The materials in this presentation are incomplete. For the full analysis, please consult the final project report at http://www.mim.monitor.com/articles_ideas.html.
AGENDA

Country Background

Legume Market Overview

Cowpea Market Overview

Groundnut Market Overview

Soybean Market Overview
Burkina Faso’s economy depends heavily on agriculture; the sector employs 85% of the labor force and accounts for ~75% of export income

Agricultural Sector

- In Burkina Faso, the agricultural sector is a significant contributor to the country’s GDP; accounting for 34% of the value-added
  - Despite this, 39% of the population is chronically malnourished; 19% is acutely malnourished
- Agriculture accounts for at least 75% of total exports
- Legumes are important within the agricultural sector
  - 12% of agricultural GDP is derived from legumes

Population Impact

- Burkina Faso has the second lowest population of the focus countries. Despite this
  - 85% of the country’s labor force is engaged in agriculture; the highest of all focus countries,
  - 80% of the country’s population lives below the poverty line, and
  - An estimated 1.2M smallholder farmers of legumes could be impacted by interventions

Legume Production

- Burkina Faso produces moderate legume volumes
  - Potential is inhibited by inconsistent rainfall/recurrent drought, pest damage and crop diseases
- Versus other focus countries, Burkina Faso has the second highest production of cowpeas, after Nigeria

Note: ¹ See “Farmer Profile” slides for detailed legume farmer definition/calculation; ² Throughout the presentation, the category “legumes” is defined as cowpeas, groundnuts and soybeans
Source: FAOSTAT; CIA World Factbook Burkina Faso Country Profile; World Food Programme Burkina Faso P4P Country Profile; “Burkina Faso: A new investment framework for agriculture”, OECD, 2011; Monitor Analysis
34% of GDP is derived from agriculture, with legumes accounting for ~3% of the value-added to overall GDP.

Note: 1 2009 actuals used to estimated 2010 split
Source: FAOSTAT; CIA World Factbook Burkina Faso Country Profile; Monitor Analysis
Agricultural policy places an emphasis on food security, productivity improvements and value-added processing backed by subsidies and input support

**1960–1985**
- **1960–1969:** Sector-oriented agricultural policies, with a strong focus on the development of cash crops, e.g., cotton
- Significant degradation of natural resources during this period
- **1970–1985:** Integrated rural development policy implemented through government agencies and projects
  - Relied heavily on donor assistance
- Launch of National Fertilizer Programs
  - Encouraged fertilizer use through subsidies
  - Supported fertilizer use through technical assistance

**1986–1995**
- Integrated approach to natural resource management, conducted at the village level
- Implementation of Agricultural Structural Adjustment Program resulting in:
  - Abolishment of subsidies
  - Abandonment of minimum grain prices
  - Liberalization of markets for inputs and crops
  - Promotion of private sector

**1996–2008**
- Heightened focus on agriculture: Budget spending at 15%; five percentage points above target set via Maputo Commitment
  - However, foreign aid is included in calculations
- Promotion of agricultural exports as a driver of economic growth
- Drive toward productivity improvements and the stimulation of value-added processing
- Emphasis on food security, subsidies and input support:
  - Equipment subsidies
  - Building small dams to boost irrigation
  - Production of improved seed
  - Distribution of improved seed
  - Subsidies for fertilizers
- Land awarded to private sector to boost investment

Note: 1 In 2009, government investment in subsidies was related to fertilizer (~USD 20M), seed (~USD 13M), tractors/pumps (~USD 30M); 2 ~30,000 hectares of irrigated land currently, with a target of growing that to 500,000 hectares

The Green Revolution — initiated in 2008 — promotes the intensification and diversification of agriculture, to reinforce food security and rural development.

**Food Security Strategy**
- The Food Security Strategy (FSS) aims to:
  - Increase food production volumes
  - Reinforce market capacities to increase the population’s access to food
  - Significantly increase nutritional and economic conditions of poor and vulnerable populations
  - Reinforce food security by increasing the efficiency of the famine prevention system
  - Promote good management of food security among stakeholders
- By 2015, the FSS aims to reduce malnutrition and hunger by 50%

**Rural Development Strategy**
- The Rural Development Strategy is an integrated approach designed to support sustained growth of the rural sector
- The strategy revolves around three key themes:
  - Poverty alleviation
  - Food security reinforcement
  - Sustainable development promotion

**The Green Revolution aims to leverage synergies between agricultural development programs.** Main objectives are:
- Reinforcing access to markets for producers, by promoting the use of quality inputs (improved seed, chemical fertilizer, pesticide) and subsidizing the cost of inputs for prioritized crops (cowpeas, maize, cotton, rice, sorghum, etc.)
  - Aims to reach 50% improved seed adoption, for all crops, by 2015
- Supporting access to land in rural areas
- Securing water mobilization and promoting efficient water management
- Reinforcing the governance of the agricultural sector, to provide technical assistance to farmers

Source: “Green Revolution Guide”, Ministry of Agriculture, 2008; Monitor Analysis; Field Interviews
Despite having the most dense road network, only 4% of the roads are paved and Burkina Faso ranks poorly on all other logistics performance parameters.

**Percentage of Total Roads Paved (2004)**

- Burkina Faso: 4%
- Ethiopia: 19%
- Ghana: 18%
- Mali: 18%
- Nigeria: 15%
- Uganda: 23%
- Tanzania: 9%

**Road Density (2004)**

- Burkina Faso: 34 km/100 km²
- Ethiopia: 3
- Ghana: 23
- Mali: 2
- Nigeria: 21
- Uganda: 29
- Tanzania: 8

Burkina Faso’s Scores on the LPI³ Parameters

- Customs: 4
- Timeliness: 0
- Infrastructure: 66
- International Shipments: 95
- Logistics Competence: 100
- Tracking & Tracing: 117
- World LPI Rankings of Focus Countries:
  - Uganda: 123
  - Tanzania: 139
  - Mali: 145
  - Burkina Faso: 145

Note:

1. 2003 data for Ghana, Tanzania and Uganda;
2. 2003 data for Tanzania and Uganda;
3. Logistics Performance Index (155 countries ranked);

Production and consumption of legumes is increasing steadily in Burkina Faso, with growth in the soybean and animal feed industries being a standout.

**Legume Production Summary**

<table>
<thead>
<tr>
<th>Year</th>
<th>Soybeans</th>
<th>Groundnuts</th>
<th>Cowpeas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>681 (1%)</td>
<td>44% (55%)</td>
<td>3% (54%)</td>
</tr>
<tr>
<td>2010</td>
<td>795 (3%)</td>
<td>54% (54%)</td>
<td>2% (22%)</td>
</tr>
</tbody>
</table>

**Legume Consumption Summary**

<table>
<thead>
<tr>
<th>Year</th>
<th>Feed</th>
<th>Processing</th>
<th>Direct/Primary</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>571</td>
<td>6% (44%)</td>
<td>63% (5%)</td>
</tr>
<tr>
<td>2010E</td>
<td>571</td>
<td>31% (44%)</td>
<td>63% (5%)</td>
</tr>
</tbody>
</table>

CAGR (‘01–‘10):
- Soybeans: 22%
- Groundnuts: 1%
- Cowpeas: 2%

CAGR (‘01–‘10):
- Feed: 14%
- Processing: -1%
- Direct/Primary: 5%

Source: FAOSTAT; Ministry of Agriculture; Monitor Analysis; Expert Interviews; Field Interviews
The market for legumes is sizeable and has been growing, driven by a significant increase in market prices and volumes.

**Market Size**

- **Cowpeas**: 24% of the market, worth USD 399M
- **Groundnuts**: 74% of the market, worth USD 399M
- **Soybeans**: 2% of the market, worth USD 12M

**Market Profile**
- The legume industry is primarily split between cowpeas and groundnuts; the soybean industry is very small.
- Legume industry growth has been driven by an increase in prices for all three legumes.

**Market Potential**
- The market has the potential to grow further, with the following drivers of growth:
  - General productivity improvements,
  - Growth in soybean demand, and,
  - Growth in animal feed industry.

Note: 1 Market size is calculated as the product of volume (Metric Tons) and market prices (USD/MT); 2 Shares may not add to 100% due to rounding.

