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.

To learn more about the FEWS NET project, please visit www.fews.net.

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Acronyms and Abbreviations

APPFNL  Agence pour la Promotion des Produits Forestiers Non-Ligneux/Agency for the Promotion of Non-wood Forest Products
BF  Burkina Faso
BRAKINA  Brasserie du Burkina Faso/National Brewing Company
CEFCOD  Centre d’Étude, de Formation et de Conseil en Développement/Development Research, Training, and Consulting Center
CESAM  Comité d’Études et de Services des Assureurs Maritimes et Transports/Marine and Freight Insurers Research and Services Committee
CIC/B  Comité des Interprofessions de Céréales et de Nibé du Burkina Faso/Cereal and Cowpea Trade Association Committee of Burkina Faso
DGESS  Direction Générale des Études et des Statistiques Sectorielles/Sector Studies and Statistics Service
DGPER  Direction Générale de la Promotion de l’Économie Rurale / Rural Economy Development Service
DPVC  Direction de la Production des Végétaux et du Conditionnement/Plant Production and Packaging Division
DSS  Directions des Statistiques Sectorielles/Sectoral Statistics Divisions
ECOWAS  Economic Community of West African States
EROS  Earth Resources Observation Systems
FAO  United Nations Food and Agriculture Organization
FEWS NET  Famine Early Warning Systems Network
GDP  Gross domestic product
HICP  Harmonized Index of Consumer Prices
IMF  International Monetary Fund
INSAH  Institut du Sahel/Sahel Institute
INSD  Institut National des Statistiques et de la Démographie/National Statistics and Population Institute
kg  Kilogram
MAAH  Ministère de l’Agriculture et des Aménagements Hydrauliques/Ministry of Agriculture and Hydro-agricultural Development
MAFAP  FAO’s Monitoring and Analysing Food and Agricultural Policies/Suivi des Politiques Agricoles et Alimentaires en Afrique (SPAAA)
MASA  Ministère de l’Agriculture et de la Sécurité Alimentaire/Ministry of Agriculture and Food Security
mm  Millimeter
MRAH  Ministère des ResSources Animales et Halieutiques/Ministry of Animal and Fish Resources
MT  Metric tons
NGO  Non-governmental organization
ReSAKSS  Regional Strategic Analysis and Knowledge Support System
RM  Remote monitoring
SAP  Système d’Alerte Précoce/National Early Warning System
SIMA  Agricultural Market Information System
SN CITEC  Société Nouvelle Huilerie et Savonnerie/New Oil and Soap-Making Company
SNS  National Food Security Stock
SOCOMA  Société Cotonnière du Gourma/Gourma Cotton Company
SOFITEX  Société Burkinabé des Fibres Textiles/Burkinabe Textile Fiber Company
SONAGESS  Société Nationale de Gestion du Stock de Sécurité Alimentaire/National Food Security Stock Management Company
UNDP  United Nations Development Program
USAID  United States Agency for International Development
USD  United States dollar
USGS  United States Geological Survey
WAEMU  West African Economic and Monetary Union
WFP  World Food Programme
XOF  West African CFA (African Financial Community) franc
Executive Summary

- This FEWS NET Market Fundamentals report presents findings to inform regular market monitoring and analysis in Burkina Faso. This report was prepared concurrently with an Enhanced Market Analysis (EMA) report, focusing on Centre-Nord and Est Regions of Burkina Faso (Figure 1), as well as Maradi and Zinder Regions of Niger. Among other uses, the information presented jointly in these two reports can be used to support the design of food security programs, including but not limited to informing a U.S. Agency for International Development (USAID) Bellmon determination in advance of an FY 2018 USAID-funded development food assistance programs in Burkina Faso.

- The main source of food availability in Burkina Faso is national production, although rice imports are growing. Sorghum, millet, and maize are the three main coarse cereal crops grown and consumed in Burkina Faso. The country is basically self-sufficient in terms of sorghum and millet production and has had a growing maize surplus for the past decade. Rice is also an important part of the household food basket, particularly that of urban households. Local production supplies half the rice consumed by Burkinabe households and international imports account for the other half.

- Crop production in Burkina Faso is largely based on rainfed farming systems and, thus, remains vulnerable to climatic hazards resulting in large spatial-temporal anomalies. Only local rice production systems use irrigation methods, with small irrigated areas planted in rice crops. Interannual variations in irrigated crop production are slightly smaller than in rainfed agriculture.

- Local coarse cereal availability has been growing since the year 2000, jumping from an average of over 3.2 million MT between 2001 and 2005 to more than 4.4 million MT between 2011 and 2015. This trend was driven mainly by a steady growth in seed maize production. There has also been a sizable increase in rice production in relative terms (a percentage increase), though it is still limited compared with that of other coarse cereals.

- In addition to the aggregate trends for the country as a whole, there are also a number of important spatial trends. For example, western areas of the country in the Sudano-Guinean agro-climatic zone have structural surpluses, while central (high-consumption) areas and areas farther north in the Sudano-Sahelian and Sahelian zones have deficits. Thus, domestic trade flows between surplus and deficit areas of the country.

- There are two main trends in market structure in Burkina Faso. Virtually all locally produced commodities are supplied and traded by small growers, collectors, and wholesalers, while imported commodities (rice in particular) are traded in bulk by large enterprises with the financial means to make procurements on international markets. Pricing mechanisms also differ according to the source, with prices for local commodities determined by the law of supply and demand and prices for imports oftentimes established based on business transactions between the government and private companies.

- Burkina Faso plays a pivotal role in regional trade, particularly in the central basin (Burkina Faso, Mali, Côte d’Ivoire, Ghana, and Togo), and the country also ensures cereal supplies (mainly maize, but other crops as well) in border areas of eastern Niger. This trade in crops is underpinned by regional agreements within the framework of the West African Economic and Monetary Union (WAEMU) and Economic Community of West African States (ECOWAS). However, national and, in some cases even sub-national, policies have the power to halt this trade to safeguard national food availability, particularly in a crisis year.

- While there have been regular improvements in the area of production, storage is one of the weakest links in marketing chains in Burkina Faso, particularly in rural areas. On the other hand, major importers of staple commodities (rice, wheat, sugar, and vegetable oil) have large warehouse facilities, mainly in major urban consumption centers. The national stock management agency, Société Nationale de Gestion du Stock de Sécurité Alimentaire (SONAGESS, or Security Stock
Management Company) also handles the procurement and distribution (through sales and grants) of national stocks ranging in size from 45,000 to 60,000 metric tons.

- Coarse cereal prices typically move in line with seasonal trends, dropping at harvest time (between September and November) and rising at the height of the lean season (in June/July). On the other hand, movements in the prices of imports from international markets are driven by world prices, pricing policies, and exchange rates (USD/XOF), with all trading conducted in U.S. dollars.

- Livestock raising (mostly small ruminants) is an important source of income for poor households in Burkina Faso. There are two types of production systems (extensive rural and intensive urban/peri-urban systems). Livestock production in northern regions of the country is largely based on extensive rural production systems. Burkina Faso has a livestock production surplus. Burkinabe livestock are sold throughout the region, with exports to Nigeria and other coastal states (including but not limited to Ghana and Côte d’Ivoire).

- Cowpea production has been increasing for the last ten years or so. However, actual production figures see-saw based on seasonal agro-climatic performance and existing market incentives. Most consumption is concentrated in urban and mining areas, with exports to regional markets (mainly in the coastal states).

- Oilseeds and edible oils are also mass-consumed commodities in Burkina Faso. Most national oil production which, according to estimates, averaged over 65,000 MT/year between 2010 and 2014, is from seed cotton. There are also small to negligible amounts of peanut, sesame, shea nut, and soybean oil production. However, domestic supplies do not meet demand, which is estimated at over 150,000 MT, thus necessitating large amounts of imported oil, particularly palm oil, from Côte d’Ivoire.

- Burkina Faso has a well-established system for the collection of data on agricultural commodities. The responsibility for these activities lies with various actors, including SONAGESS and livestock market information systems, government offices and agencies, and the private sector. However, the market monitoring and data collection system in Burkina Faso suffers from a number of weaknesses, such as financial and human resource constraints and problems with data management.
Preface

Markets and trade information and analysis are key inputs in FEWS NET’s integrated food security analysis. FEWS NET relies on a common understanding of a given population’s livelihoods (food and income sources and typical coping strategies used to handle shocks) as well as an understanding of typical market conditions and outcomes. Together, these are used to identify and quantify the magnitude of market-based anomalies and their potential impacts on food security outcomes of the poor and very poor (Figure 2).”

Figure 2. FEWS NET’s approach to market monitoring and analysis

Several types of information help inform the understanding of typical market conditions that affect the food and income sources of the poor and very poor. These include: the geography of supply and demand for a particular commodity (for example, maize) or category of commodities (for example, staple foods); the role of different actors in the marketing system (from small-scale producers to industrial food processors); the seasonality of specific events or activities; aggregate import-dependence, particularly in the case of staple foods; and key programs and policies. These factors affect the stability of food availability and access (food prices and income levels) and therefore three of the four pillars of food security (food availability, access, utilization, and stability). Collectively, an understanding of these key elements constitutes the FEWS NET Markets and Trade Knowledge base.

Under FEWS NET III (FY 2012–2016), Markets and Trade Knowledge base information is compiled into “Market Fundamentals” reports that seek to provide readers with a general understanding of market dynamics during a typical year. These consolidated documents are elaborated for both presence and remote monitoring (RM) countries, with references to relevant external documents and resources when they are available. Two pilots were carried out in FY 2014, one in Sudan and one in Burkina Faso, to test the appropriateness of the approach, the usefulness of the products, and the level of effort required.

During the first year of rollout (FY 2015), the Market Fundamentals reports focused largely on staple food market structure and behavior. Such reports can be prepared for cash crop, livestock, and labor markets following a similar approach. Of particular interest to the FEWS NET project are markets identified as important sources of food and income for the poor and very poor based on an understanding of the livelihoods of those populations. The Markets and Trade Knowledge team aims to eventually have a staple food Market Fundamentals report for each FEWS NET country and region. Other reports (focusing on cash crop, livestock, and labor markets) will be added in a modular fashion as time and resources permit.

FEWS NET monitors markets in presence as well as RM countries (Figure 3). A presence country is monitored by FEWS NET staff working in a local country office. RM countries are typically covered by analysts in a nearby country using a lighter analytical approach to identify anomalies and deteriorating conditions. FEWS NET also monitors staple food markets in other countries or regions that are relevant to understanding food availability and access for the poor and very poor in FEWS NET countries (for example, Benin, Pakistan, Kazakhstan, South Africa, and Mexico, among others).

The Market Fundamentals reports will continue to inform the project’s regular market monitoring in terms of the commodities covered in the project’s Markets and Trade database, Price Bulletins, Price Watch, and special reports (Figure 2).”

The specific markets and commodities covered in country-specific reports will depend on a number of factors. The reports focusing on staple food markets touch on the following:

- Cross-cutting issues that affect all markets in a given country or region: The political and macroeconomic environment and key national-level programs and policies that influence food and income sources.
- For each commodity market
  - Market structure, including the relative importance of local production versus imports in aggregate food availability and access, including the geographic distribution of production and consumption, and key actors in the marketing chain.
  - Market behavior/conduct, including purchase or selling behavior of key actors present in the marketing chain.
o Market performance outcomes, including production trends, inter- and intra-annual price variability, and regional or international competitiveness.

o Key indicators that analysts need to monitor over the course of the marketing year that could affect food availability and access of the poor and very poor.

FEWS NET’s widely recognized production and trade flow maps are incorporated into the report for commodities produced and consumed both locally and regionally as a means of illustrating the relative importance of certain markets and trade flow patterns in assuring food availability and access throughout the country. However, when a commodity is grown almost entirely as an exported cash crop or imported almost exclusively from international markets, other relevant diagrams and illustrations are used.

**Figure 3. FEWS NET presence and remote monitoring countries**

![Map of FEWS NET presence and remote monitoring countries](image-url)
Key concepts

The following provides the definitions of several key terms used throughout the report. For more detail on these definitions and other useful terms, consult the FEWS NET Markets and Trade Glossary.

Marketing system: This includes the entire commodity distribution system from production to consumption. A marketing system describes the key actors and the linkages between different stages of the distribution process of a given commodity. The marketing system also describes the spatial and functional relationships between market actors.

Marketing year: This refers to the period during which agricultural production from a given year’s harvest is sold. This period typically extends from one harvest of a particular commodity to the next, and is very similar to the consumption year used in FEWS NET’s livelihoods work in many cases.

