their national budgets to agriculture, with the aim of reaching an annual growth rate for agriculture of 6%. Following the adoption of the regional agricultural policy by the ECOWAS (ECOWAP), seven (7) countries of West Africa (Burkina Faso, Ghana, Guinea, Mali, Niger, Senegal and Togo) were able to raise the importance granted to agriculture, reaching the objective of 10 % and encouraging the others to do the same (ReSAKSS, 2011).
155. At the regional level, the ECOWAS developed its Regional Agricultural Investment Programme (RAIP) to complete the National Agricultural Investment Programmes (NAIPs) by concentrating on a limited number of regional strategic challenges linked to production, commerce and access to food commodities as well as the generally favorable environment for regional investments. It aims at strengthening the interdependence among countries and accelerating the agricultural transformation of the sub-region. In many countries of the region, the implementation of the NAIPs has

begun. It is thus urgent to support this implementation process and to guide it in order to transform the strategic framework into an efficient action plan. Moreover, as the finalization process of these programmes should continue through 2015, it is also necessary to evaluate their impact on the growth and development of priority sub-sectors in the region.

156. Faced with these observations and in the context of the limited means of the West African states (four-fifths are LACs), the outline of an industrialization strategy for agricultural sub-sectors could be based on four models of agricultural value chains, competitive but complementary: (i) the model of industrialization through a hierarchy of cooperatives; (ii) the model of industrialization through an agro-food company, (iii) the model of industrialization through the value chain built around a strategic partner, and (iv) the mixed industrialization model.

157. This approach remains compatible with the observation of the CESAO that family operations, representing 80% of farmers, have up to now provided most of agricultural production by adapting to changes in demand and in the medium term, the general production model should not stray far from that founded on the larger or smaller family operation. Even the long term vision that the CESAO has proposed notes that the transformation process of production systems should follow similar patterns to those observed elsewhere (in Asia, Latin America or Europe), which is that the expansion in the size of operations and the concentration of food production resulting from this remains compatible with the pattern proposed for West Africa.

158. Moreover, the following recommendations could be made to foster specific actions that may be engaged by the countries to ensure the development of an agricultural sector in close symbiosis with industrial development:

- Strengthen the mechanisms for promoting agricultural sub-sectors, notably the activities of small agricultural producers and public-private partnerships in agri-business and agro-industry;
- Adopt a strategy for the industrialization of targeted agricultural sub-sectors, notably those likely to help ensure food security;
- Develop a framework for incentives by ensuring the protection of investors in order to favor the mobilization of national, regional and international resources in order to promote the creation of agro-industrial enterprises;
- Study the outlook for adopting the agricultural co-entrepreneurship as a form of public-private partnership in order to create agro-industrial units open to the participation of both national and foreign investors;
- Strengthen the capacities of community financing bodies, notably the EBID, the BOAD and the RSB, in order to place the emphasis of their programme structure on the financing of agricultural sub-sectors;
- Strengthen national financing mechanisms in order to make it possible to support the financing of the development of agricultural and agro-industrial value chains;
- Harmonize standards in the agricultural sector (health and phytosanitary standards, technical standards relating to production processes);
- Create mechanisms for the adoption of a sub-regional approach to supplying inputs and agricultural equipment, to the exploitation of irrigable lands and to financing rural production and research & development.

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