Market Opportunities for Poultry Investments in Burkina Faso and Mali

Final Report

July 9, 2010
The primary objective of the Bill and Melinda Gates Foundation (BMGF) is to identify and analyze viable market-led business models that will present opportunities for sustainable economic growth for households living on less than $2 per day in the rural areas of Burkina Faso and Mali.
Executive Summary

Desired Outcomes

Identify potential interventions, business models, and value chain actors that will be the vehicles for these interventions.

Quantify the likely impact of each of the interventions, and recommend to BMGF the areas in each country where investments will have the greatest impact, either directly or through multiplier effects (such as replicable business models).

Identify key leverage points in the value chain where BMGF investment could have exponential impact.
Executive Summary

Summary Findings

1. High rates of population growth and urbanization will increase demand for poultry meat in 2020. Projections call for an additional 4,500t of poultry meat to satisfy consumption in the peri-urban and urban areas of each country, as well as additional 500t for export of each country to Cote d’Ivoire if trade regulations permit.

2. Traditional poultry has a special niche market in both countries, and demand in peri-urban and urban areas is high, even though the meat is more expensive than broiler, beef, goat and sheep meat. This creates an opportunity for 25,000 traditional poultry farmers per country to improve their production system and significantly increase productivity (10 fold), generating an additional income of $1.3-1.5 per day.

3. Egg consumption is low, and the modern egg farms are increasing in number or capacity to cost effectively meet domestic consumption requirements.

4. A number of poultry markets throughout both countries are linked by collectors and transporters of live poultry. The distribution system is low cost and effective, though stress and mortality can be high during the hot season.

5. There are no modern processing facilities either country at the present time. Public slaughter on the ground around markets or at home currently prevail. Poor food hygiene and threats to human health are present. As the consumer market matures, improvement in slaughter conditions will change.

6. The main poultry production areas are Boucle de Mouhoun and Hauts-Bassins in Burkina Faso, and the Sikasso and Koulikoro Regions in Mali. A network of all-weather roads link markets in the regions. Supplies of inputs, e.g. maize and fish meal, move easily from production to deficit markets.

7. Hauts-Bassins and Sikasso Region are the major maize growing areas, and they hold the potential to play a major role in both feed and poultry production. The region can access Cote d’Ivoire’s market for live poultry. Though the border is officially closed because of AI, poultry is still informally being shipped to Abidjan. Once officially opened again, up to one million birds annually can again be exported from both countries.
Executive Summary

Potential BGMF Strategies

1. Improve animal health and production to increase productivity of family poultry production systems by:
   a) Linking groups of family poultry farmers to sustainable private animal health and production advise services through business service contracts
   b) Providing access to funds for groups of family poultry farmers, so they can invest in improved housing, equipment and feed

2. As a pilot, increase productivity of poultry for some farmers who effectively manage larger flock sizes through improved genetics, e.g. cross-bred chickens and contract farming

3. Lower costs of production by increasing animal feed production and market linkages by:
   a) Increasing the production of and access to affordable high quality feeds
   b) Enabling farmers to purchase and store feed when prices are low

4. Improve the collection, wholesale and processing of poultry to meet acceptable hygiene and product standards to assure stable farm gate prices and competitiveness of product
## Executive Summary

<table>
<thead>
<tr>
<th>Constraint/Issue</th>
<th>Intervention</th>
<th>VC Actors</th>
<th>Partners</th>
<th>Investment</th>
<th>Impact</th>
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| High rates of mortality in poultry discourages poultry producers from investing in their flocks. This results in low productivity for family poultry. Focus on Sikasso Region in Mali and Haute Basin and Boucle du Mouhoun Regions in Burkina Faso. | -Improvement in Animal Health and Production for Family Poultry Producers Linking 50,000 producers to animal health practitioners  
-Train and provide starter toolkit for 5,000 VVV per country to set up a business to regularly vaccinate and treat poultry in their village | DVM technicians, VVVs, and poultry farmers | ASUDEC, CEFRP, DNSV, PDAV in Burkina Faso and ICT, PDAM, DNSV in Mali | $1.4M per year for 5 years ($14M total) | -Income increases for 50,000 HHs by $1.30-$1.50/day  
-500,000 HHs increase income by $.20/ day  
-Income for 5,000 VVV increase by $120-$400/yr  
-Income for 130 DVM/Technicians increase by $1,000/yr |
| Inferior poultry houses reduce productivity of poultry and rates of mortality increase. 50,000 farmers could take a credit for a simple poultry house. 5,000 farmers could take a larger investment for a more modern poultry house, with reimbursement over two years. Credit is necessary to improve poultry housing. | Credit guarantee for low-cost poultry houses, equipment, and feed | Poultry farmers | MFIs such as MECRA, FAARF, and CEC | $1.4M per country (revolving fund) = $2.8M | -Household incomes will increase by $1.30-$1.50 for 50,000 HHs  
-5,000 HHs will see increased income of $5/day |
| High mortality in imports of DOC and the opportunity to offset imports of DOC with cross-bred chicks grown from domestic parent stock | Credit guarantee to establish hatchery for DOC and improved cross-bred local chicken | Poultry farmers | CNPA has submitted a business plan for parent stock and hatchery | $1.2M line of revolving credit | Incomes for 500 poultry farmers will increase by $2/day (could be scaled to thousands) |

### Cost per Farmer (USD)

- **$28** 500,000
- **$56** 50,000
- **$2400** 500 in Burkina
# Executive Summary

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<tbody>
<tr>
<td>Poultry producers find it difficult to negotiate purchases of maize when prices are favorable. Farmers and associations are unable to access credit to buy feed inputs.</td>
<td>Private feed processing companies build network of crop farmers to distribute maize and soybean seed, provide TA and purchase grain</td>
<td>Poultry farmers, feed processors</td>
<td>International NGO to replicate work in Mozambique with local NGO</td>
<td>$3M over 3 Years Loan + Grant</td>
<td>9,400 mt of maize and 3,800 mt of soybeans in Haut Basin and Sikasso, with total value of $10.6m</td>
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<tr>
<td>Crop farmers, poultry producers and feed processing companies lack access to credit to purchase feedstuffs in a timely manner.</td>
<td>Credit Guarantee for feed mills for 10 storage facilities with capacity of 200 mt to support 12,500 farmers in each country</td>
<td>Poultry farmers, feed processors</td>
<td>Technoserve - Mozambique program, Professional consultants CEFRAP, APATE/DR in Burkina, and ATAVI in Mali</td>
<td>$1M per country = $2M total</td>
<td>Feed mills will sell 15,000 mt of quality feed at 40 CFA/kg lower than feed in dry season, resulting in savings of $2,400 for farmers</td>
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</table>
| Substantial losses in transport and processing of poultry products combined with the fact that collectors lack necessary funds to purchase poultry in bulk increases final sale price and drives down demand. | Revolving credit fund to allow collectors, wholesalers, and processors to purchase chickens in larger quantities and to invest in equipment and processing facilities | Collectors, wholesalers, processors                                            | CEFRAP, and APATE/DR in Burkina and ATAVI in Mali                                          | $2M per country = $4M                                                                  | -Gross returns will increase by 10%  
- Estimated 5,000 new jobs created in traditional poultry VC (collectors, wholesalers, processors) |

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<th>Cost per Farmer (USD)</th>
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<tr>
<td>$300 12,500</td>
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<td>$80 12,500</td>
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<td>$400 10,000</td>
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In Burkina Faso, 92% of the population is categorized as poor.