Source: FAOSTAT; Ministry of Agriculture; “Soybean Value Chain Analysis”, Swiss Cooperation Agency in Burkina Faso (2009); Monitor Analysis; Field Interviews.
LEGUME MARKET OVERVIEW

DIETARY IMPORTANCE OF LEGUMES

Legume consumption is core to diets in Burkina Faso; legumes are a major source of macro- and micro-nutrients, accounting for ~20% of per capita protein intake

Legume¹ Contribution to per Capita Protein Intake, 2007

<table>
<thead>
<tr>
<th>Country</th>
<th>Protein Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>25%</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>19%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>19%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>17%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>16%</td>
</tr>
<tr>
<td>India</td>
<td>13%</td>
</tr>
<tr>
<td>Mali</td>
<td>9%</td>
</tr>
<tr>
<td>Ghana</td>
<td>6%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>5%</td>
</tr>
</tbody>
</table>

Percent Consumption of Food-Group by Women

<table>
<thead>
<tr>
<th>Food-Group</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starchy Staples</td>
<td>100%</td>
</tr>
<tr>
<td>Other Fruit / Veg.</td>
<td>96%</td>
</tr>
<tr>
<td>Animal-Source</td>
<td>94%</td>
</tr>
<tr>
<td>Vit. A-Rich</td>
<td>92%</td>
</tr>
<tr>
<td>Legumes &amp; Nuts</td>
<td>85%</td>
</tr>
<tr>
<td>Dairy</td>
<td>18%</td>
</tr>
</tbody>
</table>

Legume Provision of Micro- and Macro-Nutrients

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Legumes &amp; Nuts</th>
<th>All Starchy Staples</th>
<th>Other ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fat</td>
<td>29%</td>
<td>26%</td>
<td>12%</td>
</tr>
<tr>
<td>Folate</td>
<td>43%</td>
<td>42%</td>
<td>24%</td>
</tr>
<tr>
<td>Niacin</td>
<td>28%</td>
<td>32%</td>
<td>54%</td>
</tr>
<tr>
<td>Thiamin</td>
<td>22%</td>
<td>22%</td>
<td>12%</td>
</tr>
<tr>
<td>Total Protein</td>
<td>20%</td>
<td>20%</td>
<td>12%</td>
</tr>
<tr>
<td>Zinc</td>
<td>17%</td>
<td>17%</td>
<td>67%</td>
</tr>
<tr>
<td>Energy</td>
<td>10%</td>
<td>10%</td>
<td>33%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
<td>9%</td>
<td>33%</td>
</tr>
</tbody>
</table>

According to a 2009 study conducted to evaluate the dietary patterns of women in Burkina Faso:

- **Legumes and nuts were consumed by ~85% of those sampled**
  - Nuts and seeds accounted for the majority of this consumption, followed by cooked dry beans and peas
  - Soybean consumption was minimal to none
- **Legumes and nuts are a major source of energy, protein and micronutrients**
  - Legumes account for ~19% of protein intake; higher than all other West African countries under consideration
  - Legumes come second only to starchy staples in the proportion of macro- and micro-nutrients they provide

Note: ¹ Legume category includes groundnuts, soybeans, common beans and other legumes (bambara beans and cowpeas); ² CHO, Riboflavin, Vitamins (B6, B12, A, C), Calcium, Iron

Source: AgDev; FAOSTAT; Monitor Analysis; “Dietary Diversity as a Measure of the Micronutrient Adequacy of Women’s Diets: Results from Ouagadougou, Burkina Faso Site”, USAID, 2009; Field Interviews; Monitor Analysis
Legumes are grown throughout the country; cowpeas are primarily grown in the North, while groundnuts and soybeans are grown in the South

Primary Legume Growing Regions in Burkina Faso

Farming Areas
- Agro-pastoral millet/sorghum
- Cereal-root crop mixed
- Root crop

Primary Legume Growing Regions
- Cowpeas
- Groundnuts
- Soybeans

Source: Burkina Faso Country Profile, FAO; AgDev Data Resource; Expert Interviews; Monitor Analysis; Field Interviews
Legume production is aligned with agro-ecology and rainfall patterns. Cowpeas are grown in the Sahel and Sub-Saharan agro-ecologies, where rainfall is low; groundnuts and soybeans are grown in the North Sudan and South Sudan agro-ecologies, where rainfall is moderate to high.

Generalized Agro-Ecological Zones

- Cowpeas are primarily grown in the Sahel, Sub-Saharan and North Sudan agro-ecological zones.
- Soybeans are primarily grown in the Sub-Saharan and North Sudan agro-ecological zones.
- Groundnuts are primarily grown in the North Sudan and South Sudan agro-ecological zones.

Precipitation Levels

- Cowpeas are primarily grown in dry regions in the North where rainfall is below 500mm; they are typically planted after the rainy season.
- Soybeans and groundnuts are grown in regions with relatively higher rainfall; between 500mm–1,250mm.

Note: Burkina Faso has not yet established an agro-ecological zoning in the strict meaning of the term. As a result, the country map reflects phytogeographical zones defined by floristic and climatic characteristics, which take the place of agro-ecological zones.

The legume value chain is very fragmented; there is an absence of large/dominant players at each stage of the value chain.

Input Supply ➔ Production ➔ Aggregation ➔ Processing ➔ Buyers/Consumers

- Informal Seed Supply (~95%)
- Formal Seed Supply (~5%)
- Fertilizer, Pesticides, etc.: Majority: Imported

Smallholder Farmers (~95%)
- Middlemen/Small-Scale Traders Majority

Commercial Farmers (~5%)
- Large-Scale Traders Limited

- Small-Scale/Home Processing Majority
- Medium-Scale Limited

- Domestic Consumption Majority
  - Direct
  - Processed
  - Animal Feed
  - Exports Substantial

Source: “Cowpea Storage Project”, BMGF, 2010; “Baseline Assessment of Cowpea Breeding and Seed Delivery Efforts to enhance poverty impacts in sub-Saharan Africa”, Coulibaly, et al., 2010; FAOSTAT; “Situation and Outlook for Cowpea and Soybean in Sub-Saharan Africa”, Coulibaly O., 2009; Field Interviews; Monitor Analysis
LEGUME MARKET OVERVIEW

KEY VALUE CHAIN PLAYERS — FARMERS (1/2)

There are an estimated 1.2M smallholder legume farmers in Burkina Faso

There are no official statistics on the number of farmers in Burkina Faso, as such, an estimation is required. Three methodologies are used to arrive at an estimated 1.2M smallholder legume farmers in Burkina Faso; defined as those smallholder farmers or farming households with any volume output of legumes for subsistence, sale or both

Method I

- **Method I Estimates: 1.4M legume farmers in Burkina Faso**
  - According to the 2006 Agricultural census, Burkina Faso had ~1.4M agricultural households
    - Population was 14.6M in 2006
    - Implies ~10 people/agricultural household
  - Burkina Faso’s population was 16.4M in 2010
    - Applying agricultural household size estimate to 2010 population, implies ~1.6M agricultural households
    - Of agricultural households, estimate 95% are smallholders
    - Of smallholder agricultural households, ~90% grow cowpeas (most widely-farmed legume)
      - Among the Mossi, the most dominant tribe in Burkina Faso, farming culture tends away from intercropping and monoculture; farmers often diversify across a range of crops so virtually all farmers grow cowpeas
    - Implies ~1.4M legume-farming agricultural households in Burkina Faso

Method II

- **Method II Estimates: 1.2M legume farmers in Burkina Faso**
  - Burkina Faso’s population was 16.4M in 2010
    - Of the total population, 84% were active labor force participants
    - Of the total labor force, 85% were engaged in agriculture
    - Used crop contribution to agricultural GDP (65%) as a proxy for number of crop farmers (excluded livestock farmers)
    - Estimate 95% of crop farmers are smallholders
    - Used proportion of arable land allotted to legumes (~17%) as a proxy for proportion of legume farmers
    - Implies ~1.2M legume farmers in Burkina Faso

Method III

- **Method III Estimates: 1.1M legume farmers in Burkina Faso**
  - Burkina Faso’s population was 16.4M in 2010
    - Of the total population, 80% were based in rural areas; assume all rural households have a plot of farm land
    - Estimate ~10 people/rural household
    - Of rural households, estimate 95% are smallholders
    - Of rural smallholder households, ~90% grow cowpeas (most widely-farmed legume)
    - Implies ~1.1M legume farmers in Burkina Faso

Source: Field Interviews; Monitor Analysis; Burkina Faso 2006 Agricultural Census
Approximately two third of the volumes produced by farmers are sold

**Farmer Profile**
- Burkina Faso’s agriculture is dominated by small-scale farming
  - Average farm size is ~3 ha/household
  - Since farmers produce both for subsistence and income, farmers’ planting decisions are influenced by subsistence needs and profitability
- A sizeable proportion of legume production is commercialized; most farmers have marketable surplus
  - Whenever a household farms or trades legumes, they consume some portion of the total volume farmed or traded
  - Income from selling legumes is used for basic and discretionary purchases

**Cowpeas**
- In aggregate, ~65% of cowpeas produced are sold
  - In the Northern regions, where cowpea production is high, farmers sell ~80% of their production
  - In the Central regions, where cowpea production is average, farmers sell ~50% of their production
  - In the Western regions, where cowpea production is low, farmers sell ~<20% of their production

**Groundnuts**
- Approximately 60% of farms in Burkina Faso produce groundnuts as a cash crop
- Of groundnuts produced, ~60% are sold, 8% are consumed on-farm; the remainder are stored and used as seed for the next season

**Soybeans**
- Soybeans are mainly grown through contract-farming arrangements
- Approximately 70% of soybeans produced are sold; the remainder is consumed on-farm or stored as seed

Source: Field Interviews; Monitor Analysis
**LEGUME MARKET OVERVIEW**

**KEY VALUE CHAIN PLAYERS — WOMEN**

*Although seldom farmers in their own right, women are essential participants in the legume value chain*

