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FOOD ACROSS BORDERS
IMPROVING FOOD SECURITY THROUGH REGIONAL TRADE IN WEST AFRICA

REGIONAL TRADE AND FOOD SECURITY IN NIGER

January 2013

This publication was produced for review by the United States Agency for International Development. It was prepared by Roger Blein for the USAID ATP project.

Recommended Citation: Roger Blein. January 2013. *FOOD ACROSS BORDERS: Improving Food Security through Regional Trade in West Africa. Regional Trade and Food Security in Niger*. Bethesda, MD: USAID ATP project, Abt Associates Inc.

Contract/Project No.: EDH-1-00-05-00005-08

Submitted to: Danielle Knueppel, COR
Agribusiness and Trade Promotion Project
USAID/WA
Accra, Ghana

Abt Associates Inc.■ 4550 Montgomery Avenue, Suite 800 North ■ Bethesda, Maryland 20814 ■ Tel: 301.347.5000.■ Fax: 301.913.9061 ■ www.abtassociates.com

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REGIONAL TRADE AND FOOD SECURITY IN NIGER

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I. INTRODUCTION

1. Long addressed in a national plan mainly focusing on grain availability, food security in the Sahel, and more specifically in Niger, is primarily related to the accessibility of households to food. Poverty is the main factor in structural and cyclical food insecurity of Nigerien households.

2. The outlook for food security in Niger is strongly influenced by demographics, with a population expected to double by 2035, in a context where natural resources are strongly affected by climate change and variability.

3. Accessibility to food for Nigerien households is highly dependent on revenue from agropastoral exports and food imports. Regional factors play a decisive role for both national and household food security.

4. Whether in terms of structural or food insecurity, the market and regional policies influence the conditions for achieving food security as well as the triggering and resolution of crises.

5. This concerns not only regional food trade, whose role is significant in the supply-demand balance, market regulation and improving accessibility. It also concerns the labor market, revenue from seasonal or permanent migration, global market import management, and potential subregional cooperation to cope with economic crises.

6. That being said, the livelihood of Nigerien households is highly dependent on the exporting of agropastoral products to coastal countries. Few products are exported: cattle, bell peppers, onions, tiger nuts and cowpeas. Nevertheless, they provide an income valued at 200 to 250 billion XOF or 400 to 500 million USD.

7. Conversely, Niger is faced with wide variations in grain production that are related to climate variability. It mainly relies on the regional market to balance the supply of its market. Sub regional grain imports amount to a few hundred thousand tons to more than one million tons.

8. The regional market, according to its supply and operation, can foster food security conditions in Niger (market supply, price stabilization), or on the other hand, accentuate the crisis (closed borders, transmission of price stresses).

9. A country that is mostly involved in regional trade, Niger cannot meet the challenges it faces without really integrating its policies in the region. The political desire expressed aligns with policies favoring approaches that take little account of the regional component and its impact on the agro pastoral economy and food security for the Nigerien people.

1.1 FIRST OF ALL: WHAT IS "FOOD SECURITY"?

1. Addressing the role of the regional market in the food security status of a country first requires the definition of food security. In this paper, the concept of food security is primarily viewed at two levels: the country level and the household level.

    a. The country level allows one to address the role of the market in supply security and the coverage of overall food needs for the entire population.

    b. The household level allows one to analyze the role of the market in regular food supply for households, by exploring its contribution to the different dimensions of food security: availability, physical and economic accessibility and stability over time, both in terms of market supply and food prices, on the one hand, as well as in the generation of household income through income earned from exported goods and migrant income transfers, on the other.

2. This clarification is essential. Behind an apparent consensus on the shared definition of international organizations, there are various standpoints of food security and, more particularly, paths for achieving this. Specifically, certain food security concepts have a wide audience, in spite of the realities and the new face shown by recent food crises.

3. These concepts, especially the emphasis on grain availability, on the one hand, and the domestic balance between grain supply and demand, on the other, still have a significant impact on the establishment of national policies and the priorities that they present, as well as the emphasis on the major issue of regional economic and market integration in these national policies.

4. In the 60s, public policies placed a strong emphasis on national food self-sufficiency strategies, placing the utmost importance on production and storage development. In the 80s, approaches were more focused on access to food, with food origin (domestic production or imported) coming in second place, and challenging the storage policies[1]. This approach led to a major emphasis on market mechanisms to meet needs and secure supplies. In the 2000s, the countries belonging to ECOWAS [Economic Community of West African States] and the latter developed the idea of food sovereignty in a regional context. This approach consists of focusing on a supply based on availability in the region. In practice, however, countries primarily continue to interpret the challenges of food security in a national context.

[1] The reform of grain policies in Sahelian countries led to the liberalization of the market, and refocused the role of grain offices and agencies on managing food security inventory (approximately 30,000 tons in each landlocked Sahelian country)

1.2 METHODOLOGICAL DIFFICULTIES

1. The analysis of regional trade impacts on the different dimensions of food security requires a sufficiently reliable basis of information concerning (i) production, (ii) subregional trade, (iii) prices in different segments of the subregional value chain and (iv) the income of the different household categories concerned.

2. Evidently, the information available does not allow one to establish as precise a diagnosis as one would like. The intersection of multiple sources (Department of Commerce, Customs, ECOWAS, FAO [Food and Agricultural Organization], CILSS [Permanent Interstate Committee for Drought Control in the Sahel], surveys and ad-hoc studies) and the use of mirror data do not enable one to: (i) fill in the gaps in the availability of primary data, in particular, cross-border or subregional flows and the value of transactions, price structure, production volumes, etc. and lastly, (ii) improve the reliability of the analysis.

3. These difficulties are exacerbated by the rapid and major changes confronting the Nigerien economy in recent years with the expansion of mining (uranium and oil), which has resulted in the profound transformation of the economic structure and the structure of trade. These changes are not yet completely decipherable through the statistical data

2. KEY FEATURES OF THE NATIONAL ECONOMY

1. A landlocked Sahelian country, Niger is one of the poorest economies in terms of both economic development and human development. The country ranks among the last (186th place) in the UNDP HDI [United Nations Development Programme - Human Development Index] with an index of 0.295 in 2011.

2. Out of the West African economies, Niger has the highest proportion of people living in the rural environment (about 80%). The vast majority of the latter base their livelihood on agricultural and livestock farming. However, temporary or permanent migration are among the sources of income for a significant number of families. In the same vein, a large proportion of households have a diversified income base, through petty trade, daily work, crafts, etc.

3. The agricultural and livestock farming sector represents 42.8% of the total GDP (agriculture: 25%, livestock farming: 12%). However, the rise in mining activity affects the agropastoral sector of the national economy. The industry sector is very low (2% of the GDP), dominated by food processing, and represents only 4,000 jobs in the formal sector.

4. Uranium is the main export revenue (2nd largest global producer), outside Africa, but its contribution to employment, income and the national budget is low. Agropastoral products (primarily livestock, onions, cowpeas, tiger nuts, bell peppers) are the main products exported to neighboring countries.

5. The informal economy represents around 70% of economic activity and hampers the taxation of the economy (tax burden was only 13.3% in 2010).

6. Despite the suspension of international cooperation as a result of political crises (2009-2010), Niger receives development assistance amounting to approximately 350 to 400 million USD per year, making it one of the main beneficiaries of ODA [Official Development Assistance] per capita. A significant amount of this aid is directed to food crisis management.

7. Poverty has slightly decreased in recent years. The population living below the national poverty threshold (50,000 XOF) decreased from 63% in 1990 to 59.5% in 2008 (ENBC [National Household Budget and Consumption Survey]/INS [National Institute of Statistics]). In rural areas, the rates vary widely between regions, but on average exceed 65% of the population. Poverty (monetary, poor access to basic social services) is the main factor behind food insecurity.

Box1: Overall key indicators

Population (2011): 16,000,000 inhabitants
Population growth rate: 3.3 %
Urban population growth rate: 6.2 %
Rural population: 83.3 %
Overall fertility rate (2006): 7.1 children per woman

GDP (2009): $10.392 billion (PPP); $6.017 billion in common currency
GDP/capita: $680 PPP; $360 common currency
Agricultural GDP/Total GDP (2010): 43.1 %

Average growth rate 2001-09: 5%/year (11.2 in 2012)
ODA [Official Development Assistance] (2007-2008): $573 million
FDI [Foreign Direct Investment] (2007-2008): $138 million (15 in 2003-2004)

3. FOOD INSECURITY IN NIGER

1. From 1960 to 1990, Niger has experienced three major food crises due to prolonged drought in two successive years, while poorly urbanized populations have mainly lived off of agricultural and livestock farming production and self-consumption. In the 90s, it experienced three new crises caused by drought and locust invasions (1990-1991, 1993-1994, 1996-1997), sometimes exacerbated by security crises (rebellion, coups).

2. Since the early 2000s, Niger has had a succession of food and nutrition crises, increasing in frequency and magnitude.

TABLE 1: FOOD CRISES IN NIGER SINCE 2000

Year	Explanatory Factors	Portion of the Population Affected
2000-2001	Grain Deficit Rising Grain Prices Employee Salaries in Arrears	36 %
2004-2005	Grain Deficit Rising Grain Prices Regional factors: average production in Nigeria	3.6 million people or 30%
2008-2009	Increase in international and regional prices	4,098,000 people (42 %)
2009-2010	Livestock farming crisis: feed deficit amounting to 67% of supply required Grain deficit (31% decrease in production %/2008)	7.5 million people (50%) living in Food Insecurity, of which 3.3 are living in severe Food Insecurity
2011-2012	Livestock farming crisis Poor harvests Northern Mali political crisis Impact of previous crisis	6.4 million people (45%)

3. In a "normal" year, 15 to 30% of the population in the country is considered to be vulnerable and requires various forms of food and/or nutrition assistance. This food insecurity is a reflection of the most serious forms of chronic food insecurity in the Sahel region.

4. This succession of crises is due to a combination of structural and economic factors. Their strong association challenges the regular grid analysis and classification of the forms of food insecurity, from chronic crises to economic shocks. Their rapid succession does not allow affected households to rebuild their capital and means before the occurrence of the next crisis, in a context of

vulnerable households holding high debt.

5. 2005 marked a profound change in the reading grid of Nigerien crises. Indeed, the crisis - denied by the national authorities at the time - was revealed and publicized to the entire world due to the significance of severe child malnutrition in the Maradi and Zinder production regions, located in the "productive agricultural belt." Nigeria's border regions make up Niger's breadbasket. The 2005 crisis highlighted a strong discrepancy between the regular representation model of Sahelian crises (supply shocks) and changes in food insecurity deciding factors.

6. The crisis illustrates four major phenomena that explain the gap between the regular risk analysis grid and the reality of the country's food economy:

    a. The continuing deterioration of the living conditions of a large and growing marginal group of rural households, in conjunction with high population growth, land resource competition, environmental degradation, and the low level of economic development and access to basic social services.

    b. The high integration of urban and rural households in the market, and a considerable role of the latter in the household food supply strategy, and consequently, in the food and nutrition security of households, especially for the poorest ones;

    c. Regionalization of these markets and the influence of regional factors that determine price dynamics and market supply for national food security;

    d. And finally, the high incidence of malnutrition, long underestimated in the Sahel region, with rates similar to those normally encountered in war situations.

7. The 2005 crisis in Niger then changed the whole analysis context of food security in the Sahel region. Specifically, the approaches consisted in distinguishing two broad forms of crises:

    a. *chronic crises*, which called for structural responses that agricultural policies were supposed to provide;

    b. *economic crises* induced by specific shocks, which were supported by methods for the prevention and management of crises: early warning system, mitigation actions and emergency interventions (food assistance).

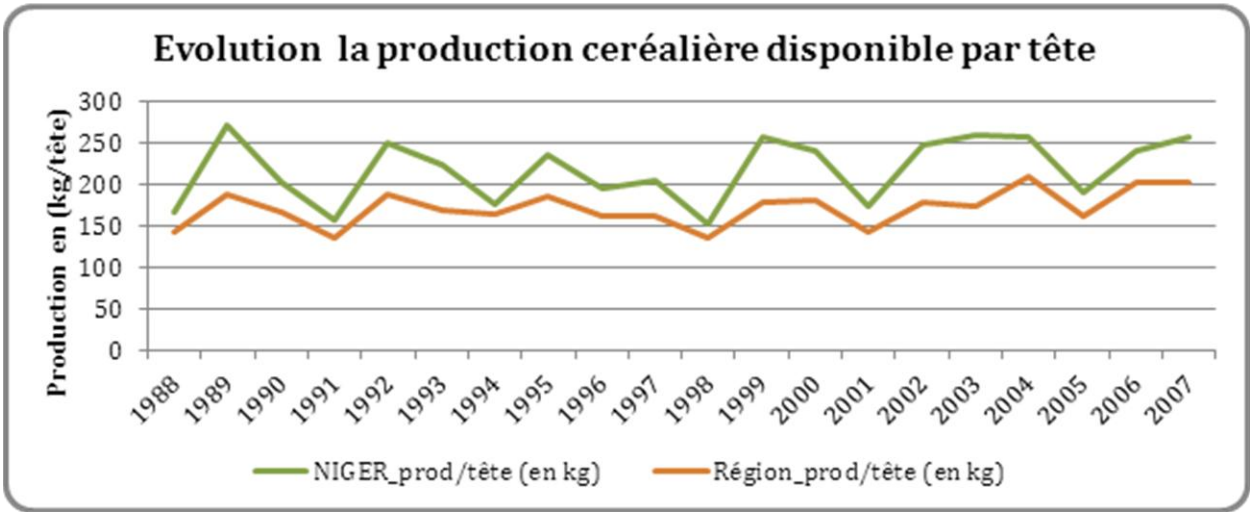
8. Clearly, these responses were extremely expensive, and did not (i) prevent new crises, (ii) strengthen the resilience of households, (iii) build the foundation for long-term food security.

3.1 WEATHER CONDITIONS AT THE HEART OF FOOD INSECURITY

1. The normal situation in Niger actually corresponds to a series of campaigns with very different production levels, the vast majority of production being cultivated in the rainfed agricultural system. Changes in production are an integral part of the food security landscape and not, as viewed by most humanitarian players, an exceptional situation.

2. The following graph shows the changes in production in Niger and in the region over ten consecutive years. It illustrates the variability of grain production in the country compared to the variability of production in the West African region. Variability is significantly lower at the regional level than it is at the country level. This illustrates the potential role of the regional market in the connection between availability and need.

FIGURE 1: VARIABILITY OF PRODUCTION IN NIGER



Source: Issala/OXFAM from CILSS and FAO data

3. This graph expresses the difficulties in maintaining a regular grain supply for a country where grains are a diet staple. However, it does not reflect the diversity of situations for households, especially rural households.

4. In the agricultural belt, several types of situations exist:

   a. Households with a sufficient amount of land and who have access to water control. These households are generally involved in cash crops (onions, bell peppers, other vegetables) or rice, sold on the domestic market and especially exported in the sub-region; These farmers are often deficient in grains, but use income from cash crops to ensure their food supply. Their food security is less affected by the weather;

b. Households only operating off of rainfed agriculture and associated crops (specifically millet/cowpeas, sorghum/cowpeas). Among these, households with sufficient land resources are in an especially difficult situation during climate shocks, while households with little land are structurally deficient;

c. Households that practice mixed farming. Many households practice mixed farming. While they are somewhat less vulnerable than agricultural farmers strictly speaking, due to their diversification of income sources, their situation purely depends on their production capital (land and livestock), and the other activities that they are able to deploy.

d. The same type of situation occurs in arid zones with opportunities for irrigation (case of Agadez market gardeners).