In Mali, 74% of the rural population is categorized as poor.

In Burkina Faso, approximately 60% of the population is under 20 years of age.

The population growth rate is over 3% per year and 45% are poor.

Source: Poverty Reduction Strategy Paper, 2005
Projects that include women and children can change household dynamics.

Women and children in the rural areas are the face of poverty in Burkina Faso and Mali. Women make a large contribution to the household and market economies but have low visibility and limited access to the benefits of their efforts.
The opportunity exists to increase household income, improve nutrition, and promote asset accumulation through more remunerative engagement of women and children in agro-livestock activities.

In Burkina Faso, where 60% of rural children do not go to school, and population growth is more than 3%, it is necessary to provide economic activities that address poverty and allow children to attend school.

Improvement of the household economy will also slow the migration of youth and men, stabilize the family structure, and offer the prospects for a vibrant rural economy.

Source: Institut national de la statistique et de la démographie; Burkina Faso (INSD) and Poverty Reduction Strategy Paper, January, 2005.
Smallholder poultry is a pathway out of poverty for households.

Poultry is an important household asset, easily multiplied in a short time period and sold for immediate cash to meet family obligations.
Poultry provides multiple benefits for limited families with limited resources.

- Poultry complements other activities, such as crop production, with few environmental problems.
- Poultry raising is very suitable for rural households.
- Supply of local poultry can be increased to meet demand and to provide more competition and better prices.
The primary objective of this analysis is to identify and analyze viable market-led business models that will present opportunities for sustainable economic growth for households living on less than USD 2.00 per day in the rural areas of Burkina Faso and Mali.

The BMGF seeks to transform the poultry value chain to improve efficiencies while at the same time minimizing risks from animal diseases, lack of necessary production and marketing infrastructure, all the while improving the human capacity for people to engage along the value chain.
Country Selection Process

**Process**
- Desk Review
- Key Informant Interviews
- Analysis
- Scoring

**Analysis**
- Country Size
- Current Poultry Trade Data (Imports, Exports)
- Supportive Policy Framework/Enabling Environment
- Market Presence
- Consumption Patterns
- Degree to which industry structure benefits smallholders
- Access to important inputs
- Presence of animal health services
- Presence of successful projects or pilot models that through investment can scale
- Complementary funding from other donors

**Country Selection**
- Select two countries for field study, learning trips and stakeholder conventions
Four criteria were selected to identify high-potential countries:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Justification</th>
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<tr>
<td>Enabling Environment</td>
<td>• Some countries have depended on cheap imports of frozen poultry and red meat to the detriment of local producers</td>
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</table>
| Domestic Market           | • Consumption pattern of favoring locally grown products is less existent in Nigeria, Ghana and to some extent Cote d’Ivoire  
                            | • Market for local poultry thrives in Niger, Mali and to a lesser extent in Senegal |
| Export Market             | • Export suggests the relative competitiveness of the traditional poultry sector  
                            | • Producers in southern Niger export live poultry to Nigeria and market traders in Burkina Faso and Mali exported poultry to Cote d’Ivoire before the civil war |
| Successful Poultry Projects | • Projects have been identified in Burkina Faso, Mali and smaller projects in Ghana and Senegal  
                               | • No pilot models were identified in Cote d’Ivoire and Niger |

Once models tested in Burkina and Mali have proven to be competitive with commercial poultry, or continuously addressing segregated markets, BMGF might wish to examine further additional investment in Senegal and Ghana.
## Country Selection
### Final Selection

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<thead>
<tr>
<th></th>
<th>Burkina Faso</th>
<th>Mali</th>
<th>Niger</th>
<th>Ghana</th>
<th>Senegal</th>
<th>Cote d’Ivoire</th>
<th>Nigeria</th>
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<td>Enabling Policy</td>
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All or most conditions are present in **Burkina Faso** and **Mali**, therefore these countries were chosen. If the political situation stabilizes, Niger might become a better candidate.
West African Poultry Trade Flows

Commercial day-old chicks are traded from coastal to Sahel countries, while traditional poultry is traded from Sahel to coastal countries

Since 2006, most cross border poultry trade has been officially banned due to the Avian Flu threat

• However, unofficial trade still occurs at a diminished level:
  – day-old chicks tend to move from coastal hatcheries to the Sahel countries
  – Traditionally raised live chickens are exported to coastal nations

The crisis in Côte d’Ivoire disrupted imports of traditional poultry, particularly from Burkina Faso as well as Mali

<table>
<thead>
<tr>
<th>Before the Crisis</th>
<th>Effects of the Crisis</th>
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</table>
| • The civil war that broke out in Côte d’Ivoire in 2002 disrupted the economic, social and political fabric of the country, and well established trade ways, especially to Burkina Faso and Mali.  
• Before the crisis, Côte d’Ivoire imported over 1M traditional poultry annually, mainly from Burkina Faso via rail and, to a lesser extent, Mali. | • The daily train connection to Burkina Faso was completely stopped until September 2003 and only had intermittent service thereafter.  
• Since 2007, train schedules have regularized, but not returned to normalcy.  
• Alternative transport and handling capacity were found to be inadequate.  
• Transport costs increased by 15% |
The incidence of avian influenza (AI) in the West African Region continues to hamper the trade in poultry and poultry products. Avian influenza outbreaks had been reported in Nigeria, Niger, Sudan, Burkina Faso, Côte d’Ivoire, Ghana, Togo and Benin. Directly following the first outbreaks, all countries in the region banned import of poultry and poultry products from these countries. As none of the previously infected countries has been officially declared free of Avian influenza yet, this ban has blocked many well established trade channels. Day-old chicks (DOC) could not be exported from Côte d’Ivoire and Ghana to Burkina Faso and Mali anymore, greatly affecting the commercial poultry sector in both countries. Overall DOC import from Mali dropped 45%.