Price: The cost or value of a good or service expressed in monetary terms. It is the financial cost paid when one buys a unit of a specific product or service. Prices, in the purest sense, indicate value that has been added to a particular commodity. This value added can be changes in the form (e.g., production or milling), place (e.g., transportation), or time (e.g., storage) of a commodity. Price signals can carry information about cost of production, transportation, storage, perceptions and desires as well as, in some instances, distortions.

Incentive: Something that incites an action or provides a motive (e.g., potential profits, benefits or gain from performing a particular economic activity).

Food balance sheet: This presents a comprehensive picture of the pattern of a country's food supply during a specified reference period. A food balance sheet shows for each food item – i.e., each primary commodity and a number of processed commodities potentially available for human consumption – the sources of supply and its utilization.

Commodity balance sheet: This shows balances of food and agricultural commodities in a standardized form. The scope of standardization is to present these data in a less detailed form for a selected number of commodities without causing any significant loss of the basic variables monitoring the agricultural sector. The selected commodities include the equivalents of their derived products falling in the same commodity group, but exclude the equivalents of by-products and derived commodities, which through processing, change their nature and become part of different commodity groups.

Unimodal areas: Unimodal areas are agro-ecological zones with one distinct rainy season with one rainfall peak and typically a single harvest.

Bimodal areas: Bimodal areas are agro-ecological zones with either a single prolonged rainy season with two rainfall peaks or two or more distinct rainy seasons (which could each be unimodal or bimodal), resulting in two or more harvests. The amount of rainfall can be equivalent between rainy seasons or one may be dominant (for all commodities or for a single crop), resulting in differing yields between seasons.

Commodity classifications

Commodity-specific classifications of surplus and deficit areas are established based on historical production figures and on FEWS NET staff and key informants’ knowledge of the consumption patterns of particular areas of a given country. When surplus and deficit areas are identified in aggregate, the determination is typically based on total local production, expressed in kilocalorie terms, compared to total local needs (also expressed in kilocalorie terms). Estimated staple food needs are typically established by local governments and updated as consumption patterns change.

Surplus-producing area: A geographic area that produces sufficient quantity of a given commodity (or set of commodities, like cereals) to cover local demand and to supply other areas. An area can likewise be defined either as having a minor surplus, meaning that in a normal year slightly more of a commodity is produced than required to meet local needs, or as having a major surplus, meaning that production in a given area largely surpasses local needs.

Deficit area: A geographic area that does not produce enough of a given commodity to meet local demand.

Self-sufficient area: A geographic area that produces sufficient quantity of a commodity to cover local demand. This area rarely produces: either (1) enough to supply other areas, or (2) too little to meet local needs.

Market types

Reference market: A market that provides information about supply, demand, and price conditions in other nearby markets or key markets that influence the performance of others.
Collection market: A rural market where relatively smaller-scale traders (or trader agents) purchase directly from producers.

Assembly market: A market where relatively smaller quantities of a commodity are accumulated or aggregated, usually from different farmers and small-scale traders.

Wholesale market: A market where traders generally sell to traders. The volumes traded in each transaction tend to be relatively larger (for example, multiple 50-kg bags and even metric tons).

Retail market: A market where commodities are sold directly to consumers. The volumes traded during each transaction tend to be relatively small (for example, per kg or locally used bowl or other unit of measure).

Formal versus informal trade flows

Formal trade flows: Formal trade flows typically involve the exchange of large quantities of a given commodity, transported by road, rail, or sea. These trade flows are inspected, taxed, and reported in official government statistics, and abide by the requirements of the local legal system (including national-level laws and regional trade agreements). For example, in some countries, an importer or exporter is required to obtain a license from the local government or regional trade body that gives authority to engage in import or export activities. Formal trade can often also be thought of as legal trade.

Informal trade flows: Informal trade flows typically occur outside of the formal trade system (described above). These exchanges are typically not recorded in official government import and export statistics and are not inspected and taxed through official channels. These trade flows are typically undocumented, unlicensed, and unregistered. Informal trade flows can vary from very small quantities carried by bicycle across small border crossing areas or via barge in large volumes exchanged over long distances.

Trade flow magnitude and frequency

Large trade flows: The volumes traded (through either formal or informal channels) are estimated to be more important than other trade flow volumes in aggregate terms over the period of analysis. In unimodal FEWS NET countries, this represents the relative importance of trade flows between different geographic areas over a given marketing year. In bimodal areas, these may be season-specific. Because it is not possible to estimate actual trade flow volumes between markets in most FEWS NET countries, these are estimated based on discussions with key informants familiar with the staple food market system of a given country or region.

Medium trade flows: The volumes traded (through either formal or informal channels) are estimated to be somewhere in between large and small flows in terms of the aggregate volumes traded over the period of analysis. These are estimated through the same process as large trade flows (above).

Small trade flows: The volumes traded (through either formal or informal channels) are estimated to be less important than other trade flow volumes in aggregate terms over the period of analysis. These are estimated through the same process as large trade flows (above).

Occasional trade flows: These trade flows either take place during very specific times of year (for example, in the lean season only) or when certain specific conditions present themselves. These are typically not as important (in aggregate quantity) as other more regular types of trade flows.

Price analysis

Coefficient of variation: One of many measures of price variability, this is computed by dividing the standard deviation of a given price series by the mean.

Average seasonal index: This is calculated to demonstrate the extent to which prices during a given month in a given place differ, on average, compared to prices during other months of the year.

Price differential: This refers to a spatial or temporal difference in prices (also see spatial and temporal/seasonal arbitrage).

Correlation coefficient: Measures the association between two variables. A value of 0 indicates no association and a value of 1 perfect positive association.

Freight on board (FOB): This term is the market value of goods at the point of uniform valuation (the customs frontier of the economy from which they are exported).
Cost insurance freight (CIF): This is the price of a good delivered at the frontier of the importing country, including any insurance and freight charges incurred to that point, and before the payment of any import duties or taxes.

Export parity price (XPP): The monetary value of a product sold at a specific location in a foreign country, but valued from a specific location in the exporting country.

Import parity price (IPP): The monetary value of a unit of product bought from a foreign country, valued at a geographic location of interest in the importing country.
1. Burkina Faso Staple Food and Livestock Market Fundamentals

1.1. Introduction

Located in the heart of West Africa, Burkina Faso shares a border with six other member countries of the Economic Community of West African States (ECOWAS). It is a major hub for an increasingly large flow of trade since the implementation of agreements facilitating the free movement of agricultural commodities within the Community. This growing trade (in cereals and livestock) is a very effective means of combating poverty and food insecurity within the sub-region. Cereals (sorghum, millet, maize, cowpeas, and rice) and the sale of small ruminants provide the main sources of food and income for most households. However, very poor and poor households face challenges ensuring year-round access to these commodities that remain highly vulnerable to large spatial-temporal rainfall anomalies and climatic hazards (droughts and floods).

Table 1. Average food balance sheet (000s MT), 2011/12-2015/16

<table>
<thead>
<tr>
<th>Item</th>
<th>Total cereals</th>
<th>Sorghum</th>
<th>Millet</th>
<th>Maize</th>
<th>Rice</th>
<th>Cowpea</th>
<th>Edible oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening stocks</td>
<td>265</td>
<td>99</td>
<td>51</td>
<td>97</td>
<td>17</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Production</td>
<td>4 258</td>
<td>1 691</td>
<td>981</td>
<td>1 422</td>
<td>165</td>
<td>597</td>
<td>66</td>
</tr>
<tr>
<td>Total availability</td>
<td>4 523</td>
<td>1 790</td>
<td>1 032</td>
<td>1 519</td>
<td>182</td>
<td>603</td>
<td>66</td>
</tr>
<tr>
<td>Human consumption (food)</td>
<td>3 485</td>
<td>1 355</td>
<td>1 074</td>
<td>493</td>
<td>563</td>
<td>224</td>
<td>158</td>
</tr>
<tr>
<td>Losses and seeds</td>
<td>1 043</td>
<td>365</td>
<td>204</td>
<td>319</td>
<td>155</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>Total utilization</td>
<td>4 572</td>
<td>1 725</td>
<td>1 277</td>
<td>849</td>
<td>720</td>
<td>453</td>
<td>170</td>
</tr>
<tr>
<td>Exports</td>
<td>43</td>
<td>4</td>
<td>0</td>
<td>37</td>
<td>2</td>
<td>194</td>
<td>12</td>
</tr>
<tr>
<td>Imports</td>
<td>456</td>
<td>56</td>
<td>1</td>
<td>2</td>
<td>396</td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td>Self sufficiency</td>
<td>99 %</td>
<td>104 %</td>
<td>81 %</td>
<td>179 %</td>
<td>25 %</td>
<td>133 %</td>
<td>39 %</td>
</tr>
</tbody>
</table>

Table Note: These estimates only consider milled rice. Imports include official commercial and government imports and food assistance.


1.2. Domestic food supply

Cereal production in Burkina Faso has increased by 57 percent over the last ten years, driven by subsidies (farm inputs and equipment) provided by the government and its partners, which have contributed to an increase in the size of crop areas and yields from cereal crops (maize and rice crops in particular, see Figure 4). Maize and rice production have grown by as much as 23.9 percent and 35.9 percent a year, respectively, throughout this period. However, despite this apparent positive performance, national cereal availability does not entirely cover domestic demand from a rapidly growing population with changing eating habits that include imported goods, such as rice (Table 1). As a result, Burkina Faso imports large and growing quantities of rice and wheat flour year after year.

During an average year, domestic cereal production (maize, millet, and sorghum) covers most requirements (Table 1). However, this apparent self-sufficiency is extremely precarious as erratic rainfall patterns produce a mix of good and bad crop years. In addition, in many cases, intensive grain trade, within the country and regionally, facilitated by the free movement of goods within the ECOWAS and West African Economic and Monetary Union (WAEMU) areas, expose populations of certain areas of the country to unforeseeable cereal deficits.

At the subnational level, there are large disparities in cereal availability from one province to another (Figure 5). Thus, for the last five years, despite the generally satisfactory situation at the country level, local supplies have apparently fallen well short of local demand in nine of the country’s 45
provinces and have more or less met local demand in 15 provinces, with 21 provinces showing marketable surpluses (Table 2).

Markets play a key role in ensuring household food supplies in Burkina Faso. Even in an average year, poor and very poor households who do not grow enough food to meet their needs use cash income obtained mainly from wage labor, sales of agroforestry products, and remittances to purchase staple foodstuffs. This market dependence is a fact of life in all parts of the country, even in the surplus-producing areas of the south. However, there is a higher degree of market dependence in the country’s Sahelian zone, particularly in the north, which is a transhumant pastoral area with a structural crop production deficit.

1.3. National food demand

Cereal demand in Burkina Faso is estimated at 190 kg per person per year (DGESS/MASA 2016). This demand is driven mainly by local household consumption of cereal dough or byproducts and cereal processing needs, mainly for the production of dolo, a local beer. Consumption numbers differ from rural to urban areas. Thus, per capita coarse cereal consumption in rural areas is 110.5 kg per person per year (including 15 kg for dolo), compared with 202 kg per person per year in urban areas (including 4 kg for dolo).

Table 2. Average cereal deficit in Burkina Faso, by region (000 MT)

<table>
<thead>
<tr>
<th>Region</th>
<th>Available production: five-year average (000 MT)</th>
<th>Population (000 inhabitants)</th>
<th>Total needs (000 MT)</th>
<th>Surplus/deficit (000 MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre</td>
<td>56</td>
<td>2,220</td>
<td>422</td>
<td>-366</td>
</tr>
<tr>
<td>Centre-Nord</td>
<td>210</td>
<td>1,410</td>
<td>268</td>
<td>-58</td>
</tr>
<tr>
<td>Sahel</td>
<td>188</td>
<td>1,152</td>
<td>219</td>
<td>-30</td>
</tr>
<tr>
<td>Nord</td>
<td>235</td>
<td>1,375</td>
<td>261</td>
<td>-27</td>
</tr>
<tr>
<td>Plateau Central</td>
<td>155</td>
<td>803</td>
<td>153</td>
<td>3</td>
</tr>
<tr>
<td>Centre-Est</td>
<td>269</td>
<td>1,336</td>
<td>254</td>
<td>16</td>
</tr>
<tr>
<td>Centre-Sud</td>
<td>158</td>
<td>739</td>
<td>140</td>
<td>18</td>
</tr>
<tr>
<td>Cascades</td>
<td>175</td>
<td>659</td>
<td>125</td>
<td>50</td>
</tr>
<tr>
<td>Est</td>
<td>336</td>
<td>1,457</td>
<td>277</td>
<td>59</td>
</tr>
<tr>
<td>Sud-Ouest</td>
<td>201</td>
<td>726</td>
<td>138</td>
<td>63</td>
</tr>
<tr>
<td>Centre-Ouest</td>
<td>351</td>
<td>1,381</td>
<td>262</td>
<td>89</td>
</tr>
<tr>
<td>Hauts-Bassins</td>
<td>555</td>
<td>1,768</td>
<td>336</td>
<td>219</td>
</tr>
<tr>
<td>Boucle du Mouhoun</td>
<td>705</td>
<td>1,668</td>
<td>317</td>
<td>388</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>3,595</td>
<td>16,692</td>
<td>3,172</td>
<td>423</td>
</tr>
</tbody>
</table>

Notes: Consider population as of 4/30/2012 and official per capita cereal consumption standard of 190 kg/person/year

Source: Adaptation by FEWS NET based on DGESS/MASA data for 2000-2016.