<table>
<thead>
<tr>
<th>VC Segment</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inputs</strong></td>
<td>• According to the law, women must own 25% of all communally-owned land</td>
<td>• Land and other resources are controlled by men</td>
</tr>
<tr>
<td></td>
<td>• In reality, <strong>women mostly do not have access to land:</strong></td>
<td>– Particularly true in the North of the country; a predominantly</td>
</tr>
<tr>
<td></td>
<td>– A minority of women have <strong>access to a small parcel of marginal land on the family farm</strong></td>
<td>Muslim area</td>
</tr>
<tr>
<td></td>
<td>– Among the Bissa tribe, women receive a small parcel of land when they get married</td>
<td>– Men have the <strong>ability to inherit land</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Poor access to other inputs</strong></td>
<td>• <strong>Planting decisions are usually made by men</strong></td>
</tr>
<tr>
<td></td>
<td>• Very few women produce certified seed, but women receive steep discounts on certified seed</td>
<td>• <strong>Men source the seed, and are responsible for any rituals that must be performed before planting</strong></td>
</tr>
<tr>
<td><strong>Production</strong></td>
<td>• <strong>Provide labor</strong> at almost every stage of the production process: planting, harvesting, crop management</td>
<td>• <strong>Men help with production, but not so much</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Whether at a small-scale or medium-scale, legume processing is largely carried out by women</strong></td>
<td>– Polygamy is widely practiced; women provide a lot of the labor</td>
</tr>
<tr>
<td></td>
<td>– Small-scale: Women are in charge of the whole process, from manually crushing to cooking</td>
<td>• <strong>On-farm, men help with storage, when quantities are large</strong></td>
</tr>
<tr>
<td></td>
<td>– Medium-scale: Women are employed in processing plants to sort and clean legumes</td>
<td>• <strong>At large aggregation sites, there are no women, men do all the heavy-lifting</strong></td>
</tr>
<tr>
<td><strong>Aggregation/Processing</strong></td>
<td>• <strong>Sometimes form selling groups with other women</strong></td>
<td>• <strong>In control of the marketing activities</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>When selling at the market, women sell legumes in smaller quantities</strong> (by the cup, KG or 3KG “Yoruba bowl”)</td>
<td>– The more commercialized a crop is, the more involved men are</td>
</tr>
<tr>
<td></td>
<td>• Often, women are responsible for selling legumes at the market, and <strong>collecting cash on behalf of the head of household</strong></td>
<td>– Where farming is conducted under the contract model, men are the ones who interact with the buyer</td>
</tr>
<tr>
<td></td>
<td>• There are no stigmas attached to buying/selling legumes, whether male or female</td>
<td>• <strong>Decide the quantity that is sold</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>Sell in large quantities</strong> (by the 3KG “Yoruba bowl” or in bags)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>Control all income and how it is spent</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Men sometimes give women a small percentage of the total income as compensation to boost their morale</td>
</tr>
</tbody>
</table>

Source: Field Interviews; Monitor Analysis
Seed research, development and multiplication is primarily conducted by public research institutions; no private sector participants develop seed.

- **Key Players**
  - There is both government and NGO involvement in the research and development of seed
    - Government engagement is largely through public research institute, INERA
      - INERA develops improved cowpea, groundnut and soybean varieties
    - NGOs such as IITA and ICRISAT are also involved in seed research and development
      - IITA and ICRISAT are primarily focused on the development of improved cowpea and groundnut varieties

- **Research Focus and Strategy**
  - Research institutes focus on the development and multiplication of breeder and foundation seeds
  - **Strategic Shift:** In the past, INERA used to only breed for yield improvement. Over the last decade, the institution began to breed:
    - To meet both farmer/consumer preferences and desired agronomic traits
    - Improved varieties from landrace varieties
  - **Variety Release Time:** INERA is trying to shorten variety release time to 3–4 years (from 7–10 years) by combining classical techniques with bio techniques

- **Seed Multiplication**
  - Foundation seed can be purchased directly at the research stations, all of which have on-site stores/storage; major buyers are the government, NGOs, and farmers
  - **Research institutes also provide training and foundation seed** to seed producers, to ensure that seed is properly multiplied into certified seed

Note: 1 INERA- l’institut de l’environnement et de recherches agricoles; 2 IITA-International Institute of Tropical Agriculture; 3 ICRISAT-Crops Research Institute for Semi-Arid Tropics

Only ~5% of farmers use improved legume seeds sourced from the government, private seed suppliers or NGOs; the remainder source seed through informal channels.
Different players across the cowpea value chain have specific preferred traits, however, there is a clear understanding of consumer preferences among all players.

<table>
<thead>
<tr>
<th>Region</th>
<th>Farmers</th>
<th>Commission Agents/Traders/Retailers</th>
<th>Processors</th>
<th>Consumers (Also applies to farmers)</th>
</tr>
</thead>
</table>
| All    | • Large grain size  
• White “beautiful” grain; farmers would feed black cowpeas to animals (~5% of farmers/consumers would consume brown cowpeas)  
• Drought resistance; short cycle  
• Early maturity  
• Pest and disease resistance  
• Higher grain yield  
• Minimal bruchid damage  
• A tradeoff exists between:  
  - Grain size/drought resistance: Drought resistant varieties are typically smaller  
  - Testa thickness/bruchid resistance: Varieties with resistance to bruchid damage typically have thick testa and take a long time to cook  
|          |         |                                     |            | • Short cooking time  
• High water uptake  
• Low oil absorption for whole cowpeas  
• Rises well when in flour form  
• General appearance of dishes prepared from ground cowpeas must be consistent with expectations  
• Sweet taste  |
| North   | • Eye color: Black eye preferred, red/brown not acceptable  
• Texture: Rough texture preferred  |                                       |            | • Moussa local is the most popular cowpea variety, throughout Burkina Faso  
• This variety is favored because it:  
  - Is very white in color  
  - Cooks in a short period of time  
  - Rises well, when ground into flour  
  - Does not absorb as much oil  
• However, yield potential is limited; Moussa local is very susceptible to viruses  |
| South   | • Eye color: Black eye preferred, red/brown acceptable  
• Texture: Smooth texture preferred  |                                       |            |                                      |
Seed research is shifting toward helping farmers meet their preferences through varietal development; cowpea seeds in circulation were released between 1980 and 2010

<table>
<thead>
<tr>
<th>Variety Name</th>
<th>Variety Type</th>
<th>Release Date</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>KVx745-11</td>
<td>Improved</td>
<td>Unknown</td>
<td>Dual purpose variety; used for food and fodder</td>
</tr>
<tr>
<td>KVx 414 22-2</td>
<td>Improved</td>
<td>Unknown</td>
<td>70 day cycle</td>
</tr>
<tr>
<td>KN1</td>
<td>Improved</td>
<td>1980</td>
<td>65–70 day cycle; used for food</td>
</tr>
<tr>
<td>KVx30-309-6G</td>
<td>Improved</td>
<td>1986</td>
<td>70 day cycle</td>
</tr>
<tr>
<td>TVX3236</td>
<td>Improved</td>
<td>1988</td>
<td>66 day cycle</td>
</tr>
<tr>
<td>KVx414-22-72</td>
<td>Improved</td>
<td>1988</td>
<td>70 day cycle</td>
</tr>
<tr>
<td>KVx396-4-5-2D</td>
<td>Improved</td>
<td>1988</td>
<td>70 day cycle; used for food</td>
</tr>
<tr>
<td>KVx396-4-4</td>
<td>Improved</td>
<td>1988</td>
<td>70 day cycle; used for food</td>
</tr>
<tr>
<td>KVx61-1</td>
<td>Improved</td>
<td>1988</td>
<td>70 day cycle; used for food</td>
</tr>
<tr>
<td>KVx404-8-1</td>
<td>Improved</td>
<td>1988</td>
<td>70 day cycle; used for food</td>
</tr>
<tr>
<td>CAR7/180-4-5-1</td>
<td>Improved</td>
<td>1990</td>
<td>70 day cycle; used for food and fodder</td>
</tr>
<tr>
<td>IT1D-994</td>
<td>Improved</td>
<td>1990</td>
<td>85 day cycle; used for food and fodder</td>
</tr>
<tr>
<td>Moussa Local</td>
<td>Landrace</td>
<td>1990</td>
<td>70 day cycle; used for food and fodder</td>
</tr>
<tr>
<td>KVx414-22-2</td>
<td>Improved</td>
<td>1990</td>
<td>70 day cycle</td>
</tr>
<tr>
<td>Gorom Local</td>
<td>Landrace</td>
<td>1999</td>
<td>70 day cycle</td>
</tr>
<tr>
<td>IT98K-205-8</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough; early maturing; &quot;hunger stopper&quot;</td>
</tr>
<tr>
<td>IT99K-573-2-1</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough; early maturing; high yielding</td>
</tr>
<tr>
<td>IT99K-494-6</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough; high yielding</td>
</tr>
<tr>
<td>IT90K-372-1-2</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough; high yielding</td>
</tr>
<tr>
<td>IT00K-1148</td>
<td>Improved</td>
<td>2010</td>
<td>Brown; rough; high yielding</td>
</tr>
<tr>
<td>IT98K-503-1</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough; early maturing; high yielding</td>
</tr>
<tr>
<td>IT93K-452-1</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough; early maturing; high yielding</td>
</tr>
<tr>
<td>IT00K-901-5</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough; early maturing; high yielding</td>
</tr>
<tr>
<td>IT98K-1093-1</td>
<td>Improved</td>
<td>2010</td>
<td>Black; smooth; high yielding</td>
</tr>
<tr>
<td>KVx396-4-5-2D</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough</td>
</tr>
<tr>
<td>KVx421-2J</td>
<td>Improved</td>
<td>2010</td>
<td>Brown; rough</td>
</tr>
<tr>
<td>KVx442-3-25</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough</td>
</tr>
<tr>
<td>KVx771-10</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough</td>
</tr>
<tr>
<td>KVx775-33-2</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough</td>
</tr>
<tr>
<td>Melakh</td>
<td>Improved</td>
<td>2010</td>
<td>White; rough; early maturing</td>
</tr>
</tbody>
</table>