5. Outside of the agricultural belt, most of the economy is livestock-based in nature. Their vulnerability is related to:

   a. Feed availability, being almost entirely dependent on seasonality;

   b. Potential offered by internal and cross-border transhumance;

   c. State of the livestock, and therefore the value of animals on the market;

   d. And finally, a very important aspect, these households ensure their food security by buying food with income from the exploitation of livestock. Therefore, during an intense production crisis year, they are simultaneously penalized by (i) low feed resources that result in livestock losses (mortality and weight loss, low valuation), longer transhumance (distance and time) and high food prices. Their purchasing power dramatically drops.

3.2 A WORRISOME NUTRITIONAL SITUATION

1. Niger is among the countries where malnutrition indicators are the most alarming. Chronic malnutrition (stunting) affects more than 40% of children under five years of age. This situation is very worrisome in terms of long-term impacts on individual development (cognitive abilities).

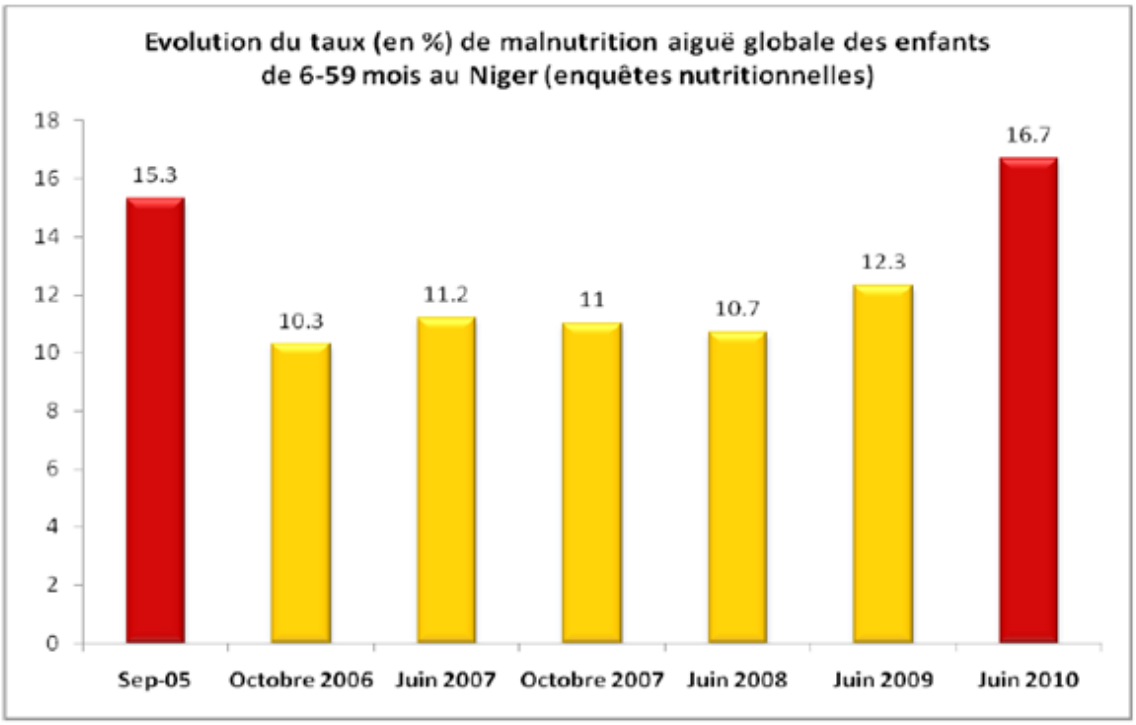
2. While the overall acute malnutrition rates exceed the emergency thresholds (15%) in years of severe food crises (2005 and 2010), it remains at levels higher than 10% in other years. This malnutrition also affects pregnant and lactating women. Malnutrition affects all regions, including major food production areas.

3. The considerable efforts made by the country and the international community since 2005, with almost systematic treatment of children less than 2 years of age during the last crisis in 2010[2] , helped save the lives of many children (as such,

[2] 587,000 children were treated in nutritional rehabilitation centers and 680,000 benefited from targeted distributions of fortified foods (source: CCA [Common Country Assessment], WFP [World Food Programme] and UNICEF [United Nations Children's Fund]).

infant mortality rates have decreased in a few years from nearly 20% to less than 15%) but these efforts have not been able to sustainably reduce malnutrition, which is caused by multiple factors (behavior, access to health care and education, diet, etc.) that call for global and multidimensional responses in the long-term.

FIGURE 2: OVERALL ACUTE MALNUTRITION AMONG CHILDREN UNDER FIVE YEARS OF AGE



Source: WFP-UNICEF

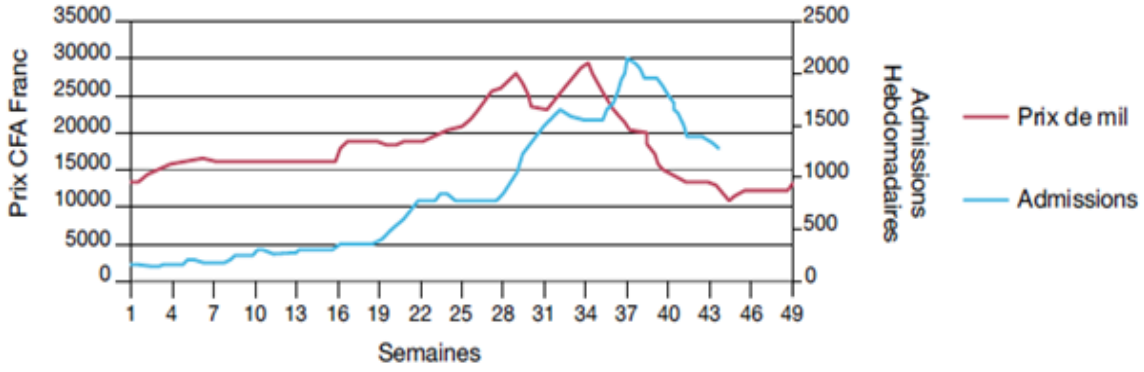
TABLE 2: PREVALENCE OF CHRONIC AND ACUTE MALNUTRITION ACCORDING TO WHO STANDARDS IN JUNE – AUGUST 2012

	Age Bracket		
	0-23 months	**24-59 months**	**Total < 5 ans**
Chronic malnutrition (height/age)	35.5	47.0	42.0
Severe chronic malnutrition	14.6	18.1	16.6
Overall acute malnutrition (weight/height)	22.9	10.2	14.8
Severe acute malnutrition	5.3	2.7	3.0

Source: INS [National Institute of Statistics] and the Department of Health

4. The following graph demonstrates the impact of rising prices on the deterioration of the nutritional status of children, shown through changes in the number of admissions to nutritional recovery centers. While the prices do not explain chronic malnutrition, far from it; they contribute to the exacerbation of the situation and precipitate the nutritional crisis (reduced access to food, reducing food diversity due to the concentration of household expenses on basic food, including grains, at the expense of animal products, fruits and vegetables which are essential to a balanced diet, since they are rich in proteins, vitamins and micronutrients).

TABLE 3: EVOLUTION OF MILLET PRICES AND ADMISSIONS OF MALNOURISHED CHILDREN IN MARADI



Source: MSF France, Humanitarian Exchange, No 33, Mars 2006, p. 21

3.3 THE DEGRADATION OF HOUSEHOLD MEANS OF SUBSISTENCE

1. Given the sensitivity of agricultural and livestock farming systems to the climate and the impact of the latter on domestic production, the grain situation has long been the main indicator for early warning. The EWS [Early Warning System] then further refines the risk analysis and vulnerability monitoring in deficit areas.

2. Surveys focused on understanding household food economies (Household Economy Approach) in different areas have significantly helped refine the analysis of household living systems, their sensitivity to risk and their capacity to cope with crises.

3. The HEA survey is based on an analysis of resources and food sources of different household categories (very poor, poor, average, rich), and the breakdown of their expenses. As these surveys are conducted across sufficiently homogeneous areas in terms of livelihoods (profiles), they enable one to identify the main risk factors that will affect the food situation and identify resilience to household

crises.

4. The following map shows the food economy zones. It more or less covers the agro-ecological zone map and agropastoral production guidelines in the country.

5. The analysis of these surveys in the affected zones shows, overall, that:

   a. A majority of households, regardless of the food economy zone, are poor or very poor: between 45 and 70% of households;

   b. The poverty level is very strongly linked to the capital (land and livestock) available to households. Differentiation between the different household categories is very high, irrespective of the zone;

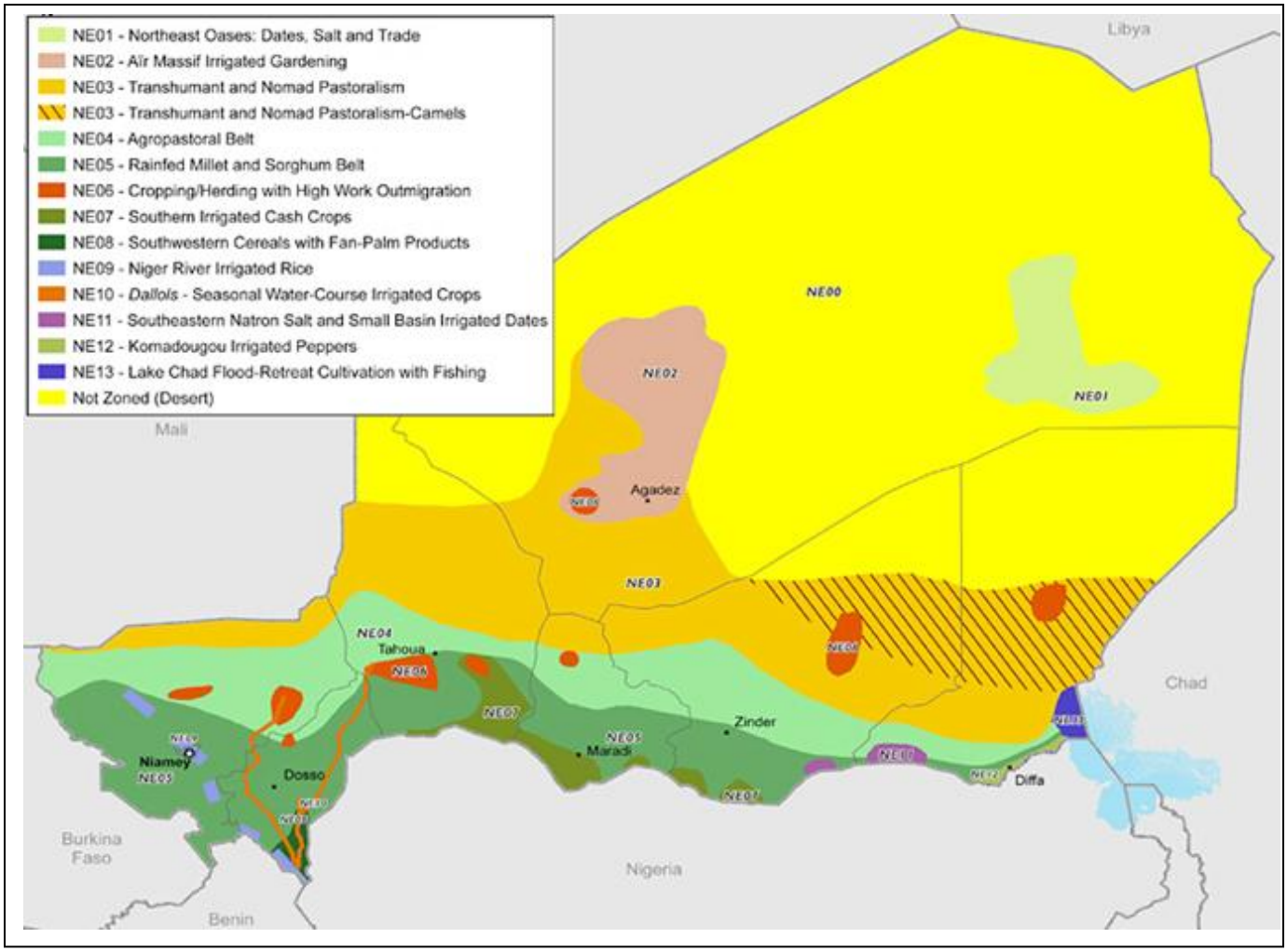
   c. Self-consumption is not the main method of covering food needs of households, especially with respect to the poorest households. The market, mainly, and food assistance are the main means of access to food. Non-farming shepherds are obviously those who rely most on the market for their supply;

   d. Grain purchases represent a very large portion of food purchases. Income levels do not allow sufficient food supply diversification, and this is all the more true when the household is poor;

   e. As a result, the same households are very sensitive to market prices. In the event of a crisis, other expenses are the first adjustment variable (education, health, transportation, etc.);

   f. The poorer the household, the less diversified the income sources, and the lower the adaptive capacity (for example, access to migration).

MAP1: MAP OF LIVELIHOOD PROFILES IN NIGER



6. WFP surveys allow us to confirm this data. The following table, established from the survey conducted in 2010[3], shows that:

   a. Households experiencing severe food insecurity have a spending level that is 2.5 times lower than households that are food secure;

   b. Food expenses on average represent 70% of the total expenses of all households;

   c. Among food expenses, grains on average represent 62.7% of costs. However, this portion exceeds 70% for households experiencing severe and moderate food insecurity;

   d. Food expenses are higher by 80% for the richest households compared to the

[3] Source: Shocks and Vulnerability in Niger. Secondary data analysis. WFP 2010.

poorest households;

e. In addition, food expenses represent a higher portion of total expenses in rural areas compared to urban areas: 70.3% and 65.4%, respectively. In absolute terms, however, food expenses are higher in urban areas: 53,000 vs. 33,000 XOF in rural areas per month per household.