Consumption patterns vary geographically. Though urban populations still consume locally grown cereals, most of their food consumption involves maize, rice, and wheat-based products, such as bread and pasta. According to Bricas, Thirion, and Zounggrana (2009), approximately 28 percent of available national maize supplies are consumed by urban populations. The percentages of rice and wheat consumption, which are essentially imported commodities, are as high as 67 and 97 percent, respectively.

In an average year, marketable surpluses of locally grown cereal crops (millet, sorghum, and maize) in surplus areas can meet demand from deficit areas. However, in years marred by natural shocks (low rainfall, major pest infestations, etc.), which is frequently the case, the national deficit is filled through commercial imports from neighboring countries (Ghana, Côte
d’Ivoire, and Mali). The main deficit areas in the last five years have been Kadiogo province in the Centre region, Sanmatenga, Bam, and Namentenga provinces in the Centre-Nord region, Boulgou and Kourwéogo provinces in the Centre-Est region, Passore and Yatenga provinces in the Nord region, Séno province in the Sahel, and Bulkiemdé province in the Centre-Ouest region. According to survey data, market purchases account for approximately 80 percent of urban consumption and nine percent of consumption in rural areas. The latter percentage is even higher in the above-mentioned rural deficit areas.

Artisanal or cottage cereal processing operations focus largely on the production of traditional dolo beer, and to a lesser degree supply informal sector eateries and meet demand from industrial cereal processing plants such as the Société Industrielle de Manufacture de l’Afrique de l’Ouest (West African Industrial Manufacturing Company), which produces semolina for Brasserie du Burkina Faso (BRAKINA, or The National Brewing Company) and school cafeterias. There is still a relatively limited though growing demand for converting cereals into animal feed, fueled by the increasing numbers of poultry farms. A large part of the food processing industry involves the production of edible oils, particularly cottonseed. A handful of modern industrial oil mills crush cottonseed, along with several small plants using artisanal methods to produce unrefined oils. Most livestock is processed into meat at two refrigerated slaughterhouses in Ouagadougou and Bobo-Dioulasso. Other slaughterhouses around the country lack the required capacity and/or fail to meet required standards. Few industrial meat processing plants exist, and most butchers and rotisserie or grill shops use artisanal processing methods.
2. Cross-cutting Issues

Markets and trade in Burkina Faso are strongly influenced by a number of direct and indirect factors, including geography, climate, and the macro-economic and political environment. Certain issues raised in this section have varying impacts, depending on the commodity in question, and will be re-examined in greater detail in later commodity-specific sections of the report.

2.1. Geography and climate

Burkina Faso has a Sudano-Sahelian climate, with two distinct seasons and large variations in temperature. The length of the rainy season ranges from four months in the north to five months farther south. The longer dry season lasts for seven to eight months. The rains generally begin in the middle of June, reach their peak in August, and end by the middle of October. There are large spatial variations in rainfall numbers (from 300 mm in the north to 1200 mm in the south) and interannual and spatial-temporal anomalies directly affecting yields and agropastoral production.

The country is divided into three main agro-climatic zones, namely the Sahelian zone in the north, with less than 600 mm of rain per year and large variations in temperature, the Sudano-Sahelian zone in the center, and the Sudano-Guinean zone in the south, with over 900 mm of rain per year and relatively low average temperatures (Figure 6).

Table 3. Coefficient of variation in cereal production, 2000-2013

<table>
<thead>
<tr>
<th>Production system</th>
<th>All cereals</th>
<th>Millet</th>
<th>Maize</th>
<th>Rice</th>
<th>Sorghum</th>
<th>Fonio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigated</td>
<td>0.59</td>
<td>N/A</td>
<td>0.37</td>
<td>0.59</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Rainfed</td>
<td>0.23</td>
<td>0.17</td>
<td>0.43</td>
<td>0.60</td>
<td>0.20</td>
<td>0.40</td>
</tr>
<tr>
<td>Total</td>
<td>0.24</td>
<td>0.17</td>
<td>0.43</td>
<td>0.58</td>
<td>0.20</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Source: Adaptation by FEWS NET based on DGESS/MASA data for 2000-2014.

Burkina Faso frequently experiences climatic hazards that affect crop production and availability, the most important of which are droughts and floods (Table 3). One example was the unusually short rainy season during the 2004-2005 crop year ending in September, which prevented crops from normally completing their growing cycle. During that same year, the desert locust infestation in West Africa destroyed part of the harvest in the country’s Sahelian zone. These two disasters resulted in the loss of over 25 percent of national cereal production. Like other Sahelian countries, Burkina Faso is feeling the effects of climate change. Its increasingly short rainy seasons are marked by an extremely erratic pattern of rainfall and interrupted by several relatively long dry spells.

Figure 7. Seasonal calendar for Burkina Faso

While there has been significant progress in the agropastoral sector over the past ten years, the pattern of rainfall is still the main determining factor for a successful growing season and, according to certain experts, accounts for over 60 percent of crop production. Thus, the large variability in rainfall has a major impact on cereal production (there are generally shortfalls in cereal production every other year) and plays a decisive role in the operation of crop markets across the country and their supply of cereal crops (Figure 7).

2.2. Macro-economic and political environment

Burkina Faso’s economy has been steadily growing at an average rate of over 5 percent a year since 2005 (Figure 8). Agriculture is the mainstay of the national economy, accounting for over 30 percent of the gross domestic product (GDP) and employing approximately 80 percent of the working population (MAFAP 2013). The mining sector is growing rapidly and contributes to approximately one third of GDP. Gold extraction and export earnings are particularly important. The average inflation rate for the past decade is 2.4 percent, which is below the WAEMU’s upper threshold of 3 percent (Figure 9). These trends are in spite of the high inflation experienced in 2008, fueled by the rising international market prices of oil and food.

The country’s economic performance is constrained by the low productivity and vulnerability of its agropastoral sector, the decline in manufacturing industries, and the domination of its service industry by the informal sector (Secretariat Permanent du Conseil National pour la Protection Sociale [CNPS, or Permanent Secretariat of the National Council for Social Protection]). In addition, its economic growth has had little effect on its population. In fact, Burkina Faso is ranked 185 out of 188 by the UNDP’s Human Development Index (CNPS 2016).

Cereal marketing in Burkina Faso is shaped by two main political factors, namely government withdrawal and the deregulation of cereal prices. The government’s trade policy is strictly in line with regional texts with respect to the free movement of goods in ECOWAS and WAEMU areas. Membership in a single currency area (that of the CFA franc, a freely convertible currency with a fixed exchange rate vis-à-vis the euro) helps promote trade within the WAEMU.

However, in spite of this policy, in hardship years marked by cereal deficits, the government may take either restrictive measures to limit cereal exports or incentive measures designed to facilitate larger imports. This was precisely what happened in 2008/09 when rioting sparked by the high cost of living prompted the government to take steps to lower taxes on imports and eliminate customs duties on rice. These measures helped break the momentum of the sharp rise in prices, enabling it to get the crisis under control. The same
occurred in 2011/12 when the cereal deficit prompted the government to take steps to limit coarse cereal exports to help prevent massive outflows of cereals.

As far as imports and exports are concerned, raw crops accompanied by a certificate of origin are able to move freely within the WAEMU and ECOWAS areas. However, both imports and exports require a plant health certificate and there is a list of commodities requiring a national certificate of compliance, including rice and wheat flour. Burkina Faso also has plant health control procedures for cereal imports and exports and standards for rice, wheat flour, pearl millet, maize, sorghum, durum semolina, and the packaging of husked rice and cereals. As a landlocked country, Burkina Faso relies on the sea ports of neighboring coastal countries for imports and exports with international markets (Figure 10), including Abidjan (Côte d’Ivoire), Takoradi (Ghana), Tema (Ghana), and Lomé (Togo).

### 2.3. Financing of marketing activities

Burkina Faso has no banks or financial institutions devoted specifically to financing agricultural activities. Agricultural credit is made available through three types of structures, namely traditional banks, decentralized financial systems, and associations and non-governmental organizations (NGOs).

Traditional banks provide loans to farmers. However, the amount of credit furnished by these institutions does not meet needs. There is very little financing for crop production outside of cotton-growing areas. Bank loans to the agricultural sector account for only two percent of their volume of lending and are mostly in the form of short-term loans (farm input credit, financing for trading activities), leaving large unmet medium and long-term financing needs for the purchasing of necessary equipment for the modernization of production systems. The main constraints on access to formal credit for agricultural sector stakeholders are the lack or inadequacy of physical and financial collateral, and the lack of synchronization between loan payment schedules and farmers’ income cycles.

On the other hand, community-based financial institutions are present and relatively active. They form part of a network of over 150 decentralized financial systems. This micro-finance system is based on grants of microloans, with the emphasis on community-based financial intermediation through two types of mutual lending mechanisms, namely mutual guarantee loans to 20-to-40-member joint liability groups and mutual loan products for five-to-seven-member groups. There is also an indirect financing mechanism currently used by the agroindustrial company Société Burkinabè des Fibres Textiles (SOFITEX, or Burkinabé Textile Fiber Company). This mechanism basically collects loans granted to cotton growers’ organizations against the subsequent delivery of crops.

### 2.4. Storage

Storage is one of the weak links across agricultural value chains in Burkina Faso. On-farm storage systems have limited capacity and do little to help ensure good supply management in time and space. In 1994, the government of Burkina Faso established the Société Nationale de Gestion du Stock de Sécurité Alimentaire (SONAGESS, or Security Stock Management Company) charged with managing the national food security stock (SNS). This stock, initially consisting of 35,000 MT and more recently built up to 50,000 MT, includes three types of cereals (millet, maize, and sorghum). It is financed, in part, by donor assistance and its mobilization requires a joint decision (by the government and its financial partners) based on strict criteria. In addition to the SNS, SONAGESS is also charged with managing the 10,000 MT intervention stock established in 2005, financed strictly by the government. The intervention stock consists of sorghum, millet, maize, cowpeas, and rice and has flexible procedures for its mobilization as part of subsidized or low-cost cereal sales programs for vulnerable population groups in the event of volatility in cereal prices in poor crop years.

SONAGESS has the largest storage capacity, estimated at approximately 86,000 MT in facilities spread across the country, but concentrated mainly in the country’s Centre (26 percent), Sahelian (20 percent), and Boucle du Mouhoun regions (Table 4). Certain private traders, associations, and NGOs (i.e., Catholic Relief Services) also have a few large warehouses in Bobo Dioulasso or Ouagadougou. In all, there are warehouse facilities in 45 of the country’s provinces, in many cases, at the rate of two to five warehouses per province with a 300 to 500 metric ton capacity (personal communication with the SONAGESS staff 2017).

Purchase prices for competitively bid procurements are established based on average prices at the time of purchase and include delivery costs. The price per metric ton for the 10,000 MT of cereals currently in the process of being purchased in
preparation for the 2017 lean season, for example, is 295,000 CFA francs (XOF), while the average price of major cereal crops (millet, maize, and sorghum) in crop-producing areas is 149,000 CFA francs (XOF). With the emergence of agricultural professionals’ unions, in many cases, procurements are divided between these unions and wholesale traders. In 2014, for example, 30 percent of procurements were from farmers’ unions (personal communication with the SONAGESS staff 2017).

The (subsidized) sales price has been 120 CFA francs (XOF)/kg since the 2012 crisis. This price was set based on average retail prices in 2012 and, as a social protection policy instrument, has not changed since that time (personal communication with the SONAGESS staff, 2017).

Subsidized commodities such as maize, rice, sorghum, millet, and edible oil are sold to the general population through a total of 174 boutiques témoins (or charter shops), which are located predominantly in urban areas, namely in the provincial capitals (2 shops per capital), in the regional capitals (3 shops per capital), Ouagadougou (45 shops), and Bobo Dioulasso (14 shops). Twenty charter shops are located in rural locations.

Prices across charter shops in the country are equal and are set up about 20 percent below the market price. Maize is sold at 6,000 CFA francs (XOF) per bag of 50 kg, and rice at 15,000 CFA francs (XOF) per 50 kg. Rice is also sold in bags of 5 kg and 25 kg. The shops are open to the wider population.

