

NIGER FOOD SECURITY BRIEF



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FROM THE AMERICAN PEOPLE

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ABOUT FEWS NET

Created in response to the 1984 famines in East and West Africa, the Famine Early Warning Systems Network (FEWS NET) provides early warning and integrated, forward-looking analysis of the many factors that contribute to food insecurity. FEWS NET aims to: inform decision-makers and contribute to their emergency response planning; support partners in conducting early warning analysis and forecasting; and provide technical assistance to partner-led initiatives.

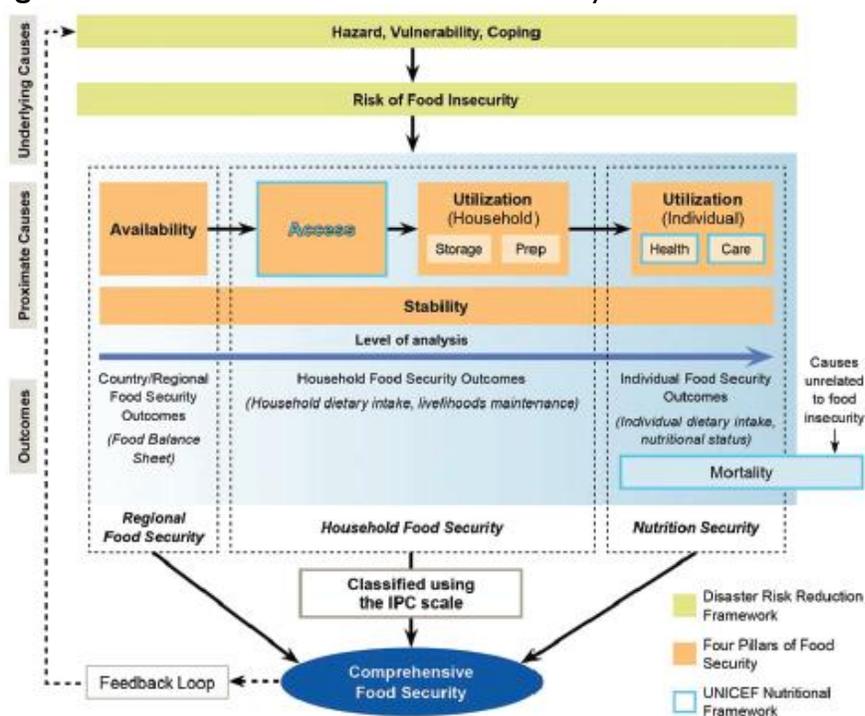
Introduction

Over the last three decades, FEWS NET has steadily built a core set of integrated materials on livelihoods, household vulnerability, nutrition, trade, and agro-climatology through fieldwork and secondary data collection and research. FEWS NET also looks beyond the immediate context to understand the broader context and the underlying causes of food insecurity. This Food Security Brief draws on FEWS NET research and an array of other sources to provide an overview of the food security context and the main determinants of chronic and acute food insecurity, and highlight areas or livelihood zones at most risk of food insecurity. It is a starting point for anyone seeking a deep understanding of the range of factors influencing food security in Niger.

The brief is organized around the FEWS NET Household Livelihoods Analytical Framework (Figure 1), which looks at underlying and proximate causes of food insecurity as a means to inform outcomes at the regional and household levels. At the core of this analysis is an understanding of hazards and their magnitude and extent, household vulnerability to hazards, and coping capacity in response. Together these factors determine the risk of food security at the household level. A household's level of vulnerability to a particular hazard will vary depending on how the household meets its basic needs, which is related to its livelihood system. Livelihood systems comprise the assets or capitals (social, natural, physical, financial, productive, and human) available to a household.

The following definitions guide the analysis of the Food Security Brief:

Figure 1. FEWS NET Household Livelihoods Analytical Framework



Source: FEWS NET

- *Food security*: FEWS NET uses the commonly accepted definition of food security as a situation where all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.¹ These conditions are underpinned by the ‘four pillars’ of food security: availability, access, utilization, and stability. Availability, access, and utilization are hierarchical, in that food availability is necessary but not sufficient for access, and access is necessary but not sufficient for utilization.² Chronic food insecurity is typically due to a complex combination of some or all of the four pillars, resulting in long-term lack of sufficient food in quantity or quality.
- *Food availability*: Food availability, the supply side of food security, refers to the physical existence of food, from a household’s own production or from markets, including commercial food imports and food aid. Adequate availability is a prerequisite for people to meet basic food needs, but often the mere presence of food does not ensure access to “sufficient, safe and nutritious food.”
- *Food access*: Food access, related to the demand for food, refers to a household’s ability to obtain foods for a nutritious diet through a combination of production, purchase, gifts, and transfers. Access is influenced by physical access (infrastructure), sociopolitical access (e.g., traditional rights to common resources), and economic access (ability to generate income, purchasing power, and the evolution of real incomes and food prices). Additional factors include access and control of productive resources, such as land, seed and water; governance; legal and regulatory frameworks; the macroeconomic environment; gender dynamics; HIV/AIDS and other diseases; and emergencies and conflicts.³
- *Utilization*: Utilization refers to how well individuals utilize the food they access, including sufficient energy and nutrient intake and the ability to absorb nutrients. These factors are influenced by care and feeding practices, food preparation, the diversity of the diet, and intra-household distribution of food. Nutrient absorptive capacity can also be influenced by factors including sanitation and hygiene conditions and disease.
- *Stability*: Stability underpins the other three pillars and captures the level of uncertainty or vulnerability to future disruptions in food security. Risks to stability include climatic change, conflict, price shocks, and disease, among other factors.

Most sections of this report identify related “Key FEWS NET Resources.” For additional FEWS NET resources on Niger, including FEWS NET Outlook reports and Outlook updates, visit [FEWS NET Niger](#).

Executive Summary

Food insecurity in Niger is the confluence of highly variable and inconsistent rainfall patterns; low agricultural productivity and competitiveness and ensuing net domestic food production deficits; exceptionally rapid population growth, and a high degree of economic and commercial interdependence with neighboring countries, particularly Nigeria. A changing climate, demographic shifts, evolving livelihoods patterns, political instability, and poor market competitiveness in the region are all currently impacting food security outcomes, and will continue to do so in the coming years. This Brief explores the most relevant factors impacting the key food security pillars of availability, access, utilization, and stability.

In Niger, food security is largely influenced by rainfed agricultural production and the stability of domestic as well as regional trade flows. Only 15 percent of the country's land area is arable, and seasonal rainfall is highly variable. Nonetheless, domestic cereal production is a primary source of both food and income at the household level (supplemented by cash crop sales and livestock marketing), and a determinant of critical seasonal labor demand for poor households. Agricultural production, including cereals, and cash crops, comprises more than 40 percent of Gross Domestic Product (GDP), and provides an economic lifeline to over 80 percent of Niger's mostly rural population through informal labor and food reserves. Domestic production of millet, the most important and preferred staple crop, has steadily increased to meet the robust demand generated by the sixth fastest growing population in the world. However, millet consumption in Niger outpaces available regional stocks and production, and ensuing pressure on prices has a direct impact on household access to this staple food.

Expanded land under cultivation (extensification) rather than increasing yields underpins increased cereal production over the last decade, although Niger remains heavily dependent on cereal imports to account for annual food production deficits. Low yielding practices also impact production, as most subsistence growers depend on inter-cropping, which mitigates drought risk but is less efficient for cereals, vegetables, and tuber cropping. Government investment in the agriculture sector is among the lowest in the region.

A landlocked nation, Niger's national and household economies are highly dependent on imports from and exports to Nigeria, as well as other regional neighbors. Approximately 20 percent of Niger's cereal needs are met through imports, primarily from Nigeria. Similarly, Nigeria is the primary consumer and source of demand for livestock from Niger. The integrated supply and demand systems that link markets in Nigeria and throughout Niger are frequently a source of vulnerability, and often result in price variations and rapid shifts in availability of staple foods on Niger's rural marketing systems. The quantities of staple foods (primarily cereals) that are produced and traded both internally and across borders are small-scale, as are inter-annual household and commercial stocks, resulting in a generally thin market system that is vulnerable to even minor shocks. Unlike its more agriculturally productive neighbors (Mali, Burkina Faso), Nigerien markets are highly responsive to even minimal shifts in supply and demand. In poor production years, household market access to meet basic food needs may be directly influenced by political instability or production failures that occur in neighboring countries.

With an average household size of over seven people, Niger's extreme pace of population growth (3.9 percent) foreshadows continued pressure on the capacity of institutional systems to meet food needs, manage natural resources, and improve human services, especially when compared to the regional West Africa average of 2.7 percent.⁴ Ranking 186 out of 187 according to the 2012 UN Human Development Index, Niger has some of the lowest human development indicators in the world. The Government of Niger has made considerable investments in expanding basic services such as health and inter-annual assistance programs since the establishment of a stable government in 2010/2011. However, if Niger's population growth continues as projected, the population is likely to exceed 66 million people by 2050. As increasing population density in agropastoral areas reduces land availability and hastens soil degradation, the evolution of food systems, agricultural production, and institutional safety nets becomes a greater concern.

Economic progress and growth in Niger has been strongly tied to political stability. Four coups d'état and general instability since the declaration of independence in the 1960s have greatly impacted assistance flows and government investment in public services and systems, such as health and education. Niger's location as a landlocked nation amongst other politically

or economically unstable neighboring countries (Libya, Algeria, Nigeria, Mali) also has an impact on household food security. Disruptions to key trade flows for food and livestock, labor demand, price volatility, refugee movements and population displacement, as well as civil insecurity, are all contributing factors to food availability and access in a given year.

Approximately 65 percent of the country's population lives below the national poverty line, with the majority lacking access to steady employment and basic services, including education, water and sanitation, and healthcare. Over the last eight years, national poverty levels in Niger have declined overall, but economic gains and resources are increasingly supporting a greater number of people due to population growth. Therefore, the average poor household Niger has not benefitted from notable improvements at the household economy level.

In light of the importance of subsistence based agriculture, climate-related hazards pose a significant and chronic threat to household food supplies in Niger, and have direct and often immediate consequences on food insecurity, because rural households depend on agricultural production for up to 40 percent of household food consumption. While households produce a significant amount of their own food, the importance of market purchases cannot be overestimated as a determinant of food security. Market dependence is the primary food access strategy for 8-9 months of the year, comprising nearly 100 percent of food needs year-round in urban and pastoral areas. Consequently, regional price shocks have chronic and acute impacts on poor households in Niger. Significant inter- and intra-annual price variability for staple cereals is driven by seasonal supply shifts, dependence on regional market systems, effects of droughts and/or floods, pest and diseases, insecurity, political instability and cross border interruptions, low inter-annual storage capacity, as well as a relatively inelastic regional food supply. In other words, the impact of a climatic shock (drought, flooding, severe locust infestation, irregularities in rainfall), on household cereal production cannot consistently be offset by regional production or imports, as responsive price variations along the marketing chain can decrease purchasing power, especially among poor households.

The stability and volume of market flows within Niger, and between Niger and key trade partners, is a critical contributing factor for household food security, especially during the lean season when prices tend to be highest. Critical market linkages between Niger and neighboring Nigeria, Niger's most significant supplier of cereals and consumer of livestock, also define the degree to which economic and production factors in Nigeria pose price and supply shocks, and influence terms of trade for pastoral and agropastoral households. Trade with Nigeria is critical for Niger in terms of price stability and the continuity of national cereal supply. However, shocks in Nigeria (including political uncertainty, violent conflict and civil insecurity in border areas, droughts, and macroeconomic policy shifts) frequently have a destabilizing impact on Niger's agricultural sector, and especially on cereal and livestock-based commercial activity. Additionally, Niger's heavy reliance on trade with Nigeria, for both agricultural exports (livestock, cowpeas) and imports (coarse grains), means that movements in the French *Communauté Financière Africaine* (FCFA)/naira exchange rate are also a potential source of significant market risk.⁵ In Niger, market infrastructure is also underdeveloped. Poor connectivity between traders, lack of market information exchange systems, the risk of deflation, and rapid turnover of cereal stocks increase the sensitivity of Nigerien markets to price fluctuations on regional supply markets. Thus, Niger's national food system, as well as the national economy, are highly vulnerable to both internal and external disruptions, even in a good or average production year.

Malnutrition remains a chronic problem, particularly in more densely populated areas. The country's historically high prevalence of acute malnutrition is attributed to a series of factors, including: insufficient caloric intake, large household size, poor dietary diversity and quality of consumption, poor care and feeding practices, a high prevalence of disease (especially malaria and respiratory illness), and substandard sanitation practices. In 2012, prevalence of stunting (low height-for-age) among children under 5 was 44 percent, of which 22 percent were classified as severely stunted, and 22 percent as moderately stunted. Regionally, prevalence varies and is highest in the most productive regions of the country (Diffa, Maradi, Zinder), where some of the highest poverty rates are also observed. Higher malnutrition rates are also linked to lower levels of education at the household level, particularly among women.

Both the agropastoral and transhumant pastoralism livelihood zones are at the greatest risk of food insecurity. The agropastoral belt, which spans the country from west to east, is a productive agricultural zone that comprises a "transition" area between a more strictly agricultural area along the southern border and the more intensely pastoral livelihood systems in the north of the country. A high dependence on rainfed agriculture, coupled with variable seasonal performance, underpins a higher vulnerability to acute food insecurity, particularly among poor households. The risks of cultivation are

therefore high: rainfall is not only sparser than in the major rainfed agriculture zone to the south, but is also subject to wider fluctuations from year to year.⁶ Despite high yields in the best years, rain failure for crops is so frequent that poorer people are amongst the most food insecure in the country.

Pastoral areas are less frequently acutely food insecure, but remain highly vulnerable to price volatility and the continuity of market flows among Niger's trade partners (most importantly, Nigerian livestock traders). Therefore, when acute food insecurity does occur, households face a longer rebound period due to strong dependence on a sole capital asset (herd animals) to assure food access at the household level. Entirely dependent on market purchase year round, households in this zone are strongly impacted by terms of trade (livestock for cereal), price shocks, animal health/value, market function, and regional demand for livestock. Lack of diversity in food and income sources is a key vulnerability to acute food insecurity.

Niger has faced repeated acute food security crises, most frequently in response to drought and production shortfalls and/or regional price shocks for staple foods. Food crises in recent years are largely attributable to climate-related production shortfalls, coupled with residual price impacts due to changes in supply and demand dynamics, which illustrates how the integration of Nigerien markets can result in unaffordable staple foods, even if regional production is closer to normal. Over the last 10 years, most acute food insecurity (at IPC Phase 3 levels and above) has been observed within the agropastoral zones in the western regions of the country, and along the southern border with Nigeria. Two recent food security crises -- 2005 and 2010 -- illustrate the importance of climate-related hazards, specifically, drought, that resulted in production shortfalls and price reverberations along integrated market systems, creating an atypically high dependence on the market for purchase.

Country Context

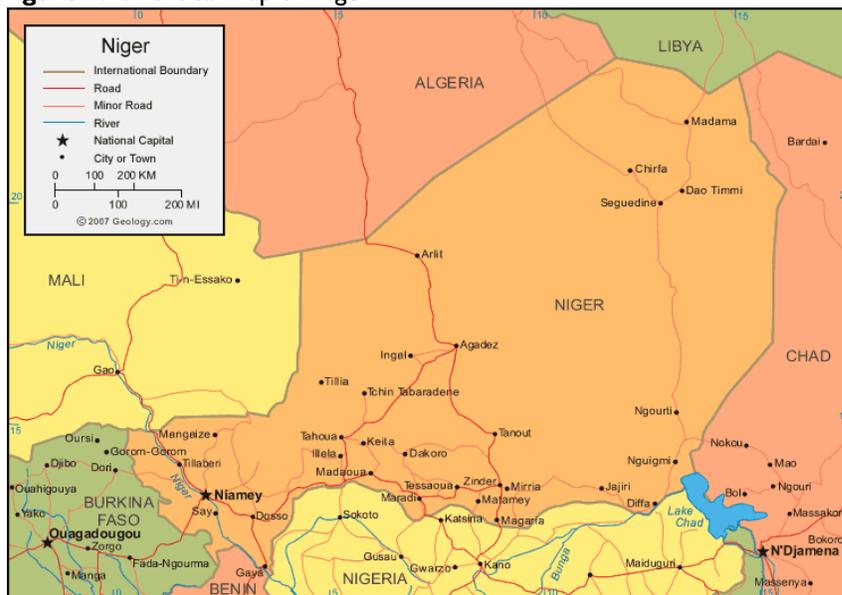
DEMOGRAPHIC CONTEXT

Niger's annual population growth rate of 3.9 percent is the sixth highest in the world. The current population of about 17 million is projected to exceed 66 million by 2050.⁷ Population growth is largely attributable to the world's highest fertility rate, with an average Nigerien woman bearing 7-8 children. More than half of the country is under 14 years old.

Just over 80 percent of the population is rural and lives in less than 15 percent of the country's land mass, primarily along the western and southern agropastoral zones. Population density averages 16.4 people per square kilometer, with nearly 37 percent of the urban population residing in Niamey, the capital city.⁸ Northern and eastern regions are largely uninhabitable and covered by desert although nomadic pastoralists occupy some of these areas, while alternating among available pasture zones in the region.

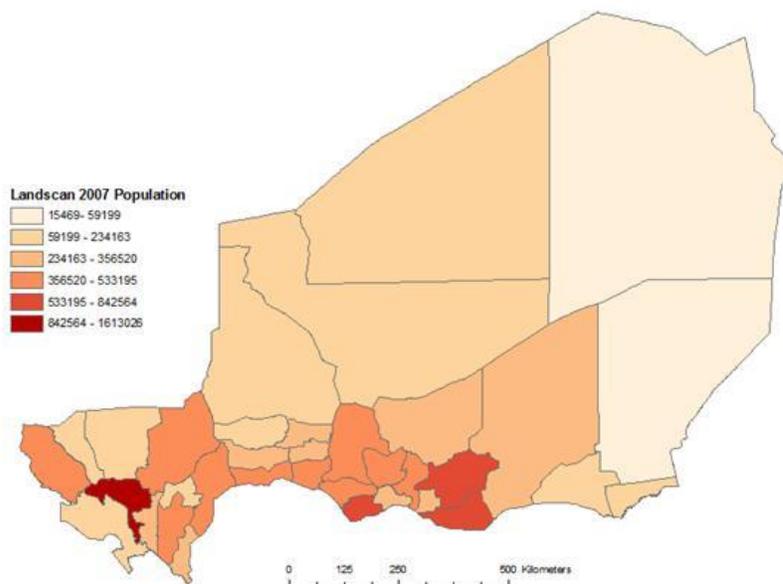
Given higher year-round market dependence, urban poor in Niger are more vulnerable to market and price shocks (which impact availability and purchasing power) than rural populations, but have much better access to services, education, and markets. The highest concentration of rural poverty is in the Mayahi Department of the Maradi region (outlined in black on the map above), where 90 percent of the population lives below the national poverty line. Population density is highest in Maradi region, where more than 20 percent of Niger's population lives on less than 4 percent of the country's land area (Figure 1.2).