<table>
<thead>
<tr>
<th>ECOWAS Countries Having Reported HPAI</th>
<th>Dates Last Events Reported as Resolved</th>
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<tbody>
<tr>
<td>Benin</td>
<td>5/2008</td>
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<tr>
<td>Burkina Faso</td>
<td>5/2006</td>
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<tr>
<td>Cameroun</td>
<td>4/2006</td>
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<tr>
<td>Côte d’Ivoire</td>
<td>1/2007</td>
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<td>Ghana</td>
<td>8/2007</td>
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<tr>
<td>Togo</td>
<td>1/2009</td>
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<td>Nigeria</td>
<td>10/2008</td>
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No outbreaks detected in: Mali and Senegal, Sierra Leone, Cape Verde, The Gambia, Uganda, and Guinea

- Last outbreak in Togo (Sep 2008)
- Only 1 human case in West Africa
Currently, trade in poultry or poultry products is only permitted to some extent between two countries that never reported HPAI outbreaks, such as Senegal and Mali towards Burkina Faso, whereas all imports from Côte d’Ivoire, Ghana and Nigeria to any other country is prohibited. However, **trade will always occur, as products flow from production centers to markets and from high to low price areas, even across borders. If legal trade is not possible then complicated and costly, informal trade will occur.** Veterinary legislation, especially regulation referring to import and export of poultry and poultry products in West Africa are under review to be harmonized regionally within UEOMA and ECOWAS, to allow for legal but controlled and thereby secure poultry and poultry trade in the region.

**Countries with reported cases of Avian Influenza**

*Trade still takes place from production zones to markets, even across borders.*
Burkina Faso
Agenda

Demand (10 yr trends)

Supply (10 yr trends)

Trade (cross border, regional, international)

Enabling Environment (policy implications)

Overview of Traditional Poultry Value Chain

Poultry Value Chain Prices and Costs

Partners Identified

Existing Donor Projects Overview
Burkina Faso
Introduction

• The **rural population of Burkina Faso** is currently 77% of the population living in 1.9 million households of an average size of 6.3 persons. It is estimated to increase to 16.4 million people in 2020 and with 2.6 million households.

• **90% (1.7 M) of all rural households** are estimated to keep poultry

• Burkina Faso is one of the poorest countries in the world and is 6th from the last on the Human Development Index. Over 45% of all households **live below the poverty line of USD $2 per day**, corresponding to **870,000 rural households**.
Burkina Faso
Factors Influencing Demand

2009 Urban/Rural Breakdown
- Total Population: 15.2M
- Urban: 23%
- Rural: 77%

Price per kg meat (with bones) in FCFA
- Beef: 1750
- Mutton: 2000
- Goat: 2000
- Poultry: 2250

Population Growth
- Estimated growth rate is 3.1%.
- Increasing population will lead to increased demand for poultry products.
- Population growth in Burkina Faso is currently 3.1%

Urbanization
- 23% of the population (3.5M) lives in urban areas in 2010, growing to 4.8M by 2020 (5% growth per year).
- Urban population consumes most of the poultry meat.

Income
- Income is not as large a factor in determining food consumption as increases in population and urbanization (IFPRI).

Price
- Poultry meat is more expensive than beef, mutton and goat meat, which puts it out of reach of most consumers. Over time the cost of producing poultry meat might decline, which will increase the demand for poultry vis-à-vis other sources of animal protein.

Tastes & Preferences
- Traditionally produced poultry meat is generally preferred by the general population because of its taste and consistency, having cooking attributes that fit the Burkinabe cuisine.
- It is debatable whether this segregation will remain, however currently even though supply in traditional poultry meat is insufficient during part of the year, broiler farmers have difficulties in marketing their products.

Sources: CIA World Fact Book, Institut National de la Statistique et de la Démographie, (INSD) IFPRI.
Per capita consumption of poultry might increase 0.4% by 2020, according to MDA estimates. Therefore, 3 estimates are made to provide a high and low range for forecasted poultry consumption.

**High Range** Based on MDA estimates, if per capita consumption of poultry meat increases another 0.4% by 2020, the national consumption of poultry meat would be 61,662 tons and the consumption in peri-urban and urban areas would be 25,174 tons (additional 12,034 tons).

**Mid Range:** Assuming that urbanization continues to grow at 5%, but per capita consumption of poultry meat remains the same, the consumption in peri-urban and urban areas would be 21,174 tons (an additional 8,034 tons would be consumed in 2020 as compared to 2010).

**Low Range:** Assuming that urbanization remains the same, per capita consumption of poultry remained the same as in 2010 with no income effect, no effect from relative prices of substitute meats nor a change in the preference for traditionally grown poultry, then the annual consumption of poultry would increase from 13,140 to 17,659 in peri-urban and urban areas – an additional 4,519 tons or an increase of 34 percent over the current level of consumption.

Source: Calculation based on data from INSD; MDA
## Burkina Faso

### Demand for Eggs for Consumption

**Demand for eggs will grow, but is mainly fulfilled by large commercial farms.**

### Chicken Eggs
- There are approximately **300,000 commercial layers** producing 80M table eggs, corresponding to around 4,000 tons.
- There is a higher consumer demand than the local industry currently is able to provide.
- Several large commercial farmers are currently **doubling their capacity** and are expected to be able to address this market, as well as future increases.
- Consumption of eggs from family poultry is quite rare, as most eggs are needed for reproduction.
- However, most farmers verify if eggs are fertile and consume non-fertile eggs. These are estimated to correspond to 1,200 tons.

### Guinea Fowl Eggs
- Around **80M Guinea Fowl eggs** are marketed each year, weighing around 20g each for a total production of 1,600 tons.
- About 50% of eggs produced are usually held back for reproduction.
- Eggs sold are often fertile, meaning there is currently a **market for eggs for reproduction**.
- Eggs for consumption are usually purchased by the unit or in sacks of 10 eggs, whereas eggs for reproduction are often purchased by the hundreds.
- Some **minor export of Guinea Fowl eggs**, especially to coastal countries seems to exist, though due to their informal nature no statistics are available.
- Average annual egg consumption calculated based on these would be estimated at .49 kg per capita, and is expected to double during the next 10 years.

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**Source:** data from MDA, 2010, and FAO KONDOMBO S. R. Revue du Secteur Avicole. FAO. 2007
Agenda

Demand (10 yr trends)

Supply (10 yr trends)

Trade (cross border, regional, international)

Enabling Environment (policy implications)

Overview of Traditional Poultry Value Chain

Poultry Value Chain Prices and Costs

Partners Identified

Existing Donor Projects Overview
In Burkina Faso, the total number of poultry is estimated at about 35M, and most poultry are concentrated in the regions Centre Ouest (14.5% - capital Koudougou), Hauts-Bassins (12.5% - capital Bobo-Dioulasso) and Boucle du Mouhoun (12.3% - capital Dédougou).

Most guinea fowl are found in the regions Centre Ouest (25%) and Boucle du Mouhoun (13.2%).

99% of traditional family poultry in Burkina Faso involves mainly local chickens, and to a smaller extent guinea fowls (20%) kept in an extensive system by almost all households in the rural areas. 90% of all households practice traditional family poultry. The remaining species are turkeys and pigeons, while ducks are only found in irrigated areas.

There are around 200 commercial farms, most of which are affiliated with the MDA.
- 18 have a total of more than 1,000 up to 50,000 poultry (sector 2)
- 184 have less than 1000 poultry (sector 3)

Commercial production is mainly oriented towards egg production for the nearby urban markets.

The commercial poultry production sector is quite small and developing mainly around the two major towns, Ouagadougou and Bobo-Dioulasso, to take advantage of the larger markets.