### Table 4. Available SONAGESS storage capacity

<table>
<thead>
<tr>
<th>Region</th>
<th>Available storage capacity (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boucle du Mouhon</td>
<td>8,000</td>
</tr>
<tr>
<td>Cascades</td>
<td>2,000</td>
</tr>
<tr>
<td>Centre</td>
<td>22,500</td>
</tr>
<tr>
<td>Centre-Est</td>
<td>3,000</td>
</tr>
<tr>
<td>Centre-Nord</td>
<td>5,000</td>
</tr>
<tr>
<td>Centre-Ouest</td>
<td>2,000</td>
</tr>
<tr>
<td>Est</td>
<td>8,750</td>
</tr>
<tr>
<td>Hauts Bassins</td>
<td>4000</td>
</tr>
<tr>
<td>Nord</td>
<td>6,825</td>
</tr>
<tr>
<td>Sahel</td>
<td>17,925</td>
</tr>
<tr>
<td>Sus-Ouest</td>
<td>6,000</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>86,000</td>
</tr>
</tbody>
</table>

Note: This only includes storage warehouses that are considered to be in “good” condition.

3. Millet and Sorghum

Sorghum and millet are the coarse cereals of choice in Burkina Faso (Table 1). They account for 66 percent of national cereal availability and, thus, are the country’s leading cereal crops. Demand for these commodities, which is basically a domestic demand, is generally met by national production.

Both crops are earmarked mainly for on-farm consumption, particularly by rural households. The marketable surplus amounts to a mere 11 percent of production. These crops are widely used at all levels of consumption (in household and restaurant meals and prepared foods) and serve as the basis for many byproducts. Millet and white sorghum are used mainly in the preparation of tô, the national dish of Burkina Faso, while red sorghum is used primarily in the production of dolo, a local beer.

Sorghum and millet cakes, waste products from dolo production, are the basic feed used in home-based pig-farming operations. However, there has been a visibly declining demand for millet over the past few years in favor of maize and rice, which are more accessible in local markets and more convenient to use (Figure 11).

3.1. Main actors in the marketing of millet and sorghum

Though earmarked mainly for on-farm consumption by rural households, there is a heavy trade in millet and sorghum between high-production and deficit areas. The marketing channels for these crops involve several types of actors with varying degrees of organization (Figure 12). The first links in the marketing chain are the growers, who are generally small farmers with family farms (there are very few wealthy agro-entrepreneurs involved). Collectors based in crop collection areas will either make the rounds of local farmers to purchase their crops or the farmers will bring their crops to the collector or semi-wholesaler in the marketplace. Wholesalers (distributors, exporters, and importers) are based in large urban areas, where they store or package the crops for resale at a later date.

3.2. Markets

Prices and supplies in crop-purchasing areas across the country differ from one area to another. In a good crop year, cereal crops are collected on-site or, insofar as possible, in near-by areas. On the other hand, in years with a poor harvest, crops are collected mainly in normal high-production areas. The main crop collection areas are Banwa (Solenzo, Kouka, Koundougou, and Béna), Kossi (Djibasso), Kénédougou (N’Dorola and Kourouma), Tuy (Koumbia and Houndé), and Houet (Satiri, Somasso, Dan, Dandé, Banwala, and Faramana). Traders may also get supplies from sources outside Burkina Faso in maize-producing areas of Côte d’Ivoire (Daloa), Ghana, and, in particular, border areas of Mali such as Kouri, Koutiala, and Sikasso. The main service areas are in the country’s Centre, Centre-Nord, Nord, and Sahelian regions, primarily in Kadiogo (Ouagadougou), Bam (Kongoussi), Sanmatenga (Kaya and Pissila), Yatenga (Ouahigouya), Soum (Djibo), and Sénou (Dori) (Figure 19 and Figure 20).
3.3. Millet and sorghum prices

Pouytenga Market Profile

- The market is located approximately 140 km from Ouagadougou in a municipality in which 80 percent of the local population is engaged in trade.
- In spite of its importance, most trade is conducted through informal channels. However, local traders are organized in associations and unions operating in five areas, namely on the central market, the kola market, the cereal market, the livestock market, and the seko (straw fencing) market.
- There are traders of different backgrounds (Burkinabe and foreign traders from countries such as Ghana, Togo, Mali, Nigeria, Niger, etc.).
- There is an especially active trade in livestock and cereals.
- It is a major hub for livestock exports to countries within the sub-region (Ghana, Nigeria, etc.).
- It is a major redistribution market channeling cereal crops to deficit areas in the Nord and the Sahel.
- The market operates three days a week.

In an average year, (2006, 2010, 2011, 2013, and 2014), millet and sorghum prices move in line with seasonal trends in three main phases (Figure 13 and Figure 14):

**Phase 1**: Prices generally drop between October and December, at harvest time, and with the replenishment of household food stocks and trader inventories. There is very little household demand on local markets during this period. On the contrary, households sell cash crops to cover school fees and outlays for traditional celebrations and the year-end holiday season.

**Phase 2**: There is a slight rise in prices (of less than 10 percent) between the months of January and March with the tightening of market supplies from on-farm inventories (particularly those of small farmers). These supplies are appropriated by traders busy responding to calls for bids for the rebuilding of institutional food stocks and meeting needs for cereal transfers from high-production to high-consumption areas during this period.

**Phase 3**: Prices continue to steadily rise between April and September, peaking in the month of August or September. This period also coincides with the lean season, which is generally marked by a mounting household demand on local markets which, in some cases, are physically inaccessible to traders on account of the poor road conditions.

The atypical surges in prices in 2008 and 2012 were attributable to the negative effect of world prices (the “cost of living crisis”) in the former instance and the shortfall in crop production in 2011.

In general, millet prices are higher than those of other cereals and subject to larger seasonal fluctuations (Figure 14 and Figure 18). In fact, with the relatively stable volume of millet production since 2010 and steady growth in other types of cereal production, market supplies of millet are declining. Millet is still the cereal of choice in far northern areas of the country, which are regularly among its at-risk areas for food insecurity. Price trends on major millet and sorghum markets are generally correlated, particularly with market prices in surplus areas.

**Figure 13. Sorghum seasonal price index in Solenzo**

**Figure 14. Millet seasonal price index in Pouytenga**

Source: Author’s estimates based on data from SONAGESS (2016).

Source: FEWS NET.
3.4. Trade flows

Domestic trade flows differ in terms of both prices and supplies. There are large shipments of sorghum to Ouahigouya, Ouagadougou, Bobo-Dioulasso, and, in many cases, also to Koudougou, Kongoussi, and Yako. Cross-border trade in millet and sorghum is limited basically to exports to Niger and, in some cases, Mali. However, as is the case with other cereals, the lack of a regular trade monitoring mechanism precludes a good assessment of these cross-border trade flows.
Figure 19. Burkina Faso sorghum production and trade flow map

Note: FEWS NET Production and Trade Flow Maps provide a summary of the geography of marketing systems that are relevant to food security outcomes during an average marketing year or season. The maps are produced by FEWS NET in collaboration with stakeholders from local government ministries, market information systems, NGOs, and private sector partners, using a mix of qualitative and quantitative data.

Source: FEWS NET (2014b).
Figure 20. Burkina Faso millet production and trade flow map

Note: FEWS NET Production and Trade Flow Maps provide a summary of the geography of marketing systems that are relevant to food security outcomes during an average marketing year or season. The maps are produced by FEWS NET in collaboration with stakeholders from local government ministries, market information systems, NGOs, and private sector partners, using a mix of qualitative and quantitative data.

Source: FEWS NET (2014b).
4. Rice

The two sources of rice availability in Burkina Faso are imports (60 percent) and local production (Table 1 and Figure 21). Rice appears to be an imported commodity earmarked for urban populations. Rice consumption is steadily increasing, fueled by an ever-growing urban demand, mainly for imported rice. Locally grown rice is not very competitive in a social context shaped by poverty, large household size, and low cash incomes, steering consumers to the lowest cost commodities.

According to Sangare (2011), the main limiting factors in the marketing of local varieties of rice are the presence of many “impurities” such as small stones whose removal requires long hours of work and, in particular, their low yields when cooked. In fact, yields of cooked rice from locally grown rice crops are small compared with those of imports, which are generally from old inventories and, thus, very dry. As a result, when cooked, they absorb a large amount of water and increase in volume. On the other hand, locally grown rice is generally marketed the same year it is harvested and, thus, swells much less when cooked.

4.1. Consumption

The negligible amount of rice consumption in Burkina Faso in the early 1960’s has grown to more than 200,000 MT at the rate of 5.6 percent a year, outpacing the rate of population growth. The mounting demand for rice is driven mainly by urban population growth. Per capita rice consumption in Ouagadougou and Bobo-Dioulasso is estimated at 50 kg per person per year, compared with the national average of between 10 and 15 kg per person per year. Rice consumption in rural areas is still very limited (approximately 2 kg per person per year), but varies from region to region in line with local production potential (from 4 kg/person/year in the Hauts Bassins and Cascades regions to 0.6 kg/person/year in the Nord, Sahelian, and Centre regions). Rice consumption in urban areas is not only consistent, but accounts for a large share of cereal consumption. Outside meals eaten by workers away from home consist largely of rice.

4.2. Production

Local varieties of rice are grown in both the rainy season and the dry season. Paddy rice is grown in irrigated plain and lowland areas, non-irrigated lowland areas, and upland areas during the rainy season. On the other hand, in the dry season, it is grown only in irrigation schemes in plain areas. Rainy season rice crops are harvested between October and December, with off-season rice crops harvested between June and July. Moreover, certain irrigation schemes may have two harvests of irrigated rice crops per year.
While present in all regions of the country, most rice production is from five large-scale irrigation schemes (the Sourou Valley scheme in the Boucle du Mouhoun region, Bagré in the Centre-Est region, the Kou Valley and Banzon schemes in the Hauts-Bassins region, and the Douna and Karfiguela rice-growing schemes in the Cascades region) (Figure 22). These irrigation schemes, alone, account for over 60 percent of national rice production. Lowland rice farming systems are the traditional way of growing rice and are found in all parts of the country, in areas with no irrigation systems (unequipped traditional lowland areas), or areas with partial water control (simple equipped lowland areas or improved lowland areas). Strict rainfed rice-farming activities in unirrigated fields during the rainy season account for the smallest share of national rice production, at only approximately 9 percent. Marketing activities for paddy rice kick off with the November harvest and extend throughout the year, depending on the availability of rice crops.

### 4.3. Imports

The food crisis of 2008 sparked by the simultaneous world-wide surge in the prices of many staple foods triggered spontaneous rioting against the high cost of living, prompting the government of Burkina Faso to implement an emergency response plan. As part of this plan, the government lowered taxes on foods such as rice and milk, distributed supplies of seeds and fertilizer to farmers, and went back to providing farmer training and supervision services in large irrigated rice-farming schemes. To bolster marketing activities, it has been purchasing rice crops from farmers through SONAGESS. These various government measures helped boost national rice production by 58 percent between 2007 and 2013. However, even with this increased production, the volume of imports grew by 74 percent over the same period.

There has been a free flow of rice imports into Burkina Faso since the easing of restrictions on rice trade in 1996. However, only a few traders with suitable large warehouse facilities with a capacity of over 1,000 MT in a financial position to make imports of at least 1,000 MT are able to meet the import requirements established by the government. There are approximately 40 or so importers, but only around ten major importers based mainly in Ouagadougou. The three largest importers make over 70 percent of all imports. Their import capacity varies, with certain traders importing between 30,000 and 50,000 MT a year each, out of a total of approximately 200,000 MT worth of rice imports per year. The suppliers for rice importers are large multinational trading companies such as Cargill, Dreyfus, etc. The rice is delivered to a West African port (Abidjan, Lomé, or Tema) in ships equipped to transport 30,000 MT of rice for several importers to different destinations in the sub-region. It is then shipped to Burkina Faso by train (from Abidjan) or truck and stored in warehouse facilities belonging to the importer and/or the Chamber of Commerce. The marketing strategy is to sell the rice to wholesalers and semi-wholesalers. Most rice imports, whose volume has doubled in the last ten years, are from major international exporting countries such as Thailand, Burma, India, Pakistan, and Vietnam.

### 4.4. Main actors in the marketing of locally-grown rice

While the actors in the marketing network for imported rice are smaller in number but extremely large in scale (in terms of their financial standing and volume of sales), the marketing channels for locally grown rice involve much larger numbers of small-scale actors (Figure 24). This is especially true of rice growers, most of whom are small farmers with an average of approximately one hectare of land planted in rice in large irrigation schemes and less than half a hectare in small irrigation schemes and lowland areas. In the past, these growers were forced to sell their crops to the cooperative, but, nowadays, are free to sell their crops as they choose. However, the lack of large buyers able to absorb larger quantities of crops at better prices is a problem. In addition to the cooperatives collecting paddy from local farmers, there are large numbers of traders operating as village-based collectors in rice-producing areas whose role is to collect cereal crops in general and rice in particular for resale to other traders or economic operators.