Figure 1.1. Political map of Niger



Source: Geology. Com

Figure 1.2. Population Distribution (2007)



Source: mappery.com

Poor households in these agropastoral areas cultivate an average of one to two hectares per household, while middle wealth group households can produce crops on up to seven hectares.⁹

POLITICAL AND ECONOMIC CONTEXT

Nearly 40 percent of Niger's GDP is derived from the formal agriculture sector, while only 15 percent of land is arable and suitable for rainfed agriculture. Subsistence production at the household level accounts for nearly all of domestic cereal supply, as well as cash crop sales, which provide additional income. Casual agricultural labor is a primary income and livelihood source for approximately 90 percent of Nigeriens, who are consequently very vulnerable to a range of shocks that impact agricultural activity from year to year, including: flooding, drought, pests (migratory locusts), and high input prices.

Revenue from the extractive industries sector is projected to increase to about five percent of GDP by 2015. Niger is the fifth largest producer of uranium in the world, and production is likely to triple by 2018.¹⁰ Uranium remains an important determinant of the national economic outlook, accounting for about 50 percent of total exports.¹¹ Niger's significant natural resource reserves in oil, uranium, gold, coal and other mineral resources are also expected to increase GDP growth in the coming years. Political instability, both regional and national, frequent droughts, an underdeveloped private sector, and shifts in global demand for extracted resources (uranium) contribute to economic volatility.

Over the past decade, the rural agriculture sector has been the main engine of growth. An estimated 60-70 percent of GDP is driven the largely agriculture-based informal sector, also heavily impacted by frequent climatic shocks.¹² Sector performance is primarily determined by rainfall patterns, resulting in large year to year production fluctuations.¹³

Political instability has been a key contributor to stagnant economic growth, stalled industrial development, and inconsistent market performance. Four coups d'état since Independence in 1960, as well as Tuareg rebellions from 1990-1995 and 2007-2008, delayed economic progress and the delivery of development assistance. Since the early 1970s, drought, desertification, government intervention and poor governance have aggravated a weak economic environment.¹⁴

While stability and economic reforms drove significant increases in average growth to 4.7 percent during the period 2001- 2010, economic gains have been countered by high population growth, resulting in GDP growth per capita of only around 1 percent per year.¹⁵ The adoption of a new constitution in 2010 and the election of a new President in 2011 have allowed for nearly three consecutive years of comparative economic stability and growth, driven largely by revenues from the extractive industries, international partner investment, and government reforms-specifically in taxation and customs policies.¹⁶ In 2012, Niger's GDP increased by just over 13 percent (real terms), one of the highest levels recorded in Africa.¹⁷

Niger's location as a landlocked nation, compounded by politically unstable neighboring countries, including Libya, Mali, and Nigeria, is a contributing factor to food insecurity due to secondary effects of conflict and instability on labor migration, market flows, institutional stability, border closures, and staple food prices. Civil insecurity due to increasing insurgent group activity (Boko Haram) in Nigeria is a current barrier to cross border trade in cereals, livestock, and cash crops. Trade with Nigeria is critical for Niger to stabilize prices and supplies; however, shocks in Nigeria such as political uncertainty, violent conflicts, droughts, and changes in macroeconomic policies, can destabilize Niger's agricultural sector.¹⁸ In addition, conflicts in Mali and Libya have resulted in loss of critical migratory labor for Nigeriens, and refugees in Tillaberi.

Niger is a member of the West African Monetary Union (UEMOA), which formalizes key regional trade agreements with other regional member countries, a shared currency, and the pegging of the CFA Franc to the Euro. UEMOA establishes a common accounting system, a regional stock exchange, and the legal and regulatory framework for a regional banking system.¹⁹ Shifts in the exchange rate have a direct impact on Niger's ability to earn revenue (internationally and domestically) and to import food commodities. Import and export tax regulations are integrated into UEMOA rules and customs duties apply to cereal imports originating from outside the zone, specifically Nigeria and Ghana.²⁰

AGRO-CLIMATOLOGY CONTEXT

Agro-ecological zones

Temperatures in Niger are among the hottest in the world, with regularly occurring extreme weather conditions that include: drought, flooding, extreme temperatures, sandstorms and heavy winds. Average rainfall totals vary from zone to zone but are generally lower in the northern parts of the country, and tend to increase in the south. Agro-ecological zones (Figure 1.3) can be described in three broad categories, each primarily defined by rainfall levels and by the level of agricultural productivity: the Sahelian zone, the Saharan Zone, and the Sudanian zone.²¹

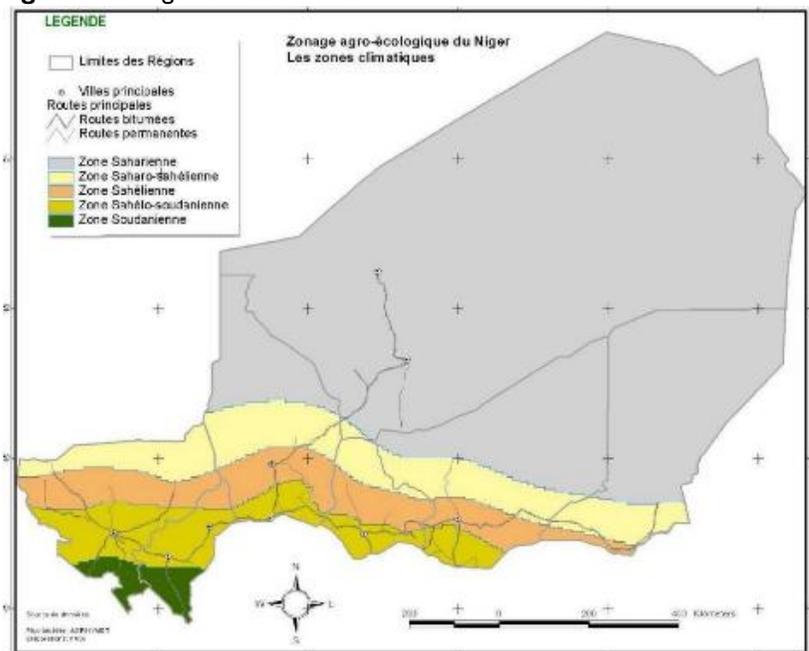
Sudanian Zone: In the south of the country, along the border with Nigeria, this semi-arid zone receives the most consistent and abundant rainfall. An average of up to 800 mm of rainfall per year makes this the most suitable zone for agricultural production, though it makes up only about one percent of the country's landmass. Savannah

vegetation supports mixed livestock and cereal production, as well as widespread use of irrigation for off season cash crop production. This zone is the most productive region for cereal and cash crop production.

Sahelian zone: Broadly spanning the central part of the country from west to east, the arid Sahelian zone is the most densely populated area. Rainfall averages about 200-700 mm per year and is favorable for livestock production, as the landscape is generally characterized by steppe vegetation and thorny acacias. The highest concentration of livestock resides in this climatic zone. Interannual rainfall, though less predictable than in the Sahel-Sudan zone, is permissive for rainfed agricultural production. In fossil river valleys, off-season cash crop production is widely practiced.

Saharan zone: About 90 percent of the country's territory is in this extremely arid zone, almost entirely desert, and receives less than 150 mm of annual rainfall. Groundwater resources in oases and *wadis* (riverbeds that capture seasonal rain) allow for irrigated cultivation of some cash crops, dates, and fruits. These areas are mostly unsuitable for rainfed cultivation and more favorable for pastoral activities.

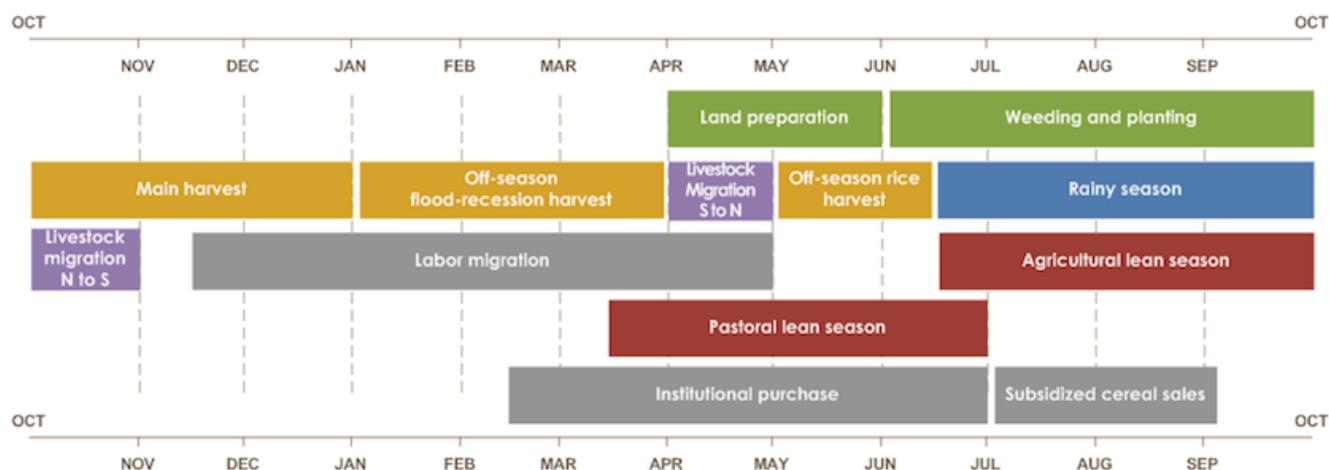
Figure 1.3. Niger climatic zones



Source: AGHYMET

Seasonal calendar and typical events

The FEWS NET seasonal calendar below presents the major rainy seasons, harvests, livestock migration periods, and lean season in a typical year.



Source: FEWS NET

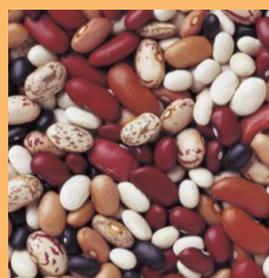
Rainfall and temperature patterns

Rainfall varies significantly from year to year within and between agro ecological zones, with recent analysis of long-term trends indicating a steady increase since the 1990s, returning to levels initially recorded prior to 1960.²² AGRHYMET suggests that, apart from the severe droughts of 2004 and 2011, Niger has experienced more favorable rainfall conditions over the past two decades compared to the dry decades of the 1970s and 1980s.²³ Significant fluctuations from month to month and region to region are common characteristics of Niger's rainy season. Variability in Niger's rainfall has been linked to a wide range of adverse impacts including water scarcity, crop failure, loss of biodiversity, and increasing silt in the river network.²⁴

The long dry season from October to May is characterized by lower temperatures (December to February), and a very warm period (hot dry season in April and May), during which the temperature can reach and exceed 45° Celsius.²⁵ During this season, the Harmattan (dry and hot wind) blows with moderate speed from northeast or east and is dominant throughout the country. During the rainy season, the average temperature varies from 28° C to 31° C. The Monsoon (wet wind) blowing from Southwest to the Northeast is dominant in the main parts of the country.²⁶

The rainy season generally occurs from May to September, and varies from one to four months, depending on the latitude. In August, rainfall is constant throughout the country, with the exception of the far north, where rainfall patterns are much less predictable.

Inter-annual and monthly variations in rainfall are common, including: late/early onset, dry spells, periods of heavy and erratic rain.



KEY FEWS NET NIGER AGRO-CLIMATOLOGY RESOURCES

[West Africa Seasonal Monitors](#)

[A Climate Trend Analysis of Niger](#). June 2012. USGS and FEWS NET.

[FEWS NET / National Oceanic and Atmospheric Administration \(NOAA\) Climate Prediction Center](#)

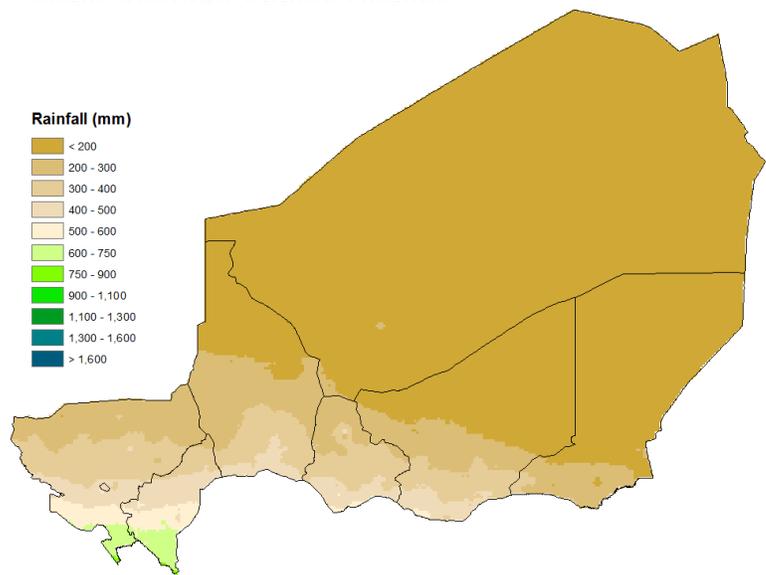
[U.S. Geological Survey \(USGS\) FEWS NET Data Portal](#)

Average annual rainfall totals vary from zone to zone but are generally lower in the northern parts of the country, and tend to increase in the south. (Figure 1.4):

- The northernmost areas receive less than 150 millimeters (mm).
- The central belt of the country receives 200-400 mm.
- The south and southeastern areas receive 400-600 mm.
- In the southwest, rainfall can exceed 600-800 mm per season.

Niger receives most intense rainfall between June and September, and rainfall totals of more than 500 millimeters (mm) during this season typically provide enough water for crops and livestock. However, the onset of rainfall intensity tends to fall later in eastern areas of the country, such as Diffa, where ten-day average rainfall also tends to be significantly lower compared to more central regions (Maradi, Zinder), and in the west (Tillaberi) (Figures 1.5- 1.8).

Figure 1.4. Average Annual Total Rainfall



Source: FEWS NET / USGS

Figure 1.5. Average 10-day rainfall (mm), Tillaberi (2001-2013)

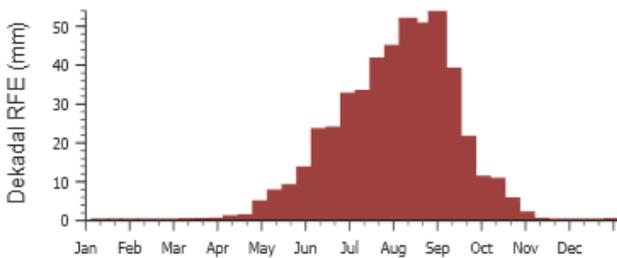
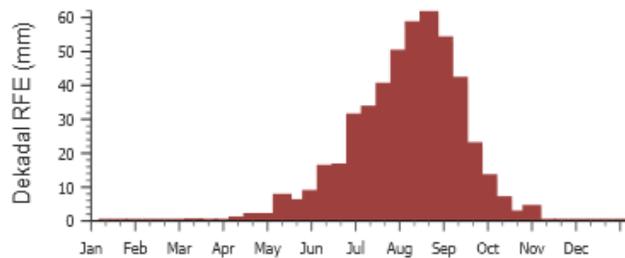
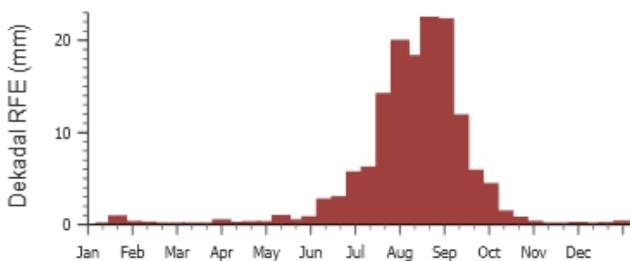


Figure 1.6. Average 10-day rainfall (mm), Maradi (2001-2013)



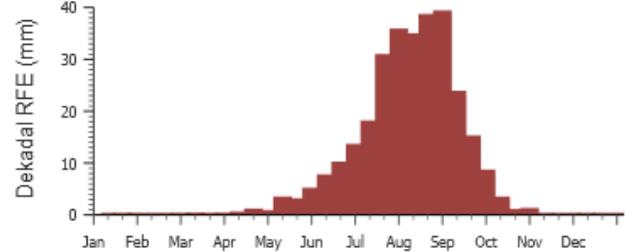
Source: FEWS NET/ USGS

Figure 1.7. Average 10-day rainfall (mm), Diffa (2001-2013)



Source: FEWS NET/ USGS

Figure 1.8. Average 10-day rainfall (mm), Zinder (2001-2013)



Source: FEWS NET/ USGS

Major Livelihood Zones



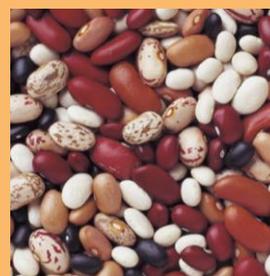
OVERVIEW

The transhumant and nomadic pastoralist, agropastoral, and agricultural livelihood zones in Niger are largely defined by rainfall patterns and land quality. The degree to which households rely on agro-dominant or pastoral-dominant livelihoods strategies is increasingly shaped by annual rainfall patterns and geographic location. Proximity to central market systems, cross-border trade, and natural resources (water, salt, minerals) also heavily influence livelihoods systems, wealth levels, and food access. For a predominantly rural population, groundwater is a valuable asset as well as protection against crop failures and market dependence. A high water table in the Air Massif region, a series of oases, lakes, the Niger river, and unique groundwater sources allow for some cultivation of high value cash crops (peppers, onions), and cereals year-round, offering an additional insurance policy to farming households.

With some of the highest population density and poverty rates, the traditional “cereal basket” comprising the millet belt that crosses over Zinder and throughout Maradi regions consistently faces acute food insecurity. In these zones, agricultural production is vulnerable to poor seasonal performance and abnormalities in the rainy season, and overcrowding continues to reduce household plot sizes and production levels. High levels of food insecurity and chronic malnutrition are underpinned by low education levels and lack of economic development, and are influenced by economic and political trends in neighboring Nigeria. Frequent shocks, decreasing landholding sizes, underutilized water resources, overcrowding, poor natural resource management, inefficient yields, and limited use of modern technologies and inputs are all constraints to production from year to year. Poor households often sell agricultural labor, engage in contract herding, and market cash crops in order to access food. Despite these challenges, agricultural production has increased to meet the food needs of a fast-growing population and traditionally pastoral areas are transitioning to more agricultural space, where farming and staple food cultivation are dominant pillars of food security, and livestock are increasingly used as financial security in low production years. As populations move into the central agropastoral belt, increased pressure on arable lands and competition for natural resources will continue to factor into livelihood patterns and food access.

The [2011 Niger Livelihoods Zoning Activity](#) was conducted by FEWS NET in collaboration with the Agriculture General and Regional Directorate of Ministries of Agriculture and Livestock, the National Early Warning System, Information Communication Unit, the World Food Program, The U.N. Food and Agriculture Organization, FAO, Oxfam, and the National Institute of Statistics. The zoning activity designates 13 livelihood zones in the country (Figure 2.5). **In the food insecurity context, livelihood zones can be classified into three broad groups: high risk; medium risk, and low risk.**

Poverty, livelihoods diversification (or lack thereof), and proximity to market systems are key determinants of risk when considering the most food insecure areas of the country. Increasingly, as population growth and demand forces the expansion of staple cereal cultivation northward into traditionally pastoral areas, and as pastoralists move southward in search of more stable pasture and water resources, livestock are increasingly important in all zones; not just as a source of food and nutrition or for transportation or traction, but as high value assets, the single form of saving, and as security against bad years when they can be sold to purchase more food.²⁷ However, the most notable wealth group distinction can also be made through livestock ownership, as wealthier populations retain a near monopoly on livestock ownership, owning up to 75 percent of all sheep and goats. The sections below provide information on high, medium, and low risk livelihood zones.