Burkina Faso
Supply, Production and Production Zones

**Production zones correspond with cereal surplus zones.**

- **Southwestern Burkina** is better suited for poultry production, as poultry feed, water and land are cheaper and temperatures lower.
- Maize and sorghum (main ingredient of poultry feed) production zones mostly overlap with poultry production zones.
- Poor farmers only feed/better feed poultry if they have **surplus cereals**

Source: FEWS NET, interviews with poultry farmers and market vendors
**Burkina Faso**  
**Poultry and Egg Production**

*Supply of traditional poultry meat is insufficient to meet demand, particularly from March to July.*

- Growth rates in domestic production and consumption of poultry meat have risen 20% during the past decade, but are **constrained by limited poultry production** in the commercial and traditional sector.
- Per capita consumption of chicken meat and eggs **remain flat**, at 2.3 kg and 3.2 kg per capita, respectively.

Supply of traditional poultry meat is insufficient to meet demand during part of the year (March to July), with very small birds marketed, whereas broiler farmers have difficulties in marketing their products – this is due to the **very clear consumer preference for traditional poultry meat.**

*Source: FAOSTAT, interviews with market vendors*
Agenda

Demand (10 yr trends)
Supply (10 yr trends)
Trade (cross border, regional, international)
Enabling Environment (policy implications)
Overview of Traditional Poultry Value Chain
Poultry Value Chain Prices and Costs
Partners Identified
Existing Donor Projects Overview
Only 5 provinces have a market which principally targets exports of traditional poultry: Ouagadougou, Bobo-Dioulasso and Banfora to Cote d’Ivoire, and Léo and Gaoua to Ghana.

Burkina Faso has a number of poultry markets that facilitate the buying and selling in the poultry value chain. Here mostly traditional poultry are sold, as well as spent commercial hens.

There are 45 provinces and 351 districts. In each district and in each province there is at least 1 market.
Market agents reported the following direction and volume of trade:

**Hauts-Bassins Region (Bobo-Dioulasso)**
- There are **4 poultry markets**, of which the biggest is also the largest poultry market in Burkina Faso. The poultry catchment area is in Bobo-Dioulasso with poultry coming from 6 to 7 rural markets.
- Large amounts of chickens and guinea fowls are sent to Ouagadougou every week, but there is a **large number of restaurants in town requiring poultry**
- Large amounts of chickens and guinea fowls also arrive from Dedougou
- Large amounts of chickens and guinea fowls are **sent weekly to Cote d’Ivoire**, but due to its informal nature no amounts are recorded
- Maize is exported from Bobo-Dioulasso Region to the surrounding regions as well as to Ouahigouya and Ouagadougou and from there to the northern and eastern Provinces as well as to Niger for poultry feeding (as well as human consumption).

**Boucle de Mouhoun Region (Dedougou)**
- Very large poultry production zone.
- **7-8 markets** in the catchment area. Large amounts sent to Ouagadougou and Bobo-Dioulasso.

**Ouagadougou**
There are **more than a dozen poultry markets** in Ouagadougou, and the capital attracts poultry from catchment markets over 250km away. Poultry sellers complain that they have to search for poultry further and further away and that they can only fulfill around 50% of their orders. Around 20,000 traditional poultry enter the capital each day.

**SOURCE:** interviews with market vendors
Burkina Faso

Intra-regional Trade

Legend: fish meal ( ), maize ( ),
Traditional poultry ( ), broiler ( )
Burkina Faso
Huge Potential Export Market to Cote d’Ivoire

Once trade barriers are removed, Côte d’Ivoire will be a market for about 1,000t of traditional poultry meat from Burkina Faso per year.

Côte d’Ivoire has a thriving broiler industry, but consumers prefer the taste and consistency of traditional poultry.

Domestic production of traditional poultry is insufficient and therefore imported from Sahelian countries.

- Domestic consumption of poultry is 22,963t
- In 2006, official imports of live traditional poultry was 1 M
- In 2001, imports of poultry meat from Burkina Faso was 700t
- No imports or exports have been officially reported in the past 4 years due to the sanitary ban since the HPAI crisis
- However, import of traditional poultry from Burkina Faso is reported to occur still quite regularly, but informally

Burkina Faso
Trade

Due to limited consumer demand and insufficient cold chains, poultry meat imports are insignificant.

Poultry meat imports have been a fraction of total domestic consumption (less than 1%) as there is only a limited demand for frozen commercial poultry products.

- Imports of live poultry were mainly DOC until the ban imposed from outbreak of AI in West Africa.
- Before the ban, exports were traditional poultry exported to Cote d’Ivoire and Ghana.

Source: FAOSTAT, interview with previous poultry meat importer.
Burkina Faso’s limited hatchery capacity and mortality rate for imports of day-old-chicks are a bottleneck to further development of the commercial poultry value chain.

- Imports of day-old chicks (DOC) is a major input into the commercial poultry value chain
- Producers experience high mortality losses in DOC during transit.
- A small number of cockerels are imported for cross-breeding programs to be supplied to associations, development organizations and individual producers to up-grade local poultry.

<table>
<thead>
<tr>
<th>Domestic DOC - 2009</th>
<th>Imported DOC - 2009</th>
<th>Total - 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>130,000</td>
<td>376,700</td>
<td>506,700</td>
</tr>
</tbody>
</table>

Major exporting countries of DOCs are Senegal, France, Holland, Belgium and Mali.

The country’s only hatchery imports limited amounts of eggs to hatch (ETH) and parent stock, mainly from Senegal.

<table>
<thead>
<tr>
<th>Eggs to Hatch – Layers - 2009</th>
<th>Eggs to Hatch – Broilers - 2009</th>
<th>Total Imported - 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>67,160</td>
<td>5,000</td>
<td>72,240</td>
</tr>
</tbody>
</table>

Source: DGSV, interview with MDA, commercial poultry farmers and manager of hatchery
Agenda

Demand (10 yr trends)
Supply (10 yr trends)
Trade (cross border, regional, international)
Enabling Environment (policy implications)
Overview of Traditional Poultry Value Chain
Poultry Value Chain Prices and Costs
Partners Identified
Existing Donor Projects Overview
**Burkina Faso**

*Enabling Environment for Traditional Poultry*

**The Government of Burkina Faso is committed to establishing an enabling environment for traditional poultry. However, due to limited financial resources, the impact is still limited.**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• GOBF continued support to an externally supported project devoted to improving traditional poultry, the Programme de Développement de l'AvicultureVillageoise (PDAV), ended.</td>
<td>• GOBF continues to support the annual Newcastle vaccination campaigns, but the program is small compared to the need.</td>
</tr>
<tr>
<td>• The WB project PAFASP also has a large component on traditional poultry and works together with the PDAV.</td>
<td>• GOBF overseeing of standard food safety practices for poultry meat is limited in both the traditional and commercial sector, affecting the development of the poultry industry.</td>
</tr>
<tr>
<td>• Most rural development projects in Burkina Faso have some component supporting traditional poultry.</td>
<td>• Participation and communication with OIE, especially with respect to reporting diseases such as HPAI, is good.</td>
</tr>
<tr>
<td>• Participation and communication with OIE, especially with respect to reporting diseases such as HPAI, is good.</td>
<td>• Relations between public veterinary services and producer associations are good and there is regular, though informal, exchange of information.</td>
</tr>
</tbody>
</table>

Source: interviews with PDAV, PAFASP, PADAB, DGSV, MDA, public and private DVM/technicians
Agenda

Demand (10 yr trends)
Supply (10 yr trends)
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Overview of Traditional Poultry Value Chain

Poultry Value Chain Prices and Costs
Partners Identified
Existing Donor Projects Overview
Bottlenecks and leverage points were identified through a value chain approach.