However, most paddy production (52 percent) is purchased and processed by what are generally organized groups of businesswomen using traditional and artisanal methods to
process the paddy, with or without parboiling. There is a relatively small industrial demand from a few semi-industrial and industrial rice processing plants in the outskirts of large cities such as Bobo-Dioulasso and Ouagadougou and in large rice-growing schemes.

Moreover, since the dissolution of Société pour la Promotion des Filières Agricoles (Corporation for the Promotion of Agribusiness), there are no longer any agencies or organizations specializing in the purchasing of cereal crops in Burkinabe markets. Wholesalers and semi-wholesalers ship crops from rural markets to retail markets for sale to retail traders and consumers.

4.5. Markets and trade flows

Trade in paddy rice flows from rice-producing areas to urban areas through collection markets. There is also a flow of foreign trade in locally grown rice to certain neighboring countries (Mali and Ghana), which is difficult to quantify. A recent study by the Agribusiness and Trade Promotion project, for example, showed an average of approximately 1,380 and 2,250 MT, respectively, of parboiled rice exports to Ségou and Bamako in Mali between 2010 and 2012, though the trade flows reported in that study represent less than 10 percent of the actual volume of sales of locally grown rice (Josserand 2013). These trade flows are hampered by illegal taxes and different forms of road harassment, which drive up the prices of these crops and make it difficult for them to compete on final consumer markets (INSAH 2016). Thus, these rice transfers have little to do with price differentials and much more to do with the existence of a potential foreign demand for certain specific local varieties of rice grown in Burkina Faso.

An examination of marketing channels and stakeholders shows foreign traders buying paddy directly from farmers in rice-growing areas. The Bagré plain area in the Centre-Est region is frequented by Ghanaian traders, while the Banzon and Bama plain areas in the Hauts Bassins region and the Sourou plain area in the Boucle du Mouhoun region are frequented by Malian traders. These foreign traders mainly buy paddy and parboiled rice, which they ship in bulk to border areas of neighboring countries. Rice imported from Asian countries is shipped mainly to the ports of Lomé in Togo, Tema and Takoradi in Ghana, Cotonou in Benin, and Abidjan in Côte d’Ivoire (Table 5). According to the latest figures on the share of import and export traffic passing through each port, Lomé gets 34 percent of imports and 55 percent of exports, Cotonou gets 31 percent of imports and 25 percent of exports, Abidjan gets 15 percent of imports and 20 percent of exports, and Tema gets 20 percent of imports and a negligible share of exports (Nathan Associates Inc. 2013). Trade flows from Abidjan, which fell off sharply during the crisis in Côte d’Ivoire, have since picked up, but are still not back at their pre-crisis levels.

Table 5. Main ports serving Burkina Faso

<table>
<thead>
<tr>
<th>Port</th>
<th>Starting point of the transportation corridor</th>
<th>End point of the transportation corridor</th>
<th>Distance (km)</th>
<th>Portion of the corridor in BF (km)</th>
<th>Border crossing point into Burkina Faso</th>
<th>Mode of transport</th>
<th>Infrastructure built by Burkina Faso in port areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Téma</td>
<td>Ouagadougou</td>
<td>Tema</td>
<td>1,040</td>
<td>170</td>
<td>Paga</td>
<td>Tractor trailer</td>
<td>5,000 square meters of covered warehouse facilities and quays</td>
</tr>
<tr>
<td></td>
<td>Bobo</td>
<td>Tema</td>
<td>1,396</td>
<td>526</td>
<td>Paga Ouessa (very little traffic)</td>
<td>Tractor trailer</td>
<td></td>
</tr>
<tr>
<td>Abidjan</td>
<td>Ouagadougou</td>
<td>Abidjan</td>
<td>1,148</td>
<td>510</td>
<td>Niangoloko</td>
<td>Tractor trailer - Train</td>
<td>10,120 square meters of covered warehouse facilities; 6,500 square meters of quays</td>
</tr>
<tr>
<td></td>
<td>Bobo</td>
<td>Abidjan</td>
<td>793</td>
<td>155</td>
<td>Niangoloko</td>
<td>Tractor trailer</td>
<td></td>
</tr>
</tbody>
</table>

The Sankariaré Market

- The Sankariaré market located in the heart of the nation’s capital of Ouagadougou is one of the country’s largest trade hubs for cereal crops.
- It serves as a retail market for the city of Ouagadougou and surrounding areas and as a redistribution market channeling cereals to deficit areas of the Nord and the Sahel such as Ouahigouya, Dori, and Djibo.
- Wholesalers and semi-wholesalers get most of their supplies from markets in surplus-producing areas such as Bobo-Dioulasso, Kouka, Solenko, Pouytenga, and Léoo.
4.6. Prices

Imported rice, which meets over 60 percent of nationwide needs, has been one of the most highly government-regulated staple commodities since the “cost of living crisis” of 2008. Thus, in general, its price has been stable since 2012, at between 350 and 400 XOF/kg (Figure 26).

Prices for locally grown rice have followed this same trend but, on average, have been 20 percent below the price of imported rice since 2008. The government has set a floor price for locally grown paddy rice since 2008 (115 XOF/kg in 2008 and 130 XOF/kg since 2012) based on regular consultations with stakeholders in the rice sector, particularly rice growers.

Figure 25. Price of locally grown and imported rice (XOF/kg), 2012-2016

Source: Author’s estimates based on data from SONAGESS (2016).

Figure 26. Parity price of imported rice (XOF/kg), 2010-2016

Source: Author’s estimates based on data from SONAGESS (2016), the World Bank (2016), and OANDA (2016).
5. Maize

National maize availability more than meets domestic demand (187.7 percent), which is largely urban. Grown mostly in rainfed farming systems (99 percent), maize is becoming the country’s second largest crop in terms of volume (after sorghum and ahead of millet). Moreover, there has been a steady expansion in irrigated maize production. The main maize-producing areas are the Hauts Bassins, Boucle du Mouhoun, Cascades, and Centre-Ouest regions, which, together, account for 71 percent of maize availability.

5.1. Main actors in the marketing of maize crops

Though still a traditional staple food crop, maize is more of a cash crop than millet and sorghum, with several types of stakeholders involved in the maize trade. First and foremost, there are the growers, most of whom are small farmers with family farms. However, there are growing numbers of emerging new actors (agricultural entrepreneurs) with modern equipment and as much as 65 hectares of cropland (Figure 27).

There are also village-based collectors in charge of collecting crops from growers at the farm-gate level in rural marketplaces in surplus-producing areas. The average annual capacity of a maize collector is approximately 50 MT. These collectors generally work for large-scale collectors financed by an employer/trader based in the regional capital. The latter, in turn, supplies wholesalers in Ouagadougou and Bobo-Dioulasso or certain large-scale traders in deficit areas. The wholesalers own trucks with which they collect and store the maize in villages along major arteries, which is later picked up by large trucks for shipment to major cities. Processing plants get their supplies from large growers-traders based in high-production areas with a 50 to 100 MT storage capacity.

5.2. Processing: an important link in the maize marketing chain

Maize processing activities in Burkina Faso are highly diversified and, thus, are an extremely important part of the maize marketing chain. Most demand is industrial, averaging as much as 1,200 MT per plant per year. Demand from food processing plants averages 16 to 22 MT per plant per year. There is also a relatively large demand from small-scale processors on account of their large numbers. The presence of specific actors such as the WFP, SONAGESS, and certain NGOs with a relatively large annual demand for humanitarian operations is another important factor.

There is still relatively little industrial demand for maize for use as chicken feed, estimated at less than one percent of national maize production. There are industrial and semi-industrial processing facilities located in the cities of Ouagadougou, Bobo-Dioulasso, Ouahigouya, Débougou, Fada N’gourma, and Banfora, broken down as follows: (i) 50 secondary processing plants; (ii) 10 processing plants for animal feed; and (iii) 5 small and medium-scale industries and 2 large manufacturing companies, namely BRAKINA and Société Burkina d’aliments de chaîne (The Burkina Food Company). There are also more than 4,000 village mills employing artisanal and semi-industrial processing methods.
5.3. Price analysis

With the boom in maize production in the last few years compared with that of other types of cereals and the growing imports from the coastal states, maize has moved up from third place prior to 2012 to become the country’s second most important cereal crop from a production standpoint, surpassed only by sorghum. As a result, interannual variations in its price are not as large as those for other cereals (Figure 30).

Since 2013, market inventories account for 60 to 80 percent of local cereal supplies. These large market supplies are tied to the consumer subsidies provided by the government since 2012 through its network of provincial “charter” shops (boutiques témoins). These regularly restocked shops sell maize at 120 XOF/kg, compared with its average market price of 166 XOF between 2012 and 2014 (Figure 31).

**Figure 29. Annual maize production (000 MT), 2000-2015**

Source: Author’s estimates based on data from the DGESS/MAAH (2016).

**Figure 30. Maize seasonal price index in Solenzo**

Source: Author’s estimates based on data from SONAGESS (2016).

**Figure 31. Maize prices in production and consumption hubs in Burkina Faso, 2008-2016 (XOF/kg)**

Source: Author’s estimates based on data from SONAGESS (2016).
Figure 32. Burkina Faso maize production and trade flow map

Note: FEWS NET Production and Trade Flow Maps provide a summary of the geography of marketing systems that are relevant to food security outcomes during an average marketing year or season. The maps are produced by FEWS NET in collaboration with stakeholders from local government ministries, market information systems, NGOs, and private sector partners, using a mix of qualitative and quantitative data.

Source: FEWS NET (2014b).
6. Small ruminants (sheep and goats)

Burkina Faso is, first and foremost, a livestock-raising country with a large sheep and goat population. The raising of small ruminants is an important source of income for poor households and is found in all parts of the country, with certain regional differences. The Sahelian, Centre-Ouest, Est, and Centre-Nord regions have the largest populations of small ruminants. The predominant livestock production system is the traditional (transhumant and extensive sedentary) system, with some small-scale modern (semi-intensive and intensive) livestock-raising operations. The transhumant (pastoral) system is based on the extensive use of natural resources, with occasional recourse to animal health products, and relies on seasonal migration (transhumance) by pastoralists and their herds in search of pasture and water during the long dry season.

The sedentary system is based on the extensive use of natural pasture resources, with certain pastoralists resorting to the use of feed supplements. Animals are fed fodder (grasses and legumes) and agricultural by-products (bran) during the rainy season. Throughout the long dry season, the diets of livestock basically consist of straw and crop residues (stalks of cereal crops and tops of cowpea, groundnut, and catjang crops), supplemented by agricultural byproducts such as millet, maize, and sorghum bran and agroindustrial byproducts (used mainly for sheep).

Semi-intensive production systems are found mostly in urban or peri-urban areas, but also exist in certain villages. These systems use large quantities of agricultural and agroindustrial byproducts and are export-oriented. Growing numbers of crop farmers in Burkina Faso are engaging in sheep fattening activities enabling them to turn out good-looking sheep with sought-after features meeting foreign demand in a short span of time.

Supplies of small ruminants vary according to seasonal conditions and the time of year. Supplies visibly tighten between the end of the dry season (in May) and the beginning of the rainy season (in July). The smaller supply of livestock during this period is due to the poor grazing conditions at that time of year and ensuing seasonal migratory movements (transhumance), causing pastoralists in livestock-raising areas to take emaciated animals and transhumant livestock off the market. Supplies peak during pre-holiday periods and, in particular, in the weeks leading up to the Feast of Tabaski.

6.1. Main actors in the marketing chain

The main stakeholders in the marketing chain for small ruminants are pastoralists or livestock “producers” who, at a given moment, decide to sell part of their herd to meet household needs (for cereal purchases, health care, clothing, school fees, celebrations, etc.)

These “producers” are the main suppliers for markets in livestock-raising areas (Figure 35). Collectors are in charge of picking up most of the animals bound for collection/assembly markets such as Gorom-Gorom and Djibo. Traders purchase and transport animals from collection to assembly markets for export, the largest of which include the Kaya, Pouytenga,
Andemtenga, and Fada markets, and from there to terminal markets in large urban population centers such as Ouagadougou and Bobo-Dioulasso.

There is a growing presence of foreign actors (from Ghana, Niger, and Nigeria), not only on export markets, but also on certain assembly or collection markets such as Djibo, Gorom Gorom, and Dori. Unlike their Burkinabe counterparts buying individual animals, these foreign actors generally purchase livestock in lots (several head at a time). Large numbers of small ruminants are purchased and exported directly from collection areas to other countries in the sub-region in this manner.