KVx varieties are developed by INERA
IT varieties are developed by IITA
KVx396-4-5-2D and KVx61-1, released in 1988, are highly promoted by the government
Dominant cowpea varieties are: KVx404-8-1, KVx 396-4-5-2D, KVx421-2J, KVx61-1 and Moussa local

Source: INERA Documented Sourced In-country; IITA Documents Sourced In-country; Monitor Analysis; Field Interviews
COWPEA MARKET OVERVIEW

SEED PRODUCTION

Production of foundation and certified seed is up ~30%–50% in response to growing demand; the government subsidizes improved cowpea seeds.

Cowpea Seed Production in Burkina Faso

Breeder/Foundation Seed

- 2002: 3
- 2003: 8
- 2004: 1
- 2005: 3
- 2006: 2
- 2007: 7
- 2008: 14
- 2009: 28

Increase: +31%

Certified Seed

- 2002: 38
- 2003: 14
- 2004: 276
- 2005: 110
- 2006: 361
- 2007: 482
- 2008: 530
- 2009: 280

Increase: +49%

Cowpeas

- 2001: 376
- 2002: 330
- 2003: 457
- 2004: 276
- 2005: 445
- 2006: 436
- 2007: 253
- 2008: 300
- 2009: 325

Decrease: -2%

Cowpea Seed Production vs. Other Crops

- Cowpeas: 93%
- Other: 90%

Note: 1 Other includes: Sorghum, millet, maize, rice, sesame, groundnuts, soybeans
Source: Ministry of Agriculture; INERA Documents Sourced In-country; Field Interviews; Monitor Analysis
Although cowpeas are generally intercropped with cereals — millet, maize and sorghum — monocropped area is growing

Cowpea Monocropping in Burkina Faso

Cowpea Cropping Systems Summary

- Cropping system used in farming cowpeas depends on the risk profile of the output:
  - High risk: When cowpeas are sold into the open market and no buyers are identified before the planting season, farmers intercrop; low yields are acceptable
  - Low risk: When buyers are identified before the planting season, farmers monocrop; production targets must be met

- Cowpeas are mainly intercropped; cowpea intercropping represents 91% of all cropping systems and 96% of land area allotted to cowpeas

- Cowpeas are intercropped with cereals: pearl millet, sorghum and maize
  - South Sudan region: intercropped with sorghum, maize, millet
  - Center Sudan region: intercropped with sorghum and millet
  - North Sahel region: intercropped with millet

- Monocropped area is growing
  - Farmers are beginning to understand the superior yields that can be achieved via monocropping
  - Monocropping is mostly developed in Western Burkina Faso
    - Monocropping can represent up to 30% of overall cowpea production in these regions
    - Monocropping is becoming increasingly popular in the North Sahel region

Source: Ministry of Agriculture, Data from the 2006–2007 Agricultural Campaign; Monitor Analysis; Field Interviews
Cowpea production is volatile and susceptible to drought and pest attacks; current production volumes are in-line with volumes 5 years ago, despite a 40% decline in 2007.

**Cowpea Production in Burkina Faso**

- **Burkina Faso is the third largest producer** of cowpeas globally
  - Virtually all smallholder farmers in Burkina Faso have some volume output of cowpeas
- **Although current cowpea volumes have grown 2% per annum over the last decade:**
  - Year over year production remains very volatile
  - The pattern of growth is not sustained
- **In 2006, production volumes decreased substantially, in-line with other major cowpea-producing countries in West Africa, as a result of:**
  - **Terminal drought**: The Sudano-Sahelian region of West and Central Africa experienced severe drought between 2006 and 2007, reducing production significantly
  - **Pest attacks** occurring during the same period
  - By 2010, levels had fully recovered
- **There is a clear understanding of cowpea market opportunities** among farmers, driving production volumes
  - Farmers are incentivized by increasing market prices for cowpeas
  - Versus 20 years ago when the majority of cowpeas were produced by women, today, closer to 50% of cowpeas are produced by women
    - Given the commercial potential of cowpeas, men are becoming more engaged

Source: Agristat; Annual Agricultural Statistics, Ministry of Agriculture (2011); Field Interviews; Monitor Analysis
COWPEA MARKET OVERVIEW

LAND AREA

Total land under cowpea cultivation is essentially unchanged; on average, cowpea farmers assign approximately one third of their land to cowpea production

Area Allotted to Cowpeas in Burkina Faso

- On average, cowpea farmers assign ~33%–40% of their land to cowpeas
- Current land area allotted to cowpeas is essentially unchanged versus a decade ago
- In 2008, specifically, approximately a third of the land allotted to cowpeas shifted to other crops, likely in response to drought concerns
- ~20 years ago, cowpeas used to be grown primarily by women, on small parcels of land
- This has changed over the last few year, however, as the crop has become more commercialized; more land is allotted to cowpeas

Source: CountrySTAT; Monitor Analysis; Expert Interview; “Valorisation of cowpeas in Burkina Faso”, ISTOM; “Q&A: Burkina Faso Moving Towards Food Security”, IPS International Press Service, 2009; Field Interviews
Burkina Faso has moderate cowpea yields (0.77MT/ha) — half of its maximum potential; closing the yield gap could increase monthly cowpea intake per capita by ~1.0KG

**Cowpea Yield Gap¹:** Burkina Faso vs. Comparables

- **Absolute yields have risen** over the past 25 years
  - Yields are very volatile
- **Yield are significantly limited by on- and off-field pests** (e.g., aphids, bruchids, weevils, pod borer)
- **There is a wide yield disparity in-country**
  - *Low yield scenario (2MT/ha):* Intercropping, production for subsistence, low-input production, recycled seed
  - *High yield scenario (1.5 MT/ha):* Monocropping, high-input production (good soils, fertilizer, high-yielding varieties, use of at least 2 insecticides, limited problem of insect/pod moisture in the North)

**Burkina Faso Potential Cowpea Yield, Production Volume and Nutritional Impact**

<table>
<thead>
<tr>
<th></th>
<th>Yield (MT/ha)</th>
<th>Production (Thousand Metric Tons)</th>
<th>Consumption per Capita/Month (KG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Max</td>
<td>0.8</td>
<td>432</td>
<td>1.1</td>
</tr>
<tr>
<td>South Asia Max</td>
<td>0.9 +15%</td>
<td>497</td>
<td>1.2</td>
</tr>
<tr>
<td>West Africa Max</td>
<td>0.9</td>
<td>597</td>
<td>1.5</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>0.8</td>
<td>838</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Note: ¹ Yield comparison is versus maximum- and minimum-yielding among countries in West Africa, maximum-yielding country in South Asia and the sub-national maximum

Source: FAOSTAT; Monitor Analysis; “Cowpea: Post-Harvest Operations”, FAO, 2004; Field Interviews
Cowpea producer prices are volatile and increase significantly in the off-season; farmers with access to storage can receive better prices

Cowpea Producer Prices in Burkina Faso

<table>
<thead>
<tr>
<th>Year</th>
<th>Price (USD/MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>200</td>
</tr>
<tr>
<td>2004</td>
<td>300</td>
</tr>
<tr>
<td>2009</td>
<td>400</td>
</tr>
</tbody>
</table>

Cowpea Producer Price Summary

- Although cowpea producer prices are volatile, they have increased slightly over the long term
- Cowpea producer prices in Burkina Faso are low relative to other countries in West Africa, driven by sometimes weak demand and limited competition among buyers
- Additionally, Burkina Faso is located further away from its trade partners; when transport costs are factored in, lower prices are offered
- Price movements are positively and heavily correlated within the region, given the extensive regional trade of cowpeas (~45%–70% correlation)
  - Consumers are very sensitive to physically-damaged cowpeas; they discount heavily for any defects
  - Prices vary based on use of (crop-enhancing) inputs, varieties, pest/crop management
- Prices offered by traders vary depending on: size, quality, selling time, transport and storage
  - Size and color are the biggest determinants of prices
- Prices can be 3x as high in the off-season (February–September)
  - The market is flooded with cowpeas before February/during harvest, so prices are lower
  - Higher prices can be expected if farmers are able to store their produce
- There is a clear understanding of cowpea market opportunities among farmers, driving production volumes
  - Farmers are incentivized by increasing market prices for cowpeas