KEY FEWS NET NIGER LIVELIHOODS RESOURCES

[Niger Livelihood Zone Map](#)

[Niger Livelihoods Zoning “Plus”](#)

[Niger Livelihood Profiles 2005](#)

HIGH RISK LIVELIHOOD ZONES

Livelihood zones in the high risk group share several attributes, notably: food access constraints resulting from low levels of livelihood diversification, coupled with chronic, rainfall irregularities and high levels of rainfall variability, even in good years. Agropastoralism in these zones can be considered imbalanced, in that households may not have enough livestock to support food needs. Production is poor in higher-risk cultivation zones. This group comprises the bulk of Zinder, Maradi, Tillabéri, Doss, and Tahoua regions, all among the most densely populated zones. Variable rainfall and frequent droughts often result in cereal production deficits, poor pasture regeneration, and staple food price shocks. There is high dependence on inter-annual assistance among the poor, particularly in cereal-producing areas across the millet belt.

Transhumant and Nomadic Pastoralism

Description	Region	Risks	Map
Zone 3: Transhumant and Nomad Pastoralism	Central Diffa, North/east Zinder	Total market dependence Sole capital source (livestock) Vulnerability to price shocks	
Zone 4: Agropastoral Belt	Southern Diffa, Southern Zinder, North/Central Maradi, Central Tahoua, Northern Tillabéri	Frequent below average rainfall Imbalanced agropastoralism Heavy dependency on assistance	
Zone 5: Rainfed Millet and Sorghum Belt	Southern Tillabéri, Doss, Southern Tahoua, Southern Maradi, Southern, Zinder, Southern Diffa	Concentrated rainfall deficits Dependence on production Relief as livelihoods strategy High population density	
Zone 6: Cropping, Herding, and Work Migration	Central Diffa, Central Zinder, Southern Tahoua, Eastern Tillabéri	High risk of rain failures High poverty levels	

This zone spans areas where annual rainfall averages 100-200mm, spurring constant movement in search of sufficient pasture and water. Continuous livestock movements during the year primarily move on a north/south axis. Nomadic herders move as household clusters, whereas transhumants maintain a household base while men take animals to graze seasonally, for months at a time.²⁸ In these least populated areas of the country, the pastoral economy is adapted to withstand erratic rainfall, but actual drought results in loss of primary capital (animal herds), which can take years to reconstitute.

This zone is less frequently affected by acute food insecurity than other zones in the High Risk Livelihoods group, but near complete dependence on market purchase and livestock sales (the sole means of gaining capital and income) to meet household food needs can result in severe food insecurity, particularly for poor and very poor households. Herd mobility to other parts of the country and the region is often an effective method of adapting to poor seasonal performance and lack of pasture and/or water.

Poor households are particularly vulnerable to shifts in cereal prices and livestock terms of trade, which are often influenced primarily by market demand for meat from more than 150 million Nigerians.²⁹

Households in this zone are almost 100 percent market dependent, year round, and staple foods are overwhelmingly cereal-based rather than milk or meat-based. Cereal and agricultural production is negligible. Additional vulnerability stems from the potential for extreme price reverberations on markets in this zone, which may occur due to commercial interruptions from neighboring countries, and due to supply and demand pressure in internal supply markets.

Agropastoral Belt

While this zone is highly productive, it is also dependent on extremely variable rainfall, therefore creating an inherent vulnerability for cereal producers. Spanning the width of Niger, the Agropastoral Belt has also been at the epicenter of agricultural expansion activities in recent years, with former pasturelands converted to productive agriculture, cultivated by newly settled migrants from as far south as Nigeria. A significant portion of crops produced in this zone generally supply the Tanout and Tahoua axes to Air and Agadez market centers.

Despite high crop yields in the best years, rain failure for crops is so frequent that poorer people in this zone are amongst the most food insecure in the country.³⁰ Given rainfall variability and frequent drought, economic security lies in livestock holdings but these are generally limited to wealthier households.³¹ Market purchase is an important source of food at the household level. Labor migration is therefore key to assuring market access for poor households, who rely heavily on selling their labor to local farmers or in nearby towns.

Conflict and land disputes between pastoralists and agro-dominant households are increasing in frequency as population density increases in these productive areas. Less land availability due to more crowding also results in overuse of small farm holdings, compounded by low fertilizer use. Some of the most degraded soils fall in this zone, specifically North Ouallam, and North Filingue.

Rainfed Millet and Sorghum Belt

This zone comprises the millet belt cereal surplus producing areas across Maradi and Zinder, but stretches across the country from the western border, east to Maine Soroa.

Figure 2.1. Pastoral livelihoods snapshot (poor households)

Key income sources	Contract herding, dairy sales, fodder/wood sales, casual labor
Key food sources	Purchase, gifts, food loans
Key productive assets	Goats and sheep (few large ruminants)
Primary Staple foods	Millet, milk and dairy products
Frequent Hazards	Localized rain failures, livestock disease/epidemics, uncontrolled bush fires

Source: FEWS NET

Figure 2.2. Agropastoral livelihoods snapshot (poor households)

Key income sources	Casual local/migrant labor, cowpea sales, grass/firewood sales
Key food sources	Purchase (60 percent), in-kind payment (20 percent), own production (20 percent)
Key productive assets	Goat and poultry, labor for hire, small land holdings (1.5-2 hectares)
Primary Staple foods	Millet
Frequent Hazards	Drought, crop pests, livestock disease, flash flooding, price hikes

Source: FEWS NET

While not the most densely populated zone, the size of this productive area hosts the largest population in the country, with poor households in densely populated areas growing cereals on small plots, resulting in higher market dependence throughout the year. In addition to cereal production, cultivators produce market garden crops and cash crops (cowpeas and peanuts). Livestock ownership is generally limited to the wealthiest households. The lack of livestock amongst the poor contributes heavily to the fact that their cash income even in a good year is one-fifth to one-tenth that of the better-off.³²

Proximity to Nigerian markets is a key factor for the marketing of staple cereals, cash crops, livestock, and labor, reinforcing the interdependence of Nigerien markets to cross-border counterparts. Migrant labor is a key pillar of livelihood stability and food access for poor households, particularly across the border in Nigeria. **Markets in this zone are highly vulnerable to price volatility stemming from production shocks in feeder markets, and therefore, so are poor households.** Even without a major crop failure in their specific area, heavy dependence on market purchase means that food price hikes on the national market can lead to food shortages and increased destitution.³³

Cropping, Herding and Work Migration

Sharing basic agro climatology and climate hazards with other zones in this group, this zone is comprised of eight small pockets within other, larger livelihoods zones (“sub-zones”), spread out over the central and southern areas of the country. Two are in purely pastoralist areas (Nguigmi/Gouré Départements in the Diffa/Zinder Regions). One is pastoral and borderline agropastoral – in Dakoro Département (Maradi Region). Two are in borderline rainfed agriculture/agropastoral areas (Keita and Tahoua Départements in Tahoua Region). The remaining three areas are agropastoral (Filingué, and Oullam Départements in Tillabéri), and Loga Département in Dosso.³⁴

Despite localized features, all of these sub-zones share three elements of structural poverty that are more pronounced than in the larger surrounding livelihood zone: relatively infertile soils; relatively unfavorable conditions for cash crops, and higher population density.³⁵

Most poor households in this zone rely on casual labor for income.

Population density and poor land quality reinforce a high vulnerability to seasonal fluctuations in rainfall and production output; therefore, households in these zones are much more dependent on migrant labor. While this means less dependence on the local economy, FEWS NET notes a narrow margin of error for food access, meaning that from year to year, poor households may not easily absorb atypical decreases in labor availability and income earned from migration (*exode*). Therefore, steady labor opportunities in other parts of the country and region are of critical importance given the relatively high rate of market dependence in this zone.

MEDIUM RISK LIVELIHOOD ZONES

The livelihood zones that comprise the medium risk group are all diverse in terms of specific livelihoods strategies, resource bases, and wealth distribution. However, the common factor that bolsters more stable food security is the significant presence of irrigation and water resources used for off season cultivation, diversifying production potential in a given year. Agricultural production is therefore not entirely dependent on rainfed systems as a means of producing staple crops for consumption. Across each of these specific livelihood zones, an irrigation economy (employment, harvest, payments in kind) can act as a buffer in the face of poor seasonal performance. Similarly, these zones share common

Figure 2.3. Rainfed Millet and Sorghum Livelihoods snapshot (poor households)

Key income sources	Local/migrant employment, fodder grass and firewood sales, peanut sales
Key food sources	Purchase or in-kind payment (60 + percent), own production (25+ percent)
Key productive assets	Labor for hire, small land holdings (less than 1-2 hectares hectares), small ruminants and fowl
Primary Staple foods	Millet, sorghum
Frequent Hazards	Irregular rainfall during peak flowering stage, flooding, crop pests

Source: FEWS NET

heavy dependence on market purchase means that food price hikes on the national market can lead to food shortages and increased destitution.³³

Figure 2.4. Cropping, Herding, and Work Migration Livelihoods snapshot (poor households)

Key income sources	Migrant earning, local labor, small-scale livestock sales
Key food sources	Market purchase, own production (minimal)
Key productive assets	Labor for hire, land holdings
Primary Staple foods	Millet, sorghum, cowpeas
Frequent Hazards	Seasonal rain failures, market disruption due to conflict, price hikes in lean season

Source: FEWS NET

elements that increase the risk of food insecurity, namely: dependence on rainfall elsewhere in the country to feed irrigation and flood recession cropping, and small land holdings among the poor, which limit household self-sufficiency in food production.

Description	Region	Risks	Map
Zone 1: Northeast Oases Dates, Salt and Trade	Eastern Agadez	Date palm disease Market disruptions caused by insecurity Price hikes for staple foods	
Zone 2: Air Massif Irrigated Gardening	West/Central Agadez	Flash floods in gardening areas Forced return of migrant workers from the Magreb Insecurity disrupting market connections Drought/lower water table	
Zone 7: Southern Irrigated Cash Crops	Southeast Tahoua, Southwest Maradi, southern Zinder	Insect/pest attacks Irregular/variable rainfall Flooding of irrigated fields Cash crop price fluctuations	
Zone 10: Dallols-Seasonal Water-Course Irrigated Crops	Niger river basin, Eastern Tillabéri and Dosso	Bird and insect attacks during critical flowering stage Food price volatility	
Zone 11: Southeastern Natron Salt and Small Basin Irrigated Dates	Southwestern Diffa, Southeastern Zinder	Currency appreciation affecting cereal prices Date palm disease/pests	
Zone 13: Lake Chad Flood-retreat with Fishing	Southeastern Diffa, border with Chad	Difficult market access in rural areas Low lake levels/poor flood recession cultivation	

The Northeast Oases Date, Salt and trade zone is a net importer of food, and is the least populated of all livelihood zones. Irrigated cultivation is the primary livelihood activity across wealth groups. Food insecurity risks in this zone are mitigated by the constant availability of water in oases, generally stable market flows, and the presence of salt deposits, which are a major source of income for poor households. An average date plantation may have a stand of 100 trees. Smaller gardens are mainly 200 to 500 square meters, or not more than one-twentieth of a hectare, and are largely owned by wealthier households.³⁶ Millet, rice, dates, and a small portion of wheat comprise basic (mostly imported) food staples.

In the Air Massif Irrigated Gardening zone, rainfall averages less than 200 mm per year, and is not adequate for rain-fed cereal production. However, the presence of a near-surface aquifer allows for substantial irrigated gardening. The most valuable product of Air is onions, which are sold onto the national market to the south and west, including Niamey, and beyond in West Africa.³⁷ Onion cultivation and sales are a primary income source, with poorer households offering labor and wealthier households selling onions and produce. Poorer households normally obtain a maximum of 25 percent of their staples from their own production, and are subsequently highly reliant on market purchase for millet imported from Zinder Region. While isolated, this zone is highly dependent on national markets and commercial integration for food and cash.

One of the wealthier livelihood zones in the group, the Southern Irrigated Cash Crops zone relies heavily on the production of specialized onions, as well as fruits and vegetables. Other departments cultivate valued produce, including vegetable gardening and sesame in Maradi, tobacco and vegetables in Madarounfa, watermelon and tomatoes in Tibiri, chili peppers in Tessaoua, and sugar cane with vegetables and peppers in Matameye and Magaria.³⁸ Due to intense production year-round, labor demand is also high, and a key pillar of poor household food security.

The presence of year-round wadis in the Dallols-Seasonal Water-Course Irrigated Crops zone allows for crop production, primarily millet and sorghum, and cash crops (cassava, sweet potatoes, mangoes, citrus fruit, and vegetables). Market

dependent for three quarters of the year, households do not earn sufficient income from cereals and garden production and are therefore dependent on paid work, which often requires migration to urban centers and elsewhere in the region, including Nigeria, Benin, Ghana, and Ivory Coast.

The availability of the natron salt (hydrated sodium carbonate) for sale and of water for irrigation supports a medium density population in the Southeastern Natron Salt and Small Basin Irrigated Dates zone. Poor households consume millet, maize, and cassava – primarily through market purchase, but agro climatology in the region does permit some rainfed cultivation of cereals. Water-filled, concave depressions in the ground (cuvettes) allow for date production, a valuable crop with the advantage of proximity to important Nigerian markets, and the natron increases in value along the supply chain to Nigerian markets where livestock keepers purchase it for salt-lick.³⁹ Market dependence leaves poor and very poor households vulnerable to price volatility, and particularly the periodic appreciation of the Nigerian Naira.

The Lake Chad Flood-retreat with Fishing zone, located on the border with Chad in southeast Diffa region, is fairly isolated from key market centers, and is home to primarily immigrants who have relocated to the area from elsewhere in West Africa. Following seasonal rains, the lake recedes, allowing for cultivation of maize and sorghum, as well as cowpeas, along the banks. Poor households earn income through petty trade and sales of natural products (wood, grass, charcoal), poultry marketing, and by fishing. Acute food insecurity is infrequent, but can occur if seasonal performance is insufficient to replenish the lake to levels that allow for adequate flood recession and irrigated cereals and cash crops.

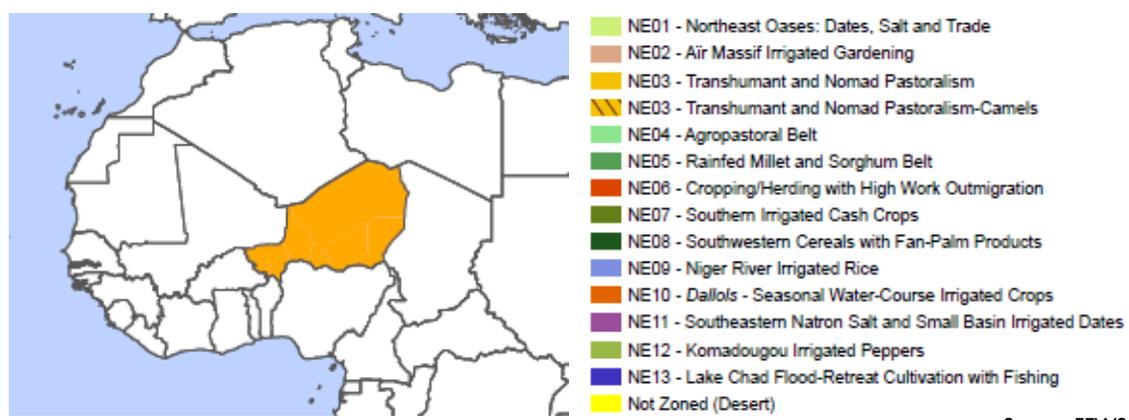
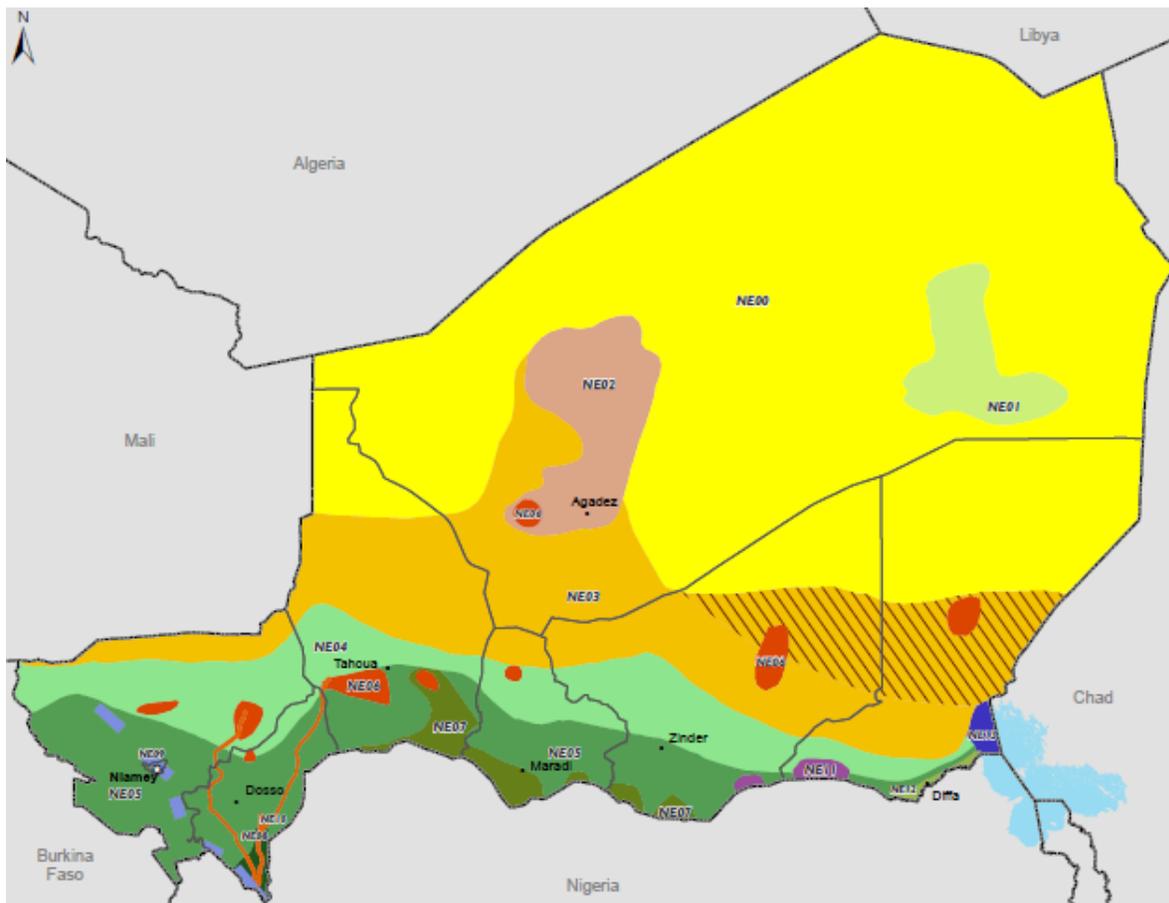
LOWER RISK LIVELIHOOD ZONES

The three zones in the low-risk livelihood group benefit from close proximity to cross-border trade routes and reliable, favorable rainfall, which allow for year-round profitable cultivation and sales of high-value cash crops. The Southwestern Cereals with Fan-Palm Products offers both high rainfall and comparatively low inter-annual variability, relatively high cereals yields, good fodder for livestock, and proximity to both Nigeria and Benin, which allows for profitable cross-border trade as well as consistent opportunities for labor migration. The Niger River and Irrigated Rice zone is composed of officially controlled irrigation schemes, at Ayourou and Tillabéri, although staple cereals are cultivated in rainfed plots. In the north of the zone, rainfall is less abundant and reliable than in the south; therefore acute food insecurity due to rainfed crop failure is somewhat more frequently observed in northern areas rather than in the south of the zone.⁴⁰

Komadougou peppers, also known as red gold, are a highly valued cash crop that offer excellent income earning for cultivators in this zone. A ‘bad’ year refers to problems with the all-important pepper crop: regional drought bringing a premature drying of the Komadougou; an attack of disease on the peppers; or potentially a reduction in river flow caused by action on major dams in Nigeria.⁴¹

Description	Region	Risks	Map
Zone 8: Southwestern Cereals with Fan- Palm Products	Southern tip of Dosso	Erratic rainfall Flooding Price fluctuations	
Zone 9: Niger River Irrigated Rice and Zone 12: Komadougou Irrigated Peppers	Central Dosso and Tillabéri, Niger River Basin, Southeastern Diffa	Hippopotamus damage to rice Insect and bird destruction of rice Rainfall failure (rainfed cereal deficits) Reduced river flow	

Figure 2.5. Generalized livelihood zones, Niger, 2011



Source: FEWS NET

Availability



OVERVIEW

In Niger, agricultural production accounts for up to 60 percent of all household consumption in a largely rural population. High dependence on subsistence farming on small land holdings combined with erratic rainfall reinforces structural production deficits for key staple foods; primarily, millet and sorghum. Millet is the preferred staple, though other major food crops include sorghum, rice, and tubers (sweet potatoes and manioc). Garden vegetables (eggplant, cabbage, cowpeas, carrots, okra) are also important for household consumption. Onions, groundnuts, sesame, and cowpeas account for a significant proportion of exports.