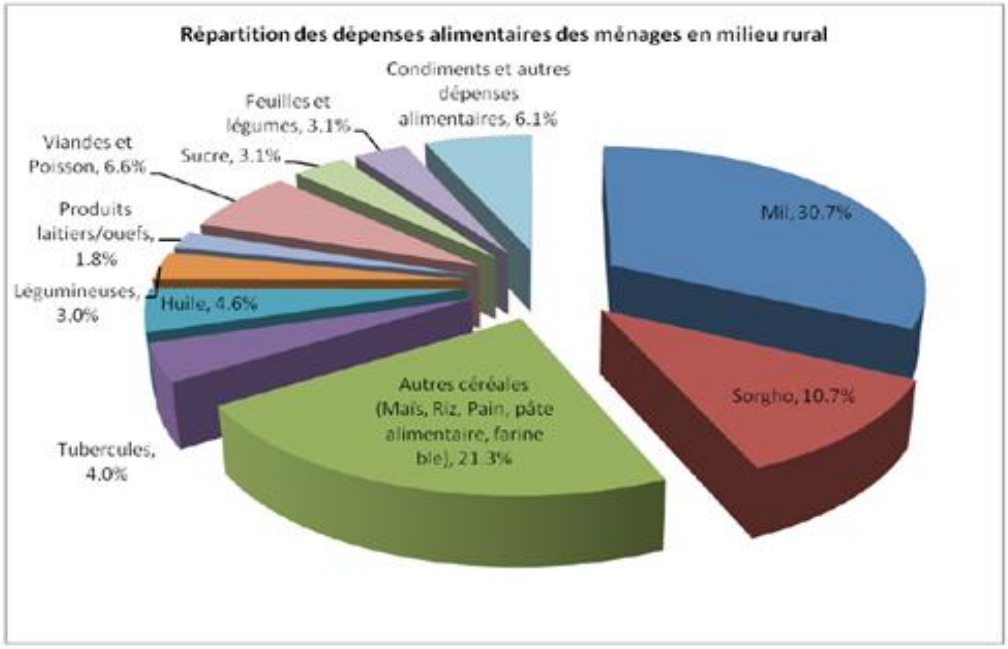
TABLE 4: DISTRIBUTION OF HOUSEHOLD EXPENSES ACCORDING TO THE FOOD INSECURITY LEVEL AND EXPENSE QUINTILES

Classe d'insecurite alimentaire	Dépenses totales par mois en F CFA	Dépenses totales par tête et par jour en FCFA	Dépenses alimentaires par mois en F CFA	Dépenses de céréales ar mois en F CFA	Dépenses non alimentaires par mois en F CFA	Part des dépenses en céréales dans les dépenses alimentaires (%)	Part des dépenses alimentaires dans les dépenses globales (%)
Severe	29,804.1	161.6	22,649.0	17,602.4	7,155.2	69.5	72.0
Moderee	40,044.4	270.8	29,750.7	21,332.5	10,293.7	63.8	71.5
A risque	50,749.3	308.2	37,046.5	25,937.4	13,702.8	62.4	70.5
Securite alimentaire	74,939.0	456.7	48,095.7	29,224.0	26,843.3	52.6	64.3
Quintile1 indice de richesse	32,605.7	252.8	25,562.3	18,881.1	7,043.4	65.8	74.3
Quintile2 indice de richesse	38,950.0	243.9	29,285.4	21,258.7	9,664.6	65.0	72.2
Quintile3 indice de richesse	43,537.5	272.3	31,978.1	22,994.8	11,559.4	63.4	70.0
Quintile4 indice de richesse	48,330.4	289.8	34,996.5	24,352.0	13,334.0	60.7	69.0
Quintile5 indice de richesse	70,983.4	390.1	45,884.9	29,065.3	25,098.5	58.7	65.4
Total	**47,045.2**	**289.9**	**33,653.1**	**23,370.2**	**13,392.1**	**62.7**	**70.2**

Source: WFP

7. The following chart shows the average household food expenses breakdown in Niger. It highlights the significance of grains, in particular, grain products in the sub-region within these expenses: imported millet, sorghum, corn and grains, which simultaneously affects the operation of the regional market, the management of importing outside Africa and the regional trade policy, the prerogative of economic integration institutions (ECOWAS and WAEMU [West African Economic and Monetary Union]).

FIGURE 3: DISTRIBUTION OF HOUSEHOLD FOOD EXPENSES IN RURAL ENVIRONMENTS



Source: WFP

8. This analysis supports the ongoing work conducted by AFRISTAT [Economic and Statistical Observatory of Sub-Saharan Africa], CIRAD [Agricultural Research for Development] and AFD [French Development Agency] related to consumption (MALVILAO study). These studies highlight the role of the market in food supply for households, whether rural or urban.

9. The following graph is based on the compilation of data from different surveys (household living conditions, budget-consumption, poverty monitoring, etc.). It shows the importance of the market in the food supply of urban households in the capital and secondary cities, as well as rural households, in all West African countries[4] :

   a. Supply from the market represents 60% of total food consumption in Niger. The Nigerien food market represents approximately 1.2 to 1.6 billion USD;

   b. The market (all product origins combined) represents half of the food supply of rural households, 90% of the resident households in secondary cities, and finally, 98% of urban households in Niamey.

   c. Given the size of the rural population in Niger, the food demand of the rural market represents 65% of the country's food market;

   d. Rice consumption of urban households is nearly three times higher than rural household consumption, which foreshadows a growing gap between grain

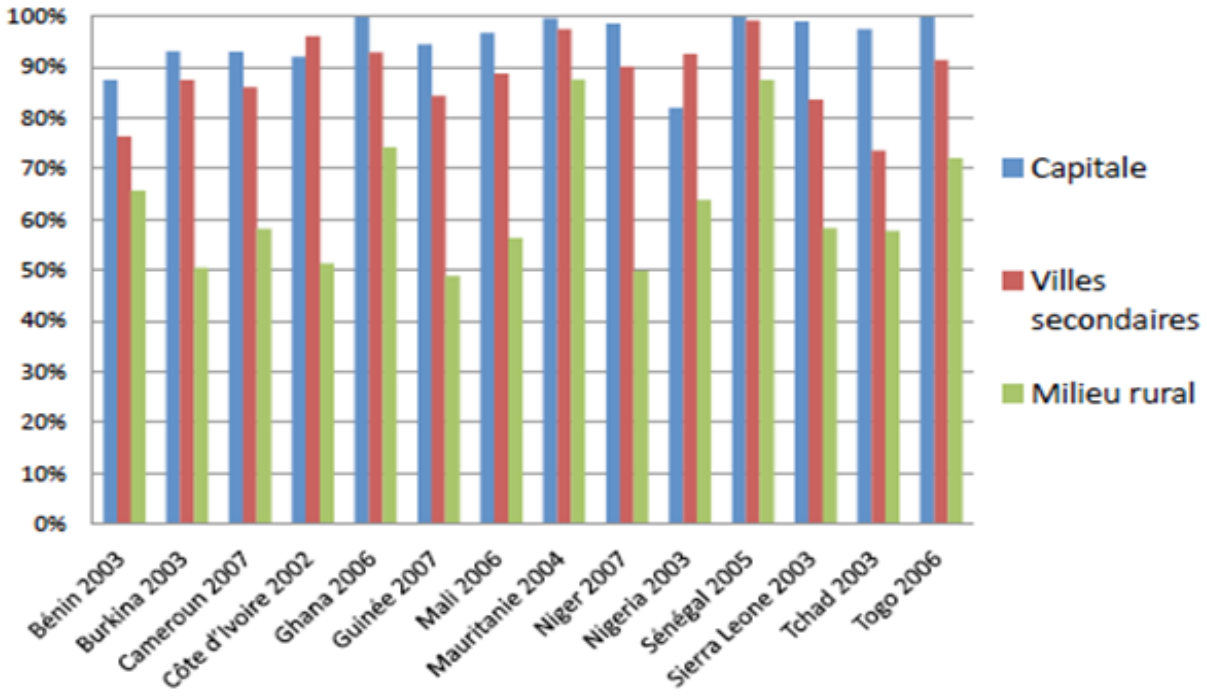
[4] Including Chad, Mauritania and Cameroon

supply and demand structures with urbanization. This is also the case with corn, but to a lesser extent (+55%). Unlike urban consumption of millet and sorghum, it only makes up 72% of the consumption level of rural households;

e. 40% of the products consumed in Niamey come from local markets, and nearly 40% of imports come from the regional market;

f. Finally, 76% of the food consumed in Niamey is processed. This is obviously important for the food value chain, both national and regional.

FIGURE 4: IMPORTANCE OF THE MARKET IN FOOD SUPPLY



Source: AFD-CIRAD-AFRISTAT- Food Market and Consumption in West Africa, Cameroon and Chad. 2012.

4. KEY DECIDING FACTORS OF FOOD SECURITY IN NIGER

1. The main deciding factors of food security can be classified into two broad categories: factors and determinants that affect food and nutrition security in the short-term (economic) and the factors that determine the level of food security in the long-term. However, several factors simultaneously have a role in the long-term conditions of food security and in economic crises, and particularly, many factors are interrelated and interact, whether in the short-term, or in the medium- to long-term.

2. The following table ranks the factors, whether they are food security or short-term crisis factors, or if they will weigh on food security in the medium- and long-term. The classification distinguishes the main factors according to the geographical scale: national (including local factors), regional and international.

3. These factors or determinants can also be grouped under a few broad categories:

   a. *Sociodemographic factors*
      i. Population growth, urbanization, migration,
      ii. Poverty level, access to social services, etc.
   b. *Economic factors*
      i. Economic growth
      ii. Income distribution
      iii. Regional and international economic environment
      iv. Food and energy use competition at regional and global levels
   c. *Commercial factors or factors related to the operation of markets and price dynamics*
      i. Dynamics, structure and competitiveness of the agricultural and livestock farming sectors;
      ii. Emergence of an integrated regional space;
      iii. Operation of the market, market infrastructure and information devices;
      iv. Public or public/private regulation of food markets;
   d. *Natural factors related to natural resources and climate change*
      i. Availability of land and water
      ii. Climate change impacts (aridification, magnitude and frequency of

exceptional climatic events)

e. *Political factors*

i. Peace, stability and security at the national and regional levels, including the management of conflicts between shepherds and between farmers and shepherds (concerted management of access to resources)

ii. Fiscal policy, in relation to the State budget, dependence on aid and funding of social and sectoral policies;

iii. Social policy, particularly with regard to social safety nets and access to services (education, health, drinking water, sanitation);

iv. Agricultural policy: investment in agriculture, modernization/security of production systems, management of national synergy within the region, financing of agriculture and value chains; land policies and regulations, etc.

v. Intra-regional and border trade policy.

TABLE 5: KEY STRUCTURAL AND ECONOMIC FACTORS INFLUENCING FOOD SECURITY IN NIGER

Factors	Economic	Structural
National	Household resource base	Fragility and limitation of agricultural and livestock farming resources; land degradation/soil fertility
	Poverty level	Population and migration prospects
	Low resilience/vulnerability of households	
	Level of non-agricultural income (migrant transfers, daily work, etc.).	Economic growth and income distribution
	Climate variability/level of agricultural and livestock farming production	Climate change
		Modernization-security of production systems, land security
	Production or market shocks in the export sectors	Competitiveness of export sectors and dynamics of coastal country demand
	Conflict and insecurity	
	Market player behavior	Adequacy of the supply/demand structure (evolution of diet changes)
	Adverse effects of previous crises	Access to basic social services and social protection policy of the poorest members of the population
	Availability and effectiveness of social safety nets	
		Communications infrastructure
		Market infrastructure
	Peace, stability, security climate	
	Production level	Land use competition (agriculture/livestock farming/urbanization of infrastructure
		Growth and expansion of animal production
	Cattle feed industry competition	Agricultural product use competition (cattle feed, biofuels)
	Level and volatility of food prices	

Regional	Energy price level	Regional food supply/demand balance
	Trade barriers/border closures	Trade policy at the exterior borders of the region
		Effectiveness of interior market/free movement
	Seasonal labor supply	Sahel-Coast migration flow management
		Effectiveness of the ECOWAP agricultural policy
International	Production level	Global food supply/demand balance
		Agricultural product use competition (cattle feed, biofuels)
	Inventory levels	Food price trends
	Major exporter trade measures	International trade arrangements DC/LDC [Developing Country/Less Developed Countries] special and differential treatment
		Level and direction of ODA and FDI flows

4. The next chapter states in greater detail the role played by the region in food security in Niger.

5. REGIONAL CONTEXT OF FOOD SECURITY IN NIGER

5.1 GENERAL ASPECTS

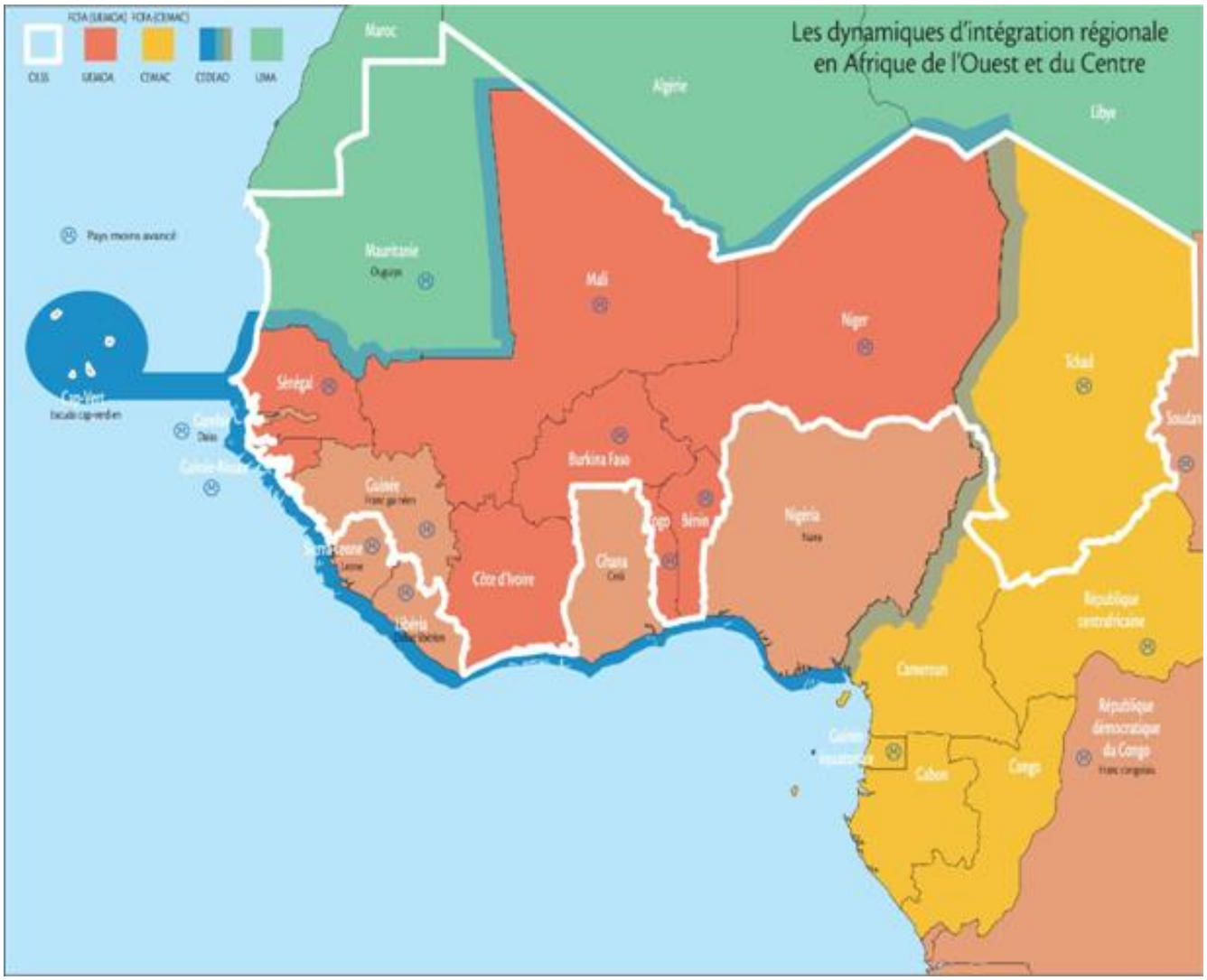
1. Niger belongs to two trade and economic integration areas: WAEMU, with seven other countries in the CFA franc zone, and ECOWAS, which includes the 15 countries of West Africa (see map). In addition, it is a member of the CILSS, a technical cooperation agency specializing in food security and natural resource management, of which one of the specialized centers (AGRHYMET Regional Center) is located in Niamey.

2. The country, located on the border of Central Africa and North Africa, also maintains strong economic and trade relations with certain countries in these two sub-regions: Chad, Cameroon, Gabon and Congo in Central Africa, particularly for livestock exports, and Algeria and Libya in North Africa, with diverse flows (livestock, dates, etc.). In the case of Libya, trade is strongly linked to Nigerien migrants, who made a mass return during the fall of the Gaddafi regime[5].

3. In terms of economy and trade, Niger is included in the Eastern subspace, a space that is structured by powerful business networks polarized by the Nigerian economy. Niger and Nigeria share a border measuring 1,500 km. The Nigerian border area is considered to be Niger's productive agricultural belt, and therefore, the most densely populated area. By itself, the Nigerian economy represents more than half of the West African population, GDP and trade in the region. This shows the importance of Nigerian dynamics for the food security and socio-economic future in Niger.