At the end of the marketing chain are processors, retailers, and consumers. The number of sheep processors was estimated at approximately 3,100 in 2007, compared with 6,600 goat processors (MARA 2007). Sixty-five percent of small ruminants slaughtered for meat are goats, with sheep accounting for the other 35 percent.

Butchers and rotisserie and grill shop operators use artisanal processing methods. However, there have been growing numbers of cold cut manufacturers in the last few years with the establishment of semi-industrial processing plants in large cities. There are a dozen such plants in Ouagadougou, most of which have ties with supermarkets.

6.2. Price

Livestock prices have been rising since 2008, driven, among other things, by the following factors:

- The growing demand (for exports) from the coastal states and Nigeria. The revaluation of the Ghanaian cedi, the easing of trade barriers in Côte d’Ivoire since the end of the crisis, and the creation of new marketing networks in that country have also helped promote exports to these countries.

- The growing demand for meat in urban areas, as well as in gold mining areas with the expansion in gold panning activities.

- The heightened demand for livestock for the year-end holiday season and, in particular, for the Muslim holidays of Ramadan and Tabaski which, since 2008, have fallen between October and March when producers still have remaining cereal stocks and are not forced to sell their animals at distress prices.

Prices in northern livestock-raising areas (in the Sahelian region) generally bottom out during the lean season in pastoral areas (between March and May) or the lean months for households (June through August), forcing them to thin their herds and sell their animals on livestock markets at distress prices.
A look at price differences from one market to another shows that prices are generally higher in livestock-producing areas, particularly in the Sahel. This is due to the high-quality breed of animals sold on these markets. In fact, the Sahelian breed has a more imposing and much more desirable physique than the more stunted Mossi breed found in markets in other regions of the country.

6.3. Markets and trade flows

Djibo is the country’s largest livestock market. It is an assembly market attracting large numbers of traders from all parts of the country as well as from neighboring countries in spite of the poor road conditions hindering access to the market. It basically draws its supplies, not only from rural and collection markets in the Sahelian region, but also from border markets in Mali and Niger. The Pouytenga and Andemtenga markets in the Centre-Est region and the Fada market in the Est region are export markets for livestock bound for Niger and Benin.

Exports of small ruminants from assembly markets are basically made by truck. According to statistical data compiled by the Ministry of Animal Resources, approximately 7 percent of the country’s sheep population is exported each year, compared with 6 percent in the case of goats. The main destinations for these exports in 2014 were Ghana (accounting for 39 percent of sheep exports and 64 percent of goat exports), Benin (with 19 percent of sheep exports and 17 percent of goat exports), Niger (with 10 percent of sheep exports and 12 percent of goat exports), and Côte d’Ivoire (with 28 percent of sheep exports and two percent of goat exports). Most sheep earmarked for export come from feedlots.

Most exports of small ruminants involve live animals and are made from assembly and terminal markets. These markets are attended, not only by Burkinabe traders (exporters), but also by traders from neighboring countries. According to the Ministère des ResSources Animales et Halieutiques (MRAH, or Ministry of Animal and Fish Resources), approximately 16 percent of the sheep population is exported each year, compared with 8 percent of the goat population. The main destinations are Ghana (accounting for 49 percent of sheep exports and 83 percent of goat exports), Benin (with 9 percent of sheep exports and 7 percent of goat exports), Togo (with 3 percent of sheep exports and 2 percent of goat exports), and Côte d’Ivoire (with 35 percent of sheep exports and 2 percent of goat exports). On the other hand, most imports of small ruminants are from Niger (for sheep and goats) and Mali (for sheep).
Figure 39. Burkina Faso livestock production and trade flow map

Note: FEWS NET Production and Trade Flow Maps provide a summary of the geography of marketing systems that are relevant to food security outcomes during an average marketing year or season. The maps are produced by FEWS NET in collaboration with stakeholders from local government ministries, market information systems, NGOs, and private sector partners, using a mix of qualitative and quantitative data.

Source: FEWS NET (2014b).
7. Cowpeas

Their importance in the diets of both rural and urban populations and a high foreign demand make cowpeas a strategic crop for Burkina Faso. However, the growing of these crops is still highly contingent on climatic conditions, with any fluctuations in these conditions affecting production levels. Cowpeas are generally grown in small plots as companion crops with cereals. Most cowpea crops are consumed locally, mainly at the on-farm level. Per capita consumption averages 12.75 kg per person per year (Statistika 2002). Cowpeas are used in the preparation of many dishes served in low-cost restaurants and informal sector eateries at affordable prices for urban workers.

The frequency of cowpea consumption in Burkina Faso varies based on location. In rural areas, consumption is greatest during preparation, planting and harvesting; and when work is most physically demanding, because of the energy cowpeas provide. However, because it can fetch high prices, many rural households prefer to sell cowpea stock to acquire cereals for their own consumption. Terms of trade for cowpea/cereal are largely in favor of cowpea. Compared to rural households, urban households consume less cowpea, preparing it no more than once a week (Ministère de l’Agriculture and SP/CPSA 2002). As generally observed in West Africa, cowpeas are highly income elastic, especially among poor populations, with consumption increasing as income increases (Mishili et al. 2007).

A negligible share of cowpea production is earmarked for export to neighboring coastal states such as Ghana and Côte d’Ivoire.

While available in all parts of the country, there are large stocks of cowpea crops in the Centre-Nord, Nord, Boucle du Mouhoun, Plateau Central, Sahelian, and Hauts Bassins regions (Figure 40). However, an ignorance of proper conservation methods and lack of storage infrastructure force growers to sell off their crops at low prices immediately after the harvest, which makes cowpea prices extremely volatile due to the perishable nature of these crops. The collection period for cowpea crops is roughly four months in length, or from October to January.

7.1. Main actors in the marketing chain

In general, cowpea marketing channels are controlled by the same actors driving cereal marketing networks (Figure 42). They include collection, assembly, and distribution markets. The main sources of market supplies are domestic production by Burkinabe farmers, collectors, semi-wholesalers, and retailers.

There is currently very little processing of cowpea crops. They are used by consumers in popular dishes such as boiled cowpeas, cowpeas with rice, cowpeas with couscous, etc.
Commercial processing activities are limited to the preparation of restaurant meals and the production of baby foods and children’s foods (baby cereal, cowpea cakes, etc.)

7.2. Markets and trade flows

Most of the demand for cowpeas is from urban areas (90 percent) and for exports to sub-regional markets (in Côte d’Ivoire, Ghana, Togo, Benin, and Nigeria). Domestic trade is concentrated on the Ouahigouya, Kaya, Pouytenga, Gomboussougou, Manga, Fada, and Tenkodogo markets. The main points of departure for foreign trade flows are the Ouagadougou, Bobo-Dioulasso, Ouahigouya, Kaya, Tenkodogo, Guelwongo, Léo, Niangoloko, Bittou, and Niangoloko markets.

7.3. Prices

Seasonal trends in producer prices for cowpea crops are similar to trends in cereal prices (Figure 43). Prices for cowpeas which, together with rice, are dietary staples in gold mining areas, reached record levels during the 2012 crisis, averaging 386 XOF/kg, 63 percent above the average price for the period from January 2008 through September 2011. This rise in price helped boost production for the following growing seasons. Unfortunately, the ensuing slowdown in foreign demand resulted in an average 24 percent drop in prices between October 2012 and December 2014 compared with price levels between October 2011 and September 2012 (Figure 44).

![Figure 43. Seasonal cowpea price index](source)

![Figure 44. Cowpea prices in Burkina Faso, 2008-2016 (XOF/kg)](source)
Figure 45. Burkina Faso cowpea production and trade flow map

Note: FEWS NET Production and Trade Flow Maps provide a summary of the geography of marketing systems that are relevant to food security outcomes during an average marketing year or season. The maps are produced by FEWS NET in collaboration with stakeholders from local government ministries, market information systems, NGOs, and private sector partners, using a mix of qualitative and quantitative data.

Source: FEWS NET (2014b).
8. Oilseeds and Refined Edible Oils

Oilseeds are mass-consumed commodities in Burkina Faso and a large part of the country’s agro-industrial sector is devoted to edible oil production from oilseed crops. Most national edible oil production, estimated at an average of over 65,000 MT per year for the period between 2010 and 2014 (FAO 2016), is from seed cotton. Industrial cottonseed oil production was limited to two plants up until the mid-1990’s, but has been steadily expanding ever since (n.a. 2010). There are also small to negligible amounts of peanut, sesame, and shea nut oil production and a growing volume of soybean oil production.

In spite of the availability of different types of raw materials and the large production potential, local supplies of edible oils in Burkina Faso cannot keep pace with demand, necessitating large amounts of imported oil, particularly palm oil imported mainly from Côte d’Ivoire and a small share from the international market. The bill for these imports is enormous, jumping from 6.7 billion CFA francs in 2005 to 14.6 billion CFA francs in 2013. Stakeholders in this sector attribute this sharp increase to the tripling of palm oil imports from 20.2 MT in 2005 to 64.6 MT in 2014.

There is no specific government policy in support of the local edible oil industry. As in the case of rice, for which the government bolsters local production to reduce the country’s dependence on imported rice, there have been no sizeable national investments in cottonseed oil production. However, there is a tax of roughly 13.5 percent on imported palm oil (Bambio 2016).

8.1. Consumption

According to statistical data compiled by the FAO, per capita vegetable oil consumption in Burkina Faso went from 11 grams per person per day in 1992 up to 16 grams in 2007. A continuation of this trend would put per capita consumption at 18-21 grams per person per day (6-8 liters per person per year) between 2012 and 2017, representing an annual demand of over 150,000 MT for the country as a whole. Virtually all cottonseed oil produced in Burkina Faso goes for domestic consumption, mainly in cooked foods, batters, and traditional pastries. Waste products from cottonseed oil mills are also used to make soap and produce animal feed (Kapseu 2009). The substitute for cottonseed oil in all areas of the country is imported palm oil. Peanut and shea nut oil are largely consumed in rural areas (n.a. 2010).

As mentioned in the previous section, the shortfall in supply forces the country to import sizeable amounts of edible oils. In fact, the volume of imports has increased sharply since the early 2000’s. Figure 46 illustrates the magnitude of these imports, averaging just below 100,000 MT between 2011 and 2015 and consisting largely of palm oil, reflecting the limited ability of local supplies to keep pace with a growing demand. Actually, consumption and import figures are underestimated due to the inconsistency of official statistics and their failure to take into account informal imports, which account for an estimated 20 percent of imports by Burkina Faso (Fintrac 2009).

On average, households consume oil and fats four days a week and sugar three and a half days a week (WFP 2014). Edible oils are sold in 20-liter cans by wholesalers and in one-liter and three to five-liter cans in supermarkets. They are also sold in pouches by small retail shops.

Edible oils and oilseed crops were the second largest source of energy in Burkina Faso in the mid-2000’s, after cereals, accounting for an estimated 11.9 percent of caloric intake (ReSAKKS 2011). Spending on oils and oilseeds accounted for 5.3 percent of consumer budgets at the country level, 6.7 percent in urban areas, and 4.9 percent in rural areas. A comparison with figures for the mid 1990’s shows no change in the budget share in urban areas and a slight drop of 1.2 percent in rural areas (ReSAKKS 2011).

Demand for edible oils in Burkina Faso also includes several thousand metric tons of exports. Baffes (2010) raised the possibility of using cottonseed oil for biodiesel production, but it has not materialized. One mill had attempted to do so, but this type of biodiesel production would not be profitable without heavy subsidies (ReSAKKS 2011).
8.2. Production

Burkina Faso produces large amounts of oilseed crops used as inputs for oil production, including cotton and cotton by-products (cottonseed), peanuts, shea nuts, and sesame (see Table 6 below). According to the figures presented in Table 7, edible oil production for 2014 came to 86,000 MT, including over 76,000 MT of cottonseed oil (accounting for approximately 90 percent of total production). Burkina Faso is Africa’s leading cottonseed oil producer for the international market, followed by Nigeria, Egypt, and Mali, though, together, the four countries account for only 3.5 percent of world-wide production (Kapseu 2009).