Though millet production has increased over the last decade in terms of metric tonnage, production gains are due to increased land exploitation rather than higher yields. Low investment in agriculture, limited use of technologies and inputs by small producers, pests, lack of access to credit and financing and often volatile inter-annual variations in rainfall are all constraints to increasing food production. Current levels of production are not keeping pace with growing demand driven by a rapidly increasing population, resulting in higher dependence on imports and steadily rising prices, especially for millet. Niger depends on imports from Nigeria, Burkina Faso, Mali, and Benin to meet about 20 percent of national food (primarily cereal) needs. A high degree of interdependence on sub-regional market systems is a key determinant of national food availability from year to year, especially in crisis years.

With the largest herd in the Sahel, livestock production contributes 14 percent to Niger's GDP as a major export commodity, and makes up almost half of the national agricultural economy. Increasingly, livestock are concentrated in more sedentary agropastoral zones, where milk production is especially important and most dairy products are consumed by households.

NATIONAL FOOD SUPPLY

This section will look at the main sources of food availability in Niger: domestic agricultural production (crop and livestock production), fisheries; commercial cereal imports; and food assistance.

Domestic agricultural production

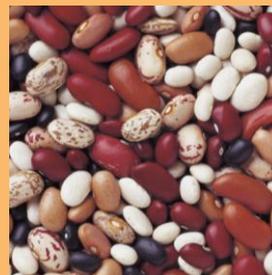
Agriculture is the primary sector of the Nigerien economy, contributing just over 40 percent directly to GDP, and accounts for 65 percent of Niger's formal exports, which are comprised primarily livestock and cash crops to Nigeria.⁴² Agricultural labor employs roughly 80 percent of the Nigerien work force.⁴³

Agricultural production is characterized by two seasons: a rainfed season, which is determined by annual rainfall, and an irrigation season (also known as the off-season). Rainfed agricultural production is primarily for staple cereal crops, including millet, sorghum, rice, *fonio* (fast maturing, small grain local cereal), wheat, and commercial cash crops such as cowpea, peanuts, sesame, *souchet*, and onions. Off-season production includes rice, vegetables, and staple cereal crops. Households obtain an annual average of 50,000 to 80,000 tons of rice and 400,000 to 500,000 tons of cereals through the sale of vegetables and cash crops produced in the off season. Considering an average annual production level of 4-5 million tons, off-season production can account for up to 10 percent of domestic supply of these commodities in a given year.

Cereal production overall has steadily increased over the last 20 years, although yields have decreased or remained stable. Millet and sorghum production doubled from 1980–2011 and cowpea production increased by almost five times.⁴⁴ However, Nigerien staple crop yields are significantly below the West African average, even in countries facing similar risks and constraints to production, with the exception of rice. Yields per hectare for all three main crops (millet, sorghum, and groundnuts) are 43.2 percent lower on average compared to other Sahelian countries. In neighboring Burkina Faso, yields are nearly double Nigerien production rates while Mali yield rates are 62 percent higher than those in Niger.⁴⁵ Nigerien rice yields per hectare are comparable with the regional average.⁴⁶

Millet is the strongly preferred staple food and domestic millet production accounts for about 76 percent of cereal production in the country. An estimated 90 percent of all cultivated land is allocated to millet.⁴⁷ Other major food crops (and also main sources of food) include sorghum, *fonio*, rice, tubers (potatoes and cassava), maize, and vegetables such as eggplant, okra, cabbage, and onions. Important cash crops, cultivated primarily for export, include groundnuts, cowpeas, sesame, and *souchet* (sweet pea).

Agriculture is primarily characterized by subsistence farming, and production of staple food crops is based largely on rain-fed agriculture.⁴⁸ Intercropping is the dominant production type, with only 17 percent of crops planted in a monocropping system,⁴⁹ the majority of which are millet, sorghum, groundnuts and cowpea.⁵⁰ Tillaberi region accounts for 45 percent of total mono-cropped land followed by Zinder (13.1 percent) and Dosso (12.4 percent), while Maradi and Zinder regions cultivate the largest proportions of intercropped land (25.8 percent and nearly 27 percent, respectively).



KEY FEWS NET MARKETS AND TRADE RESOURCES

Monthly Reporting

[FEWS NET Niger Price Bulletins](#)

[FEWS NET Price Watch](#)

FEWS NET Production and Trade flow maps

[Millet Production and Trade Flow Map](#)

[Rice Production and Trade Flow Map](#)

[Maize Production and Trade Flow Map](#)

[Cowpea Production and Trade Flow Map](#)

[Livestock Production and Trade Flow Map](#)

Cross-Border Trade Reports

[Cross Border Trade and Markets in Niger](#)

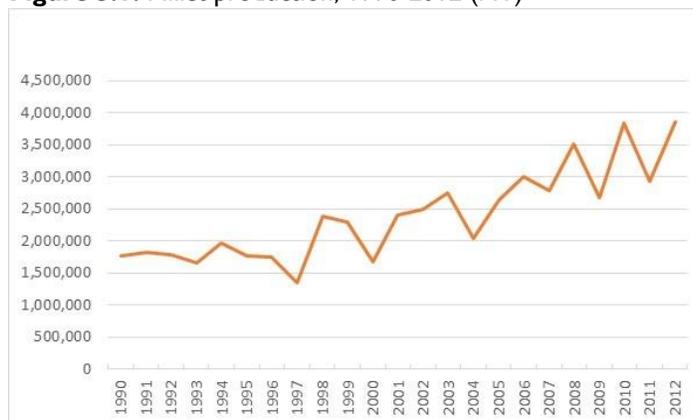
Cross-Border Trade Profiles

[Review of Markets and Trade in West Africa](#)

Most intercropping involves the combination of millet-cowpeas, planted on just over 2 million hectares, and millet-sorghum-cowpeas, cultivated on nearly 1.8 million hectares.⁵¹

A total of 6.5 million hectares are under cultivation,⁵² with an average cultivated area per household of about 5 hectares.⁵³ However, significant disparities in land parcels exist across the country, with an estimated 20 percent of households farming less than 1.4 hectares. In general, Niamey, Tahoua, and Diffa have the highest proportion of these households.⁵⁴ An estimated 99 percent of production is from rainfed agriculture, with the remaining one percent comprised of irrigated agriculture and flood recession cropping.⁵⁵ Irrigation agriculture is primarily focused on cash crops for export, particularly in the case of onion production and rice cultivation in formal irrigation zones, and this second/off season production contributes significantly to national food availability.

Figure 3.1. Millet production, 1990-2012 (MT)



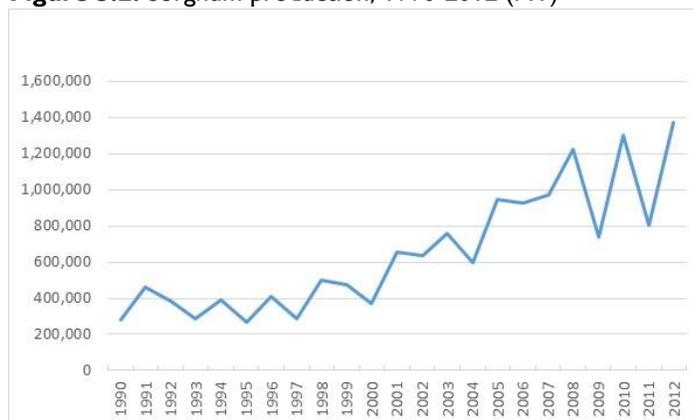
Source: FAO Stat

Annual average cereal production is highly variable, depending on seasonal rainfall, but averages at approximately 4.25 million MTs (2006-2010).⁵⁶ All production gains are attributable to expanded area under cultivation rather than to improved cropping efficiency. Maradi and Zinder regions produce approximately 40 percent of national millet supply in an average year.⁵⁷

Demand for rice is increasing as consumption patterns evolve, particularly in urban areas. Domestic rice production accounts for just over 30 percent of supply, and is produced primarily in the Kirtachi, Gotheye, Tillaberi, Gaya, and Sabon Machii (Maradi regions using rainfed, flood recession, and irrigation production systems).

Niger is a leading producer and exporter of onions in the region, with onion crops in the Tahoua region accounting for over 75 percent of national production. The onion industry is a key livelihoods source for farmers across the country, and domestic production averages 500,000 tons per year, much of which is marketed in West Africa through a commercial network that supplies coastal countries in the sub region. Nigerien households consume about five percent of national production (21,000 tons, or 4.4 kilograms per person per year).

Figure 3.2. Sorghum production, 1990-2012 (MT)



Source: FAO Stat

Niger is the second largest producer of cowpeas in the West Africa, after Nigeria. Cowpeas are used as both an export crop and as a source of animal feed. Nigeria is a primary consumer of Nigerien cash crops, namely cowpea, ground nuts, and *souchet*. Market gardening vegetable production, particularly for onions, peppers, and chilis, is intensively practiced in all of the southern regions. Onions are produced as the primary dry season crop (30,200 hectares cultivated in 2005), followed by *gombo*, eggplant, and cabbage.

Constraints and opportunities in agricultural production

Government investment in the agricultural production sector is one of the lowest in West Africa. In 2004, total expenditures made by the Government of Niger (GoN) on agriculture were about 1 percent of total government spending for that year and .5 percent of agricultural GDP.⁵⁸ In 2007, the GoN provided only one extension agent for every 2,000 people.⁵⁹ In addition to low investment, other constraints include chronic pests and inconsistent rainfall, high dependence on rainfed agriculture, as well as poor access to and use of inputs. According to a 2005 Census of Agriculture, only 25

percent of producers reported any fertilizer use. The national average for fertilizer use is estimated at 20,000 tons per year for 6.5 million hectares, equaling an average of only 3 kilos per hectare.⁶⁰ Other key factors that limit production and more efficient yields include:

Underexploited Irrigation Sector

Despite low annual rainfall, Niger's water network – composed of both surface water and groundwater – could allow for diversification and alternatives to rain-fed agriculture.⁶¹ Only one percent of Niger's surface water potential has been harnessed, along with merely 20 percent of underground water sources.⁶² Most irrigation farming is implemented in the Niger River basin, and while a focus on irrigation techniques has increased since 2008, this sector remains underexploited, with only 85-100,000 hectares under irrigation out of 270,000 potentially irrigable land.⁶³ Of the total area irrigated, full-control irrigation schemes account for only 15,000 hectares,⁶⁴ which are not highly productive and therefore do not produce sufficient profits for adequate maintenance of pumps and other infrastructure.

Low yield cultivation

Staple crop yields (primarily millet) have stagnated at 350-400 tons per hectare for the last 15 years,⁶⁵ while overall production has increased. The vast majority (80-90 percent) of staple crops are intercropped, a technique that is well adapted to low rainfall zones but inefficient in terms of combining relatively low-yield varieties. Most commonly, millet, sorghum, and cowpea are intercropped to maximize production in zones where rainfall is erratic or inconsistent, as each crop has different growth patterns. While this strategy has some benefit for risk mitigation against smaller scale climatic shocks, severe rainfall deficits will result in termination of all crop varieties. Given high levels of exposure to shocks and hazards that impact agriculture, Nigerien producers tend to be risk averse and conservative in the use of technologies, inputs, and cultivation practices, further limiting growth potential for cereal crops.

Limited storage use

Niger cereal markets do not offer suitable long-term storage for cereals, resulting in a rapid turnover of stocks due to low working capital, a risk of deflation, and lack of accurate information regarding food aid distribution and methods.⁶⁶ Twenty percent of farmers sell their staple grain production after the harvest; consequently, traders either sell the product immediately or engage in storage.⁶⁷ Traders store for a relatively short period averaging 45 days in normal years.⁶⁸

Declining land availability and land tenure

With one of the world's highest population growth rates, rural households are increasing cereal production primarily through exploitation of land area rather than through increased yields or irrigation strategies. Consequently, overcrowding is reducing access to arable land because population growth is outpacing land availability, while hastening soil degradation and erosion. Heavy pressure on existing arable land also limits the scope for fallowing land to preserve and restore soil fertility, with only 5 percent of land in fallow in 2005.⁶⁹ Land tenure remains an obstacle to expanded agricultural production.

Poor commercial infrastructure

According to a census of grain markets conducted in 2006 and 2007, Niger has more than 2,000 grain markets in the country.⁷⁰ However, commercial infrastructure country-wide is underdeveloped. Cereal markets depend on road and water networks (Niger River). Though Niger has approximately 3,700 kilometers of paved road, most trade and marketing activities depend on dirt roads. Between 2000 and 2005, only 15 percent of markets were reported to have access to a new paved road.⁷¹ The most rural areas are frequently cut off and isolated due to impassable road conditions during the lean season when rainfall levels peak, and, in the dry season, low water levels that restrict river transport of goods to market.

Livestock production

Livestock production contributes about 14 percent to total GDP, and makes up about 40 percent of agricultural GDP, including goats, sheep, cattle, and camels. Niger has the largest herd of livestock per head in the Sahel region, with an estimated total 10.5 million Tropical Livestock Units (TLUs).⁷²

Livestock production activities vary slightly according to three production zones, although over the last decade, livestock production overall has become more sedentary. Livestock-raising activities have transitioned from strictly transhumant pastoralism- to more sedentary or semi-sedentary patterns, with pastoral households moving south to more reliable

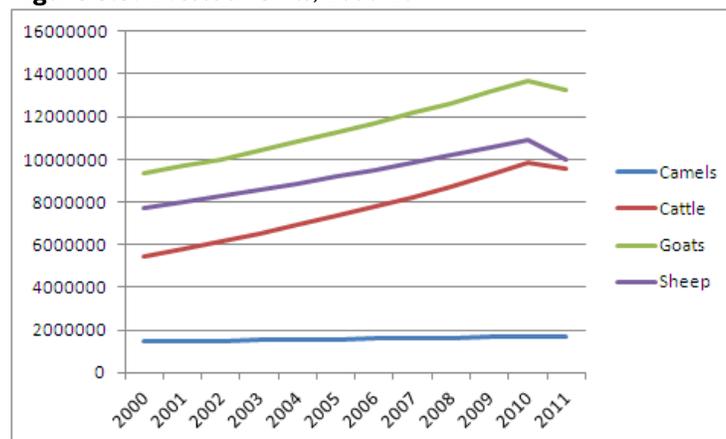
pasture areas and an expansion of agriculture production into traditionally pastoral areas. The three broadly characterized livestock production systems are: the Transhumant Nomadic Pastoral Zone, the Agropastoral Zone, and the Agricultural Zone.⁷³

- *Transhumant Nomadic Pastoral Zone:* This zone generally covers the Agadez region as well as the northern portions of most other regions (Tillaberi, Tahoua, Maradi, Zinder, and Diffa). Herds in these areas are adapted to the specific climatic and environmental conditions. This area has traditionally accounted for the vast majority of livestock, particularly camels and shoats, although herd sizes are decreasing and transhumant pastoral households are increasingly moving south.⁷⁴
- *Agropastoral Zone:* Defined by higher levels of annual rainfall (300-400 mm), this zone crosses the country from east to west and accounts for approximately 60 percent of cattle in Niger. Agricultural activities have been increasing in these areas due to migration southward of transhumant pastoralists, and because high population density in the southern agricultural zones is pushing pastoral-dominant households northward.
- *Agricultural Zone:* In this zone, livestock ownership favors the rich; 90 percent of cattle and 75 percent of small ruminants are owned by the wealthier farming households.⁷⁵

Over the past 50 years, Niger's national herd is estimated to have grown at an average annual rate of 2.47 percent if one considers the total number of head.⁷⁶ (Figure 3.3) The bulk of livestock (approximately 60 percent) are now located in agropastoral areas. Other emerging trends in this sector include a redistribution of livestock ownership from poorer households to wealthier households within the transhumant nomadic pastoral zone, a reduction in family herd sizes, and a move toward the south by many herding families.⁷⁷

Through the late 1970s, milk production was the primary objective of livestock activities in Niger. However, as revenues from oil increased in Nigeria the 1980s, demand for Nigerien meat has continued to increase, and has become the more important output for pastoralists. Subsequently, national milk production is not sufficient to meet high demand at a national level, and only meets approximately 75 percent of total household consumption.⁷⁸ Niger produces approximately 400,000 MTs of milk, which is both produced and consumed on-farm; very little milk is produced for the commercial market, which depends on imports of milk powder, primarily from France.⁷⁹

Figure 3.3. Livestock Units, 2000-2011



Source: FAO Stat

STAPLE FOOD IMPORTS

Data on cereal imports and export in Niger are highly unreliable, due in part to the large volume of informal trade occurring between Niger and its neighbors (Benin, Burkina Faso, Chad, Mali and Nigeria), and unofficial net imports of sorghum and millet from Nigeria are likely much larger in most years than recorded official imports.⁸⁰ Niger does not produce enough staple cereals to meet demand, and relies on imports to meet about 20 percent of food needs in an average year. Imports represent roughly 12 percent of local cereal needs and 15 percent of national cereal supply. In an average year, 50 percent of imports cover cereal deficits.⁸¹ Demand for millet exceeds production, even in a good year, as demonstrated by food balance sheets that present import requirements for an average production year (Figure 3.4).