[5] The Government estimates that almost 200,000 migrants came back following the Libyan crisis.

MAP2: NIGER IN REGIONAL ECONOMIC INTEGRATION AND TECHNICAL COOPERATION SPACES



Source: Issala

4. Nigeria plays a major role in the geography of Nigerien trade for both imports and exports:

   a. Niger is positioned in a limited number of agricultural production sectors for subregional exporting: livestock, onions, tiger nuts, and cowpeas. Nigeria is its main prospect, alongside the Ivory Coast and Ghana for onions (see detailed analyses by product below). These exports play a major role in the generation of income for farmers and other agents in these sectors;

   b. Niger and Nigeria exchange grains in both directions, but Niger is generally a net importer. Nigerian grain exports constitute the main adjustment variable

of the grain market in Niger;

c. In the case of livestock products, relations between the two countries go beyond the commercial aspect. Niger is characterized by significant livestock farming, whose mobility constitutes a structural form of production system security, through cross-border transhumance. A significant portion of cattle crosses the border and increases the value of Nigerian pastures. Again, Nigeria plays the role of an adjustment variable according to the feed deficit of the Nigerien livestock farming areas;

d. Up until now, Niger was heavily involved in the importing and re-exporting trade of products from the global market that are heavily taxed upon official entry into the Nigerian market (rice, sugar, cigarettes, textiles, etc.). This trade, based on the diversion of the tariff policy in Nigeria, maintains a wide range of business activities at the border, and was subject to an official tax supplying Niger's national budget.

e. The Nigerian policy of providing subsidies to the oil industry feeds the intense informal trade of finished products, driven by the difference between the official price in Niger and the pump price in Nigeria. It is estimated that half of the gasoline consumed in Niger borrows these parallel circuits;

f. Finally, the labor market is an important element to take into consideration. Temporary or permanent migration is one of the main adaptation and household food security strategies in Niger. In addition to Libya (whose role has been challenged and whose future is uncertain), Nigeria is among the main destinations for migrants, and therefore plays a major role in financial flows between the latter and their families at home.

5. This context should significantly evolve in the coming years. Until now, only WAEMU had a Common External Tariff (Customs Union), while the other ECOWAS countries practiced an autonomous tariff policy. In particular, Nigeria practiced a rather protectionist policy and applied high customs tariffs on certain products, or even certain import prohibition periods. This tariff policy divergence in a space structured by transnational trade networks has led to the development of an import trade from Nigeria's neighbors and illegal re-exporting to the latter. Benin, Togo and Niger are the three main countries that have deployed this practice.

6. Since 2006, the formal adoption of the CET by all ECOWAS countries (based on the WAEMU CET) has changed everything. After long negotiations, ECOWAS and WAEMU members have finally adopted a new tariff structure that is more efficient in taking into account the diversity of national positions. The CET, adopted by the two Commissions at the end of 2012 and which will be submitted for adoption to the ECOWAS statutory bodies in the first half of 2013, is now composed of five customs tariff levels: 0, 5, 10, 20 and 35 %. A significant task of re-categorizing products within these five tariff brackets was completed.

7. Now, after the formal adoption of this common external tariff by 15 ECOWAS member countries, the importing/re-exporting flows should naturally stop if the

new tariff structure is effectively implemented by all countries, and with the case of Niger, by Nigeria. This is a major change for integration through trade based on the synergy of the region's economies.

8. Arbitration concerning certain strategic products for the region and for Niger should be taken into consideration. The customs tariffs applied are as follows:

   a. For rice: 10 %

   b. For meat: 35 %

   c. For imported flour (competition for mills): 35%

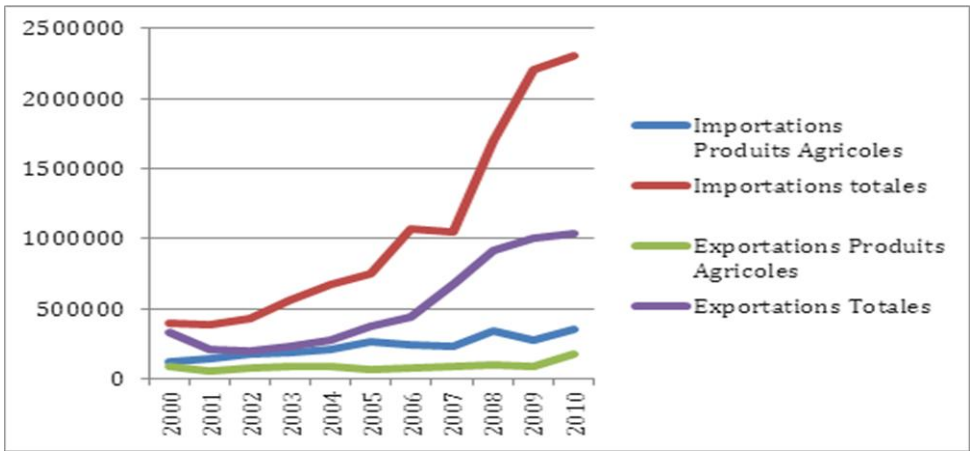
   d. For milk powder, considered as an input for the dairy processing industry: 5%

5.2 A TRADE BALANCE DEFICIT

1. According to statistics from the Department of Commerce and ECOWAS, Niger has a strong trade balance deficit. Averaged over the 2008 and 2009 years, the overall trade deficit amounted to 1.226 billion USD; its exports amounted to 383 million USD, while imports were valued at about 1.61 billion USD. Since 1995, global exports have progressed little (between 250 and 350 million USD) until 2009/2010, but agropastoral product exporting has increased, to the detriment of mining products. Since 2010, exports have experienced spectacular growth, now reaching one billion USD, to bring the trade deficit to 13.9% of the GDP in 2010. As a direct result, agropastoral exports dropped because of the sharp increase in oil[6] (Zinder refinery) and uranium (operation of the Imouraren mine) exports.

[6] Niger estimates that the operation of the refinery will be able to cover the entire domestic demand and export two thirds of production

FIGURE 5: EVOLUTION OF THE OFFICIAL TRADE OF ALL AGRICULTURAL AND FOOD PRODUCTS



Source: FAOSTAT

2. Agricultural and food products represent a very large portion of Niger's external trade: except for uranium mainly exported to Europe, the other export products and all products exported to the sub-region are agricultural and livestock-related.

TABLE 6: PORTION OF THE ECOWAS REGION AND THE REST OF THE WORLD IN NIGER'S TRADE

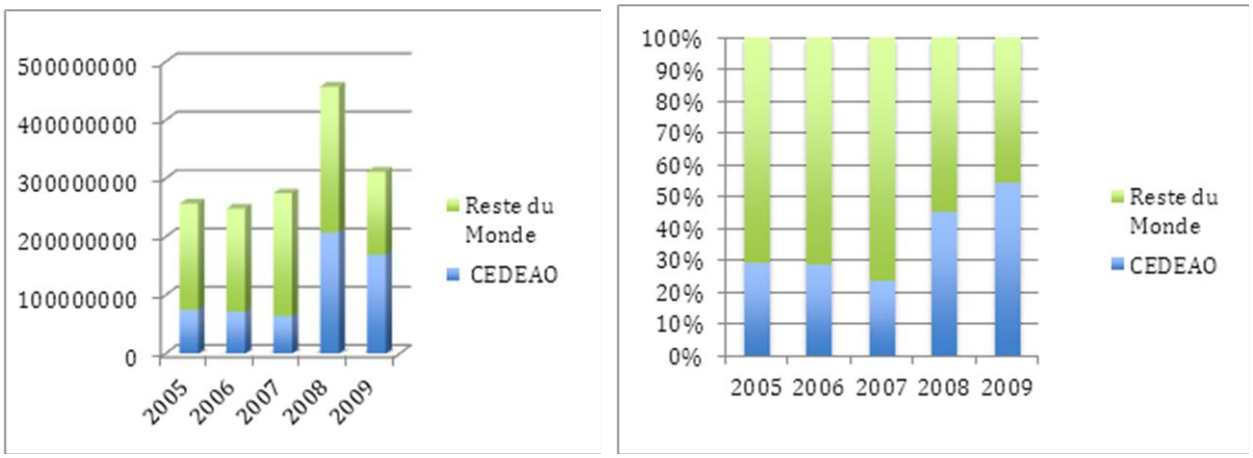
en valeur ($)	2005	2006	2007	2008	2009
Imports CEDEAO	251 394 825	228 985 672	256 409 391	248 421 957	257 363 550
Exports CEDEAO	74 863 279	71 577 928	64 001 991	208 011 158	169 562 783
Balance CEDEAO	-176 531 545	-157 407 744	-192 407 400	-40 410 799	-87 800 767
Imports Reste du Monde	646 161 764	797 906 517	893 667 167	1 180 172 706	1 535 969 627
Exports Reste du Monde	181 915 800	176 778 584	210 398 241	249 258 036	142 109 276
Balance Reste du Monde	-464 245 964	-621 127 934	-683 268 927	-930 914 670	-1 393 860 351
Imports Totales	897 556 589	1 026 892 189	1 150 076 558	1 428 594 663	1 793 333 177
Exports totales	256 779 079	248 356 511	274 400 231	457 269 195	311 672 059
Balance globale	-640 777 510	-778 535 678	-875 676 327	-971 325 469	-1 481 661 118

Source: ECOWAS

3. International trade data (trade with the rest of the world, excluding regional trade) can be considered to be relatively reliable, because it combines export data from the original countries with import data from the importing countries. In contrast, data related to regional trade is highly underestimated. Some studies in the 90s and early 2000s suggest an underestimation of up to 200 to 300%. This would result in three consequences on the analysis:

a. The trade volume is generally underestimated;
b. The portion of regional trade in the total trade of the country would be much higher;
c. Given an underestimation that likely has more of an effect on exports than on imports, the overall trade balance of Niger would be less of a deficit than the official statistics suggest.

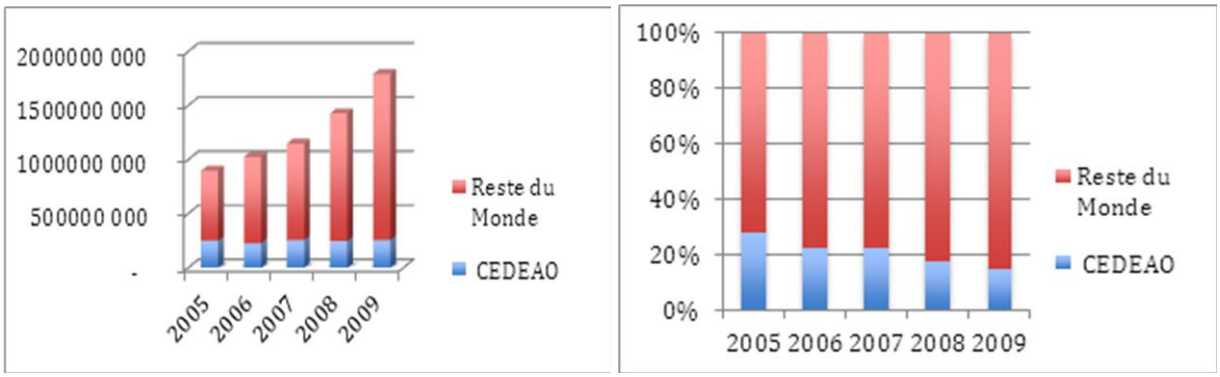
FIGURE 6: RECIPIENTS OF NIGER'S EXPORTS IN VALUE ($) AND %



Source: ECOWAS

4. The official data shows a stagnation of imports from the region, and a strong growth of imports from the global market in recent years. In the opinion of most observers, imports from the region have actually increased significantly, especially for food products.

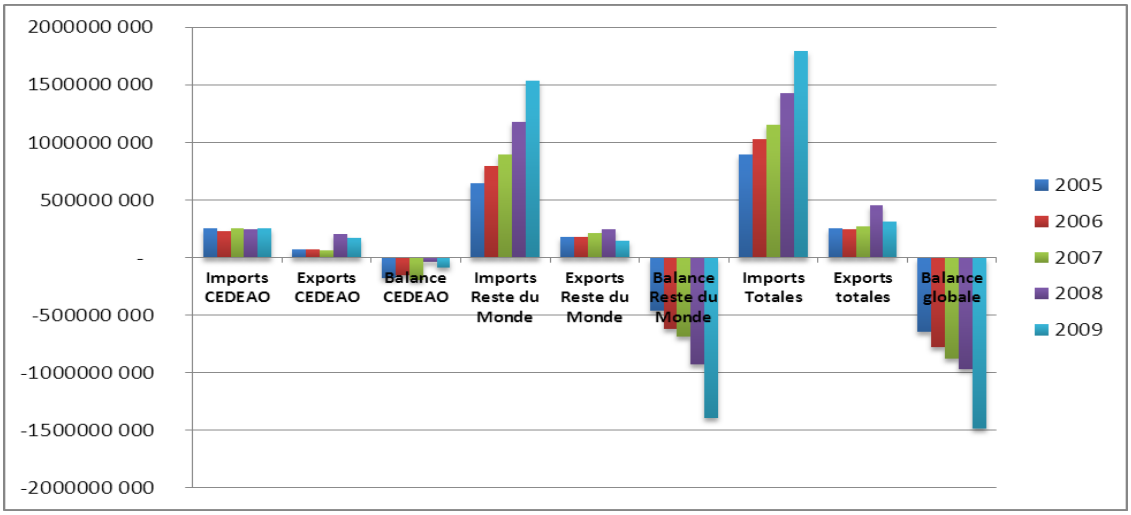
FIGURE 7: ORIGIN OF NIGERIEN IMPORTS IN VALUE ($) AND %



Source: ECOWAS

5. Trade balances with both ECOWAS and with the rest of the world appear to be in deficit. There is little doubt regarding the reliability of the balance with the rest of the world. However, it is difficult to pinpoint the exact situation with other countries in the region. Both livestock and vegetable (mainly onions) exports appear to be very underestimated, just like imports, particularly grains.

FIGURE 8: EVOLUTION OF IMPORTS AND EXPORTS TO THE REGION AND THE REST OF THE WORLD (USD)



Source: ECOWAS

6. Also according to official data (recorded trade), 93% of all product exports (in fact, almost exclusively agricultural and food products) are directed to Nigeria and Ghana.

7. Total imports have slightly more diverse origins, with Nigeria, Ivory Coast and Togo as major suppliers. Among them, agricultural and food product imports are from Ivory Coast, Nigeria, Senegal and, to a lesser extent, neighboring Burkina Faso, Benin, Ghana and Togo.