Table 6. Production of selected oilseed crops by Burkina Faso (in metric tons)

<table>
<thead>
<tr>
<th>Crop</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed cotton</td>
<td>483,865</td>
<td>529,620</td>
<td>441,057</td>
<td>606,992</td>
<td>766,221</td>
<td>894,982</td>
</tr>
<tr>
<td>Cottonseed</td>
<td>265,000</td>
<td>328,000</td>
<td>274,000</td>
<td>376,000</td>
<td>430,000</td>
<td>450,000</td>
</tr>
<tr>
<td>Peanuts</td>
<td>330,624</td>
<td>340,166</td>
<td>265,322</td>
<td>310,759</td>
<td>349,688</td>
<td>335,223</td>
</tr>
<tr>
<td>Shea nuts</td>
<td>62,457</td>
<td>65,000</td>
<td>54,726</td>
<td>47,000</td>
<td>45,000</td>
<td>44,599</td>
</tr>
<tr>
<td>Sesame</td>
<td>56,252</td>
<td>90,649</td>
<td>84,759</td>
<td>100,488</td>
<td>137,347</td>
<td>321,837</td>
</tr>
</tbody>
</table>

Source: FAOSTAT (2016)

Table 7. Edible oil production by Burkina Faso (in metric tons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cottonseed oil</th>
<th>Peanut oil</th>
<th>Total (including other oils)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>57,443</td>
<td>9,227</td>
<td>66,758</td>
</tr>
<tr>
<td>2011</td>
<td>47,570</td>
<td>8,517</td>
<td>56,175</td>
</tr>
<tr>
<td>2012</td>
<td>52,624</td>
<td>9,460</td>
<td>61,772</td>
</tr>
<tr>
<td>2013</td>
<td>53,494</td>
<td>8,916</td>
<td>62,498</td>
</tr>
<tr>
<td>2014</td>
<td>76,894</td>
<td>9,104</td>
<td>86,086</td>
</tr>
</tbody>
</table>

Source: Author’s estimates based on data from FAOSTAT (2016)

Seed cotton is the raw material used as input for cottonseed oil production. It is grown by over 350,000 cotton farmers on more than 250,000 farming units consisting largely of small farms. The country’s Western region accounts for 80 percent of national production, with the Est and Centre regions contributing minor though still substantial shares of 12 percent and 7 percent, respectively (MAFAP and FAO 2013). The production phase is followed by the purchasing of cotton crops by cotton companies (FASO COTON, SOCOMA, and SOFITEX), which handle their processing and the resale of corresponding byproducts.

There are two types of enterprises producing cottonseed oil in cottonseed crushing plants in Burkina Faso. There are large-capacity modern enterprises such as the Société Nouvelle Huilerie et Savonnerie (SN CITEC, or New Oil and Soap-Making Company). SN CITEC is the country’s largest and oldest oil mill with a maximum production capacity of 20,000 MT of oil per year and an estimated market share of approximately 20 to 25 percent (Bambio 2016). In addition to these large-scale oil mills, there are also large numbers (more than fifty or so) of small oil mills concentrated mainly in the country’s Ouest region, which is a major cotton-producing area. For the most part, these are still fledgling enterprises with artisanal production methods, in many cases, producing unrefined oils (MAFAP 2013). Many are informal enterprises not registered with trade associations operating in an industrial sector with numerous entries and exits (Baffes 2010).

Stakeholders in Burkina Faso’s oil and oilseed industries have raised a number of ongoing issues. On one hand, there are problems with the supply of raw materials, whose availability is threatened by climatic hazards and subject to demand from foreign raw materials markets. Other problems include the relatively high cost and somewhat unstable supply of inputs such as water and electricity (n.a. 2010).

8.3. Main actors in the marketing chain

As illustrated in Figure 47, there are three main sources of supply in the marketing chain for edible oils in Burkina Faso, namely local edible oil production, edible oil imports from other West African countries, and edible oil imports from the international market. As discussed in detail in the previous section, most local edible oil production is from seed cotton. The cotton is marketed by processing facilities which gin the cotton and sell it to industrial and artisanal oil mills. Industrial oil mills package
the finished product and supply wholesale traders in large urban areas. The latter, along with their counterpart importers, resell the oil to retailers, from whom consumers get their oil supplies. Small-scale artisanal oil mills supply oil directly to artisanal or small-scale vendors for resale to final consumers.

In addition, to further facilitate the marketing of local production, in 2014 the government decided to make procurements of locally-produced oil through the SONAGESS in charge of managing the national food security stock (Bambio 2016).

8.4. Performance

Edible oil production by Burkina Faso varies from year to year (Figure 48). It is highly contingent on agro-climatic conditions, cotton production, and the ensuing amount of cottonseed processed into oil. Though it is not self-sufficient and continues to import large quantities of oil, Burkina Faso is comparatively less dependent on imports than other West African countries, with an import dependency ratio of approximately 29 percent (ReSAKKS 2011).

There is no difference in the prices of locally-produced and imported edible oils in Burkina Faso. Over the past five years, prices have generally been stable throughout the year and from year to year, particularly in Bobo-Dioulasso in the country’s main oil-producing area (Figure 49). After peaking in late 2013, particularly in Koudougou, prices have visibly dropped and market price differentials have narrowed to around 50 CFA francs or less.

As far as pricing mechanisms are concerned, according to Baffes (2010), prices for inputs are negotiated by ginning and processing facilities, while the prices of oil and oilcakes are determined by market forces (Baffes 2010). Cottonseed oil manufacturers are paid incentive prices above corresponding reference prices (MAFAP 2013).

However, the ability of locally produced oils to compete with imports is a continuing problem. Burkina Faso’s oil mills are hurt, not only by the slump in sales, but also by the unfair competition from uncontrolled imports, which put SN CITEC’s "Savor" brand, for example, at a disadvantage (Bambio 2016). Other constraints on production by SN CITEC have to do with the high cost and small available supply of its main input, namely seed cotton (which is also in demand for the production of animal feed), and the low cost-effectiveness of its processing method (MAFAP 2013). In general, in spite of the relatively large amount of oil produced by oil-crushing plants in Burkina Faso compared with figures for the other C4 countries (Mali, Benin, and Chad), refined oil yields accounted for only 18 percent of production by its industrial plants in 2010 and 9 to 11 percent of production by small artisanal enterprises, out of an available 21 percent capacity (Kelly et al. 2010). The introduction of modern technology is a slow process, with consumers seemingly unwilling to pay the price for a better quality oil (Baffes 2010).

Lastly, as in the case of other West African countries, the safety and nutritional quality of edible oils produced by Burkina Faso have repeatedly been criticized. The government has, obviously, taken certain measures such as its enactment of the Inter-Ministerial Order of 2012 which, among other requirements, makes it mandatory for refined vegetable oils to be

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**Figure 47. Marketing chain for edible oils in Burkina Faso**

Source: FEWS NET (2014b).

**Figure 48. Trends in total edible oil production by Burkina Faso (in metric tons)**

Source: Author’s estimates based on data from FAOSTAT (2016).
enriched with vitamin A (MICA/MS/MEF/MAH 2012). However, the continued existence of oils unfit for consumption is concerning. The country’s security forces reported the confiscation of at least 18,000 liters of toxic oil in 2015, which had been labelled as “anti-cholesterol” but whose manufacturing process actually used sodium hydroxide or lye (VOA/AFP 2015).

Figure 49. Price of refined vegetable oil in Burkina Faso (XOF/liter)

Source: Author’s estimates based on data from SONAGESS (2016).
9. Areas of Future Investigation

The following three main lines of investigation could help provide a better basic knowledge of the workings of staple food and livestock markets in Burkina Faso.

- The first involves the monitoring of informal cross-border trade flows between Burkina Faso and its neighbors, which are under-estimated by official figures. Keeping track of these trade flows through the establishment of a regular monitoring mechanism could improve current knowledge of the seasonal pattern, direction, and volume of this type of trade.

- The second line of investigation involves an estimation of cereal demand based on the official per capita consumption standard, namely 190 kg per person per year. This standard, which dates back several decades, would benefit from updating to take into account changes in eating habits by households gradually incorporating new types of foods into their diets, such as tubers.

- The goal of the third line of investigation is to better assess the share of crop production earmarked for consumption by livestock. The amount of cereals intended for consumption by livestock is generally not taken into account in computations for cereal balance sheets. In fact, modern poultry farming operations using large quantities of cereal-based feeds are flourishing, particularly in peri-urban areas of the country. A better reflection of the use of cereals in animal feed in cereal balance sheets will help improve current knowledge of certain aspects of price formation.
10. Market Monitoring Plan

FEWS NET regularly monitors staple food and livestock market dynamics in both presence and remote monitoring countries. It is neither necessary nor possible for FEWS NET to effectively monitor all commodities markets all the time and/or outright. Thus, its markets and trade team focuses on the monitoring of selected indicators for a given marketing year.

These key indicators refer to market operations and major events liable to affect supply and demand dynamics and price levels and, thus, price variability on reference markets. FEWS NET also regularly monitors drivers of trade from surplus to deficit areas. Some of these indicators have upper thresholds, which are used together with other types of data to indicate/suggest at what point or threshold national or local food availability and/or access should start to raise concerns.

The findings from this monitoring process are regularly presented in FEWS NET’s Price Watch and Price Watch Annex. They are also used as basic inputs in integrated food security project analysis.

**Figure 50. FEWS NET’s approach to market monitoring and analysis**

Burkina Faso has a rather well-established system for the collection of data on agricultural commodities. As indicated in Table 8, a wide range of market indicators is used to regularly monitor markets across the country on a weekly, monthly, and yearly basis. The responsibility for these monitoring activities lies with different stakeholders. Price data for crops, livestock, and forest products is collected and disseminated by different market information systems such as that of the SONAGESS, the livestock market information system based at the MRAH, and that of the Agence pour la Promotion des Produits Forestiers Non Ligneux (APPFNL, or Agency for the Promotion of Nonwood Forest Products) attached to the Ministère de l’Environnement et du Développement (Durable, or Ministry of Environment and Sustainable Development). In addition, the Directions des Statistiques Sectorielles (DSS, or Sectoral Statistics Divisions) within the Ministère de l’Agriculture et des Aménagements Hydrauliques (MAAH, or Ministry of Agriculture and Hydro-agricultural Development), the Direction Générale des Douanes (Customs Service), and the Direction de la Production des Végétaux et du Conditionnement (DPVC, or Plant Production and Packaging Division) provide data on the volume of production and sales, as well as on domestic and foreign trade flows. Private organizations such as the Comité des Interprofessions de Céréales et de Niébé du Burkina Faso (CIC/B, or Cereal and Cowpea Trade Association Committee of Burkina Faso) are an important part of this apparatus.

<table>
<thead>
<tr>
<th>Monitoring indicators / data</th>
<th>Level</th>
<th>Frequency</th>
<th>Coverage</th>
<th>Monitoring agency/organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop prices</td>
<td>63 markets</td>
<td>Weekly</td>
<td>National</td>
<td>SONAGESS MIS</td>
</tr>
<tr>
<td>Livestock prices</td>
<td>23 markets</td>
<td>Weekly</td>
<td>National</td>
<td>Livestock MIS</td>
</tr>
<tr>
<td>Prices of nonwood forest products (NWFP)</td>
<td>9 markets</td>
<td>Weekly</td>
<td>National</td>
<td>APPFNL MIS</td>
</tr>
<tr>
<td>Volume of production</td>
<td>Provincial</td>
<td>Yearly</td>
<td>National</td>
<td>DSS/MAAH</td>
</tr>
<tr>
<td>Volume of sales</td>
<td>Provincial</td>
<td>Yearly</td>
<td>National</td>
<td>DSS/MAAH</td>
</tr>
<tr>
<td>Imports and exports</td>
<td>Customs checkpoints and plant health inspection stations</td>
<td>Monthly</td>
<td>National</td>
<td>Customs Service, DPVC</td>
</tr>
<tr>
<td>Trade flows (between surplus and deficit areas)</td>
<td>Markets</td>
<td>Monthly</td>
<td>National</td>
<td>CIC/B</td>
</tr>
</tbody>
</table>

Source: FEWS NET (2016).
The market information system based at SONAGESS, like its counterparts within the West African Market Information Systems Network, plays a leading role in striving to ensure the transparency of cereal, oilseed, and pulse markets for the benefit of market participants through the dissemination of weekly and monthly data on market operations, prices, and their drivers. It also provides information to decision makers for the prevention and management of food crises. Due to the importance of the livestock sector, the livestock market information system is charged with producing an annual report containing key data on livestock supplies, sales, and prices by animal species and types of animals, as well as on the physical condition of fattened livestock, the actors present on livestock markets, and corresponding taxes and levies.