Nigeria plays a dominant role in cereal availability for Nigeriens. An estimated 75-85 percent of millet/sorghum imports and 35 percent of maize are imported from Nigeria.⁸² Niger also receives significant cereal imports from Benin, Mali, and Burkina Faso. Because production of millet, sorghum and maize are much larger in Nigeria than in Niger, the supply and demand conditions in Nigeria, especially in the northern regions, have a major influence on prices and availability in Niger.⁸³ Additionally, inter-annual variations in rainfall and production shocks (localized as well as national) are key determinants for import demand.

Though currently comprising only 6 percent of total cereal consumption,⁸⁴ rice accounts for the vast majority of all cereal imports in a given year (Figure 3.5).⁸⁵ Based on the steady growth in demand, particularly in urban areas, projected needs were estimated at 250,000 MTs for 2012. Commercially imported rice is highly preferred and currently meets approximately 60 percent of Niger's demand for rice.⁸⁶ The bulk of rice is imported from Thailand, Pakistan, and India. The importation and commercialization of rice is relatively liberalized in Niger, with occasional government price control interventions for certain markets.⁸⁷

FOOD RESERVES

The Office des Produits Vivriers au Niger (OPVN) maintains national cereal stocks for institutional assistance programs and to meet emergency needs. OPVN has a national cereal storage capacity of approximately 154,700 MT, with the largest capacity in Zinder, Niamey, Tahoua, and Maradi regions (which all store over 20,000 MT each).⁸⁸ In an average year, the Government of Niger purchases 60,000-80,000 MTs of cereals from local vendors and through imports for use in assistance and safety net programs.

NATIONAL FOOD SYSTEM

Cereal markets

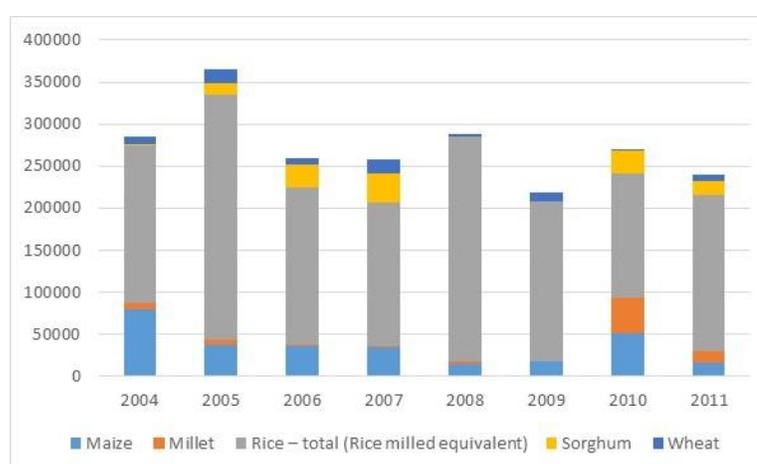
Internal and cross border market integration has a clear and immediate impact on price shocks for staple foods given Niger's high dependence on cereal imports, which fluctuates dramatically from year to year. Total production is highly variable from year to year, at times exceeding the 20 year average by as much as 55 percent, and at other times, decreasing

Figure 3.4. Cereal Supply/Demand Balance Sheet for the 2013/2014 Marketing Year (November/October) (thousand tons)

	Wheat	Rice	Coarse grains	Total
Average production, incl. paddy rice (2008/2009-2011/2012)	3	86	4538	4627
Average imports (2008/9-2013/2014)	83	269	84	436
2013/14 Domestic Availability	0	26	4592	4618
2013 Production (incl. paddy rice)	0	40	4292	4332
2012/13 Utilization	110	388	4667	5166
Food use	109	374	3756	4239
Non-food use	1	14	842	857
2013/2014 Import requirements	133	135	89	126
Anticipated commercial imports	100	312	65	477
Food aid needs	10	50	10	70

Source: FAO/GIEWS

Figure 3.5. Formal import volumes (MT), 2000-2011



Source: FAO Stat

Note: Import data does not include significant informal flows of cereals, especially millet and sorghum, through porous borders with Nigeria and other neighboring countries.

by 38 percent compared with the 20-year average.⁸⁹ Therefore, market flows within Nigerien market systems and among production areas in bordering countries are critical to supporting the capacity of Niger's food system to assure household availability, particularly in the face of production shortfalls at the national or even local level.

The agricultural markets that make up the "bread basket" of Niger are located primarily along the border with Nigeria, in the southern surplus cereal producing regions of Zinder and Maradi. (Figure 3.6) These areas account for roughly 40 percent of national millet and sorghum production.⁹⁰ In a typical year, millet and sorghum are collected in the three to four month period following the harvest in these regions, and marketed in Niamey, Tahoua, Agadez and neighboring deficit regions. Starting as early as January, domestic supply is gradually replaced by cereal imports, primarily from Nigeria.⁹¹

Niger's national food system and import needs depend heavily on key markets in Nigeria, primarily for millet (Dan Issa, Mai Adua, Illela, Dammassack, Jibia). Key markets in other West African countries include Benin (Gaya, Malanville), Burkina Faso (Bobo Dialasso, Ouagadougou), and Mali (Gao, Segou). Trade bans among Niger's key trading partners due to insecurity or supply shortages typically prompt price shocks in Niger, particularly in border markets.

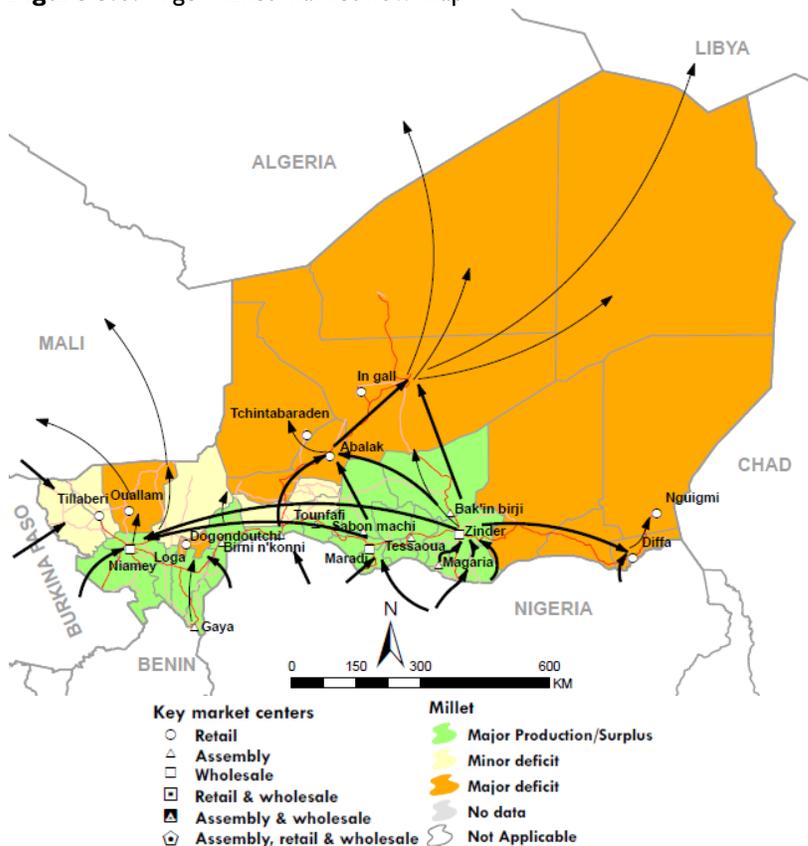
Local markets are only partially integrated, and less so during lean season months due to impassable road conditions and high transaction costs linked to transportation expenses and underdeveloped road networks. As a result, market supply chain interruptions and/or price shocks are common in rural markets, even in an average or above average production year. Stark price disparities between production markets and consumer markets often prohibit household access among the poor in rural and remote areas.

Though storage capacity country wide is suitable to house national production, long-term storage facilities are lacking, and drive rapid turnover of stocks, particularly post harvest. Quick turnover of stocks due to low working capital, the risk of deflation and the lack of information regarding food aid distribution and methods make markets very sensitive to price fluctuations on supplying markets in surrounding countries.⁹² Thus, Niger's national food system is highly vulnerable to both internal and external disruptions, even in a good or average production year.

Livestock markets

With the largest herd size in the Sahel, Niger is a livestock exporter, primarily to coastal countries and most significantly, Nigeria. Livestock sales play an important role in Niger's economy and represent a principal revenue source for agro-pastoral households. Livestock trade is a critical livelihood strategy for transhumant pastoralists in the northern portion of the country, as well as a vital insurance and coping strategy for agro-pastoral households. Livestock marketing activities comprise 14 percent of GDP.⁹³

Figure 3.6. Niger millet market flow map



Source: FEWS NET

Livestock is Niger’s second most valuable export (after uranium) in terms of dollar value, and is critical to household food security in Niger; it accounts for nearly two-thirds of household agricultural income.⁹⁴ The majority of exported livestock goes to Nigeria, through principal entry points that follow major roads and rivers, even though animals are often trekked across borders to avoid formal customs procedures.⁹⁵

Livestock trade is supported by established traditional networks that connect linking producers, intermediaries, and traders along the market chain, with the majority of animal sales occurring in local markets, and most livestock is destined for export, mainly to Nigeria, the principal entry points to which track major roads and rivers.⁹⁶ To avoid transportation costs and tax levies, traders will walk herds across borders.

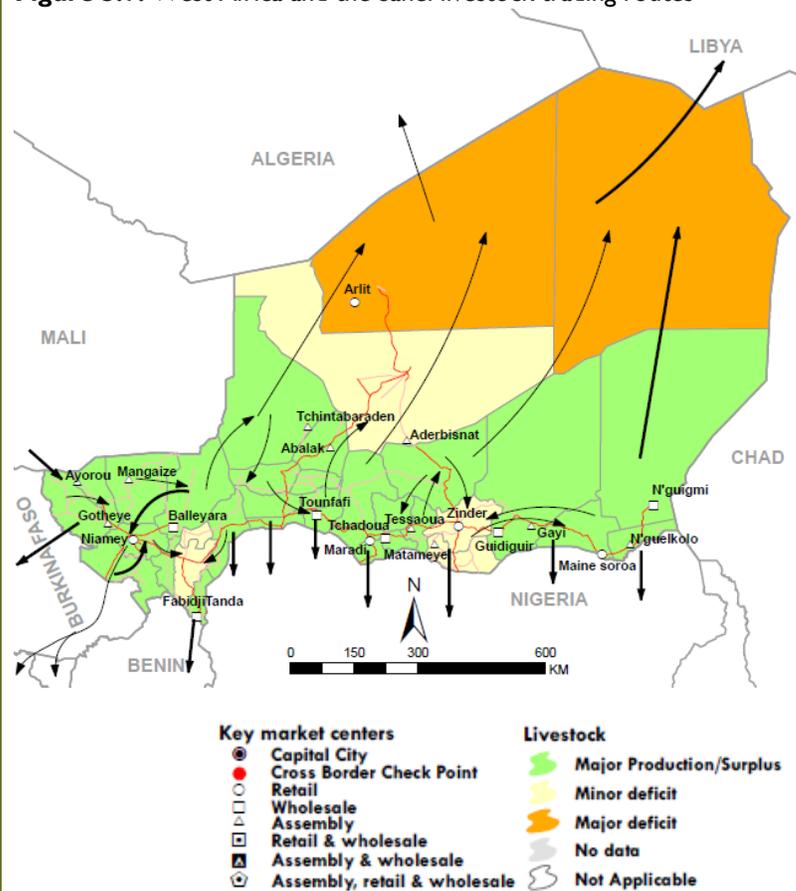
Niger’s large wholesale markets are located along the border with Nigeria, from where supply is transported to export markets in northern Nigeria, like Jibia and to consumption markets in southern Nigeria such as Lagos, Ilorin, Ibadan, Port-Harcourt.⁹⁷

Livestock exports to Nigeria account for more than 90 percent of overall livestock exports,⁹⁸

with Ghana and Cote d’Ivoire as other key consumers of Nigerien livestock, especially small ruminants. Traders from Nigeria purchase animals in Niger when selling cereal on local Nigerien markets. Therefore, changes or shocks to this symbiotic relationship between Nigerien and Nigerian traders can disrupt normal cereal supply systems.

Livestock supply is at a maximum post-harvest, in advance of the lean season as households stockpile cereal reserves, and as financial needs increase in anticipation of holidays when demand for meat is highest. Supply decreases during the rainy season when transhumant herds move north into pastoral areas to reproduce, leaving southern marketing zones.⁹⁹

Figure 3.7. West Africa and the Sahel livestock trading routes



Source: FEWS NET



ADDITIONAL RESOURCES

[Agriculture Sector Risk Assessment in Niger: Moving from Crisis Response to Long Term Risk Management.](#) World Bank. January 2013.

[How can we avoid another food crisis in Niger?](#) Aker, J. 2008. Center for Global Development Essay.

[Rainfall Shocks, Markets, and Food Crises: Evidence from the Sahel.](#) Aker, J. 2008. Center for Global Development Working Paper Number 157.

[Country Pasture/Resource Profiles Niger.](#) 2006. Food and Agriculture Organization.

[Profil et Determinants De La Pauvrete au Niger en 2011 Premiers Resultats de l'Enquete Nationale sur les Conditions de Vie : des Menages et L'Agriculture au Niger \(ECVMA\).](#) Institute Nationale de Statistique. 2011.

Access



OVERVIEW

Structural poverty is a major impediment to reliable household food access, with the highest levels of poverty located in some of the most agriculturally productive regions of the country (Dosso, Maradi, Tillaberi), where decreasing land holdings from overcrowding, high variation in seasonal rainfall, and market sensitivity pose additional vulnerability. An estimated 60 percent of the country's nearly 17 million people live below the national poverty line, equating to over 10 million people.

Poor rural households rely on market purchase for 8-9 months of a year to either supplement or fully cover their food needs, especially during the lean season (June to September). High market dependence among the predominantly rural population leaves poor households particularly vulnerable to price shocks, which frequently correspond to poor rainfall or regional market disruptions. The vast majority of Nigeriens depend on informal labor from on-farm work, seasonal migration, livestock production, and to a lesser extent, petty trade and small business. Recurring climatic shocks that impact on-farm labor and pasture production therefore affect not only a household's ability to produce food for consumption, but to meet food and non food needs.

Increasingly, millet production is not sufficient to meet demand at the country or regional level, putting upward price pressure on this and other key staples (sorghum) at a larger regional level, while daily wages remain relatively stable and strongly linked to agricultural production. Seasonal and inter-annual price variations stemming from production shocks, high marketing costs, and dependence on external markets (Niger, Benin), pose access constraints for poor households who walk an average of one hour to reach the nearest market. Terms of trade (the amount of cereal a household can obtain by selling an animal) for small ruminants and cereals are also a deciding factor in household food consumption. Seasonal destruction of badly maintained roads can limit physical market access, particularly during periods of heavy rains.

SOCIO-ECONOMIC ACCESS

Poverty data

World Bank estimates suggest that overall, poverty rates in Niger have declined in the last decade, decreasing from 64 percent in 2005 to 56 percent in 2011, and can be attributed in large part to growth in the agricultural sector.¹⁰⁰

However, gross national income per capita remains one of the lowest in the world, at 650 USD (2012)¹⁰¹, with the majority of the overwhelmingly rural population (84 percent) earning a living through the informal agricultural sector. The percentage of the population (poverty headcount ratio) living in poverty on 1.25 USD per day is 44 percent (2011 figures), and increases to 75 percent when purchasing power parity is adjusted to 2.00 USD per day.¹⁰²

Regional poverty clusters can be grouped as low poverty regions (Agadez, Diffa, and Niamey), which are primarily in pastoral or urban areas, while regions with high levels of poverty include agropastoral Tahoua, Dosso, Maradi and Tillaberi.¹⁰³ Across departments in Maradi, Tillaberi, Dosso and Zinder, over 50 percent of the population lives below the poverty line.¹⁰⁴ These areas are also some of the most agriculturally productive zones of Niger, which points to a link between poverty and population density rather than food availability and productive capacity.

Prices and impact on household purchasing power

Prices of staple cereals fluctuate significantly on an intra and inter-annual basis, where high production years are followed by relatively lower prices and low production years typically result in higher prices.¹⁰⁵ However since 2008, prices in Niger have been more linked to production in the sub-region (Nigeria, Benin, Burkina Faso and Mali) and cross-border flows, rather than to just good domestic production. Another key reason for high price instability in Niger is the fairly inelastic regional supply of food, as climatic shocks in the sub-region are not easily offset by extra-regional imports.¹⁰⁶

Figure 4.1. Poverty Status in Niger by Geographic Area

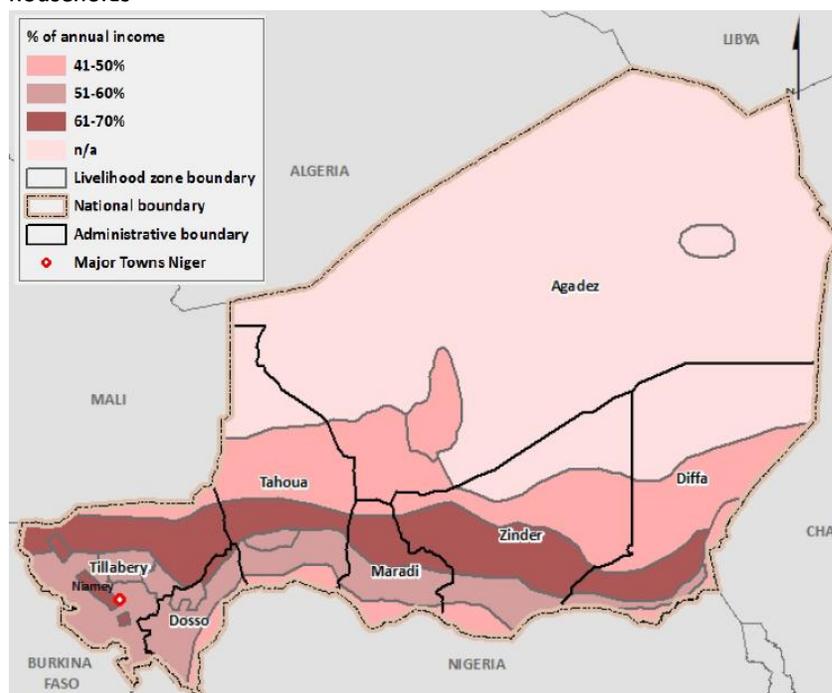
Region	Incidence	Depth	Severity
Agadez	45.9	16.1	8.8
Dosso	67.3	28.8	15.3
Maradi	79.7	35.1	19.0
Tahoua	45.9	14.5	6.2
Tillaberi	68.9	26.8	13.9
Zinder-Diffa	63.1	23.0	23.0
Niamey	27.1	7.2	7.2
National	62.1	24.1	24.1

INS QUIBB Survey, 2005

Note: The incidence of poverty measures the percentage of individuals or households whose consumer spending is below the monetary poverty line. The poverty line corresponds to a minimum annual consumer spending for an individual or household; the depth of poverty measures the average gap in percentage between the level of well-being of the poor households and the poverty line. It is used in estimating the minimum amount of additional resources to be transferred to poor households to place them on the monetary poverty line; and the severity of poverty measures the average gap between consumption by the poor and the poverty line.