FIGURE 9: ORIGIN, RECIPIENTS AND SIGNIFICANCE OF NIGERIEN REGIONAL TRADE - OFFICIAL DATA

2009	Exportations		Importations		Dont importations alimentaires	
	Valeur ($)	%	Valeur ($)	%	Valeur ($)	%
Burkina Faso	[illegible]	1,7%	[illegible]	7,1%	[illegible]	8,1%
Bénin	[illegible]	1,5%	[illegible]	2,2%	[illegible]	4,0%
Côte d'Ivoire	[illegible]	2,9%	[illegible]	32,3%	[illegible]	33,0%
Cap-Vert			[illegible]	0,0%		
Ghana	[illegible]	14,1%	[illegible]	5,1%	[illegible]	5,8%
Gambie		0,0%	[illegible]	0,0%		0,0%
Guinée	[illegible]	0,0%	[illegible]	0,2%	[illegible]	0,0%
Guinée Bissau		0,0%	[illegible]	0,0%		0,0%
Liberia		0,0%	[illegible]	0,0%		0,0%
Mali	[illegible]	0,3%	[illegible]	0,4%	[illegible]	1,6%
Nigeria	[illegible]	78,9%	[illegible]	33,7%	[illegible]	21,0%
Sierra Leone	[illegible]	0,0%	[illegible]	0,1%		0,0%
Sénégal	[illegible]	0,0%	[illegible]	2,9%	[illegible]	22,3%
Togo	[illegible]	0,6%	[illegible]	16,0%	[illegible]	4,2%
Total CEDEAO	[illegible]	100,0%	[illegible]	100,0%	[illegible]	100,0%

Source: ECOWAS

FIGURE10: RECIPIENTS OF SUBREGIONAL EXPORTS

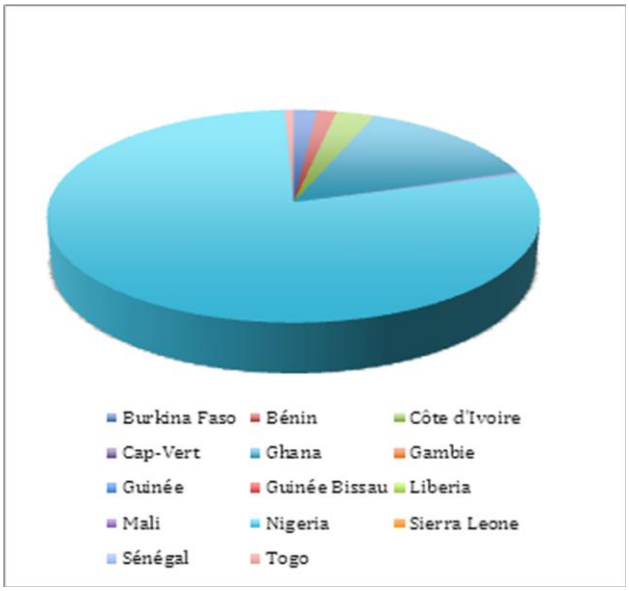
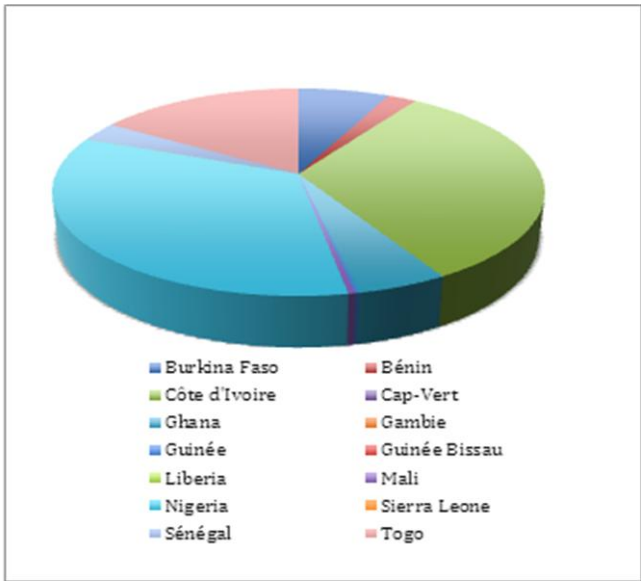


FIGURE 11: ORIGIN OF SUBREGIONAL IMPORTS



Source: ECOWAS

5.3 REGIONAL INTEGRATION THROUGH DIVERSIFIED AGRICULTURAL PRODUCT TRADE

1. Agricultural and food products are the main export to countries in the region. The poor recording of flows at the border does not provide accurate data. As noted in the section covering methodological limitations, data is based on official information on the one hand (FAOSTAT, Department of Commerce), and ad-hoc studies carried out on different production - distribution sectors on the other.

2. Official imports and exports of agricultural products represent a significant portion of Nigerien trade. Over the past ten years, agricultural and food product imports rose sharply (+ 238%), while exports increased by only 180%. Over the same period, the agrofood trade balance deteriorated, going from a deficit of $58 million to $181 million. The portion of agricultural products in total trade fell sharply over the period, due to the very strong growth in capital goods imports (related to mining and oil investments in addition to public building and works) and the growth of exports of products from mining activity.

TABLE7: EVOLUTION OF THE PORTION OF AGRICULTURAL TRADE IN TOTAL TRADE

in $1000.	2000-2001	2004-2005	2009-2010	2009-2010/2000-2001 Evolution
Agricultural Product Imports	130 687	238 853	311 606	238%
Total Imports	389 374	710 369	2 250 000	578%
Portion of Agricultural Products	33,6%	33,6%	13,8%	
Agricultural Product Exports	72 402	79 706	130 381	180%
Total Exports	270 816	326 778	1 020 000	377%
Portion of Agricultural Products	26,7%	24,4%	12,8%	

Source: ECOWAS

3. Niger trades the following main products with its neighbors:

   a. Imports: grains (corn, sorghum, millet and rice), fresh yams, gari, potatoes, sweet potatoes, peanuts, and oil;

   b. Exports: grains (millet and rice), onions, bell peppers, tiger nuts, cowpeas, livestock, hides and skins;

4. The quantification of these flows is difficult to establish, because for the most part, they are not recorded by customs. Estimates are made on the following volumes and are valued in the range of 400 to 700 million USD.

5. Flows not only depend on the "transfer of surplus to deficit markets" logic. Some deficit countries are both importers and exporters of grains, including whether

import/re-export phenomena are excluded. Therefore, while Burkina Faso and Nigeria are deficient in rice exports, they nevertheless export to Niger. In the case of Nigeria, this is explained by the exchange rate and the proximity between Niger's consumption areas and Nigeria's production areas. Wheat, wheat flour and rice flows from Benin and Togo, however, are essentially import/re-export flows (or poorly recorded transit flows). Niger also "benefits" from the rice price differential between its domestic market and Nigeria to export significant amounts to the latter, despite being in deficit.

6. In the case of the 2009-2010 campaign, with a grain deficit, Niger imported 1.159 million tons during the last quarter of 2009 alone, of which 38% was from neighboring countries. Out of this quantity imported from neighboring countries, it is estimated that 42% is formally of a regional origin, 54% is unquestionably of international origin outside of West Africa, and the remaining 4% for rice can be either regional productions or import/re-exports.

TABLE 8: SIGNIFICANCE AND RECIPIENTS OF EXPORTS FROM NIGER IN THE REGION

	Volume of Imports-Exports (T)	Origin of Imports		Export Recipients	
		Regional	International	Regional	International
Millet/sorghum		Nigeria, Burkina Faso, Mali, Benin		Nigeria	
Rice		Nigeria, Benin, Mali, RCI, Togo, Burkina Faso	Asia	Nigeria	
Corn		Benin, Nigeria, Burkina Faso, Ghana, Togo, Mali			
Cattle	E: 0.5-1.3 million sheep and goat heads E: 150-400,000 cattle		EU and Brazil to coastal markets	Nigeria, Benin, Togo, etc. + Central Africa	
Onions	E: 40,000-125,000		EU to coastal markets	Ghana, RCI, Benin, Togo, Nigeria	
Tiger nuts	E: 24,000			Nigeria	Spain
Bell peppers	E: 10,000			Nigeria	
Cowpeas	E: 550,000-800,000			Nigeria, Benin, Ghana, Burkina Faso	
Sesame	E: 5,000-10,000			Burkina Faso, Nigeria	EU, Asia

According to the CILSS, RESIMAO [West African Market Information System Network], ATP [Agribusiness and Trade Promotion], FEWSNET [Famine Early Warning System Network] data

5.4 THE ROLE OF THE REGIONAL MARKET IN NIGERIEN FOOD SECURITY

1. The impact and role of the regional market in Nigerien food security can be understood by focusing on the following parameters:
    a. The contribution of regional food markets to Nigerien supplies;
    b. The contribution of agropastoral product exports to neighboring countries in the generation of Nigerien household income, and consequently in their food security, through the use of this income to cover food expenses;
    c. The impact of this trade on the dynamics of food crop and cash crop production in Niger and in neighboring countries;
    d. The impact on food prices on consumption.

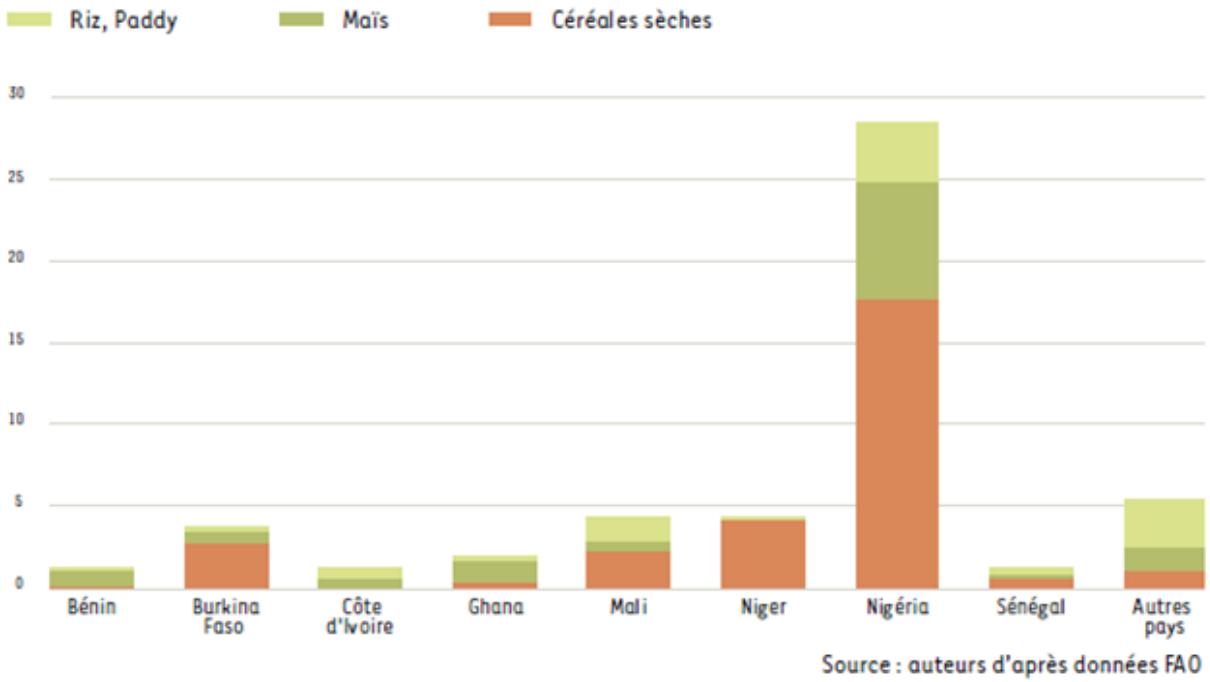
5.4.1 FOOD SUPPLY

1. Niger's recurring deficits can be filled in two ways: (i) the use of imports and food assistance in imported products and/or (ii) the use of supplies in the sub-region.

2. The following graph shows that if Niger is a leading producer of dry grain, with Burkina Faso and Mali, its neighbor Nigeria dominates the supply of the Eastern subspace and throughout the region. Given the interconnection of markets, the production results and the dynamics of grain prices in Nigeria weigh heavily on grain supply in Niger.

3. Aside from dry grains, millet and sorghum, for which production in Niger is quite significant, the production of rice and corn is insignificant in relation to domestic demand. Given its food system, especially in a period of growing urbanization accelerating the penetration of rice and corn, regional trade in Niger is one of the only possible ways to ensure its supply.

FIGURE 12: IMPORTANCE OF NIGER AND ITS NEIGHBORS IN REGIONAL GRAIN PRODUCTION (ECOWAS SPACE-MILLIONS OF TONS)



4. The following chart reports the official grain production and import data for Niger since 1980. It shows the variability of production and the role of imports, in particular, in years where the deficit was very large (1984-1985, 1998, 2005).

5. Official imports accounted for less than 100,000 tons in the early 80s. They now amount to 280,000-400,000 tons. Their portion has roughly doubled in grain availability per capita over a 30-year period. These imports represent a cost of 100 to 130 million USD in recent years.

6. These imports are mainly rice and wheat imported from the global market (70-90%). Generally low, they do not allow the stabilization of availability per capita, which remains very strongly linked to the production level. The gap between production and demand is mostly met by imports of a regional, unregistered origin: corn, millet, sorghum and rice.

7. Estimated grain imports of regional origin are estimated at several hundred thousand tons to more than one million tons, depending on the size of the domestic grain deficit. Furthermore, Niger also exports grains to Nigeria due to the proximity of the demand, trader strategies and the XOF/Naira exchange rate. These imports are valued at between 180 and 660 million USD.

    a. Nigeria, Benin, Ghana and Ivory Coast are the main corn suppliers;

b. Burkina Faso, Nigeria and to a lesser extent, Mali, are the main millet and sorghum suppliers;

c. Due to prices, Niger provides rice to Nigeria (estimate: 60,000 tons);

d. In the post-harvest period, Niger can also provide millet to Nigeria, due to the cash flow needs of farmers and the purchasing-storage strategies of Hausa traders;

8. In addition to grain products, which are the main products of regional origin in volume and in value, many other products, mainly tubers, roots, vegetables and fruits, enter Niger to supply the markets, for the most part urban. These flows are a few thousand or tens of thousands of tons per year.

FIGURE13: PRODUCTION, IMPORTS AND TOTAL GRAIN AVAILABILITY FOR THE 1980 TO 2009 PERIOD (1,000 TONS)

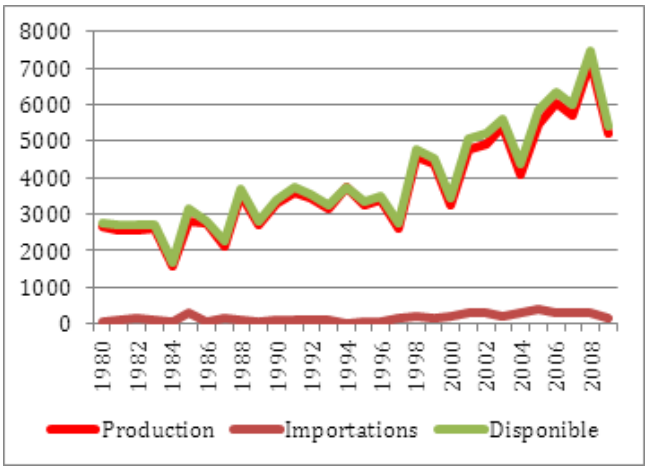
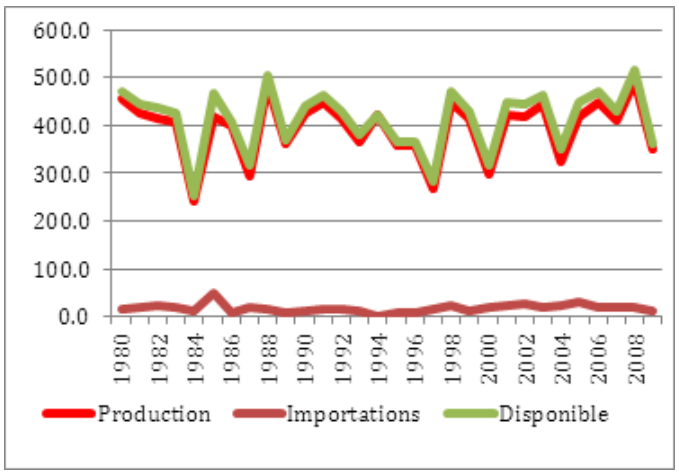


FIGURE14: PRODUCTION, IMPORTS AND AVAILABILITY PER CAPITA OVER THE 1980-2009 PERIOD (KG)



5.4.2 THE CONTRIBUTION OF EXPORTS TO THE SUB-REGION IN INCOME GENERATION

Livestock farming products

1. A great livestock farming country, Niger is a major exporter of live cattle and livestock by-products such as hides and skins, mainly to Nigeria. Extensive nomadic, semi-nomadic or transhumant livestock farming is one of the most effective ways to add value to the immense dry pasture areas of the country. Securing feed supplies for the flock is based on mobility. A growing proportion of livestock farmers are developing systems based on semi-nomadism.