- Before aiming at increasing production, it is important to examine if the balance will be right between demand and supply in the marketplace, and if markets are able to absorb rapid yield increases from higher input farming systems and thus higher production, without reducing farm gate prices.

- Connections exist if **DOC and commercial feed are provided to family poultry farmers**.
- Currently, **only cockerels are provided** from commercial producers to family poultry farmers, as well as some three week old crossbreds during a pilot study from one commercial farmer.
- Furthermore, spent commercial hens are also marketed in the same way as traditional poultry, as they address the same consumer preferences: cheap (per unit since spent hens are thin), consistent, tasty meat.
- The **commercial value chain is heavily dependant on a variety of inputs**, whereas the traditional poultry value chain lacks most of these inputs.
- **Marketing is very complex**, especially in the traditional value chain, and creates many jobs.
Burkina Faso
Family Poultry Value Chain

Inputs
- Animal Health Services – DVM =100; engineers+ techs = 400, trained VVV = 5000+ and 2500 still working
- Locally available feed ingredients (surplus grown by farmer, waste...)
- Commercial Feed
- Support Services (Village Poultry Development Project (PDAV))
- Cockerels supplied to family poultry producers (CFA 3,500 – 5,000/Bird)

Production
- 35M birds (90%)
  - Guinea Fowl (20%) of total
  - 1.3M households
  - 13 adult chickens per HH + 20 chicks / HH
- Guinea Fowl Eggs
  - 72M per year
- Extensive Rural Smallholder Production
  - (mostly 1-50 poultry, if guinea fowl: sometimes up to 1000)
- Semi-intensive Smallholder production (mostly 50-200)
- Farm gate price 1-1.4 kg = CFA 1,200 – 1,750/bird

Distribution
- Village Markets
  - Price = 1,250 - 1,750/bird
- 1st collector bikes, motor-bikes (margin = CFA 50)
- Rural Markets - 18 markets near Ouaga; Price
  - 1,500 - 2,000/bird
- 2nd collector bikes, motor-bikes Margin = CFA 50/bird

Processing
- Public Slaughter Points at the markets, CFA 50 -100 to process
- Road side eggs sales CFA 500/10 eggs
- Urban and Peri-urban HHs Price: 2,100-2,800/bird
- HRI – CFA 5,000/kg
- Modern grill shops 2,700/kg
- Road side Grillers (900)
  - CFA 2,500/kg
- Small retail Shops
  - eggs = CFA 2,600 / plate

Markets
- Urban and Peri-urban Markets -
  - total of 350 markets & 27 markets in Ouaga; price = CFA 2,000 – 2,700/bird
- Regional Export Markets of live birds, Cote d’Ivoire
  - 2001 yr: 0.7 million/year (since crisis and HPAI informal trade only)
  - Current price is CFA 3,000-3,500/bird. In Abidjan.

Consumers
- Feces and feathers sold as manure for agriculture (Estimated CFA 2,000 per pile)
- Home consumption, gifts & ceremonies
- Road side eggs sales
  - CFA 500/10 eggs
- Feces and feathers to ag production – manure – (80-90 kg sack) = CFA2000
- Feces and feathers to ag production – manure – (80-90 kg sack) = CFA2000

Key: DOC=day-old Chick, ETH=Eggs to Hatch, HHs= households; HRI = hotel, restaurants and institutions ; egg = live bird =...
Burkina Faso
Commercial Poultry Value Chain

**Inputs**
- Animal Health Services – DVM and engineers
- Feed Millers (2) cap. 1600 mt Avg Feed Price - CFA 180 – 220/kg
- Support Services
- Imports of ETH 72,240 price: 225-275/pc
- Imports of feed ingredients – fish meal and maize
- Hatchery (1) Capacity 25,000/wk
- Exotic parent stock Import 2009 23,310 birds (only 10% broilers)

**Production**
- Commercial Production = 10%
  - 250 Farms
  - 340,000 birds
  - 300,000 layers
  - 40,000 broilers
  - Table Eggs 80 million/yr
    Cost of production CFA1300/plate
  - 180,000 Spent Hens 216 t of meat
  - Broilers 57 t of meat
    Est. cost/ bird = CFA1800 (1.5 kg Live weight.)
    Large producer > 4000 birds = (3)
  - Cockerels supplied to family poultry producers (cfa 3500 – 5000/Bird)

**Distribution**
- Private distributors of eggs, bikes, motor-bikes
- Hatchery (1) Capacity 25,000/wk
- Farm Operators distribute their own eggs or poultry in cars and vans

**Processing**
- Urban and Peri-Urban Markets for eggs & Spent Hens (19 markets)
- Public Slaughter Points (14 slaughter points), 5 cold rooms 600 t spent hen
- Slaughter Points on farm or at distributors location 1,425 t of broiler meat

**Markets**
- Urban and Peri-urban HHs
  - Egg 100 FCFA
  - 2300-2500FCFA/chicken

**Consumers**
- HRI 5000 CFA/kg
- Small retail Shops – many
  - Eggs 2500FCFA/plate
- Supermarkets (2 - 3) in Ouagadougou
  - Whole FCFA2700/kg
  - Legs FCFA4000/kg
  - Breast FCFA8000/kg
  - Eggs FCFA 75/egg

**Key:**
- DOC=day-old Chick
- ETH=Eggs to Hatch
- HRI = hotel, restaurants and institutions
- eggs = ○
- broiler/spent hen= ♦
Burkina Faso
Poultry Husbandry

Poor farmers keep poultry in an extensive system leading to small flock size and low productivity.

- The productivity of village chicken production systems in general and the free range system in particular is low in terms of growth and egg production.
- High chicken losses have been attributed to poor feeding, no housing, and minor health control practices.
- With no preferential treatment of the small chicks, they cannot compete for the available scavenging feed resource with larger birds.
- Because family poultry are maintained with a very low level of inputs (land, labour and capital), they can be kept by the poorest rural population.
- However, there is scope and need to improve such systems making village chicken production an important tool for poverty alleviation.

Improvements Needed

- Necessary for housing, feed, health and overall management using and integrated approach.
- Flock size and birds marketed needs to increase for overall income from poultry to increase
- This requires access to a functioning animal health and production extension system
- Shifting to a more intensive system requires investment into increasing all inputs
- Access to funds for poor farmers is therefore essential

Source: interviews with poultry farmers, DRPA, DGSV, FAO, public and private DVM
Chick mortality is on average 32%, but can be over 50%. Guinea fowl chick mortality is even more prominent, sometimes reaching nearly 70%.