Source: World Bank/Niger Food Security and Safety Nets, 2009

Figure 4.2. Percent of Annual food needs met by purchase, poor households



Source: FEWS NET

Cereal prices in Niger are highly sensitive to supply shocks in the Niger-Nigeria production basin; price movements within Niger follow well-defined patterns, starting in southeastern production centers. Due to the high level of market integration between markets in Niger and border countries, particularly during drought or shock years, trends on cereal markets in Benin and Nigeria have important implications for prices and performance of cereal markets in Niger.¹⁰⁷ For example, markets in Benin and northern Nigeria forecast price changes in over 75 percent of the markets in Niger.¹⁰⁸

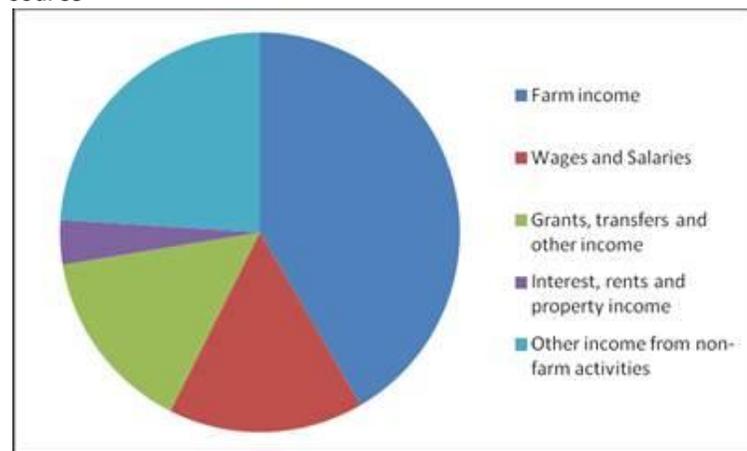
The seasonal nature and variation of staple food (cereal) prices in Niger is notable. In the most productive agricultural zones (Maradi, Zinder), cereal prices typically peak in July-August, just before the green harvest in September and the main harvest in October before hitting their lowest levels in November. Millet prices can average as much as 26-62 percent higher in July compared to post harvest prices in October of the same year, depending on the region and individual market context.¹⁰⁹ Staple food prices are also highly sensitive to seasonal rainfall patterns, trade interruptions with key partners (Nigeria), and speculation.

In pastoral areas, prices are highest during the July-November period. Prices are typically highest in more remote, desert, pastoral regions (Agadez, Diffa), and in the production zones that border these areas (Zinder, Tillaberi, Tahoua).¹¹⁰

Since 2003, domestic staple cereal food prices in Niger have increased steadily. Staple food price behavior in Niger is influenced by a number of factors:

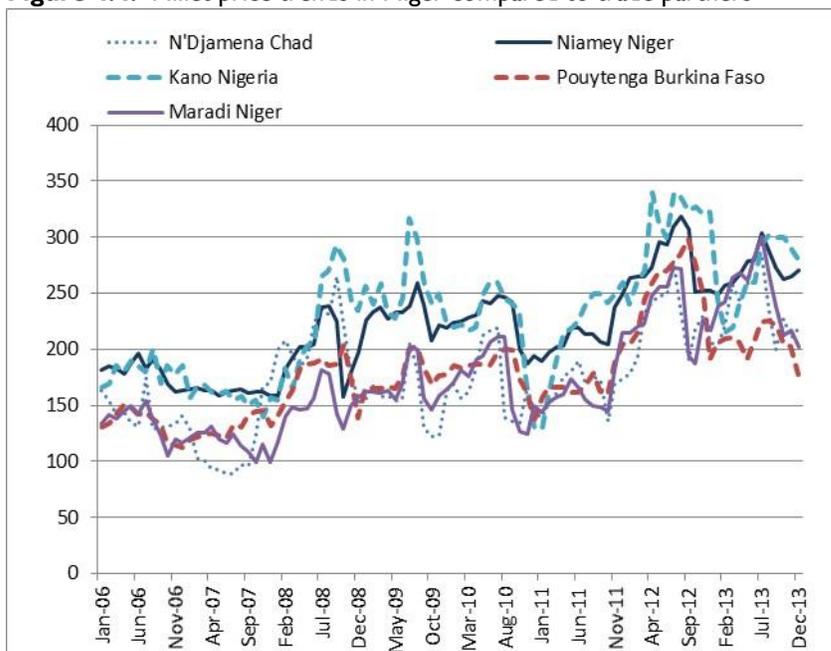
- *External market dynamics:* Regional political instability resulting in trade limits or atypical controls (such as border closures) have an immediate effect on staple cereal prices, particularly any action taken by the Government of Nigeria, which supplies 15-20 percent of Niger’s cereals in a given year. Global food prices have less of an impact on Niger due to food preferences that are not directly tied to international markets (millet and sorghum, for example). However, shifts in trade flows, supply levels, and supply routes at the regional level are generally reflected in residual price changes in Nigerien markets.
- *Production shocks and speculation:* Natural hazards and shocks appear to have the most impact on prices in a given year, particularly given the impact on staple food production. Locusts, drought, flooding, and late/early onset of seasonal rains all potentially reduce cereal yields and pasture

Figure 4.3. Breakdown of household cash and non-cash income by source



Source: GoN 2005 QUIBB Survey Results, in Fintrac Bellmon Analysis, 2011

Figure 4.4. Millet price trends in Niger compared to trade partners



Source: FEWS NET

development, which in turn drive traders, humanitarian agencies, and the government to respond, often through increased cereal purchase and stock hoarding, among others. On rural consumer markets, prices do not decrease significantly at the time of harvest in a bad production year: starting in October, prices start to increase because production is not placed on the market and because of strong demand in order to take advantage of the low (relative) prices, which can continue to increase until August.¹¹¹

- *Poor internal market systems and structural deficiencies:* Poor commercial infrastructure compounds high transaction costs (including customs/duties on imports from neighboring countries, transportation costs), which generally affect cereal prices and access constraints for poor households in isolated, rural areas. In this context, good national availability of staple cereals (millet and sorghum) does not necessarily assure sufficient availability to meet demand at the whole department level or in more distant areas. Weak demand in small, remote villages does not attract traders¹¹² when transaction costs are high and travel times are complicated by difficult road conditions. Additionally, while Niger's regional food markets are generally free of monopolistic tendencies, excess profits-seeking and price inflation by traders and market actors (either through collusion or hoarding) may exist due to significant differences in access to capital, influence, and information.¹¹³

Expenditures

- **About 50 percent of households in Niger rely on the market to meet 90 percent of food needs.**¹¹⁴ Nearly all Nigeriens depend on the market to some degree. Better-off producer households in rural areas will purchase just over 60 percent of their food needs in a typical year. Typical poor and very poor households residing in rain-fed agricultural livelihood zones and agro-pastoral livelihood zones meet about 35 to 50 percent of their food needs through purchases in a normal year; the rate rises to 65 percent–75 percent for poor pastoral households.¹¹⁵
- **Poor households spend the greatest portion of their expenses on food. Between 61-64 percent of total household expenditures are for food, and cereals account for approximately 50 percent of household food expenses.**¹¹⁶ Households adjust their food expenditure behavior according to the time of year. A small producer's strategy includes both selling a small portion of their harvest in order to meet non-food needs, such as medical bills or taxes and retaining the majority of their production for household consumption, while taking advantage of low post-harvest prices in order to build up their stocks for the rest of the year.

Income sources and employment

Real per capita incomes decreased by 30 percent between 1980 and 2000,¹¹⁷ **and have remained relatively stagnant in the last ten years in the face of steadily rising prices.** Over 80 percent of employed wage earners work in the agricultural sector, the least productive and least stable sector, where earning potential is volatile and tied to fluctuations in the marketplace and seasonal performance. For the most vulnerable families, typical revenue streams will allow for three to six months of food purchase in an average year¹¹⁸ depending on the village and livelihoods zone.

In urban areas, the unemployment rate (19.4 percent) is higher than in rural areas (15 percent).¹¹⁹ **The continuing imbalance between labor supply and demand is attributable primarily to two factors, including strong demographic growth and the structural inadequacy of the labor supply.** The latter is due largely to obsolete production techniques, particularly in the rural sector and to lack of organization in the informal sector.¹²⁰ Similar to labor forces in other developing countries, Niger has three broad labor categories: the agricultural sector (mostly self-employed), the informal sector, and the formal sector.

- **Agricultural informal sector:** The 2005 Survey on Combined Questionnaire of Basic Welfare Indicators (QUIBB) indicates that agricultural labor accounted for just over 40 percent of all household income, and that subsistence farming was the highest income source, accounting for roughly 30 percent of total household income. The relative proportion of livestock in the country's total income was estimated at about 10 percent.¹²¹ In addition, cash crop sales (cowpea, groundnut) make up an important part of annual income among the poor and very poor.

- **Non-agricultural Informal sector:** Data from 2005 regarding income sources suggest that non-farm income comprises more than half (59 percent) of total income, with wage labor accounting for only 16 percent of non-farm income.¹²² Mining and extractive industries only employ one percent of workers. Seasonal migration labor occurs primarily in May and November and also contributes a significant portion of household income.
- **Formal sector:** The reasons for unemployment and precarious employment are associated in particular with the absence of good linkages between the labor market, vocational training, and policy to support entrepreneurship.¹²³ Wages and salaries accounted for roughly 16 percent of total income: 8 percent for the public and semi-public sector, 4.6 percent for the modern private sector, and just over three percent for the other sectors.¹²⁴

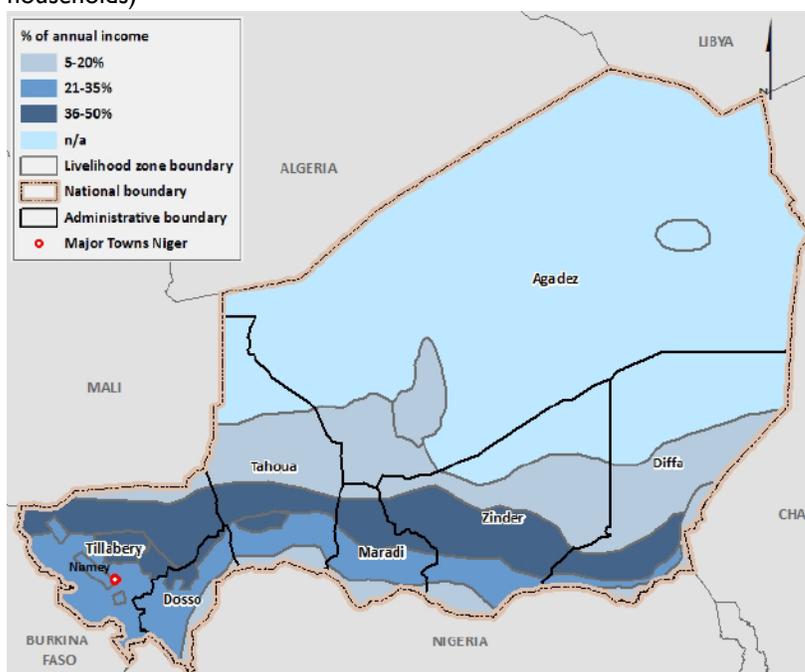
Income from onion production and sales provides a major source of income throughout the country. Estimates indicate that the monetary income of onion producers currently reach and estimated 47.25 billion FCFA per year, up from 25 billion in 2009¹²⁵.

Remittances and transfers of food and cash play an important role in household food access and purchasing power, and may account for up to 25 percent of household cash resources in a typical year. Remittances and transfers may be internal (within Niger or the region), external (received from diaspora or international sources), and they may consist of solidarity payments among family or community, or institutional/emergency assistance contributions. According to a 2009 survey, remittances and transfers account for 21 percent of rural household food consumption compared to just over 12 percent of urban household food purchases.¹²⁶ The same survey suggests that internally transferred food and cash account for almost 60 percent of all transfers.

The role of remittances in food consumption and access is highest in Tillaberi region, with more than half of cash remittances received used for purchase of household consumption needs. Zinder region has the next highest allocation of remittance resources (26 percent) for food purchase.¹²⁷ Food transfers and remittances are an important factor in more pastoral areas, especially in Diffa, Agadez, and Dosso regions. In these areas, food gifts sent by family members make up approximately 85 percent of transfers.¹²⁸

Livestock alone accounts for two-thirds of household agricultural income and evidence of the dominance of livestock is observed in almost all departments. Both non-poor and poor households rely mostly on sales from sheep and goats although cattle and poultry also constitute an important source of income for poor households.¹²⁹ Terms of trade are critical determinants of market access and household food supply.

Figure 4.5. Percent of annual income from migratory labor (poor households)



Source: FEWS NET



ADDITIONAL RESOURCES

[FAO GIEWS Food Price Data and Analysis Tool](#)

[Niger: Profile of Cereal Markets](#). Geert Beekhuis. 2005.

[Impact des Transferts sur la Réduction de la Pauvreté au Niger](#). Observatoire National de la Pauvreté et du Développement Humain Durable (ONAPAD). Décembre 2009.

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[Niger Food Security and Safety Nets](#). World Bank. 2009.

[Niger: Investing for Prosperity- a Poverty Assessment](#). World Bank. October 2012.

Utilization



OVERVIEW

Chronic undernutrition is prevalent in Niger. Among poor and very poor households, undernutrition is linked to several factors, including: constrained household access to markets; household decisions regarding limited food resources; insufficient caloric intake; low dietary diversification that favors cereals above other nutritious food sources, suboptimal infant and young child feeding practices; high disease rates, and poor health practices. The vast majority of people do not use latrines or improved sanitation facilities, relying instead on open defecation. Despite fair availability of water, treatment is virtually non-existent in poor rural areas.

While seasonality is a cyclical determinant of nutritional status, particularly among children, generally high prevalence of child malnutrition is associated with low rates of exclusive breastfeeding (14 percent) during the first six months, and early supplementation of cereal based- foods and water-based herbal compounds, equating to poor diet quality compounded by water-borne illness. From year to year across Niger, global acute malnutrition (GAM) rates exceed both severe (>10 percent) and critical (> 15 percent) levels.

In 2012, following the most recent Demographic Health survey, prevalence of stunting (low height-for-age) among children under 5 was 44 percent, of which 22 percent were classified as severely stunted, and 22 percent as moderately stunted. Regionally, these rates are highest in the most productive regions of the country (Diffa, Maradi, Zinder), where some of the highest poverty rates are observed.

HOUSEHOLD FOOD CONSUMPTION

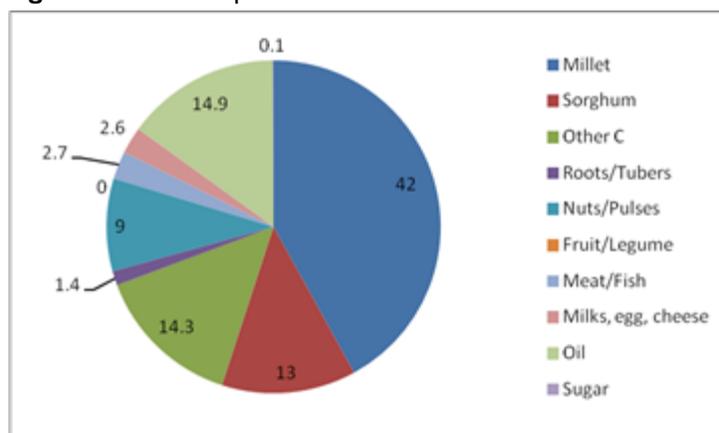
Consumption preferences and indicators

Nigeriens consume millet as a primary staple food. According to FAO (2009), national food availability per person was equivalent to approximately 2,489 kilocalories of food per day.^{*130} Annual per capita consumption of millet was estimated

* According to FAO, dietary energy consumption per person refers to the amount of food, expressed in kilocalories (kcal) per day, available for each individual in the total population during the reference period. Caloric content is derived by applying the appropriate food composition factors to the quantities of the commodities. Per person supplies are derived from the total amount of food available for human consumption by dividing total calories by total population actually partaking of the food supplies during the reference period. However, per person figures represent only the average supply

at 155 kg in 2009, with sorghum estimated around 45 kg. Household surveys in 2005 and 2006 (QUIBB and ECVAM, respectively), reported that over 80 percent of daily caloric consumption came from cereals (primarily millet) in 2005 and 70 percent in 2006. Less than 5 percent of daily caloric consumption comes from meat and fish, dairy products, and fruits and vegetables, which are important sources of micronutrients (Figure 5.1).¹³¹ Geographic variation is important to understanding consumption patterns, as urban households tend to eat more rice, a higher cost per calorie staple and rural households tend to consume more millet, a staple with a lower per calorie cost.¹³²

Figure 5.1. Consumption in calories



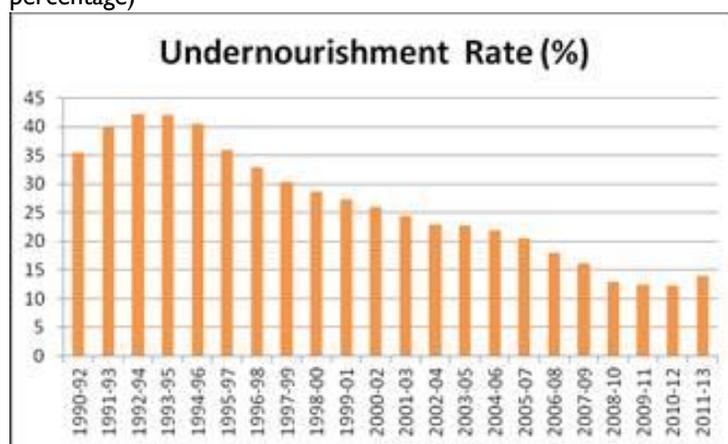
Source: QUIBB, ECVAM in Niger Safety Nets, 2006

The consumption of iron-rich foods by children is more common in urban than in rural areas (40 percent compared to 13 percent of children consuming these foods) and in the regions of Agadez and Niamey (respectively 45 percent and 37 percent of children, respectively). However, in Zinder region, only 8 percent of children consume iron-rich foods.¹³³

Rice is the third most important cereal in Niger after millet and sorghum. Although it comprises less than 10 percent of all cereal consumption, rice is an increasingly important component of the urban household food basket. Increased demand for rice has been driven by population growth and increased incomes. Increased demand is also associated with more cost-effective preparation, given that cooking rice requires less firewood compared to other coarse cereals.¹³⁴

The prevalence of undernourishment (the proportion of the population estimated to be at risk of caloric inadequacy) has declined fairly steadily since the mid-1990s (Figure 5.2). Prevalence of undernourishment is the traditional FAO hunger indicator, adopted as an official Millennium Development Goal indicator.