2. In the agricultural zone, many farmers have introduced livestock farming to diversify their income sources and develop more intensive agropastoral systems, with ox-drawn farming and the recovery of animal manure to improve soil

fertility, whose fallow periods have been called into question by expanding cultivated areas and land pressure.

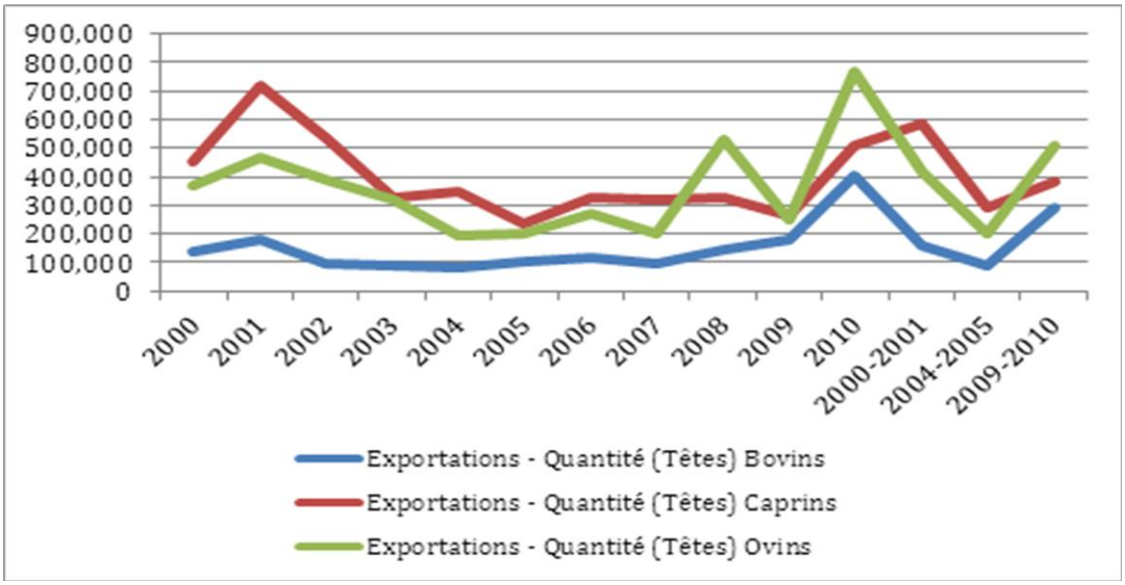
3. It is estimated that livestock in Niger amounts to 31 million animals, of which 30% is cattle (one quarter of ECOWAS livestock), 66% is small ruminants (sheep and goats; one third of ECOWAS livestock). The official export volume varies greatly from year to year, depending on the exportable availabilities, animal corpulence, clearing out of cattle due to feed deficits, etc.

4. Export volume has varied in recent years, between 0.5 and 1.3 million small ruminants, and 150,000 to over 400,000 cattle. In terms of value, this represents between 100 and more than 280 million USD, or 50 to 140 billion XOF.

5. The vast majority of these exports are destined for the Nigerian market, particularly urban markets (Lagos, etc.) and very secondarily, other coastal markets.

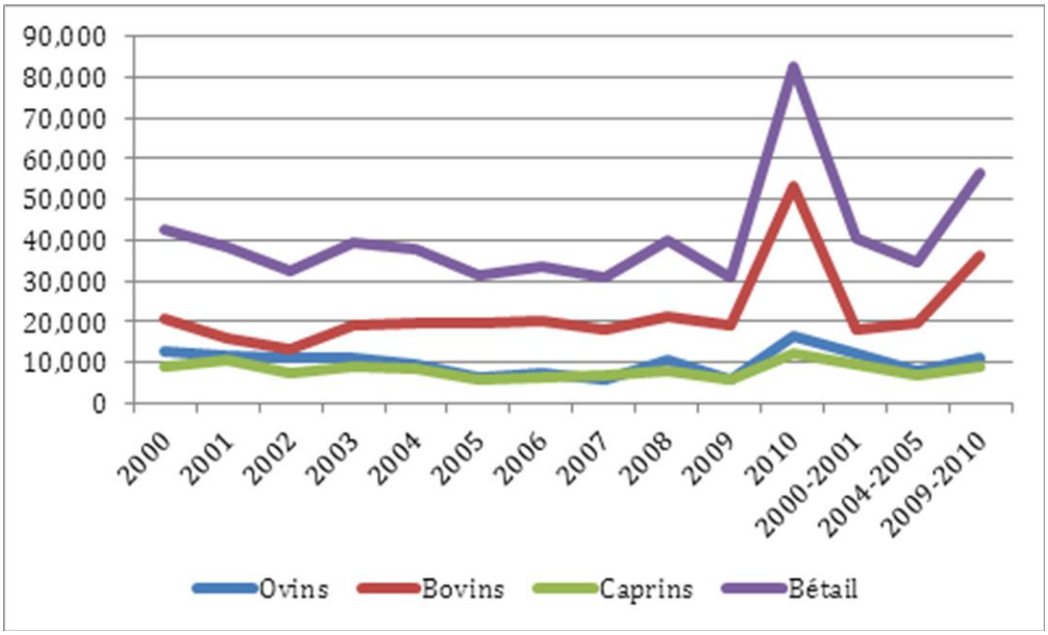
6. Therefore, the subregional exporting of livestock is completely strategic for the livelihoods of livestock farmers and shepherds in Niger. These sales allow them to buy grain and other food products that are essential to household food security. This is why the terms of trade between animals and millet are a major indicator for analyzing food security in livestock farming and agropastoral areas.

FIGURE 15: LIVESTOCK EXPORTS BY NUMBER OF HEADS



Source: FAOSTAT

FIGURE 16: OFFICIAL EXPORTS OF LIVESTOCK IN VALUES ($1000)



Source: FAOSTAT

Onions

7. The domestic production of onions, according to various data sources, is between 394,000 tons (DSA [Department of Agricultural Statistics]) and 560,000 tons (RGA [Network of Agricultural Chambers]). It is concentrated in the Tahoua region (60% of production). Post-harvest losses remain significant, due to insufficient harvesting and conservation techniques. They are estimated at more than 30% of production. For Burkina Faso, Niger is the only country to have sufficient production to meet its domestic consumption and export.

8. Regional total demand is met by imports from Niger and Burkina Faso, as well as imports from the international market, mainly from the Netherlands. The volume imported to West Africa from Europe amounted to 187,000 tons in 2007 (source: FAO according to the ATP). There is a potentially large market for Niger in the coastal countries, if a set of constraints are gradually lifted. Cultivation periods (dry season) concentrate the harvest period over a short period of time and conservation difficulties cannot meet the consumption needs of coastal countries throughout the year.

9. Exports would focus a variable volume, according to sources, between 40,000 and 125,000 tons. Given the production and domestic consumption levels, it is more likely that exports exceed 100,000-120,000 tons. The main buyers are Ghana, Ivory Coast, Benin, Togo and Nigeria (the 1st regional producer and importer). Prices vary greatly depending on the season, due to conservation

difficulties. The competitiveness of Nigerien onions is due to the Galmi Purple variety, which is very popular with consumers, and its relatively moderate production costs, given the high yields, due to the soil and climate characteristics.

10. Onion revenues are estimated at 40 to 50 billion XOF. Onion farmers are among those with the highest incomes. Deficient in grain production, they use a large part of their onion income to ensure family food needs. It is estimated that the net income from onions for farmers is approximately 20 billion XOF (CSA, 2010).

Cowpeas

11. Mostly grown with dry grains, millet and sorghum, cowpeas are produced by a large proportion of Nigerien farmers in the Zinder, Maradi, Tahoua, Tillaberi and Dosso regions. Production was estimated at 837,000 tons on average between 2004 and 2008. According to WECARD [West and Central African Council for Agricultural Research and Development], production in 2010 would have been 1.7 million tons. Niger is the second largest African producer, after Nigeria. Conservation issues are significant, and the double and triple bagging techniques, which ensure good conservation, remain underdeveloped. They affect only 10% of production, whereas they could contribute to a better regulation of the export supply.

12. Cowpeas are therefore an important source of income for farmers in rainfed agricultural systems, where diversification crops with water control are not possible. It is also an important source of income for women who ensure their processing.

13. Exports would cover approximately 70% of production, with a volume of approximately 550,000 to 800,000 tons. Some estimates, however, are much lower.

14. The main countries receiving cowpea exports are Nigeria and Benin, and very secondarily, Ghana and Burkina Faso.

Tiger nuts

15. Tiger nut cultivation concerns approximately 12,700 ha for a production of 26,300 tons (2003). Approximately 95% of the production is carried out in the Maradi region, with an average yield of 3.6 tons/ha. Exports are of a volume of approximately 24,000 tons.

16. Domestic consumption is very low and Niger is the largest exporter in the region, ahead of Mali. Most exports are made to Nigeria, which completes processing before exporting to Spain, the sole global importer.

Bell peppers

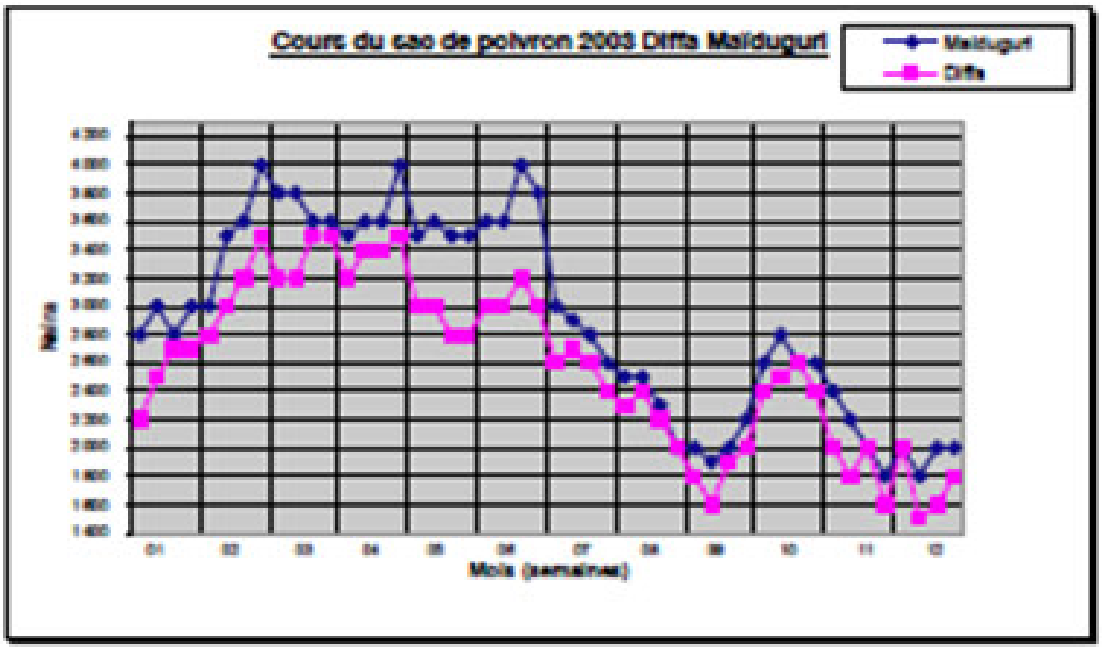
17. Located in the Diffa region, bell pepper cultivation covers a production volume of about 10,000 tons per year, representing a value of 7 to 8 billion XOF.

18. The two main bell pepper markets are the domestic market (very small portion) and mainly exports to Nigeria (80% of production).

19. The following graph shows the leading role played by bell pepper prices on the Nigerian market of Maiduguri on the determination of prices in Diffa.

20. The impact on food security is primarily through the income earned by farmers selling bell peppers. Added to this are types of grain production expansion due to investments permitted by the profitability of bell peppers (ox-drawn farming, fertilizer, etc.), and finally, through the diversified production of market garden vegetables, apart from bell peppers, which allows a strong diversification of household food consumption.

FIGURE 17: IMPACT OF THE NIGERIAN MARKET ON DIFFA BELL PEPPER PRICES



Source: Impact study of the Production and Distribution of Bell Peppers in the Diffa Region in Niger. Final report - December 2005

5.4.3 THE IMPACT OF FOOD PRICES ON CONSUMPTION.

1. Due to the weight of Nigeria (and other coastal countries) in the Nigerien grain market supply structure, northern Nigerian prices directly affect consumer prices in Niger.

2. The following graphs show the correlation between the wholesale price of corn in Kano (Nigeria) and consumer prices in Maradi (Niger). Prices are strongly linked, with a 1-month delay between Kano and Maradi, and a 3-month delay between Kano and Niamey for corn, and for sorghum between Illéla and Niamey. Given the weight of millet production in Niger, the correlation between the prices in Nigeria and Niger is weaker, but still significant.