Source: Agristat; “Annual Agricultural Statistics Bulletin”, Ministry of Agriculture, 2011; Field Interviews; Monitor Analysis
COWPEA MARKET OVERVIEW

VALUE CHAIN ECONOMICS

Although cowpeas are very profitable to produce, in the absence of adequate on- and off-field pest control, production volumes can entirely be eroded

Burkina Faso: Sample Cowpea Value Chain Economics

- Farmers are price takers in the cowpea market
- On average, cowpeas are very profitable to farm and are even more profitable if suitable storage exists
  - Where storage is unsuitable, margin can be completely eroded due to pest damage
- Labor accounts for ~60% of total cost; in-line with the West African average
- Farmers in Burkina Faso have limited access to capital, and hardly use (crop-enhancing) inputs. This is evident in the fact that equipment and fertilizer account for the lowest share of all costs

Source: Agristat; Yearly Agricultural Statistics, Ministry of Agriculture (2011); Field Interviews; Monitor Analysis
Domestic demand for cowpeas is strong, driven by their cultural value; cowpeas are used to prepare various traditional dishes

Cowpea Consumption Summary

- Cowpea consumption has grown marginally over the long term
- Although largely commercialized, the importance of cowpeas as a subsistence crop is substantial; cowpeas are valued for their dual purpose as animal feed and human consumption
  - Fulani peoples in the North use cowpea forage as animal feed
- Cowpeas are a major ingredient in the preparation of many traditional dishes, seasonings and homemade weaning food, some local favorites include:
  - Cowpeas plain fried in oil with salt
  - Cowpeas with rice
  - Cowpea-based sauce
  - Cowpeas processed into samsa fritters or denuoke dumplings
  - There are more than 20 other traditional dishes that have cowpeas as the major ingredient; most dishes have cowpea grain and cowpea leaves

Rural Consumption
- Average rural consumption is estimated at 11 KG/capita/year

Urban Consumption
- Average urban cowpea consumption is estimated at 7 KG/capita/year
- In cities, it is becoming more and more fashionable to cook cowpea-based traditional dishes and showcase them (at weddings and conferences, for example)

Note: 1 Aggregate consumption data estimated based on consumption patterns per capita in rural and urban areas and findings in-country

Source: FAOSTAT; Expert Interview; Monitor Analysis; Field Interviews
**COWPEA MARKET OVERVIEW**

**MAJOR BUYERS**

The cowpea market is mostly fragmented and comprised of small-scale buyers. SONAGESS and WFP are the largest buyers, purchasing for food security and school feeding programs.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Description of Entity</th>
<th>Sourcing</th>
<th>Volumes</th>
<th>End-User</th>
</tr>
</thead>
</table>
| SONAGESS | • SONAGESS is the government-owned food security company. SONAGESS:  
  - Does not provide subsidies to schools or other public entities  
  - Has been supplying cowpeas to school feeding programs in Burkina Faso since 2010; schools have the option of purchasing directly from farmers or traders  
  - Supplies locally-grown crops to other public entities (e.g., prisons, military)  
  - Manages the national food security stock | • SONAGESS sources directly from smallholder farmers throughout Burkina Faso  
  • Volume depends on budget awarded to each school by the Ministry of Education  
  • SONAGESS sources volumes based on demand | • 2011: 9,000 metric tons; ~1%–3% of total cowpea production  
  • 2010: 11,000 metric tons; ~3% of total cowpea production | • School feeding programs |
| World Food Program (P4P) | • Largest humanitarian agency fighting hunger  
  • Purchase for Progress (P4P) Program assists farmers in all facets related to accessing markets | • Relationships with 31,000 farmers over 5 years  
  • Provides extension services to farmers | • 2010: 5,761MT; ~1% of total cowpea production  
  - 1,427MT consumed locally | • Food aid provided domestically and regionally |

Source: WFP website, “Report on Food Security in Burkina Faso”, Dutch Ministry of Foreign Affairs, 2006; Monitor Analysis; Field Interviews
Burkina Faso’s primary cowpea trade partners are its regional neighbors. The direction of trade and volumes are opportunistic in nature; no formal long-term trade relationships are established.

- Although no official figures are available for trade in cowpeas, Burkina Faso participates in regional trade, largely within the West African hub.
  - Trade is informal, opportunistic and dynamic;
- Burkina Faso is a net exporter of cowpeas; net exports could account for as much as 50% of production;
  - Plausible considering informal trade and cowpea movement with mixed goods;
  - Even the remotest villages that are food insecure export to regional markets;
  - The distribution of export volumes is unknown;
- Cowpeas are exported to Nigeria, Togo, Ivory Coast, Ghana, Mali and Benin and imported from Niger:
  - Imports from Niger are not significant;
  - The majority of volumes are channelled to Nigeria via Benin, Ghana, Niger and Togo;
    - In 2011, the Burkinabe government evaluated ways in which to strengthen this relationship with and increase exports to Nigeria;
  - Burkina Faso also accounts for a significant proportion of Ghana and Togo’s imports;
    - Ghana will likely account for a larger proportion of Burkina Faso’s exports going forward.

AGENDA

- Country Background
- Legume Market Overview
- Cowpea Market Overview
- Groundnut Market Overview
- Soybean Market Overview
- Key Barriers and Potential Interventions
## Groundnut Market Overview

### Preferred Traits

Groundnut preferences are related to usage. Traits differ between processing and raw consumption.

<table>
<thead>
<tr>
<th>Farmer</th>
<th>Commission Agents/Traders</th>
<th>Processors</th>
<th>Retailers</th>
<th>Consumers (Also applies to farmers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Shape: Grain must be uniformly shaped and round, not long</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Size: Grain must large enough (to fill the shell); skin must be tight, not shriveled</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Color (deshelled): Light maroon/pink skin, with white/cream interior ('striped' skin or interior are acceptable; grey grain is unacceptable and indicates rotting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Color (in shell): Beigish shell with rough texture; grey/black grain is unacceptable and indicates rotting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• High yields</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Drought-resistant/early-maturing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Storability of fodder</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cleanliness of grain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Pest- and disease-free</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Smaller grains (or processing into oil; smaller grains have higher oil content)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Higher oil content (for processing into oil)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Higher shelling percentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- A tradeoff exists between:
  - *Shell thickness/pest-/disease-resistance*: Pest- and disease-resistant varieties typically have thicker shells, adding the labor effort and time required to deshell groundnuts

- • Palatability

- • Smaller grains (or processing into oil; smaller grains have higher oil content)
- • Higher oil content (for processing into oil)
- • Higher shelling percentage

- • Clean, clear color (for oil)

- • Unlike cowpeas, groundnut consumer preferences are not highly specific
- • The most important traits along the value chain are:
  - Size (and oil content, by extrapolation)
  - Shape (food presentation is very important in Burkina Faso)

Source: Field Interviews; Monitor Analysis
The majority of improved groundnut varieties were released over two decades ago and were bred for early maturity

<table>
<thead>
<tr>
<th>Variety Name</th>
<th>Variety Type</th>
<th>Release Date</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SH470P</td>
<td>Improved</td>
<td>1963/74</td>
<td>Early maturity (90 day cycle); used for food</td>
</tr>
<tr>
<td>RMP12</td>
<td>Improved</td>
<td>1963/74</td>
<td>Late maturity (135–150 day cycle); used for food</td>
</tr>
<tr>
<td>RMP91</td>
<td>Improved</td>
<td>1963/74</td>
<td>Late maturity (135–150 day cycle); used for food</td>
</tr>
<tr>
<td>69101</td>
<td>Improved</td>
<td>1963/74</td>
<td>Medium duration (125 day cycle); used for food</td>
</tr>
<tr>
<td>59426</td>
<td>Improved</td>
<td>1963/74</td>
<td>Medium duration (120 day cycle); used for food</td>
</tr>
<tr>
<td>38-1-7</td>
<td>Improved</td>
<td>1963/74</td>
<td>90-100 day cycle; used for food</td>
</tr>
<tr>
<td>KH241D</td>
<td>Improved</td>
<td>Before 1988</td>
<td>Early maturity (90 day cycle); used for food</td>
</tr>
<tr>
<td>KH 149 A</td>
<td>Improved</td>
<td>Before 1988</td>
<td>Early maturity (90 day cycle); used for food</td>
</tr>
<tr>
<td>TE3</td>
<td>Improved</td>
<td>Before 1988</td>
<td>Early maturity</td>
</tr>
<tr>
<td>TS321</td>
<td>Improved</td>
<td>Before 1988</td>
<td>Early maturity</td>
</tr>
<tr>
<td>90 Saria</td>
<td>Improved</td>
<td>Before 1988</td>
<td>Early maturity</td>
</tr>
<tr>
<td>CN14</td>
<td>Improved</td>
<td>Before 1988</td>
<td>Early maturity</td>
</tr>
<tr>
<td>QH243C</td>
<td>Improved</td>
<td>Before 1988</td>
<td>Unknown</td>
</tr>
<tr>
<td>ICG E(104)</td>
<td>Improved</td>
<td>1990</td>
<td>Early maturity (75-80 day cycle); used for food</td>
</tr>
<tr>
<td>CN94-C</td>
<td>Improved</td>
<td>Before 1994/95</td>
<td>Early maturity (90 day cycle); used for food</td>
</tr>
<tr>
<td>KH10049A</td>
<td>Improved</td>
<td>Before 1994/95</td>
<td>Early maturity (90 day cycle); used for food</td>
</tr>
</tbody>
</table>

Dominant groundnut varieties include 59426, 69101, RMP12, CN94-C, TS321, QH243C, TE3, and ICG E(104)

**GROUNDNUT MARKET OVERVIEW**

**SEED PRODUCTION**

Although groundnut seed production is increasing, absolute volumes are low and groundnuts represent only ~3% of total seed production.