Several clutches may be raised by a single mother hen in order to achieve earlier return to brooding for hens.

Guinea fowl chicks are traditionally often raised by chicken hens, as they are better hatchers than guinea fowl hen.

Participatory training techniques, on farm, and practical trainings are essential. Farmer to farmer visits should be encouraged, and regular follow up of farmers who engage in new husbandry techniques is essential.

Current extension systems are insufficient and unsustainable.

Trainings need to include general management training on monitoring performance of the flocks. and performance should be encouraged to discuss in group meetings.

Better organization would also enable better market linkages with collectors and result in better farm-gate prices negotiated.
Access to finance for commercial and traditional poultry production is limited and not adapted to the needs of poor poultry farmers.

Most credits are taken through these institutions either directly or through projects.

Financing for family poultry production is mostly done through GOBF and its technical partners through projects.

Credit given directly through the banks or MFIs

• Access to credit for animal production is the responsibility of the Banque de l’Agriculture et du Commerce du Burkina (BACB) which targets larger commercial farmers.
• The microfinance institutions (MFI) like the Caisses d’Epargne et de Crédits, the Fonds d’Appui aux Activités Rémunératrices des Femmes (FAARF), the Fonds d’appui à la promotion de l’emploi (FAPE) and the Fonds d’appui au secteur informel (FASI).

Direct interventions are quite rare (PDAV, PAFASP, ASUDEC).

Credit given through projects

• All stakeholders mentioned that these credits were not adapted to poultry production (interest rate too high, reimbursement agreements not corresponding to the periods where products are sold, too low amounts, etc.)
• Banks and MFIs consider poultry production a very risky business and require collateral, which poor farmers cannot provide.
• ASSUDEC has created MECRA, and independent MFI targeted to the rural poor, providing credit and managing savings.

Interventions through projects (PDAV, PAFASP, ASUDEC) are adapted to poor farmers’ needs.

• Unwillingness of quite a few participants who believed credit extended through projects to be subsidized.
• If projects or private partners helped negotiate contracts or even provide guaranteed funds, access to credit and credit conditions for poor poultry were improved.
• Some difficulties were noted from all projects extending or negotiating credit, such as incapacity to reimburse mainly due to sudden high mortality of the flock.

Overall the percentage of agricultural credits given for poultry production remains very low (MDA).

Credits given directly through MFIs, but adapted to poultry farmers’ needs, would be the best option.
Burkina Faso
Animal Husbandry

**Poor farmers keep poultry with limited or no housing, also contributing to small flock size and low productivity.**

The traditional poultry housing structures are mostly too small, have insufficient ventilation and have poor hygienic conditions because they are difficult to clean. Often there is a high infestation of external parasites, if they are not cleaned regularly.

This leads to high loss of poultry, especially young chicks, due to predators and exposure to extreme weather.

**To remedy the situation:**
- **Construction costs** must remain low by using as much local material as possible.
- **Adequate perches and laying boxes** are essential.
- Feeders and drinkers need to be easy to clean.
- The PDAV has developed adequate types of effective poultry houses.

Burkina Faso

Health

A sustainable private sector driven Vaccinateur Volontaire Villageois (VVV) network would help to address Newcastle Disease and parasites.

Newcastle Vaccine

- The PDAV has been successful in creating awareness of the benefits of Newcastle Disease (ND) prevention among Burkinabe poultry farmers.
- The project has trained over 5,000 Vaccinateur Volontaire Villageois (VVV), poultry farmers who received 4-5 day trainings in simple poultry disease prevention and treatment.
- Access to vaccines is vital in controlling ND and thereby decreasing high mortality rates. In some districts there is no functioning cold chain in place for the vaccine, posing a risk that the vaccine will become ineffective.

Rates and Distribution

- In 2007, only 20% of all traditional poultry had been vaccinated.
- The vaccine is distributed through either private veterinarians, of which only 40% are established in rural areas, or by the public veterinary posts / technical animal husbandry support zones (zones d’appui technique à l’élevage = ZATE) of the MRA, who also do not cover the country sufficiently.

Recommendations

- A thermostable vaccine like the I2 should be introduced to address this problem.
- Regular monitoring and refresher courses for VVV is important, in order to receive technical updates. Good linkage with the private veterinarian is essential to the VVV being more active.
- A more private sector driven approach to the VVV network is needed for the system to be sustainable and adequately address farmers’ needs.
- Prevention and treatment of diseases caused by internal and external parasites and improvement of general hygienic conditions need to be included into the training, as well as some other less frequent or less fatal diseases, such as fowl cholera, and fowl pox. Pullorum disease especially affects chicks.

Burkina Faso Health

Public Animal health extension systems are insufficient, suggesting a need for privatization, as well as extension to the village level through VVVs and private DVMs.

• The public veterinary services of Burkina Faso are very limited due to an insufficient number of well trained staff and several decades of insufficient operating funds. It has been estimated that the number of staff employed should be at least doubled, and at the same time private veterinarians should become more involved in public veterinary health measures.

• At the regional level, there are 13 Regional Animal Resource Directorates which have authority over their administrative region. Each has several Provincial Animal Resource Directorates, with 45 in total, each managing
  – Veterinary posts responsible for animal disease surveillance, certification, meat inspection, as well as veterinary care in those zones where no private DVM is installed
  – Technical animal husbandry support zones (zones d’appui technique à l’élevage = ZATE) who should give support to farmers concerning animal husbandry issues
  – Pastoral zones to give support to land use management.

• In total there are 37 public DVM (25 of which on central level), 86 agriculture engineers (56 on central level) and 40 technicians. They are supported by around 400 technicians.

• Furthermore there are 50 private DVM. 60% of these are close to the urban centers Ouagadougou and Bobo-Dioulasso. The private DVM are in most cases mandated to carry out or supervise certain vaccination campaigns and report back to the veterinary services in case of notifiable diseases such as HPAI, but in most cases do not receive any remuneration for this. The rural areas have an insufficient coverage of DVM (less than 50%).

• Most activity of private DVM is treatment and prevention for ruminants, because a higher profit can be achieved from this activity. However, they are involved in training and oversee activities of VVV and provide them with vaccines and drugs. The PDAV has supported training for 5000 VVV, half of these are considered to be still active.

• It is important that a critical mass of farmers is trained within a certain area of each VVV and each DVM/technician, so that their activity is financially interesting, which is essential for the whole system to be sustainable.

Burkina Faso

Feed

**Poor farmers only feed poultry when they have surplus grain, further contributing to small flock size and low productivity.**

- The extensive free range system based on scavenging is the main village chicken production system conducted by poor farmers.
- In general, farmers try to supplement the diet of village chicken by giving household wastes or grains of cereals. Mostly birds scavenge during the day.
- However, if farmers do not have any surplus grain, they cannot feed their poultry and therefore sell off some birds to reduce flock size and purchase cereals for the family. Unfortunately this leads to low market value of small birds.
- Feed resource has an important impact on village chicken survival and production.