FIGURE 18: CORRELATION BETWEEN CORN PRICES IN KANO AND MARADI

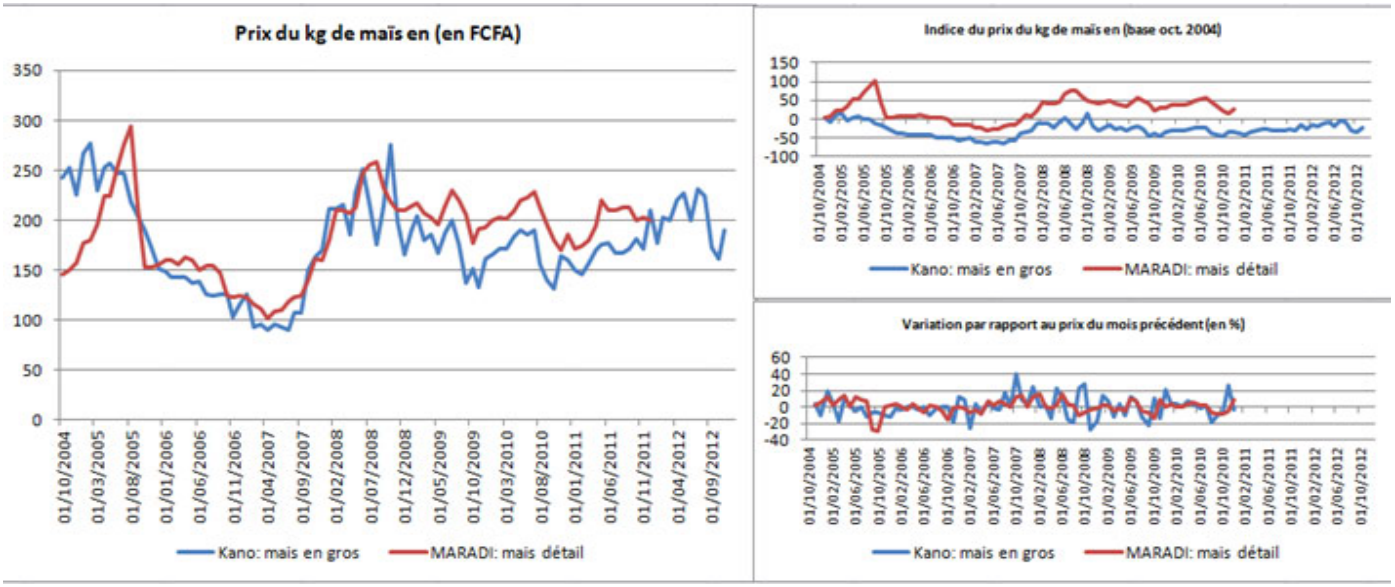
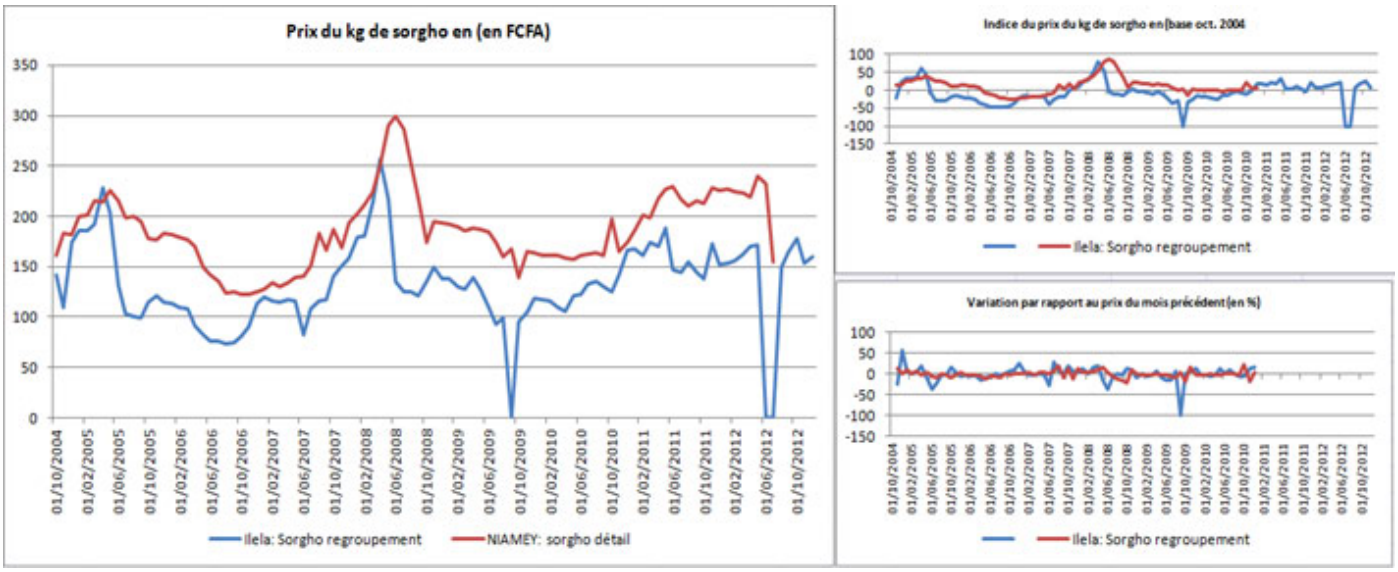


TABLE 9: CORRELATION BETWEEN PRICES IN NIGERIA AND NIGER OVER THE 2004-2011 PERIOD

	Corn prices in Kano	Corn prices in Maradi
Average	176 XOF	185 XOF
Standard deviation	45	41
Coefficient of Variation	25%	22%
Correlation Coefficient	0.67	
Causality	Corn prices in Maradi determine the corn prices in Kano: NO	Corn prices in Kano determine the corn prices in Maradi: YES

3. The analysis of the sorghum and millet markets shows the same phenomenon. The following graph shows the correlation between the sorghum markets in Illéla (Nigeria) and the price of sorghum for consumption in Niamey.

FIGURE 19: CORRELATION BETWEEN SORGHUM PRICES IN ILLÉLA AND IN NIAMEY

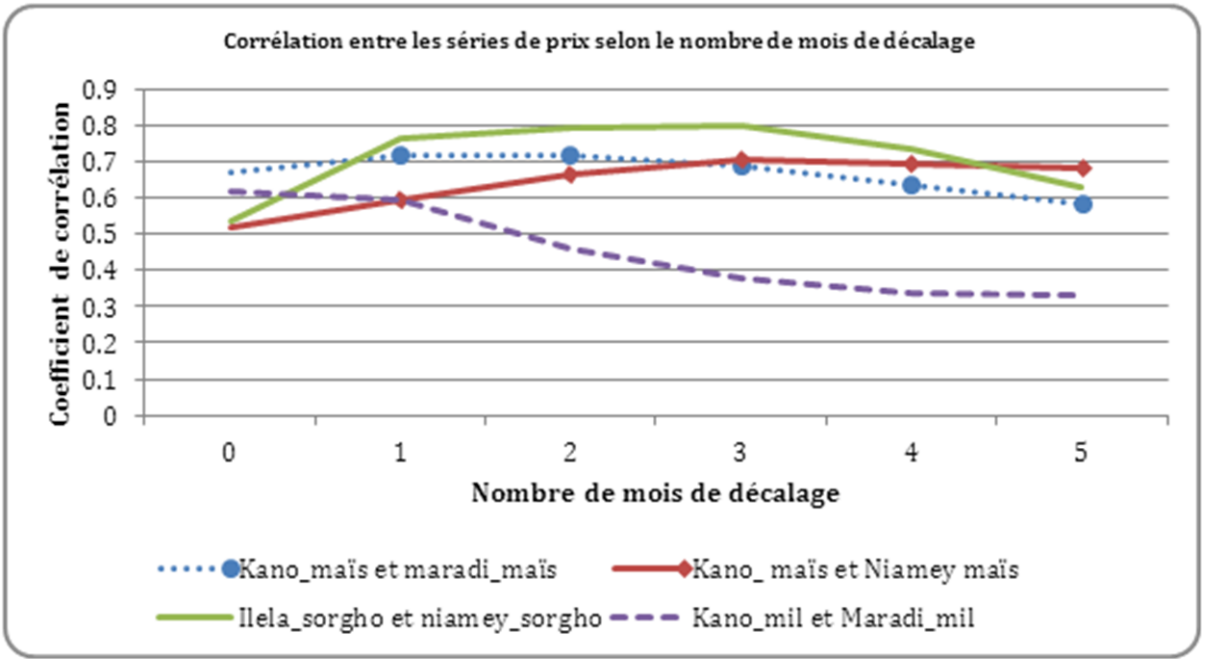


Issala according to SIMA [Food Market Information System] and FEWSNET data

4. The following graph shows the evolution of the correlation coefficients between the prices in Nigeria and Niger, introducing transmission delays associated with transport. The correlations increase for corn and sorghum between 1 and 3 months.

5. Nigeria therefore plays a crucial role in the dynamics of pricing in Niger, and therefore, the accessibility of food for households. This is true for all markets in the region. Given the low purchasing power of households in Niger and the role of prices in food crises, the most complete connection of markets and the increase in their size (decompartmentalization) therefore constitutes one of the major means of stabilizing consumer prices in Niger and in contributing to food security of poor households.

FIGURE 20: CORRELATIONS BETWEEN PRICES IN NIGERIA AND NIGER WITH A TRANSMISSION DELAY



Issala according to SIMA and FEWSNET data

5.4.4 SYNTHESIS ELEMENTS

1. Unlike other countries whose exports are less dependent on regional trade, Niger mostly exports agropastoral products - with the exception of uranium - to the regional market. This is strategic for the Nigerien agricultural sector, whereas agriculture in the broadest sense is the main source of income for 80% of the population.

2. Few products are exported: cattle, bell peppers, onions, tiger nuts and cowpeas. They provide income valued at 200-250 billion XOF, or 400 to 500 million USD.

3. The value of these exports is weakened by the fact that it essentially concerns unprocessed products. The added-value related to processing, which can provide a large number of paid jobs, is performed in the receiving countries.

4. This export value is approximately equal to the value of 1 million tons of grain. This is often the volume imported by Niger to even out its grain balance.

5. The output and income per hectare obtained with sub regional export crops (onions, tiger nuts, bell peppers, cowpeas) are much higher than the profits earned from grain production.

6. In other words, Niger:
    a. Draws a large profit for its agro pastoral economy and its food security from its strong involvement in regional trade;
    b. Is interested in specializing in crops with a high regional demand, even if it has to import grain from the same market.
7. For two sectors: onions and cattle, exports from Niger are directly affected by competition from imports outside Africa. Therefore, these are two sectors where price and non-price (quality, regularity of supply) competitive issues will be crucial in maintaining and increasing market shares. Trade policy measures at the ECOWAS border are also deciding factors.

6. THE REGIONAL MARKET: DOES IT CAUSE OR RESPOND TO FOOD INSECURITY?

1. Regional economic and market integration is generally considered by all stakeholders - governments, professional organizations and the private sector, NGOs - to be an essential and desirable prospect.

2. Faced with the narrowness of domestic markets (except in the case of Nigeria), the regional space is seen as a pertinent context, allowing to:

   a. Increase the size of the market available to private agricultural operators (farmers and their organizations and merchants);

   b. Exploit the synergy of production areas (and some natural comparative advantages or natural specializations) caused by the environmental and climate gradient, and to ensure a better connection between production diversity and the different diets of the population;

   c. Mitigate the impact of production shocks on the availability, prices and accessibility of food products by allowing market players to connect surplus and deficit markets. The diversity of agro-ecological zones in West Africa (a rainfall gradient that varies from under 200 mm in the arid areas of the north to over 3,500 mm in the humid tropical areas of the south), allows the distribution of production risks;

   d. Going hand in hand with the previous point, increasing the size of the market, better regulation of supply and demand, and consequently, forms of self-regulation and stabilization of prices by the market.

6.1 A DIFFICULT RECONCILIATION BETWEEN PRINCIPLES AND REALITIES

3. Confronted with the expected benefits of the regional integration project, the reality is different for four main reasons:

   a. Market imperfections and imperfect competition as a result of several factors:

      i. The quality, availability and accessibility of information for different player categories;

      ii. Trade player strategies (private merchants and agricultural cooperatives), and in particular, low risk-taking in an unstable market,

with little predictability of public decisions (public destocking, export bans, etc.) and the absence of insurance mechanisms;

iii. Infrastructure storage and communication vulnerabilities (isolation of the more remote areas from urban centers, sparsely populated and with a reduced purchasing power).

b. Malfunctioning of public utilities, despite the efforts put forth by the States. These practices result in high direct (undue taxes) and indirect (lost time) costs in transactions, and have an impact on prices at both ends of the food chain (farmers and consumers).

c. Insecurity on the lines of communication as a result of political unrest, criminal networks and terrorist networks. Niger is particularly affected by political and terrorist movements located in northern Mali and in the south by the actions of the Boko Haram group (border closures).

d. Decisions of national public policies. These decisions express several types of contradictions:

i. *Between the short-term and long-term challenges*: border closures decided in the event of grain deficits in a neighboring country contradict the commitments made by the countries in the region, and the prerogatives transferred to the region (sovereignty in trade matters). In Central and Eastern subspaces, Mali, Burkina Faso and Nigeria, in turn, make use of such measures in response to the prospect of shortages in Niger.

ii. *Between divergent domestic interests*. As such, the following are included: (i) the decisions taken by States in response to the rise in international prices in 2008 and leading to the questioning of the Common External Tariff (suspensions or reductions of customs tariffs, in particular, on rice and wheat); (ii) long-term differences between the emphasis on local production and priority access to food for the poor urban populations (see arbitration on rice customs tariffs). The competitiveness of local food supply chains and the reduction of transaction costs in regional trade is a key element in the reconciliation between these two objectives: remunerative prices for farmers and price moderation for the consumers.

iii. *The priority given to domestic self-sufficiency in relation to integration in the regional economy*. The "3N" initiative promoted by the Government of Niger is an example, but other countries have similar plans.

4. In reality, the countries consider the regional space to be an area that increases uncertainty and risk in the event of a food crisis. As a result, strategies involving the closing of borders to prevent the exiting of food and to secure domestic supply have been established. Therefore, one should consider the actions that need to be taken to move towards a perception of the regional space as a security tool in the event of a crisis. The creation of a regional food security reserve by ECOWAS (physical and financial inventory) acting as a support for

countries in the management of responses to food crises is a first step in this strategy.

5. Finally, in the event of crisis, the markets appear to be a very important element of crisis management. Food transfers provided by the market are incommensurate with the volume of transfers provided by humanitarian organizations. In addition, the market responds in a timely manner, while the mobilization of international aid requires substantial financial resources, which takes a long time to assemble. The comparison between the 2005 crisis and the 2010 crisis is illustrative. In the first case, the deficit in Niger was part of a regional context marked by poor harvests in coastal countries. Prices soared in Niger and markets were poorly supplied. In the second case, Niger was able to rely on the regional market, although prices were very high. In 2005, delays in mobilizing international aid were very long, due to the difficulty of supplying the regional market to supply food assistance programs.

6.2 REGIONAL MARKET AND NUTRITION

1. The previous sections have highlighted:
   a. The importance of malnutrition, particularly in the Sahel region, and more specifically, in Niger;
   b. The potential of synergy in the region between production areas;
   c. The role of regional flows in order to match food supply and demand, the diversity of production and the diversity of food systems.
2. Regional trade historically operates on this synergy between product supply and demand. While the low diversification of diets is not the only cause of malnutrition, especially among children, it is nonetheless an important reason. The fluidity of trade is therefore an important element of a comprehensive response to malnutrition.
3. However, significant diversification products with regard to nutrition are mainly dairy products, fruits and vegetables. These three categories of products are highly perishable. Thus, they are particularly affected by trade barriers: the perishable nature of cargo increases the level of informal taxes and the loss of time is accompanied by significant losses.
4. The removal of barriers is not only a short-term challenge in order to reduce losses and costs, but a condition to value chain player investment in the production, processing and export of such products as high-added value.

6.3 REGIONAL MARKET AND IMPORT MANAGEMENT

1. Niger is a food importer on the international market, which mainly passes through the port of Cotonou. It also exports products to the regional market, competing with products imported from the international market: particularly Dutch onions, in addition to European and Brazilian meat.

2. The trade policy applied on such imports is a prerogative of regional integration institutions, ECOWAS and WAEMU (CET).

3. The challenge for Niger is threefold:

    a. For imported products competing with the domestic industry (mainly milk and grains), it expects the trade policy of the ECOWAS borders to provide adequate protection for its products, but its status as a net importer results in an additional cost to the consumer.

    b. For products exported by Niger, the latter is concerned that its exports to the sub regional market will be affected by imports from the world market. It is particularly very sensitive to the issue of export subsidies from European countries. And yet, non-producing coastal states must choose between imports from Niger (meats, onions) and foreign imports.

    c. Finally, Niger is very sensitive to price volatility in terms of food security. Since 2007, the instability and rising prices of grain and milk powder in global markets have exacerbated price volatility in the Nigerien market. Niger does not, except in emergency cases (grain sales at moderate prices, food aid), use instruments to regulate prices and reduce the impact of volatility on national markets and consumers. It is therefore very sensitive to trade defense measures being prepared by ECOWAS and WAEMU (safeguarding measures, temporary taxes, etc.).

4. For all of these questions, Niger is required to build and defend its positions in regional institutions, and seek alliances and compromises that allow it to defend its specific interests.

6.4 PRO-ACTIVE PUBLIC POLICIES, BUT REDUCED TO THE NATIONAL PRISM

1. Niger's public policy with regard to food security has long rested on two pillars corresponding to the two standard dimensions of food security:

    a. Structural policies: the Rural Development Strategy (RDS) focused on structural food security, of which the development process launched in 2001 led to an adoption by the Government in late 2003. It is replaced by the "3 N" Initiative (Nigeriens Nourishing Nigeriens), integrated by the Presidency of the

Republic[7] . The "3N" initiative, defined up to 2035, is included in the Economic and Social Development Plan (PDES) for the 2012-2015 period.

b. The device for the prevention and management of food crises, the DNPGCA is focused on cyclical food insecurity. The device is controlled by the Prime Minister and relies on intervention and consultation tools shared by State funding agencies. :

2. Reflecting strong political leadership, the global and specific objectives of the "3N" Initiative are respectively "sheltering Nigeriens from famine and guaranteeing conditions for their full participation in domestic production and improving their income," and "strengthening national capacities for food production, supply and resilience to food crises and natural disasters."