**Groundnut Seed Production in Burkina Faso**

- **Breeder/Foundation Seed**
  - 2001: 1
  - 2002: 1
  - 2003: 0
  - 2004: 2
  - 2005: 10
  - 2006: 1
  
- **Certified Seed**
  - 2001: 9
  - 2002: 3
  - 2003: 28
  - 2004: 15
  - 2005: 257
  - 2006: 121
  - 2007: 90
  - 2008: 144
  - 2009: 250

- **Groundnuts**
  - 2001: 301
  - 2002: 324
  - 2003: 358
  - 2004: 245
  - 2005: 221
  - 2006: 215
  - 2007: 245
  - 2008: 346
  - 2009: 331

**Groundnut Seed Production vs. Other Crops**

- **Foundation Seed**
  - 2001: 97%
  - 2002: 97%
  - 2003: 97%
  - 2004: 97%
  - 2005: 97%
  - 2006: 97%

- **Certified Seed**
  - 2001: 3%
  - 2002: 3%
  - 2003: 3%
  - 2004: 3%
  - 2005: 3%
  - 2006: 3%

Note: 1 Other includes: Sorghum, millet, maize, rice, sesame, cowpeas, soybeans
Source: Ministry of Agriculture; INERA Documents Sourced In-country; Field Interviews; Monitor Analysis.
Groundnuts are mostly monocropped with hibiscus, cereals or other legumes; fertilizer use is low, and farmers primarily produce in the rainy season.

- **Cropping Systems**
  - **Groundnuts are mostly monocropped**
    - Where groundnuts are intercropped, they are usually paired with:
      - Hibiscus
      - Cereals (maize, pearl millet, sorghum)
      - Other legumes (soybeans)

- **Input Conditions**
  - **Fertilizer**
    - Only ~5%–10% of farmers use chemical fertilizer (NPK, Urea) or manure
      - Some fertilizer is imported from Ghana
      - The government sells slightly subsidized fertilizer to large producers
  - **Weather/climate/water**
    - Groundnut production varies by season:
      - 70% of farmers **produce groundnuts in the rainy season** (June–October)
      - The remainder do not produce groundnuts in the rainy season

Source: “Cropping systems in the Sudano-sahelian zone: Implications on soil fertility management”, Bationo et al, 2004; Field Interviews; Monitor Analysis
Groundnut production has essentially been flat over the last decade, with steep drought-driven declines in the mid-2000s.

Groundnut Production in Burkina Faso

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (Thousand Metric Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>301</td>
</tr>
<tr>
<td>2002</td>
<td>324</td>
</tr>
<tr>
<td>2003</td>
<td>358</td>
</tr>
<tr>
<td>2004</td>
<td>245</td>
</tr>
<tr>
<td>2005</td>
<td>221</td>
</tr>
<tr>
<td>2006</td>
<td>215</td>
</tr>
<tr>
<td>2007</td>
<td>245</td>
</tr>
<tr>
<td>2008</td>
<td>346</td>
</tr>
<tr>
<td>2009</td>
<td>331</td>
</tr>
<tr>
<td>2010</td>
<td>340</td>
</tr>
</tbody>
</table>

Groundnut Production Summary

- Similar to other legumes, groundnut production is volatile
  - Production volumes vary around ~300K metric tons
- Over the last decade, groundnut production has grown ~1% per annum, driven by growing regional demand for groundnuts
  - The government also provides technical assistance in areas like Pobe-Mengao, and production has benefited from this
  - Extreme slump in 2004 as a result of drought
  - By 2008, production levels had fully recovered
- Women are heavily engaged in groundnut farming; they account for as much as 60% of total production
- Groundnuts are mainly produced in the South, in villages like Niangoloko and Garanga

Source: CountrySTAT; Field Interviews; Monitor Analysis
LAND AREA

Land allotted to groundnuts has increased slightly, in response to growing import demand from regional neighbors; groundnuts are allotted more land on small farms versus large farms.

Land Area Allotted to Groundnuts in Burkina Faso

- Groundnuts are grown in the Southern regions of Burkina Faso
  - South East: Land pressure
  - South West: No land pressure

Land Area Allotted to Groundnuts vs. Other Crops, by Farm Size

- In the Bissa tribe, women are given small parcels of land by their husbands when they get married, on which they must grow groundnuts, and other crops
- However, among other tribes and in other areas, **women still do not have access to land**

Source: CountrySTAT; FAOSTAT
Burkina Faso has modest groundnut yields (0.7 MT/ha) — half of its maximum potential; closing the yield gap could increase monthly groundnut intake per capita by ~2.0KG

**Groundnut Yield Gap**: Burkina Faso vs. Comparables

- Yields between 0.5 MT/ha and 1 MT/ha over the last 25 years; 0.7 MT/ha most recently
  - Yields are very volatile
- Pre- and post-harvest pest damage reduces yields
- Irrigation significantly increases yields
- In-country, there is a wide yield disparity by state:
  - Highest: Seno State (1.3 MT/ha)
  - Lowest: Leraba State (0.58 MT/ha)

---

**Burkina Faso Potential Groundnut Yield, Production Volume and Nutritional Impact**

- **Yield (MT/ha)**
  - South Asia Max: 1.6
  - West Africa Max: 1.5
  - Local Max: 1.3
  - Burkina Faso: 0.7 (+78%)

- **Production (Thousand Metric Tons)**
  - South Asia: 768
  - West Africa: 725
  - Local Max: 606
  - Burkina Faso: 340

- **Consumption per Capita/Month (KG)**
  - South Asia: 3.4
  - West Africa: 3.2
  - Local Max: 2.7
  - Burkina Faso: 1.5

Note: 1 Yield comparison is versus maximum- and minimum-yielding among countries in West Africa, maximum-yielding country in South Asia and the sub-national maximum. Source: FAOSTAT; Monitor Analysis; “Genetic Resistance a Key to Controlling Aflatoxin”, USDA; “Groundnut post-harvest operations”, FAO, 2002; Field Interviews
Most recently, groundnut producer prices have almost tripled, given significant drought deficit from a year ago.

- Groundnut prices in Burkina Faso are low relative to other countries in West Africa, driven by limited competition among buyers.
- Groundnut producer prices have increased slightly over the last decade.
  - Prices offered by traders vary depending on: size, shape, color, cleanliness of grain, absence of pest- and disease-damage, transport and storage.
  - Most recently, prices have increased significantly:
    - 2010: Groundnuts were priced at ~USD 0.50/KG
    - 2011: Groundnuts were priced at ~USD 1.20/KG; increase due to drought deficit.

While groundnut producers earn high margins — ~70% profit is made on groundnut production — processor margins are thin

**Burkina Faso: Sample Groundnut Value Chain Economics**

- **Producer Price**: 100%
- **Margin**: 68%
- **Processor Revenues**: 100%
- **Equipment**: 5%
- **Labor**: 13%
- **Draught Animals**: 9%
- **Fertilizer**: 2%
- **Seed**: 4%

**Burkina Faso: Sample Groundnut Value Chain Economics (Basic Oil Processing)**

- **Producer Price**: 74%
- **Producer Margin**: 50%
- **Draught Animals**: 6%
- **Fertilizer**: 1%
- **Seed**: 3%
- **Equipment**: 4%
- **Labor**: 10%

**Processor Revenues**: 100%
- **Processing Costs**: 74%
- **Processor Margin**: 23%
- **Processor Revenues**: 100%

Source: Field Interviews; Monitor Analysis
Consumption of groundnuts in Burkina Faso is increasing, driven by growing demand for groundnut cake.