Figure 5.2. Prevalence of Undernourishment in Niger (in percentage)



Source: FAO, ESS data

UNDERNUTRITION

Overview

Niger has historically presented high prevalence of undernutrition, attributed to a series of contributing factors, including: insufficient caloric intake, poor dietary diversity and quality of consumption, poor care and feeding practices, a high prevalence of disease (especially malaria and respiratory illness), and substandard sanitation practices. Higher levels of undernutrition are also linked to lower levels of education at the household level, particularly among women, and tend to be observed in rural areas more than in urban areas.

At a national level, the prevalence of acute malnutrition consistently ranges from severe (≥10 percent) to critical (≥15 percent), even in the most agriculturally productive Maradi region of Niger along the border with Nigeria, and in other

available for the population as a whole and do not necessarily indicate what is actually consumed by individuals. The actual food consumption may be lower than the quantity shown as food availability depending on the magnitude of wastage and losses of food in the household, e.g. during storage, in preparation and cooking, as plate-waste or quantities fed to domestic animals and pets, thrown or given away.

southern bread basket regions (Zinder).¹³⁵

Acute malnutrition levels in these areas are among the highest in Africa, and also found in the most densely populated parts of the country (Figure 5.3).¹³⁶

In 2013, at a national level, the prevalence of global acute malnutrition and severe acute malnutrition among children under five years of age were 13.3 percent and 2.6 percent, respectively. Acute malnutrition is more prevalent in rural areas (14.9 percent) compared to urban areas (10.7 percent).¹³⁷

While these levels have decreased slightly (1.5 percent)¹³⁸ compared to 2012 survey results during the same May/June period, the national average for global acute malnutrition still exceeds the severe threshold of ≥ 10 percent as defined by the World Health Organization (WHO).

Nutritional status of children

The most recent national data on malnutrition and other child health indicators is from the 2012 Enquête Démographique et de Santé et à Indicateurs Multiples (referred to here as the Demographic Health Survey-DHS) Survey, a nationally representative sample survey initiated by the Government of Niger, in collaboration with the Institut National de Statistiques (INS) and several UN partners.

Over the course of a three-month period, from February 2012 to June 2012, 11,900 households across all regions of the country were surveyed; with women aged 15-40 and men aged 15 to 54 selected from 480 clusters. The survey is designed to monitor demographic, economic and health data in Niger as a follow up to three previous surveys conducted in 2006, 1998, and 1992.

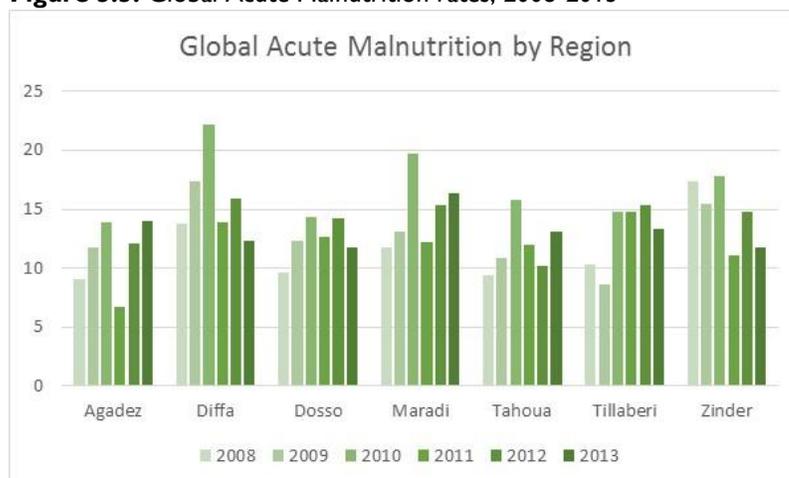
Stunting (low height-for-age)

Stunting is a key indicator of chronic under nutrition. The first two years of childhood are a critical period for optimal growth and development, and impairments linked to poor nutrition and health incurred during this time can be irreversible. According to the 2012 DHS study, more than four out of ten children are stunted, with 22 percent severely stunted and 22 percent moderately stunted.¹³⁹ The proportion of children falling behind in growth increases steadily and rapidly until 24-35 months of age: only 16 percent of children under six months of age are stunted, but the prevalence reaches 59 percent between 24-35 months of age.¹⁴⁰

However, stunting in Niger is not limited to poor and very poor households, where food insecurity is most prevalent. According to World Bank/WHO data, even among the wealthiest households, 37 percent of children under 5 years of age are stunted.¹⁴¹

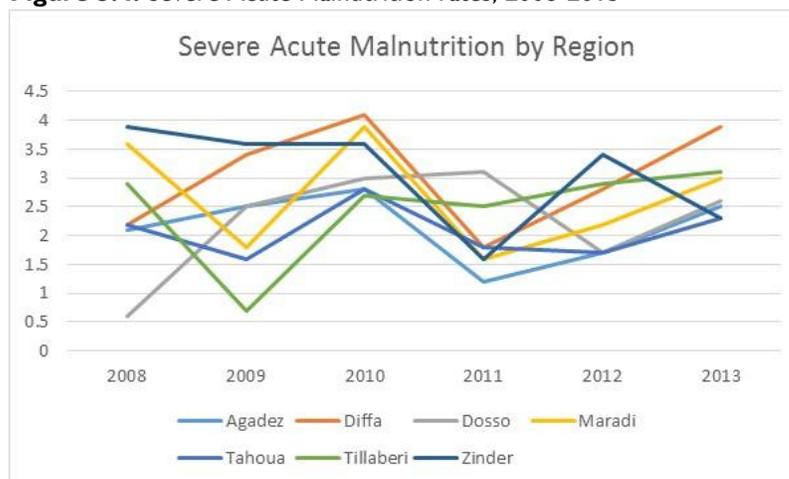
Stunting affects male and female children under five almost equally, with an estimated 46 percent boys stunted compared to 42 percent of girls. The prevalence of stunting is lower among children who are born at least four years after their siblings; only 36 percent of children borne 48 months after their siblings are stunted, compared to 42 percent for

Figure 5.3. Global Acute Malnutrition rates, 2008-2013



Source: INS, 2013

Figure 5.4. Severe Acute Malnutrition rates, 2008-2013



Source: INS, 2013

children born between 24 and 47 months later.¹⁴²

There are considerable geographical disparities in the prevalence of stunting (Figure 5.5). Approximately 30 percent of children living in urban areas are affected by stunting versus 46 percent of children living in rural areas.¹⁴³ At the regional level, stunting rates are highest in Diffa and Maradi (54 percent) and lowest in Niamey (20 percent). Figure 5.6 shows Niger's prevalence of stunting in 2008/2009 compared to some other countries in sub-Saharan Africa.

Wasting (low weight-for-height)

The prevalence of wasting in Niger is very high; the estimated prevalence of wasting and severe wasting are 18 percent and 6 percent, respectively (2012).¹⁴⁴ Children between the ages of six to 23 months are most frequently emaciated, especially those in the 9-11 month age group (33 percent).¹⁴⁵ Regionally, wasting rates are highest in Diffa and Tahoua, with respective prevalence of 36 percent and 21 percent. Niamey has the lowest wasting prevalence, at nine percent.¹⁴⁶ This indicator is subject to significant seasonal fluctuations, and is highest during the lean season.

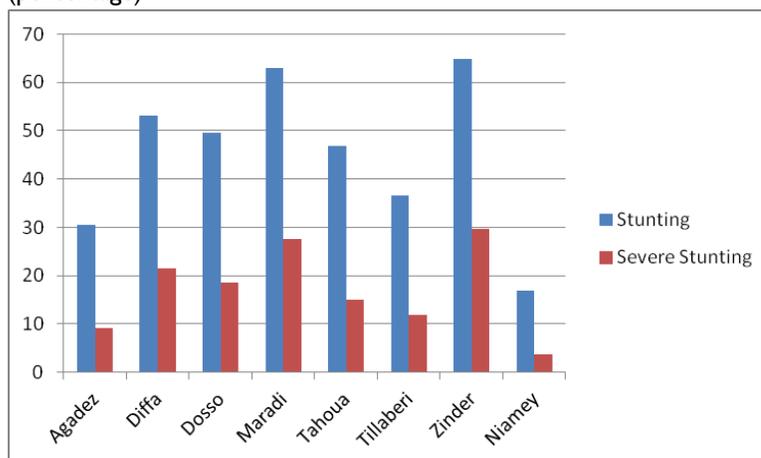
Maternal wasting, defined as a body mass index below 18.5 kg/m², is observed among 16 percent of women of childbearing age. Maternal wasting is more prevalent in rural areas (17 percent of women) compared to 11 percent among urban women, but education level is not a key factor influencing this indicator. Approximately 14 percent of women of the same age have a BMI greater than 25 kg/m² and are classified as overweight or obese.¹⁴⁷

Micronutrient deficiencies

Micronutrient deficiencies are widespread in Niger, particularly deficiencies in iron, iodine, and vitamin A. While numerous factors can lead to anemia, including poor sanitation, chronic illness and disease, and parasitic infection, low levels of iron and other micronutrients in the diet is most frequently the result of poor dietary diversity and low iron consumption. The prevalence of anemia in Nigerien children under five years of age is approximately 73 percent, with 43 percent of cases defined as moderate anemia.

Children from nine months to 23 months have the highest prevalence of anemia (84-90 percent).¹⁴⁸ Overall, compared to 2006 DHS data, the prevalence of anemia among children under five has decreased from 84 percent in 2006 to 73 percent in 2012; however, prevalence of lower-level anemia has increased overall (21 percent in 2006 to 27 percent in 2012).¹⁴⁹ Almost half of all women are anemic (46 percent), with the highest prevalence among women from 40-49 years of age.

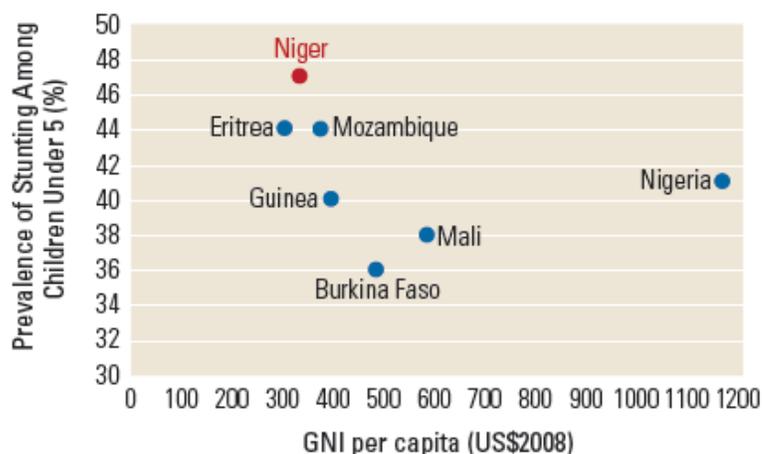
Figure 5.5. Prevalence of Children with Stunting in Niger, 2011 (percentage)



Source: Niger Government, National Statistics Institute, Ministry of Health Nutrition Department (2011 Bellmon Analysis, FINTRAC)

*Stunting represents the <-2 SD and/or edema. Severe stunting represents <-3 SD and/or edema. **The Agadez regions represent urban data only.

Figure 5.6. Niger stunting prevalence compared with selection of other countries in sub-Saharan Africa, 2008/9



Source: WHO, World Bank

Pregnant women are more likely to be anemic, as evidenced by the prevalence of 59 percent, which has remained virtually unchanged since 2006¹⁵⁰.

The Government of Niger has supported increased access to micronutrients through various efforts including the mandatory distribution and marketing of iodized salt, which has been in effect since 1997.¹⁵¹ Some improvement in use of iodized salt is noted (59 percent of households in 2012 compared to 46 percent in 2006), although these levels remain low. According to 2012 DHS data, approximately 60 percent of children under five had received Vitamin A supplements within the six months preceding the survey; the proportion is comparatively higher among children living in urban (70 percent) versus rural (58 percent) areas.

Food taboos and cultural beliefs, lack of knowledge regarding the nutritional value of foods, and limited income and purchasing power are some critical determinants of household consumption, and result in poor households selling nutrient rich food products (milk, vegetables, beans, fish, eggs, groundnuts), in order to purchase a greater quantity of less nutritional, but bulkier, staple cereals.

CARING PRACTICES

In Niger, the high burden of child undernutrition is perpetuated by low rates of exclusive breastfeeding, early introduction of poor-quality complementary foods prepared with untreated water, and minimal dietary. While nearly all children are breastfed, according to 2012 DHS data, only 23 percent of children under six months of age are exclusively breastfed.¹⁵² Furthermore, only 53 percent of children are breastfed within an hour of birth; this proportion increases to 79 percent within the first 24 hours after birth. National household surveys show that approximately 50 percent of infants receive some sort of complementary food prior to being breastfed; however, this proportion decreases to approximately 38 percent in urban areas.¹⁵³

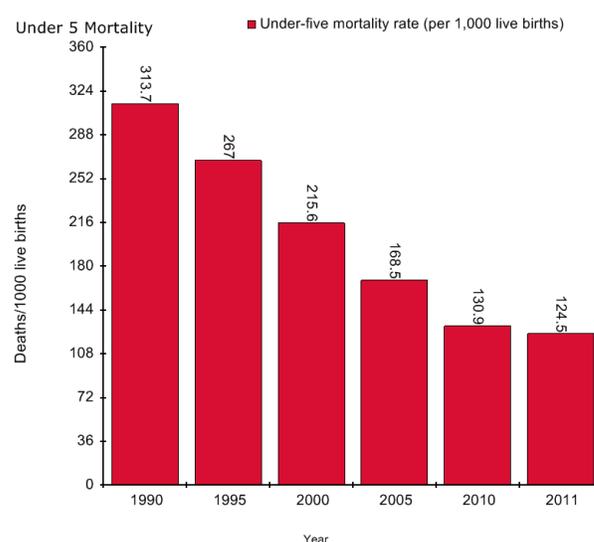
Duration of any breastfeeding in Niger is approximately two years, though the mean duration of exclusive breastfeeding is less than one month, which is extremely low when compared to the WHO recommendation of six months. Supplementation of breast milk starts extremely early in Niger; exclusive breastfeeding occurs among significantly less than the recommended 6 months, ending after 2-6 weeks of age, on average although breastfeeding does continue as a predominant part of the feeding strategy for infants up to an average age of about 7 months of age.¹⁵⁴ Breastfeeding patterns vary according to the region in question, and are reportedly the longest in Tillaberi (22.2 months), and the shortest in Maradi (19.7 months).¹⁵⁵

Nigerien mothers begin increasing the proportion of complementary foods around six months of age. Approximately 73 percent of breastfeeding children ranging from 6-23 months of age consumed foods from cereals, 15 percent of the food legume and nuts and 14 percent meat, fish or poultry. For children in the same age range who were not breastfed, these proportions increased to 84 percent, 19 percent and 22 percent, respectively.¹⁵⁶

MORBIDITY AND MORTALITY

Under five mortality rates have decreased significantly since 1990 (Figure 5.7).¹⁵⁷ A recent study conducted by the National Statistics Institute (INS) reported that infant and child mortality declined by nearly 40 percent over the last ten years.¹⁵⁸ Survey results from the DHS also suggest that male child mortality rates exceed female child mortality rates, with 73 per 1,000 live births compared to 56 per 1,000 live births, all contributing factors (region, urban, rural) notwithstanding.

Figure 5.7. Infant and Under-Five Mortality since 1990



Source: WHO and World Bank data

Rates of child mortality are highest in the western regions of the country, particularly Dosso (190 per 1,000 live births) and Tillaberi (168 per 1,000 live births) and lowest in Diffa (41 per 1,000 live births) and Agadez (51 per 1,000 live births).¹⁵⁹

The leading causes of child mortality are: malaria (27.3 percent), cough and cold (18.6 percent), pneumonia (10.7 percent) and diarrhea (10.1 percent).¹⁶⁰ Malaria rates most commonly increase during the peak of the rainy season (June-September), when household food access and resources are lowest and rates of acute malnutrition tend to be highest. Utilization of health services and interventions varies, with approximately 52 percent of children under 23 months reported to be fully vaccinated (diphtheria, tetanus, whooping cough, polio, measles, etc.), and 92 percent of mothers reporting knowledge and/or use of oral rehydration salts to treat dehydration and diarrhea.¹⁶¹

Unlike many other sub-Saharan African countries, very low HIV rates are observed in Niger. The prevalence in 2012 was less than one percent of the adult population, with only .4 percent of Nigerien adults between the ages of 15 and 49 years of age, down from 0.7 percent in 2006.¹⁶² The highest concentration of infections is in Niamey, Agadez and Diffa Region (1.1, 0.7 and 0.5 percent, respectively).¹⁶³ The prevalence is four times higher in urban areas (.8 percent) than in rural areas (.2 percent), and the prevalence among women living in cities is three to five times higher than in rural regions.

ACCESS TO BASIC SOCIAL SERVICES

Water and sanitation

In Niger, approximately 67 percent of the population has access to an improved water source (e.g., household connection, public standpipe, borehole, protected well or spring, and rainwater collection).¹⁶⁴ According to the 2012 DHS survey, there is a significant difference in use of improved water resources between rural (61 percent) and urban populations (97 percent), and in roughly 48 percent of households country-wide, the average travel time to collect drinking water is about 30 minutes.¹⁶⁵

While access to water is fair, water treatment is poor, with 83 percent of households using no treatment methods before drinking or cooking with water. For those who do use a treatment method (17 percent), a cloth filter is the most common methodology and most commonly used in rural communities. Less than 20 percent of households use an improved type of toilet facility, with the vast majority of the national population relying on open defecation, especially in rural areas. Urban households are more likely to use improved sanitation facilities (75 percent) than rural households (16 percent).¹⁶⁶

FOOD SAFETY

Contaminated water, poor sanitation practices, limited preservation technologies (refrigeration, cool storage, and airtight storage), spoilage, and pest contamination of staple food stocks are all likely drivers of food-borne illness in Niger. Additionally, overcooking nutrient rich-foods, and consuming toxic “famine foods” contribute to malnutrition and poor health indicators in Niger. In rural areas, households lose food reserves to pests such as bugs, rodents, and birds, who can also transmit disease. Food preparation in both urban and rural areas often requires use of water sources, which are likely untreated or contaminated, allowing for the potential transmission of vectors and water-borne illness in food consumption.



ADDITIONAL RESOURCES

[Niger Demographic and Health Survey 2012](#). Niger Institute of Statistics.

[Rapport d'Enquête Nationale Nutrition 2013](#). Niger Institute of Statistics.

[Niger Food Security Profile 2008](#). Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel (CILSS).