JE Austin analysis of 52 interviews with poultry farmers
Burkina Faso

Feed

Poultry feed for poor farmers needs to be cheap and accessible in rural areas.

• Many feed resources are available through scavenging
• However, the availability of these resources is seasonal. Protein may be critically low in the dry season and the energy content may be critical during the rainy.
• The feeds that village chickens ingest when they feed themselves even with the occasionally given household wastes will give them a high chance of nutritional deficiencies. This results in a low productivity and reduced resistance to diseases.
• These factors are major reasons for the small size of chicken flocks: poor farmers sell poultry to decrease needs for feed and buy food in the months before harvest.
• To improve productivity of village poultry, housing, health care and feeding need to be integrated. One of the major components is controlled nutritional conditions. The availability and use of some alternative locally available concentrate feedstuffs like Parkiabiglobosa pulp powder, Piliostigmareticulatum or Acacia albida pods, millet and sorghum bran and local beer by-product should be enhanced. Production of fly maggots during the dry season to increase protein intake is also a possibility.
• Prices for cereals vary a lot during the year. Enabling access to funding for farmers and feed millers to buy feed when prices are low and to be able to adequately store them would reduce cost of feed (and food) enormously.

Burkina Faso
Overview of the Traditional Value Chain Map

Input and Production Constraints and Recommended Interventions:

The flock size in Burkina varies because of the frequency of disease outbreaks. **Villages can lose nearly their whole poultry population in a short span of time from ND.** Vaccination programs need to target all poultry in a village. Health programs have to be complemented with proper housing and feeding to realize improvements in productivity. **Producers have to be trained to better** manage production risks.

Poor smallholders do not use many inputs and do not have many support services available. The **number of active VVV is not sufficient** to cover the country and treating only low numbers of poultry is not profitable for DVM and engineers. Farmers need to have access to a sustainable animal health and production system.

Introducing improved poultry genetics, through cockerel programmes or purchase of specifically developed crossbreds is attractive and can be part of a sustained improvement plan; however, because housing, hygiene, feed and disease prevention has not been improved, this will increase the risks for early mortality. Farmers also have to be aware of decreased hatchability of their offspring and should be accompanied in managing incubators and/or regular supply of affordable DOC need to be assured.
Traditionally, women carry out most of the work, and therefore can sell their stock when sudden needs for cash arise. Men are involved mainly in the construction of the poultry houses and searching for termites, if housing is provided.

Family poultry farmers have a poultry flock size that is mostly below 50 birds; though some guinea fowl rearers might have several hundreds up to a thousand. On average, the flock size was 34 birds (1-2 cocks, 6 hens, 3 cockerels and 3-4 pullets), and 20 (60%) young chicks.

Chick mortality observed is on average 32% but can be over 50%. Guinea fowl chick mortality is even greater, sometimes reaching nearly 70%.

Poor farmers do not invest any cash costs in poultry farming, but supplement feed from their own harvest corresponding to a value of 21% of the farm gate price.


783,000 poor households keep traditional poultry in an extensive system, marketing no more than 20 birds per year and obtaining a daily net income from this activity of $0.20
Marketing and processing creates many jobs and it is possible to increase profits through simple improvements.

Around 8,830 people are estimated to be engaged in poultry collection (2,320 primary and 1,290 secondary), marketing (680 wholesalers, 50 exporters, 1,890 retailers), slaughtering (1,700) and street side grilling (900).

Even though not very structured, poultry production and marketing is close to fitting the perfect competition model. Many producers and many buyers daily transact large numbers of poultry. Prices move closely with supply and demand in the wholesale markets with sellers being mainly price takers.

Transactions are informal with prices negotiated and no grades and standards applied to the pricing. Prices depend on many factors such as use of poultry expected (consumption, reproduction or sacrifice) and also of the apparent wealth of the buyer. This limits the ability for the producer to invest more in improving the quality of the product to increase price.
Transport of poultry is stressful on the animal especially during the hot season when death rates rise mainly due to over-crowding of cages and lack of water. Cages are not properly cleaned after use and are a health risk, which allows for diseases to spread.

Source: MRA, 2007
### Burkina Faso

#### Processing

**Improving slaughtering and marketing conditions would assure that traditional poultry meat remains competitive for increasingly aware urban consumers.**

A real weakness in the value chain is the **poor hygienic conditions** under which poultry are marketed and slaughtered for individual consumers and HRI. Slaughter points at markets are a health risk for transmission of Avian Influenza (AI) and other diseases and a real public health concern. **The risk of contamination can also reach back to production sites**, especially as some vendors at some markets take unsold poultry home during nights. **Labeling** could improve sanitary conditions, as urban consumers begin to be more aware of this problem. However, at this moment, cost recovery might not be assured. **Land** where markets are located **needs to be officially registered to allow for investment** in improved infrastructure. Hygiene management is essential, and access to affordable water must be assured.

Apart from the blood, all parts of the chicken are used. Many individuals are engaged in slaughter and processing of poultry involving killing, cleaning intestines, trimming the heads and removing the feet, sometimes drying them (for sale as traditional medicines). This is important in job creation, especially in more rural locations where jobs are rare.

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Source: JE Austin analysis of interviews with market vendors
Burkina Faso
Overview of the Traditional Value Chain Map - Consumers

Although consumers in Burkina Faso prefer local poultry, the cost of poultry meat is high relative to other meat products.

- Consumers in Burkina Faso still very much prefer the taste and consistency of local poultry. The Burkinabe like to eat out, and grillers are present in nearly all towns, close to bus stops and markets. Officially 900 grillers are known, but their number might be much higher.

- The cost of poultry meat is still high relative to other meat products. In Ouagadougou, comparative retail prices of meat are:

<table>
<thead>
<tr>
<th>Meat Type</th>
<th>Price in FCFA/kg</th>
<th>Consumption in Kg/cap/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>1,750</td>
<td>7.5</td>
</tr>
<tr>
<td>Goat/mutton</td>
<td>2,000</td>
<td>3.3</td>
</tr>
<tr>
<td>Com. spent hen</td>
<td>2,000</td>
<td>0.03</td>
</tr>
<tr>
<td>Broiler at farmgate</td>
<td>2,200</td>
<td>0.002</td>
</tr>
<tr>
<td>Local chicken</td>
<td>2,250-2,500</td>
<td>2.2</td>
</tr>
<tr>
<td>Broiler (price at supemarket)</td>
<td>2,700</td>
<td>0.02</td>
</tr>
</tbody>
</table>

- Reduction in price of local chicken meat requires increasing production, reducing cost of feed, relieving stress in birds, and decreasing the rate of mortality.

Source: consumption FAOSTAT 2007, prices taken during field visits
Dr. Martial Sawadogo, the manager of the country’s only hatchery, was the key person identified during field visits. He is essential to the development of the commercial value chain and contributes to development of the traditional value chain through crossbreds.
Burkina Faso
Overview of the Traditional Value Chain Map: Identification of Actors

Key persons identified during field visits who can be instrumental in development of the traditional value chain will improve access to animal health and production extension systems and animal feeds.