**Groundnut Consumption**

- **CAGR ('01–'10)**
  - Feed: 15%
  - Direct/Primary: 3%
  - Processing: 2%

- **2001**
  - Direct/Primary: 32%
  - Processing: 58%
  - Feed: 10%

- **2010E**
  - Direct/Primary: 36%
  - Processing: 60%
  - Feed: 4%

**Groundnut Consumption Summary**

- **Relative to other legumes, groundnuts have a diverse demand structure**; they are consumed in the direct/processed form and their forage is used as animal feed.
- **Groundnuts are most consumed in the Southern and Eastern regions**.
- **Groundnuts are heavily consumed among the Bissa tribe**
  - The Bissa tribe is reputed “the groundnut people”, known for its high consumption of groundnuts. The Bissa have several traditions linked to groundnuts, they:
    - Offer fresh groundnuts with water to visitors
    - Host a groundnut festival every year
  - Given their cultural value, when building new homes, a handful of groundnuts is often added to the foundation, as a symbol of the importance of the crop
  - Groundnuts are eaten every day, in the form of one of several traditional dishes which have groundnut paste as a core ingredient. Local favorites include:
    - *Groundnut zoom-koom*: a beverage made out of millet flour, fortified with groundnut powder
    - *Groundnut couscous*: a mixture of millet flour and groundnut powder that is steamed and eaten with oil or sauce
    - *Groundnut broth*: Hibiscus/cowpea/other leaves and groundnut powder

Source: FAOSTAT; Monitor Analysis; “Burkina Faso: Summary of DTIS (November 2007) Concerning Commodity Development”, UNDP; “Camille strikes while the paste is hot”, IFDC; Expert Interview; Field Interviews.
Groundnuts are the most processed legume in Burkina Faso, despite this, processing remains basic and is primarily conducted at a small scale.

**Stages of Basic/Farm- or Village-level Groundnut Processing**

- **Basic Groundnuts**
  - Roasted with/without shell
  - Boiled, in salt, with shell

- **Groundnut Powder/Peanut Butter**
  - Groundnuts crushed into peanut butter manually or with traditional tool
  - Groundnuts crushed at community crusher
  - Ingredient in sauce, soup, paste, cake, chips, salted/sweet biscuits

- **Groundnut Oil**
  - Water added to peanut butter, stirred into hard ball
  - Kneaded when greyish in color; oil will start flowing

- **Groundnut Rings**
  - Rings are residue from kneading
  - Remaining oil is released when rings are cooked

- **Soap**
  - Oil may be used to produce soap

**Processing accounts for close to 60% of all uses**
- In large groundnut growing areas, processing can account for up to 75% of total use

**The majority of processing is basic and occurs at the farm level**
- Small-scale processing is mainly conducted by women, who sell their produce at the local market

**Medium-scale processing is mostly oriented towards exports**; while groundnut cake produced in Burkina Faso is sold locally, groundnut oil produced locally is not sold locally
- The existence of substitutes like cotton seed oil and soybean oil — which are less costly — limits large-scale groundnut oil processing for the domestic market
  - SN Citec, a major food processing company, stopped processing groundnuts a few years ago to turn to cotton oil

**Source:** Field Interviews; Monitor Analysis
GROUNDNUT MARKET OVERVIEW

MAJOR BUYERS

A few large buyers exist; those engaged in formal global trade primarily purchase small groundnut volumes from the Southern regions of Burkina Faso for export to Europe.

Overview of Identified Legume Buyers in Burkina Faso

<table>
<thead>
<tr>
<th>Entity</th>
<th>Description of Entity</th>
<th>Sourcing System</th>
<th>Volumes</th>
<th>Customer/End-User</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRIFASO</td>
<td>Produces unrefined, filtered, cold-pressed groundnut oil</td>
<td>Buys deshelled groundnuts from grower groups and SHFs</td>
<td>~100 metric tons of groundnut oil/year</td>
<td>Exports groundnuts and groundnut oil to cosmetic industry in Europe (mainly Germany and the Netherlands)</td>
</tr>
<tr>
<td></td>
<td>– Groundnut oil is refined by the buyer</td>
<td>Provides equipment (deshellers)</td>
<td>~100 metric tons of groundnut cake/year</td>
<td>Used in the manufacturing of products such as Dr. Hauschka’s Skincare products and Weleda products</td>
</tr>
<tr>
<td></td>
<td>– Sometimes exports raw groundnuts, depending on the buyer’s requests</td>
<td>Provides extension services to farmers</td>
<td>~66% (200 metric tons) unused processing capacity</td>
<td>Groundnut cake is sold into local animal feed industry</td>
</tr>
<tr>
<td></td>
<td>– Favors groundnut varieties that are suitable for oil production</td>
<td>– Farmer education on cultivation, post-harvest handling (e.g., drying, shelling and sorting)</td>
<td>Up to 500 metric tons identified groundnut oil demand</td>
<td>Exploring opportunities to sell groundnut oil locally, given aflatoxin issues</td>
</tr>
</tbody>
</table>

| Agro-Burkina | Bobo-Dioulasso-based company sourcing shelled groundnuts of two varieties for exports: | Sources directly from smallholder farmers | 100 metric tons of shelled groundnuts per year; representing less than 0.5% of overall groundnut production | Exports shelled groundnuts to European markets (France, Spain, Belgium) |
|              | – Variety 1: 2 seeds in a shell | Uses contract farming model. Provides: | | – Exports are mainly directed towards African (immigrant) communities in these markets |
|              | – Variety 2: 3 grains in a shell | – Financial support for seed purchases | | – Surprisingly, the company did not cite aflatoxin as a concern |
|              | Groundnuts are organic (no fertilizer, chemical or phito-sanitary treatment) | – Technical assistance | | |

Source: Monitor Analysis; Field Interviews
Burkina Faso is a net exporter of groundnuts and a net importer of groundnut oil and cake.

Official Trade: Groundnuts and Derivative Products

<table>
<thead>
<tr>
<th>Groundnuts</th>
<th>Groundnut Oil</th>
<th>Groundnut Cake</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,931</td>
<td>17</td>
<td>-51</td>
</tr>
<tr>
<td>-362</td>
<td>-110</td>
<td></td>
</tr>
</tbody>
</table>

Groundnut Trade Summary

- Similar to cowpeas, Burkina Faso’s groundnut trade is largely informal, opportunistic and dynamic; while directionally correct, official data does not fully capture volume movement.

Groundnuts

- Burkina Faso is a net exporter of groundnuts.
- Exports are mostly channeled to regional neighbors: main trade partners are Ghana (imports for human consumption), Ivory Coast (imports for animal feed), Mali, Niger and Togo; officially, Burkina Faso also imports low volumes from these countries.
- Outside of West Africa, groundnut export potential is limited by high aflatoxin levels.
  - Although aflatoxin standards do not limit groundnut trade within West Africa, they represent a constraint for the European and North American markets.

Groundnut Oil

- Burkina Faso is a net importer of groundnut oil.
- Groundnut oil is imported from Asian countries (Malaysia, China, Singapore), as well as France.
- Low volumes are sent to European countries, primarily Germany and the Netherlands.
  - Groundnut oil is imported for use in the cosmetic industry.
  - Volumes to these countries are exported by Agrifaso.

Groundnut Cake

- Low volumes imported from Ivory Coast and Mali.

Note: 1 Trade volumes based on a 5-year average 2007–2011.
Source: ITC Trade Maps; Monitor Analysis; Field Interviews.
SOYBEAN MARKET OVERVIEW

SEED PRODUCTION & VARIETIES

Although improved soybean seed production is growing, only a few types of varieties are in circulation and they were all released in the ‘70s.

Soybean Seed Production in Burkina Faso

<table>
<thead>
<tr>
<th>Year</th>
<th>Breeder/Foundation Seed (Metric Tons)</th>
<th>Certified Seed (Metric Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>2002</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>2003</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>2004</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>2005</td>
<td>10</td>
<td>98</td>
</tr>
<tr>
<td>2006</td>
<td>4</td>
<td>114</td>
</tr>
<tr>
<td>2007</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>2008</td>
<td>82</td>
<td>82</td>
</tr>
<tr>
<td>2009</td>
<td>86</td>
<td>86</td>
</tr>
</tbody>
</table>

Soybean Seed Production vs. Other Crops

<table>
<thead>
<tr>
<th>Year</th>
<th>Soybeans</th>
<th>Other¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2002</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>2003</td>
<td>6</td>
<td>112</td>
</tr>
<tr>
<td>2004</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>2005</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>2006</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>2007</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>2008</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Soybean Varieties Grown in Burkina Faso

<table>
<thead>
<tr>
<th>Variety Name</th>
<th>G.38</th>
<th>G.121</th>
<th>G.115</th>
<th>G.196</th>
<th>G.197</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variety Type</td>
<td>Improved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release Date</td>
<td>1970s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attributes</td>
<td>90 day cycle; used for food</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Other includes: Sorghum, millet, maize, rice, sesame, groundnuts, cowpeas
Source: Ministry of Agriculture; INERA Documents Sourced In-country; Field Interviews; Monitor Analysis.
SOYBEAN MARKET OVERVIEW

PRODUCTION OVERVIEW

Absolute production volumes remain low but soybean production has grown at a CAGR of ~20% over the last decade

Soybean Production in Burkina Faso

<table>
<thead>
<tr>
<th>Year</th>
<th>Soybean Production (Thousand Metric Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>4</td>
</tr>
<tr>
<td>2002</td>
<td>3</td>
</tr>
<tr>
<td>2003</td>
<td>2</td>
</tr>
<tr>
<td>2004</td>
<td>6</td>
</tr>
<tr>
<td>2005</td>
<td>7</td>
</tr>
<tr>
<td>2006</td>
<td>6</td>
</tr>
<tr>
<td>2007</td>
<td>6</td>
</tr>
<tr>
<td>2008</td>
<td>29</td>
</tr>
<tr>
<td>2009</td>
<td>16</td>
</tr>
<tr>
<td>2010</td>
<td>22</td>
</tr>
</tbody>
</table>

Soybean Production Summary

- Soybeans are mainly grown under intercropping. They are intercropped with cereals: pearl millet, sorghum, and maize.
- Soybeans are primarily introduced to farmers by processors and are mainly grown through contract farming arrangements, by smallholder farmers.
- Production growth has primarily been driven by larger tracts of land allotted to soybeans.
- Some farmers are abandoning cotton farming, and soy is one of the replacements. Soybeans present the following value proposition:
  - Low-input production; no fertilizer required
  - Nitrogen-fixation in soil
  - Soybean cake has higher digestible protein content than cotton seed cake (34% vs. 24%); as a result, a cow fed soybean cake can produce 4x more milk
  - Soybeans unlike cotton can be consumed by the farmers; soybeans are a source of revenues and a source of subsistence
  - Rising prices

Source: CountrySTAT; Field Interviews; Monitor Analysis
SOYBEAN MARKET OVERVIEW

LAND AREA

The growth in production is driven by expansion in land area to cater to guaranteed demand from processors.