[World Health Organization, Niger](#)

Stability

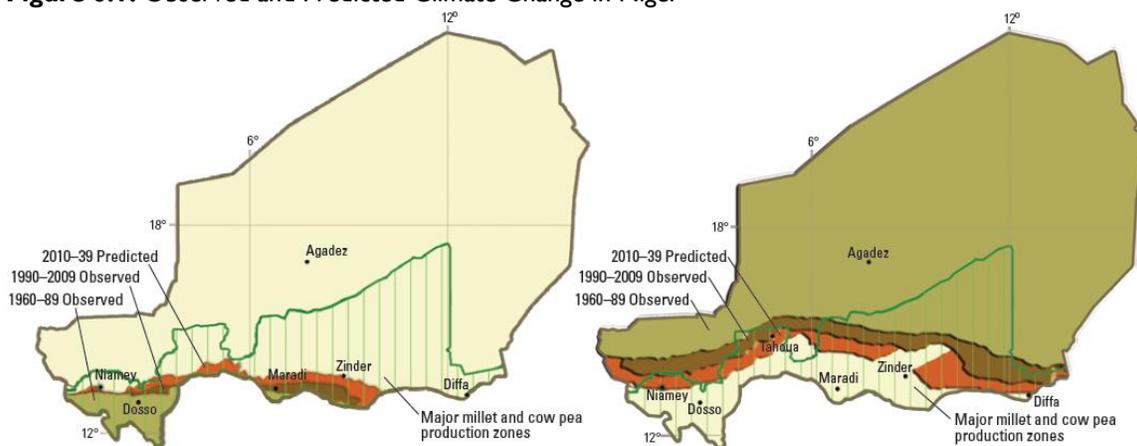
Climatic, institutional, livelihood, economic, and environmental risks make Niger highly vulnerable to chronic shocks. Roughly 50 percent of the population is characterized as chronically food insecure, and upwards of 20 percent facing extreme chronic food insecurity (2006), described as less than 1800 kcal per person per day.¹⁶⁷ Primary shocks include drought (impact on crop and livestock production), locust outbreaks, consumer price risk, livestock diseases, and political instability.¹⁶⁸

CLIMATE-RELATED DISRUPTIONS TO THE FOOD SUPPLY

Because the food supply is heavily dependent on rainfall and seasonal conditions, climate-related hazards pose the most significant and most frequent threat in Niger, and have the most direct and immediate consequences on food insecurity. In the last 10 years, Niger has experienced numerous food crises, with the most notable in 2004/5 and 2009/10. Food crises in recent years are largely attributable to climate-related production shortfalls, coupled with residual price impacts due to changes in supply and demand dynamics.

While rainfall accumulation has increased overall in recent years, drought and drought conditions are the principle risk in Niger and the country has experienced seven droughts between 1980–2010, with adverse impact on national agricultural production¹⁶⁹ and subsequently, food supply systems. In Niger, even a 10 day soil moisture deficit can severely disrupt or halt crop development, depending on the timing in the season. The impact of drought on food systems resulted in appeals for international assistance and food relief in 2001, 2005, 2010, and 2012.

Figure 6.1. Observed and Predicted Climate Change in Niger



The left map shows the average location of the June-September 500 millimeter rainfall isohyets for 1960-1989 (light brown), 1990-2009 (dark brown), and 2010-39 (predicted, orange). The green polygons in the foreground show the main crop production districts. The right map shows analogous changes for the June-September, 30 degrees Celsius air temperature isotherms.

Source: FEWS NET/USGS 2011

Although seasonal rainfall has increased during the past 20 years and is now closer to 1960–89 levels, FEWS NET/USGS notes that temperatures have also increased steadily since 1975, amplifying the effect of drought. An expansion of areas receiving favorable rainfall volumes (500 mm) for cropping and livestock activities has subsequently increased potential production zones in Dosso, Maradi, and Zinder.¹⁷⁰ However, the expected transition to steadily increasing temperatures across the country and region may also limit productivity and yields.¹⁷¹ Coupled with Niger's rapid population growth, expanded cropping areas are not likely to achieve any significant gains in food security, especially in the absence of improved agricultural production.

Locust outbreaks are another frequent and serious risk to food systems in Niger. Almost one-third of losses during the 2004–05 crises were due to the adverse impact of locusts on both the crop and livestock sectors.¹⁷² Generally, locust infestations begin in northern desert areas where impact on cropping and pastoralist activities is minimal, but move southward into key productive zones as the rainy season progresses.

Flooding occurs annually, and has an impact on cereal crops, particularly in areas along the Niger River. Serious floods have been recorded in 9 of the last 30 years in Niger, although obtaining accurate information on flood-related crop losses remains a challenge.¹⁷³ Most flooding occurs in localized areas during the July to September rainy season peak, when crops are advancing, and often occurs as flash flooding in urban areas or agropastoral zones where both crops and livestock are lost or compromised. While flooding generally impacts localized areas, the total loss of livelihoods (homes, assets, crops) can have serious long-term impacts on poor and very poor households.

PRICE STABILITY

Price volatility frequently disrupts or complicates household food access. Significant inter- and intra-annual price variability, referenced in the Access section, is driven by seasonal supply shifts, dependence on regional market systems, effects of droughts and/or floods, pest and diseases, insecurity, political instability and cross border interruptions. One of the key reasons for high price instability in Niger is a relatively inelastic regional supply of food, as climatic shocks in the sub-region are not easily offset by extra-regional imports.¹⁷⁴

Due to critical market linkages between Niger and neighboring Nigeria, economic and production shocks in Nigeria pose perhaps the most pronounced vulnerabilities to price and supply shocks, as well as to terms of trade for pastoral and agropastoral households. Niger's heavy reliance on trade with Nigeria, for both agricultural exports (livestock, cowpeas) and imports (coarse grains), means that movements in the FCFA/naira exchange rate are a potential source of market risk.¹⁷⁵ Overall trade with Nigeria is critical for Niger to stabilize prices and supplies; however, shocks in Nigeria such as political uncertainty, violent conflicts, droughts, and changes in macroeconomic policies, are likely to destabilize Niger's agricultural sector, particularly in terms of volatility in demand and supply of agricultural products.¹⁷⁶ Cross border markets of Malanville (Benin) and the Jibia, Illela, and Mai-Adua Nigerian markets also have significant influences on prices in over 65 percent of the markets in Niger.¹⁷⁷ Therefore, poor harvests or interruptions to normal market flows of staple foods have direct influence on price stability.

CONFLICT

Food security stability in Niger is strongly tied to regional conflict and insecurity, particularly when key neighboring trade partners (especially Nigeria, Burkina Faso), respond to conflict with border closures and trade restrictions. Actions taken by individual countries, for example banning of grain exports by Mali and Burkina Faso in 2004 and border closures by Nigeria (2005) reduced the flow of grains and led to further increase in prices, restricting Niger's ability to cope with the drought shock or a sharp increase in food prices.¹⁷⁸ While supply constraints are a clear result of such external measures, other residual impacts of regional insecurity include population movements, such as refugee flows to areas that are most vulnerable to food security. In 2012/2013, this was most clearly illustrated by the arrival of over 56,000 refugees in Tillaberi region and steady inflows of refugees from Nigeria to Diffa region following civil insecurity in border areas.

Protracted instability in Niger has had a more direct impact on food security in pastoral areas than in agropastoral or strictly agricultural zones. While political instability has remained a consistent backdrop over the last three decades, rural agriculture has not been significantly impacted because government investment in and support to the agriculture sector has remained historically very low. Thus, subsistence farming has continued more or less in the face of more overarching political and economic instability. However, pastoral livelihoods are generally more vulnerable to local resource-based conflict, particularly as agricultural space expands northward to more traditionally pastoral areas. Rising pressure on common property resources, or on resources used within the bounds of customary law, have led to frequent, localized, conflicts affecting both pastoralists and farmers. Insecurity has always been an issue for herders practicing transhumance and has continued to deteriorate, particularly along border areas of Mali, Libya, and Nigeria.¹⁷⁹

Food Crises and Assistance

RECENT ACUTE FOOD CRISES

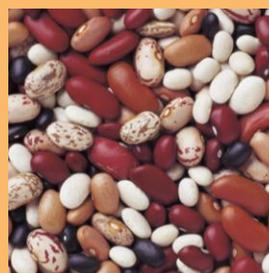
Over the last 10 years, most acute food insecurity (at IPC Phase 3 levels and above) has been observed within the agropastoral zones in the western regions of the country, and along the southern border with Nigeria (Figure 7.1). As referenced in the Livelihoods Section of the Niger Brief, the frequency of Crisis (IPC Phase 3) food insecurity over a five-year period (2007-2012) has been highest in the western agro-pastoral districts bordering Mali, primarily Tillaberi region, and in southeastern Niger (Diffa, Zinder regions) along the border with Nigeria.

Two recent food security crises – 2005 and 2010 – and the drivers of food insecurity during these events are presented below. In both cases, the proximate driver of the crisis was climate-related (drought), resulting in production shortfalls and price reverberations along integrated market systems that created an atypically high dependence on the market for purchase. As part of an effort to strengthen community and household food security and stability in the face of endemic and chronic shocks, Niger has launched an interdisciplinary plan to build resilience, the 3N initiative, which has a 2012-2015 investment that includes improving key food security sectors: nutrition, agriculture, livestock, water, and education.¹⁸⁰

2009-2010 Production Deficits

During the 2010 food crisis, driven by production shortfalls and poor pastoral conditions in 2009, an estimated 2.9 million people faced acute food insecurity, with the worst outcomes observed in the central agropastoral belt. In January 2010, the Government of Niger reported a shortfall of 25 percent in agricultural products and 67 percent in animal fodder.¹⁸¹ Nutrition indicators reached levels significantly above the emergency threshold, rising to 16.7 percent, with a peak of 26.1 per cent in those under age 2. More than 200,000 tons of food aid were distributed to vulnerable families, and more than 300,000 children were treated for severe acute malnutrition in therapeutic feeding centers.¹⁸²

The areas most impacted by the drought were located in millet producing areas of the agropastoral belt and millet producing areas of Tahoua, Zinder and Maradi. Several key departments were worst affected by stagnant food insecurity even through the 2010



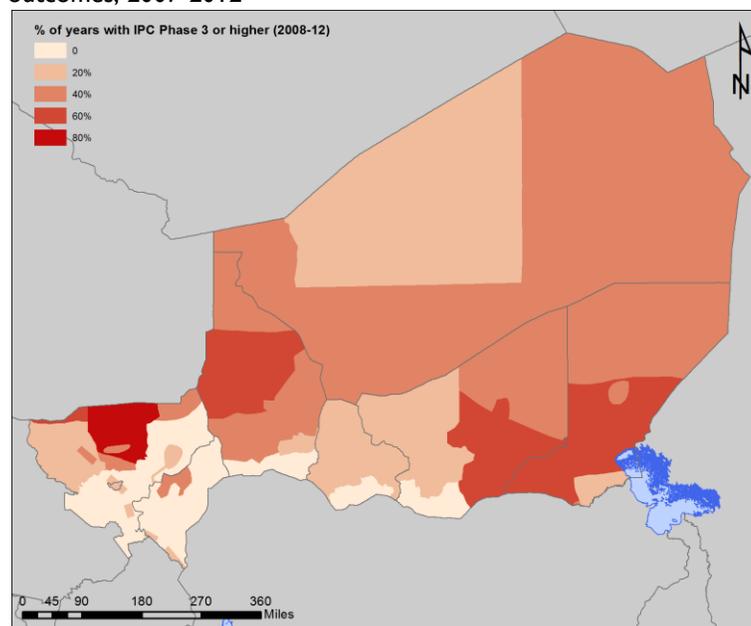
KEY FEWS NET OUTCOMES RESOURCES

[FEWS NET Niger Outlook reports and Outlook updates](#)

[Ouallam Household Economy Analysis](#)

[FEWS NET Niger Special Reports](#)

Figure 7.1. Frequency of Crisis (IPC Phase 3) food security outcomes, 2007-2012



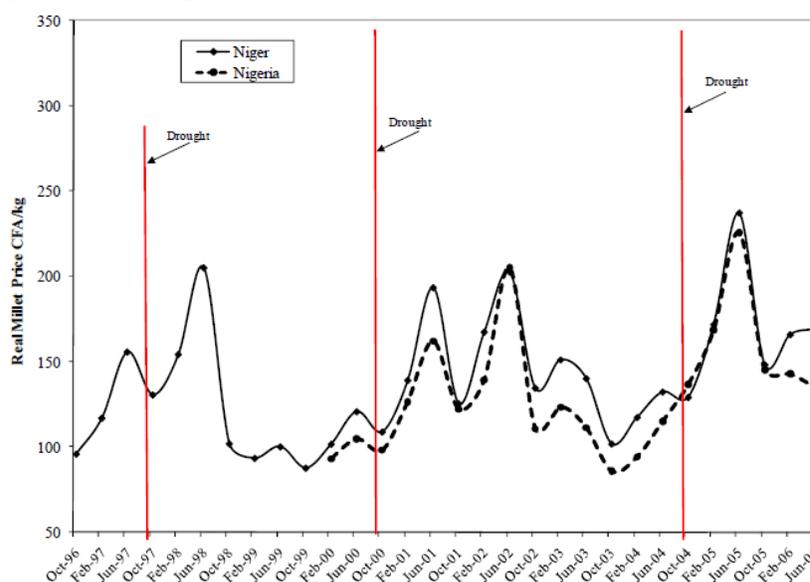
Source: FEWS NET

agricultural period, including areas of Mayahi, Dakoro, Tessaoua, Diffa, Abalack, Mirriah, and Matameye departments. Most of these areas faced IPC level 3 Crisis acute food insecurity from January through September.

The crisis was driven by a number of factors, principally late onset and early cessation of 2009 rainfall, which resulted in crop production deficits throughout the region, coupled with lower purchasing power due to reduced demand for critical seasonal incomes derived from agricultural labor.

2005 Drought and Staple Food Prices

Figure 7.2. Average monthly cereal prices in Niger and Nigeria (1996-2006)



Source: Aker, 2008

As a result of the compounded effects of drought, pests, and production shocks in 2004, Niger suffered deficits of 223,000 metric tons (MT) of cereal and approximately 4 million MT of forage, which is used to feed livestock.¹⁸³ The food security crisis of 2005 is widely attributed to extreme price spikes for staple cereals, reducing access among poor and very poor households, and was largely driven by events occurring in 2004, including: early cessation of seasonal rainfall, locust infestation, and poor production. An estimated 2.4 million Nigeriens were affected by severe food shortages, with more than 800,000 of these were classified by FEWS NET as critically food insecure.¹⁸⁴ Although 2004/2005 was a bad year for both harvests and pastures regeneration, especially in the west of the country, the unprecedented increase in national staple cereal prices during that year, driven by high demand from Nigeria, was a major contributing factor, and underlined the heavy dependence of ordinary farmers on purchasing staple food for part of the year.¹⁸⁵

The primary driver of food insecurity was a higher severity of drought (affecting cereal yields) in 2004 than in a typical year, coupled with a generally less productive season in the rest of the Saharan sub region, and particularly in Nigeria. In 2004, over 25 percent of Nigerien departments posted a per capita decrease in grain production of more than 50 percent, and the markets affected by drought were key forecasting markets in Niger and the sub-region, primarily Nigeria.¹⁸⁶ To illustrate the degree of anomaly in production, Aker (2008) further notes that during non-drought years, less than 3 percent of all departments in Niger experience a per capita decrease in grain production greater than 50 percent.

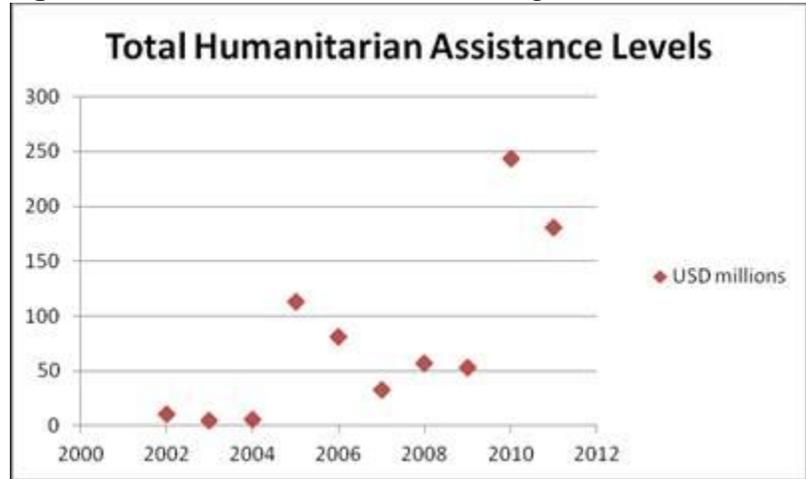
During the peak of the food crisis cereal prices in 2004–2005 had increased by 89 percent,¹⁸⁷ and were 25 percent higher than the 10-year average. These costs represented more than 27 percent of per capita income by July 2005.¹⁸⁸ Price peaks corresponded to the peak of the agropastoral lean season, which typically runs from June to September in most of Niger (Figure 7.2). The regions that were most adversely impacted by poor production and high market prices for staple cereals were Maradi, Zinder (south) and Tillaberi and Tahoua. Humanitarian assistance to Niger rose by 20 times in response to the 2005 drought.¹⁸⁹

Emergency food assistance

Due to more regularly occurring food insecurity crises such as those described above, and increasing population size, reliance on emergency aid and food assistance in Niger has steadily increased over the last decade (Figure 7.3). Increasing dependence on food assistance, particularly among the poor and very poor, has led to expanding institutional support, particularly during the lean season.

Approximately two to four million people receive some kind of institutional safety net or emergency food assistance annually, from the government and from international organizations. The GoN outlines an annual support plan (plan de soutien), which details food and nutrition response needs (Figure 7.4). Responses designated to meet these needs generally include a combination of cash or food for work, unconditional cash and food transfers, seed distribution, cattle feed, moderate acute malnutrition (MAM) prevention and treatment, treatment of severe acute malnutrition (SAM), and subsidized grain sales.¹⁹⁰ These programs are generally jointly implemented by a series of UN partners and NGOs. In crisis years, targeting of beneficiaries for food assistance under the plan de soutien increases, requiring additional international assistance to assure full coverage of needs.

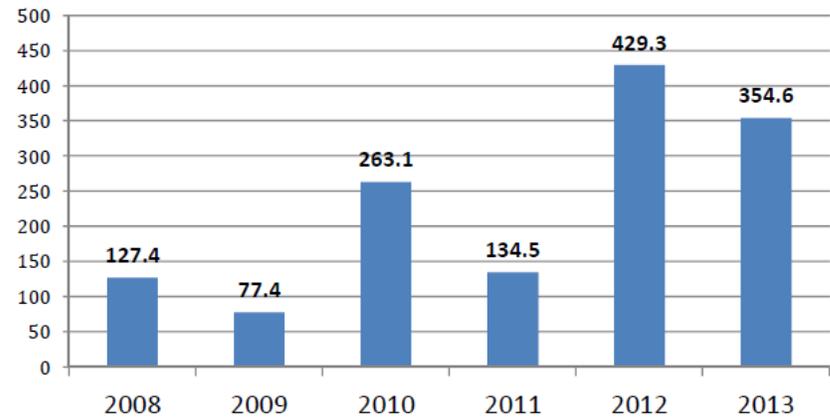
Figure 7.3. Humanitarian assistance levels in Niger, 2002-2011



Note: international humanitarian assistance calculation includes humanitarian aid from international governments, private individuals, foundations, trusts, private companies and corporations. Totals will differ from those for 'official humanitarian aid', which are based on contributions from official sources only

Source: GHA

Figure 7.4. Annual GoN Support Plan Requirements (in millions USD) 2008-2012



Source: DPNCGA in WFP 2013

Endnotes

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