Government agencies and their internal units have the means to conduct large-scale country-wide agricultural and food security surveys and produce detailed reports on their findings. The Agricultural Market Information System (SIMA) compiles national price data. Other government agencies such as the Institut National des Statistiques et de la Démographie (INSD, or National Statistics and Population Institute) monitor macroeconomic data such as the Harmonized Index of Consumer Prices (HICP). The largest unit within the MARH is the Direction Générale de la Promotion de l’Économie Rurale (DGPER, or Rural Economy Development Service), whose tasks include the design and implementation of a permanent national system for the collection, compilation, analysis, processing, and dissemination of food and agricultural data and data on crop and fish markets for farmers and development actors and the collection, processing, analysis, harmonization, and compilation of agricultural, crop production, and food security data from departmental offices, specialized ministries, and any and all other structures in a central data bank. Among its internal units is the Direction de la Prospective et des Statistiques Agricoles et Alimentaires (Food and Agricultural Statistics and Forecasting Division) in charge of the production of statistical data, the Système d’Alerte Précoce (SAP, or national early warning system), and of overseeing the management of food security data.

Table 9. Market monitoring and analysis system actors and mechanisms

<table>
<thead>
<tr>
<th>Actors</th>
<th>Publications</th>
<th>Mechanisms</th>
<th>Geographic coverage</th>
<th>Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>SONAGESS/MIS</td>
<td>Weekly and monthly bulletins</td>
<td>Monitoring of market prices</td>
<td>National</td>
<td>Regular publication of bulletins</td>
</tr>
<tr>
<td>SIMA</td>
<td>Joint quarterly bulletins</td>
<td>Compilation of market prices by Smartphone</td>
<td>National</td>
<td></td>
</tr>
<tr>
<td>DSS/MAAH</td>
<td>Annual report</td>
<td>Survey of cropped areas, production, yields, crop use, and food security</td>
<td>National</td>
<td>Insufficient funding to modernize data collection methods and cover expenses</td>
</tr>
<tr>
<td>SAP</td>
<td>Joint mission reports and bulletins</td>
<td>Consolidation of reports on joint missions</td>
<td>National</td>
<td>Regular publication of bulletins</td>
</tr>
<tr>
<td>MRAH/MIS</td>
<td>Quarterly report</td>
<td>Monitoring of livestock market prices</td>
<td>National</td>
<td>Insufficient funding</td>
</tr>
<tr>
<td>APFNL</td>
<td>Quarterly bulletins</td>
<td>Monitoring of market prices</td>
<td>National</td>
<td>Regular publication of bulletins</td>
</tr>
<tr>
<td>CIC/B</td>
<td>Monthly report</td>
<td>Monitoring of market prices and cross-border trade flows</td>
<td>National</td>
<td>Insufficient funding</td>
</tr>
<tr>
<td>DPVC</td>
<td>Monthly report</td>
<td>Monitoring of imports and exports of crops</td>
<td>National</td>
<td>Inadequate number of control points</td>
</tr>
<tr>
<td>Afrique Verte (Green Africa)</td>
<td>Monthly bulletin</td>
<td>Monitoring of cereal market prices and transactions by SMS (text messages)</td>
<td>Sahel, Centre-Est region, Boulgou, Boucle du Mouhoun, and Hauts Bassins regions</td>
<td>Limited coverage of monitored markets</td>
</tr>
<tr>
<td>INSD</td>
<td>Monthly bulletin</td>
<td>Monitoring of the HICP (Harmonized Index of Consumer Prices)</td>
<td>National</td>
<td></td>
</tr>
</tbody>
</table>

Source: FEWS NET (2016).
Stakeholders in the private sector include the Association pour la Promotion de la Sécurité et la Souveraineté Alimentaires au Burkina Faso (Association for the Promotion of Food Security and Self-sufficiency) in Burkina Faso, a member of the “Afrique Verte” (Green Africa) network, (which is also present in Niger, Mali, and Guinea), providing regular food security updates in an online bulletin on cereal prices on target markets, the progress of the growing season, and the food security situation.

However, in spite of its many participants and different mechanisms, Burkina Faso’s market monitoring and data collection system suffers from a number of weaknesses, as summarized in Table 9. Market information systems have limited funding to cover operating expenses such as the payment of enumerators and the cost of supervision and data entry services. In addition, the livestock market information system, for example, has problems with the monitoring and supervision of enumerators, poor data storage management, the erratic and inadequate dissemination of data, and, in particular, its heavy reliance on outside funding in spite of its recent small budget appropriation in the national budget. Furthermore, according to Dupaigre et al. (2008), in general, there are large disparities in access to information in the West African region, including Burkina Faso. The fact that stakeholders are not equally well informed creates inequities in market opportunities and income gaps, mainly to the detriment of farmers, who are the least well-informed. There are a number of weaknesses in related government structures involving the poor coverage of their data, its erratic dissemination, if any, and human resource constraints. There are also problems with the comparability and consistency of their data.
Annex 1. Participants in the Markets and Trade Workshop

Table 10. Participants in the markets and trade workshop

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanou P Innocents</td>
<td>DGESS/Livestock MIS</td>
</tr>
<tr>
<td>Sawadogo Anne</td>
<td>DGPV/DPVC</td>
</tr>
<tr>
<td>Nignan Issouf</td>
<td>CIC-B</td>
</tr>
<tr>
<td>Palé Eric</td>
<td>SONAGESS</td>
</tr>
<tr>
<td>Boudo Sita</td>
<td>IGAE</td>
</tr>
<tr>
<td>Adeline Belem</td>
<td>SE CNSA</td>
</tr>
<tr>
<td>Millogo Firmin</td>
<td>SISANAP/DGESS/MA SA</td>
</tr>
<tr>
<td>Ouattara Ibrahim</td>
<td>AFRIQUE VERTE</td>
</tr>
<tr>
<td>Nikiema Clarisse</td>
<td>COTECNA</td>
</tr>
<tr>
<td>Kienou Blaise</td>
<td>FEWS NET</td>
</tr>
<tr>
<td>Sanogo Kadiatou</td>
<td>FEWS NET</td>
</tr>
<tr>
<td>Perakis Sonja</td>
<td>FEWS NET</td>
</tr>
</tbody>
</table>

Source: FEWS NET (2014b).
### Annex 2. Correlation of Prices in Burkina Faso

#### Table 11. Correlation of millet prices in Burkina Faso, 2008-2016

<table>
<thead>
<tr>
<th>Market</th>
<th>Ouagadougou</th>
<th>Djibo</th>
<th>Pouytenga</th>
<th>Solenzo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ouagadougou</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Djibo</td>
<td>0.621**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pouytenga</td>
<td>0.756**</td>
<td>0.860**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Solenzo</td>
<td>0.824**</td>
<td>0.850**</td>
<td>0.919**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: ** There is a statistically significant correlation at 0.01.

*Source: Author’s estimates based on data from SONAGESS (2016).*

#### Table 12. Correlation of sorghum prices in Burkina Faso, 2008-2016

<table>
<thead>
<tr>
<th>Market</th>
<th>Ouagadougou</th>
<th>Djibo</th>
<th>Pouytenga</th>
<th>Solenzo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ouagadougou</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Djibo</td>
<td>0.647**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pouytenga</td>
<td>0.744**</td>
<td>0.428**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Solenzo</td>
<td>0.779**</td>
<td>0.672**</td>
<td>0.805**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: ** There is a statistically significant correlation at 0.01.

*Source: Author’s estimates based on data from SONAGESS (2016).*

#### Table 13. Correlation of local rice prices in Burkina Faso, 2008-2016

<table>
<thead>
<tr>
<th>Market</th>
<th>Dori</th>
<th>Koudougou</th>
<th>Banfora</th>
<th>Fada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dori</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Koudougou</td>
<td>0.361**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banfora</td>
<td>0.159</td>
<td>0.774</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fada</td>
<td>0.220</td>
<td>0.611**</td>
<td>0.477**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: ** There is a statistically significant correlation at 0.01.

*Source: Author’s estimates based on data from SONAGESS (2016).*

#### Table 14. Correlation of maize prices in Burkina Faso, 2008-2016

<table>
<thead>
<tr>
<th>Market</th>
<th>Djibo</th>
<th>Léo</th>
<th>Ouagadougou</th>
<th>Pouytenga</th>
<th>Solenzo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Djibo</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Léo</td>
<td>0.529**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ouagadougou</td>
<td>0.643**</td>
<td>0.728**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pouytenga</td>
<td>0.584**</td>
<td>0.831**</td>
<td>0.829**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Solenzo</td>
<td>0.817**</td>
<td>0.681**</td>
<td>0.812**</td>
<td>0.774**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: ** There is a statistically significant correlation at 0.01.

*Source: Author’s estimates based on data from SONAGESS (2016).*

#### Table 15. Correlation of goat prices in Burkina Faso, 2008-2016

<table>
<thead>
<tr>
<th>Market</th>
<th>Djibo</th>
<th>Dori</th>
<th>Fada</th>
<th>Gorom-gorom</th>
<th>Pouytenga</th>
</tr>
</thead>
<tbody>
<tr>
<td>Djibo</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dori</td>
<td>0.398**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fada</td>
<td>0.337**</td>
<td>0.149</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gorom-gorom</td>
<td>0.261**</td>
<td>0.315**</td>
<td>0.177*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Pouytenga</td>
<td>0.404**</td>
<td>0.204</td>
<td>0.463**</td>
<td>0.142</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: * There is a statistically significant correlation at 0.05.
** There is a statistically significant correlation at 0.01.

*Source: Author’s estimates based on data from the MRAH/MIS (2016).*
Table 16. Correlation of sheep prices in Burkina Faso, 2008-2016

<table>
<thead>
<tr>
<th>Market</th>
<th>Djibo</th>
<th>Dori</th>
<th>Fada</th>
<th>Gorom-gorom</th>
<th>Pouytenga</th>
</tr>
</thead>
<tbody>
<tr>
<td>Djibo</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dori</td>
<td>0.589**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fada</td>
<td>0.449**</td>
<td>0.358**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gorom-gorom</td>
<td>0.434**</td>
<td>0.571**</td>
<td>0.383**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Pouytenga</td>
<td>0.487**</td>
<td>0.296**</td>
<td>0.367**</td>
<td>0.156</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: ** There is a statistically significant correlation at 0.01.

Source: Author’s estimates based on data from the MRAH/MIS (2016).

Table 17. Correlation of cowpea prices in Burkina Faso, 2008-2016

<table>
<thead>
<tr>
<th>Market</th>
<th>Djibo</th>
<th>Ouagadougou</th>
<th>Pouytenga</th>
<th>Solenzo</th>
<th>Léo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Djibo</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ouagadougou</td>
<td>0.873**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pouytenga</td>
<td>0.885**</td>
<td>0.909**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solenzo</td>
<td>0.829**</td>
<td>0.800**</td>
<td>0.843**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Léo</td>
<td>0.826**</td>
<td>0.887**</td>
<td>0.88**</td>
<td>0.696**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: ** There is a statistically significant correlation at 0.01.

Source: Author’s estimates based on data from SONAGESS (2016).
Annex 3. Data Collection and Verification Methods

The analysis presented in this report is based on a combination of data furnished by key informants, secondary data, and information gleaned from a review of the literature (gray literature and other published documents and reports). The data collection and verification process involved four phases.

To begin with, FEWS NET collected secondary historical data on the production and marketing of food and cash crops (sub-national production figures, trade flows, and price data) and assembled major relevant reports and publications. The collected data and reports were then reviewed to provide FEWS NET personnel with needed background information.

In phase two, FEWS NET conducted a two-day national workshop with key informants (the private sector, the humanitarian and development community-at-large, the government, and USAID and FEWS NET personnel) to help gain a better understanding of the main issues discussed in previous sections of this report, namely:

a. Cross-cutting issues affecting all staple food, cash crop, and livestock markets;

b. The staple food market structure (more specifically, the share of local production versus imports in overall food availability and food access, including the geographic breakdown of production and consumption and the main actors present in the marketing chain);

c. Staple food market behavior/conduct (the behavior of the main actors in the marketing chain, including buyers and sellers);

d. Staple food market performance (trends in production, inter- and intra-annual price variability and regional and international competitiveness);

e. Key monitoring indicators.

As part of the workshop, the participants prepared drafts of production and trade flow maps for each commodity and rough sketches of industry diagrams. The role of FEWS NET personnel attending the workshop was to facilitate discussions and exchanges of views by different groups and individuals that would not normally have an opportunity to interact, pose questions for clarification purposes, and take notes.

In phase three, with the baseline data in place and the completion of the review of the literature and the workshop, FEWS NET was able to pinpoint any remaining major information gaps, which were then bridged by follow-up discussions with key informants (those attending the workshop and newly identified sources) and rapid field assessments.

In phase four, the draft report was reviewed by FEWS NET staff members at its field office, regional office, and Washington headquarters and its main partners prior to its finalization.
References

http://dlca.logcluster.org/display/public/DLCA/BurkinaFaso;jsessionid=36654E8C06702A0C38F628191DFFA648.


“Orientation to Markets and Trade Analysis at FEWS NET.” 2014. FEWS NET.