3. Please note that during the revision of the Constitution, Nigeriens' right to food was introduced in the country's new Constitution (Article 12). The "3N" Initiative is presented as the way in which the Government intends to implement this human right.

4. Despite its very strong involvement in the regional economy and the many interdependencies with agricultural and food economies of neighboring countries, Niger has built different strategies since the late 90's by focusing its attention and reasoning on the domestic economy. The regional dimension of agricultural and livestock farming dynamics remained poorly integrated.

5. The "3 N" Initiative refers to formal regional integration frameworks, notably the WAEMU Agricultural Policy (WAP) and the ECOWAS agricultural policy (ECOWAP/CAADP). However, these references are not broken down in the Initiative. The latter is similar to an approach aiming for "national food self-sufficiency," rather than food security or food sovereignty in a regional context and the ability to use agricultural and livestock farming economy synergy.

[7] "3N" Initiative High Commission

7. OUTLOOK

1. The outlook for food security in Niger should be considered by crossing a set of deciding factors: demographics that first determine the demand for food, production potential, income dynamics and distribution, and finally, prospects for better regional integration.

2. One of the most severe constraints facing the country concerns population dynamics. Many studies try to evaluate possible scenarios based on a number of variables (fertility, mortality, population and health policies, etc.) possible scenarios.

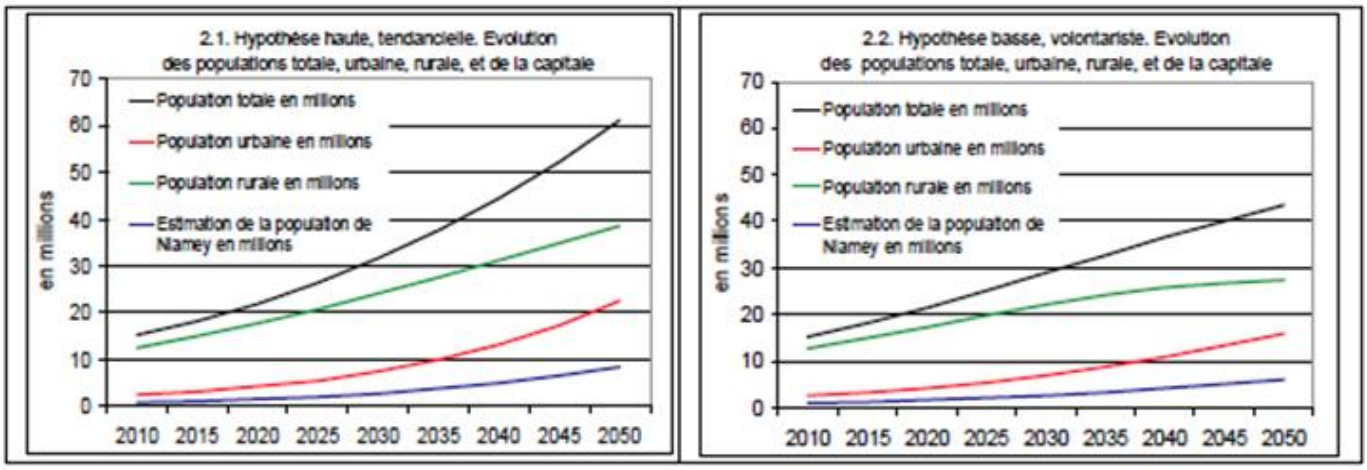
3. The scenarios differ little according to trends from now to 2030-2035, because the determinants are already in place (high birth rate, massive reduction in mortality). They are much more differentiated in 2050.

    a. By 2030: the total population will be between 29 and 32 million, of which 6.8 to 7.4 million will be in urban cities

    b. By 2050: The global population will be 43-61 million people, with 16-22 million living in the city.

4. On this basis, it is possible to envisage a doubling of food demand in relation to the current period in 2030. In 2050, the demand for food will increase by 168% to 281% depending on the population dynamics.

FIGURE 21: PROJECTIONS OF THE TOTAL POPULATION, URBAN AND RURAL, 2010-2050[8]



Source : Projections faites dans le cadre de l'étude

5. The evolution of income and its distribution is much more difficult to assess. Based on a growth rate of 7% (target set by the Government), it will take between 18 and 20 years to double the average GDP per capita. With a growth rate of 5%, it will take 32 to 43 years (depending on demographic scenarios) to achieve this goal.

6. Given the current level of mass poverty that affects about 60% of the population and the growing cohort of young people who will join the job market each year, the issue of growth and employment reserves is at the heart of the debate on poverty reduction, and consequently, food security.

7. Given the changing security context in the region, it is unlikely that the tourism sector can really be a source of wealth in the short- to medium-term. Therefore, mining and oil on the one hand, and the agro pastoral sector on the other, remain the main sources of income.

8. The mining and oil sector is conducive to growth, but provides relatively little jobs. For this sector, taxation on the one hand, and the use of mining income on the other, may or may not ensure a minimum income redistribution within the population.

9. In the agricultural and livestock farming sector, demographic perspectives show that, despite increasing urbanization, the rural population will continue to significantly grow in terms of the natural resource base available. Therefore, the average size of farms should lead to its further reduction, when it is already very low (4.1 ha on average).

[8] Source: How to benefit from the demographic dividend? Niger country analysis. AFD. 2011

10. Niger would have a potential of 15.5 million hectares of arable land, of which 6.5 million are currently being exploited. However, available land is located in the agro pastoral zone and has a low potential for production.

11. Moreover, the potential irrigable land is reduced: 270,000 ha, of which a significant part is already developed. In addition to these constraints, there are the impacts of climate change and variability, which is one of the main factors of uncertainty for the future.

12. In the short- and medium-term, Niger remains highly exposed to climate vagaries. Except in cash crop production areas for exporting, farming systems rely on rain-fed agricultural systems with very small farms having a very low investment capacity.

13. Domestic flexibility is essential for improving the performance of rain-fed production systems and encouraging farmers to adopt sustainable intensification techniques and diversify their production panels, activities and sources of income. In this regard, the efforts for enhancing the value of products (storage financing, investments in storage infrastructure and conservation, regulation of marketing, processing, etc.) and the structuring of value chains are important strategy elements to take into consideration. The fluidity of trade and reducing transaction costs in the sub regional value chains can improve the compensation of farmers and other industry agents, while improving the competitiveness of products in consumer markets.

14. Agricultural and food security policies primarily demonstrate an objective to increase animal production and food production for the Nigerien market. An economic analysis should focus on the objective of increasing the livelihoods of rural households, and therefore place more emphasis on the production development potential. In this context, the regional market is a decisive opportunity to increase revenue, and thereby the access to food of rural households.

Box2: The National Strategy: Questionable Underlying Assumptions

Inherently, the 3N Initiative is based on assumptions that neglect the regional component:

a. *The country has a production capacity that is possible to develop to meet the needs which will double in the next 20 years*. For grains alone, this signifies expanding an average production of 4.15 million tons to 8.3 million tons[9] in 2035. In 2015, the country aims to increase animal and vegetable production by more than 40%!

b. *The production structure is in line with changing diets*. The PDES assumes that 40% of

[9] Average production for the 2007-2011 period. Source: Division of Statistics for the Department of Agriculture

the population in 2035 will be urban. Given the changing diets that accompany urbanization, the demand for rice and corn should be multiplied by about 4. However, these two grains now account for only less than 1% of the national grain production, and the potential for irrigation is reduced.

C. *It is possible for all farmers to escape poverty by increasing and securing their production systems*. This raises two questions: will the techno-economic size of farms allow it? How can security and expansions be achieved in all areas receiving less than 600 mm of rain, with low water irrigation potential, and systems that are highly vulnerable to climate variability and change?

d. *Production systems should be adapted to domestic demand rather than subregional exporting*. However, export production (onions, sesame, cowpeas, tiger nuts) are mainly cultivated in the productive agricultural belt, the most fertile in the country. Given the level of profitability of these crops, differential purchasing power between Nigerien consumers and consumers of coastal countries, the question arises as to the importance of developing exports of products with high added value in return for imports of food products belonging to the basic diet (grains, tubers), in other words, to better exploit the production synergy within the region.

8. CONCLUSIONS

1. The regional market strongly influences food security conditions in Niger, on which a significant proportion of households depending, through (i) agro pastoral export revenue, (ii) a food supply mostly composed of grains, (iii) the transmission of prices and their impact on access to food for households.

2. This role is hampered by the current operation of the regional market:

    a. Trade barriers make the following more expensive:

        i. transaction costs and consumer prices for products imported from the regional market;

        ii. transaction costs, and they affect the competitiveness of products exported to the regional market;

        iii. and they limit the role of price stabilization that the regional market could have on the domestic market.

    b. Public policies have elements of unpredictability that hinder or discourage economic operator investment (private sector, agricultural cooperatives) in regional value chains;

3. Information regarding the regional market remains weak. It does not reflect price structures and flows along the regional value chains. Trade information is also underdeveloped and does not favor the emergence of a more competitive market.

4. The exporting of unprocessed products deprives Niger and its economic agents of a high added value, to significantly improve the livelihoods of households.

5. The weak structure of value chains and the absence of contracts between agents results in high price volatility and the low predictability of markets.

6. The regional market is not a constraint or a handicap to achieving food security in a country, but rather, a true opportunity to build it. The regional market is an essential means in the search for better food security.

7. Market forces are such that uncoordinated national public policies cannot regulate it and oppose it. The regional approach is the only approach that can help to efficiently work on malfunctions and market regulation, to reduce instabilities that are harmful to both farmers and consumers.

8. Niger's population growth constitutes a major issue. Food needs are expected to double in the next 20-25 years. To meet this challenge, Niger will combine several strategies:

a. Modernizing its production systems to provide security for farmers, increase productivity and improve the livelihoods of rural households;
b. b. Investing in institutions to support farmers in sector structuring and the promotion of downstream activities to increase the added value of exported products;
c. Developing structural social safety nets for the poorest households that are vulnerable to shocks, to increase resilience and avoid decapitalization of their assets;
d. Investing in managing the impacts of climate change on natural resources;
e. Deepening its integration into the regional market, both exports and imports, and influencing trade policy in the region, both in terms of the internal market (free movement) and in terms of the ECOWAS border trade policy;
f. Managing the migration of people within the region.

9 MAIN BIBLIOGRAPHIC REFERENCES

AFD [French Development Agency]. How to Benefit from the Demographic Dividend? Niger Country Analysis. 2011.

ATP/USAID. Subregional Evaluation of the Onion/Shallot Value Chain in West Africa. December 2008.

Bricas N., Tchamda C., Thirion M.C. and Fall M., 2012. Food Market and Consumption in West Africa, Cameroon and Chad. Synthesis of 25 national and urban surveys regarding household consumption. Paris, Montpellier, Bamako, AFD, CIRAD, AFRISTAT.

BAD-OCDE-PNUD-CEA. Economic Outlook in Africa 2012. Niger Paper. www.africaneconomicoutlook.org

Blein et Al. Grains at the Heart of a Fertile West Africa. ROPPA-SOS FAIM-Issala-LARES. 2012.

CILSS. Food Crisis Prevention Network (RPCA). Twenty Years of Preventing Food Crises in the Sahel: Results and Perspectives. 2004.

CILSS. Different Bulletins and Publications.

CSA. The Onion Industry in Niger. 2011.

CSAO-OCDE. Population, Market and Food Security. West Africa Outlook. West Africa Specifications. 2012.

CSAO/OCDE-CEDEAO. Livestock Farming and the Regional Market in the Sahel and West Africa: Potential and Challenges. 2008.

ENDA Third World. The Future of Intra-regional Trade in West Africa. 2010.

FAO/GIEWS. Markets, Prices, Food Situation and Prospects for Benin, Niger and Nigeria; April 2008.

FAO. Action Guide for Countries Facing Soaring Food Prices. 2011.

FAO. The State of Food Insecurity in the World. SOFI. 2012

FAO. World Food and Agriculture Situation. SOFA. 2012.

FARM. Agricultural Potential of West Africa. 2008.

FARM. Rising Food Prices in West Africa. Review and Analysis of Short- and Medium-Term Measures. 2008.

Nigerien Federation of Professional Agricultural Organizations (SA'A). Business Plan for the Distribution of Exported Tiger nuts, 2008.

FEWSNET: Different National and Regional Bulletins.

GRET-AFD. Analysis of the Consistency of Trade Policies in West Africa. Discussion Paper no. 114. June 2011.

Grain de Sel. Special Issue - Nigeria. A Glance at the Agriculture Giant of West Africa. No. 51. July-September 2010.

Gubbels P. Breaking the Cycle of Hunger. Pathways to Resilience in the Sahel. Sahel Task Force. 2011.

INS. National Report on Progress Towards Accomplishing the Millennium Development Goals. 2010.

Inter-Réseaux Développement Rural-AFD-CTA. Market Access and Distribution of Agricultural Products. Farmer Promotion Initiatives. 2009.

Marou Zarafi Assane. Economic Potential of New and Old Agricultural and Forest Products in the Sahel; INRAN-ICRISAT; 2009

Michiels D., Egg J. et Al. Food Crisis Management and Prevention Policies. Lessons from the 2005 Niger Crisis. MAEE France-DGCID. 2007.

Michiels D. et Al. The Repetition of Food and Nutrition Crises in Niger: the Urgent Reform of Food Security Policies; Agriculture Specifications, Volume 21, Issue 5. 2012.

Michiels D. and Blein R. Evaluation of 2010 Crisis Response Systems. Volume 1: Diagnosis and Recommendations Review. DNPGCA-DUE. June 2011.

PAM-SIMA-FEWSNET. Albichir Bulletin. In-depth Analysis of Markets and Food Security in Niger. Various Issues.

Department of Commerce. The Modernization of Trade During the Mining Boom. Diagnostic Study of Trade Integration, Integrated Framework Program. 2008.

OXFAM. Sahelian Markets Under Severe Tension. Paper Covering the Sahelian Market Situation. 2012.

Presidency of Niger. "3N" Initiative for Food and Nutrition Security and Sustainable Agricultural Development "Nigeriens Nourishing Nigeriens"; Investment Plan for 2012-2015; Volume 1; October 2012;

Pret P.F. et Al. Impact Assessment of the Production and Distribution of Bell Peppers in the Diffa Region of Niger; CE-AGRIFOR Consult; 2005;

RECA. Result of Rural Industry Studies in Niger; Summary Analyses of 9 sectors; 2010;

Republic of Niger-WFP. Shocks and Vulnerability in Niger: Analysis of Secondary Data. Comprehensive Report 2010.

Republic of Niger. Economic and Social Development Plan (PDES) for 2012-2015. 2012.

Republic of Niger. Rural Development Strategy. The Rural Sector, the Driving Engine of Economic Growth. 2003.

Republic of Niger. Rural Development Strategy. Action Plan. 2006.

Republic of Niger. Department of Agriculture. Preliminary Review of the Harvests from the 2012 Seasonal Agricultural Campaign

Republic of Niger. "3N" Initiative for Food Security and Sustainable Agricultural Development "Nigeriens Nourishing Nigeriens." Strategic Context, Vision for 2035 and the 2011-2015 Action Plan.

Republic of Niger-UNS. Acceleration of MDGs: Food and Nutritional Security. 2011