Area Allotted to Soybeans in Burkina Faso

- Land area allotted to soybeans has tripled over the last 5 years.
- Although growing, current land allotted to soybeans is very low (~<1ha/SHF), given:
  - Limited awareness around the commercial potential and nutritional benefits of the crop.
  - Perceived risks of farming soybeans; unless a farmer is provided with seed input, she will likely not grow soybeans.
- Only 6 regions in Burkina Faso — in the South, South West and East of the country — have significant potential in terms of soybean production. These regions have relatively better:
  - Climate and rainfall conditions; soybean cultivation requires at least 500mm of rain.
  - Soil fertility.

Source: CountrySTAT; “Soy Value Chain Study” Swiss Cooperation Agency (2009); Monitor Analysis; Field Interviews.
SOYBEAN MARKET OVERVIEW

YIELDS

Burkina Faso has relatively high average soybean yields (1.3 MT/ha) and local maximum yields (3.0 MT/ha); closing the yield gap would increase monthly soybean intake per capita to ~250g

Soybean Yield Gap\(^1\): Burkina Faso vs. Comparables

- Yields between 0.5 MT/ha and 3 MT/ha over the last 25 years; 1.3 MT/ha most recently
- In-country, there is a wide yield disparity by state:
  - Highest: Sissili State (3.0 MT/ha)
    - Climatic conditions in Sissili are highly favorable for soy production. Additionally, soybean production in Sissili is structured by the CIDR (International Development and Research Center) through its ESOP\(^2\) program, which provides access to improved seed and technical assistance
  - Lowest: Segou State (0.5 MT/ha)

### Burkina Faso Potential Soybean Yield, Production Volume and Nutritional Impact

<table>
<thead>
<tr>
<th>Yield (MT/ha)</th>
<th>Production (Thousand Metric Tons)</th>
<th>Consumption per Capita/Month (grams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Max</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Asia Max</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Africa Max</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burkina Faso</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>1.7</td>
<td>257</td>
</tr>
<tr>
<td>1.4</td>
<td>30</td>
<td>146</td>
</tr>
<tr>
<td>1.7</td>
<td>25</td>
<td>120</td>
</tr>
<tr>
<td>3.0</td>
<td>53</td>
<td>257</td>
</tr>
</tbody>
</table>

Note: \(^1\) Yield comparison is versus maximum- and minimum-yielding among countries in West Africa, maximum-yielding country in South Asia and the sub-national maximum;

\(^2\) ESOP stands for Entreprise de Services et Organisations de Producteurs (Services Company and Producer Organizations) — Producer organizations promoting access to market for SHFs (in Burkina Faso, Togo, and other countries in West Africa)

Source: FAOSTAT; Monitor Analysis; Field Interviews
Soybean prices have risen in the long term and farmers’ margins are healthy

- Soybean prices in Burkina Faso are low relative to Nigeria, driven by limited competition among buyers
- Soybean producer prices have increased slightly over the last decade
  - Prices offered are not based on highly specific desired traits; soybean buyers are not as sophisticated as groundnut/cowpea buyers

Burkina Faso: Sample Soybean Value Chain Economics

Source: Expert Interview; Monitor Analysis; Field Interviews; FAOSTAT
SOYBEAN MARKET OVERVIEW

CONSUMPTION

Absolute soybean consumption levels are low, but consumption is increasing rapidly given soy’s attractive value proposition for both human consumption and animal feed

Consumption of Soybeans

<table>
<thead>
<tr>
<th>Year</th>
<th>Direct/Primary</th>
<th>Feed</th>
<th>Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>15%</td>
<td>5%</td>
<td>80%</td>
</tr>
<tr>
<td>2010E</td>
<td>22%</td>
<td>92%</td>
<td>27%</td>
</tr>
</tbody>
</table>

CAGR (‘01–’10)

<table>
<thead>
<tr>
<th>Year</th>
<th>CAGR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>22.4</td>
</tr>
<tr>
<td>2010E</td>
<td>8%</td>
</tr>
</tbody>
</table>

Soybean Consumption Summary

- Given the limited knowledge around soybeans, consumer/farmer preferences are unknown/very broad
  - When asked about attributes required, interviewees in-country responded “soy is soy”
- Soybeans are used for both human consumption (processed and unprocessed) and animal feed in Burkina Faso

Basic Processing

- The cultural value of soybeans is related to their use in traditional dishes:
  - Soumbala: A condiment that is added to almost every sauce; it is more essential than salt and is as important as soy sauce is in East Asia. Soumbala is made from locust tree beans, but given the diminishing availability of these beans women now use soybeans as a substitute, and the soumbala tastes exactly the same
  - Barbecue “Meat”: Soybeans are also processed, using traditional techniques, into barbecue “meat”; a local meat substitute

Medium-scale Processing

- Animal Feed: Represents ~5% of consumption, with volumes primarily directed to the growing poultry industry
- Soybean Oil: Represents ~1% of consumption, but has the potential to increase given the relatively attractive pricing (~20% discount) of soybean oil vs. alternatives

Note: Processing includes soybean oil, soumbala and barbecue meat
Source: FAOSTAT; Monitor Analysis; http://www.aurovillage.org/Actionfair-en.htm; “Soy in West Africa”, Michael Martin, 2009; Expert Interview; Field Interviews
Although the market for soybeans is organized by processors and soybean production occurs under contract-farming, no large buyers are identified.

**Untapped Demand for Soybeans**

- **Current Demand**: 22 (Thousand Metric Tons)
- **Untapped Demand**: 56
- **Potential Consumption**: 78

- There is a lack of understanding of consumer preferences with respect to processed soy products, and there have been failed attempts at meeting consumer needs:
  - Soymilk processing was attempted and failed; the milk had a “nutty” taste that consumers did not like
  - Soy-fortified bread was also attempted, but likely failed
    - Farmers in Garanga stated that buyers/processors who had purchased soybeans for this purpose in 2010, never came back in 2011; after the test-phase of their product
  - Processors who are able to obtain a clearer understanding of consumer preferences with respect to processed soy products can **tap into current unmet demand**

**Overview of Identified Soybean Buyers in Burkina Faso**

<table>
<thead>
<tr>
<th>Entity</th>
<th>Description of Entity</th>
<th>Sourcing</th>
<th>End-User</th>
</tr>
</thead>
</table>
| The MISOLA network         | - West African network of processing companies  
                            - Specialized in baby-food production  
                            - Using millet, soybeans and groundnuts to produce high protein baby-food  
                            - Small processing plants managed by women in local villages | - Processors purchase directly from smallholder farmers | - Domestic baby-food industry |

Note: ¹ Untapped demand for processed soy products: animal feed, soybean oil and soymilk
Source: MISOLA; Monitor Analysis; Field Interviews
SOYBEAN MARKET OVERVIEW

TRADE

Burkina Faso is a net exporter of soybeans, and — given the absence of an advanced processing industry — a net importer of soybean oil and cake

Official Trade: Soybeans & Derivative Products¹

Soybean Trade Summary

- Similar to cowpeas and groundnuts, Burkina Faso's soybean trade is largely informal, opportunistic and dynamic; while directionally correct, official data does not fully capture volume movement

- **Soybeans**
  - Burkina Faso is a net exporter of soybeans
  - Volumes are mainly channeled to Ghana and Togo
  - Some volumes are sent to Ivory Coast and Senegal

- **Soybean oil**
  - Burkina Faso is a net importer of soybean oil
  - Soybean oil is imported from Malaysia, France, Morocco and Singapore

- **Soybean cake**
  - Burkina Faso is a net importer of soybean cake
  - Soybean cake is mainly imported from Benin and Belgium

Note: ¹ Trade volumes based on a 5-year average 2007–2011
Source: ITC Trade Maps; CountrySTAT; Monitor Analysis; Field Interviews