Mr. Némaoua Banaon, Directeur of CFRAP.
He has been active in training and continuously following up community animal health workers in Burkina Faso through executing projects for AVSF and other NGO.

Dr. Mark Zankone, D.V.M., one of the first private DVM installed in Boromo. He has been active in training and continuously following up community animal health workers in Burkina Faso.

Mr. Lucien Namena is a poultry specialist with PDAV. He has acquired a lot of knowledge regarding how to improve the traditional poultry producers with linkages to the commercial sector.

M. Séni ZIDA is president of MDA and also a private entrepreneur in the poultry industry.

M. Habib OUATTARA is president of APATE/DR, a group of veterinary technicians giving advise to farmers around Bobo-Dioulasso.
Burkina Faso

Identifying Beneficiaries

- **Traditional poultry producers**
  - Approximately 20 associations
  - In the key poultry markets of Bobo-Dioulasso, Ouagadougou, Koudougou, Dedougou

- **Maize and soybean producers**
  - Approximately 12,500
  - In the Hauts-Bassins region with market linkages to feed millers in Bobo-Dioulasso and Ouagadougou Regions

- **Primary and secondary collectors**
  - Creating approximately 5,000 new jobs
  - In Bobo-Dioulasso and Ouagadougou Regions

- **Associations of poultry wholesalers**
  - Approximately 20 associations
  - In the regions of Boucle de Mouhoun, Hauts-Bassins (around Bobo-Dioulasso), Central / Plateau Central (around Ouagadougou), Northern part of Central Ouest Region (around Koudougou)
  - 200,000 poultry producers
  - In the regions of Boucle de Mouhoun, Hauts-Bassins (around Bobo-Dioulasso), Central / Plateau Central (around Ouagadougou), Northern part of Central Ouest Region (around Koudougou)
  - Creating approximately 5,000 new jobs
  - In Bobo-Dioulasso and Ouagadougou Regions

- **Approximately 20 associations**
  - In the key poultry markets of Bobo-Dioulasso, Ouagadougou, Koudougou, Dedougou
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Overview of Traditional Poultry Value Chain

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Existing Donor Projects Overview
Burkina Faso

Poultry Value Chain Markups

The margins between the farm gate and the final consumer of traditional poultry are reasonable and not too distorted by market structures or practices.

Price Markups in the Burkina Faso Family Poultry Chain (CFA/Bird)

Farm Gate Price (57%)
Village Market (2%)
Rural Market (12%)
Urban Market (24%)
Retailer (5%)
Final Price

There is a 67% markup for broiler chickens sold in Ouagadougou. This margin pays for slaughter, processing, transport and labor.

Price Markups in the Burkina Faso Commercial Poultry Chain (CFA/Bird)
Burkina Faso
Northern Zone - Value Chain Costs and Margins

Charts on left show the margin based on cash

Cash Costs & Margins for Poultry (CFA/Bird) - Northern Zone (Ouagadougou), Burkina Faso

Charts on the right show when non-cash values and costs are included, the margin to farmer is reduced drastically.

Imputed Market Values and Direct Costs for Poultry (CFA/Bird) - Northern Zone (Ouagadougou), B.F.

Cash Costs & Margins for Poultry (%) - Northern Zone (Ouagadougou), Burkina Faso

Imputed Market Values and Direct Costs for Poultry (%) - Northern Zone (Ouagadougou), Burkina Faso
Burkina Faso
Southern Zone - Value Chain Costs and Margins

Charts on left show the margin based on cash

Cash Costs & Margins for Poultry (CFA/Bird) - Southern Zone (Bobo Dilasso), Burkina Faso

Cash Costs & Margins for Poultry (%) - Southern Zone (Bobo Dilasso), Burkina Faso

Charts on the right show when non-cash values and costs are included, the margin to farmer is reduce drastically.

Imputed Market Values and Direct Costs for Poultry (%) - Southern Zone (Bobo-Dioulasso), Burkina Faso

Imputed Market Values and Direct Costs for Traditional Poultry (CFA/Bird) - Southern Zone (Ouagadougou), Burkina Faso
Note that the **cost of production of family poultry is very low**, especially if labor is not considered, since income generating activities in rural areas are rare. As a result the **farm gate margin is quite high**. This is due to the very low input system.

In this way **only a small flock of poultry can be raised**, since the available feed resource base for scavenging poultry within a village is limited. At the same time, increasing flock size without introducing disease prevention measures increases mortality.

Overall **income** of farmers from family poultry **will remain low** unless flock size increases and more poultry can be sold. This will require increased inputs and lead to smaller margins, however overall income can increase.
Agenda

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Poultry Value Chain Prices and Costs

Partners Identified
Existing Donor Projects Overview
**Burkina Faso**

*Potential Local Partners*

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**ASUDEC and Heifer (or potentially through VSF–B / AVSF):**

**Partner Profile:** Started in 1998 with support from Heifer and has now 20 full time Burkinabe staff (and 102 part-time). Receive support from different donors.

**Program Summary:** The poultry component is linked on one side to children (9-14 years old) as well as direct support to farmers via micro-credit and extension. 2,850 poultry houses were constructed. Market linkages are improved through organizing annual poultry festivals. The project trained VVV in the target villages and pays them a small monthly fee to remain active. Farmers are trained to use locally available feed and produce fly maggots to supplement protein. Additionally the project in the South West has a small feed mill which can mix low cost feed for smallholders.

**Capacity:** Very good managerial capacity. Organization should receive additional technical assistance from organizations like VSF- B or AVFS, and should enhance targeting of women when working on poultry.

**Areas Served:** ASUDEC works mainly in the South West Region (89 villages), but also in the Central Region (14 villages) and in the Central Plateau and Central South Regions (3 and 2 villages). ASUDEC would also like to work in Boucle de Mouhoun Region in the future.

**Business Models Deployed:**

ASUDEC has a holistic approach to promote education, to strengthen the socioeconomic resiliency of vulnerable groups, preserve the environment and diversity and to promote multiculturalism. It is linked directly to a MFI, MECRA. ASUDEC works with 69 women groups. Poultry farmers are encouraged to use appropriate technology, like poultry house construction. But this initially cost around FCFA 80,000. Currently cheaper versions are encouraged. ASUDEC emphasizes the passing of the gift approach.
Burkina Faso
Potential Local Partners

**CEFRAP** (Centre d'Etude de Formation et de réalisations agro pastorales) and VSF–B or AVSF:

**Partner Profile:** Started in 1996 with support from AVSF and has currently 14 full time Burkinabe staff. They have contracts with several donors. (AVSF, FAO, DANIDA, BID, Moncoutant...). CEFRAP is a consulting company implementing projects as well as carrying out project identifications, evaluations and studies.

**Program Summary:** The poultry component financed through DANIDA (2001-2004) consisted in direct support to farmers via training/extension. The components financed through BID and Moncoutant consisted of direct support to farmers via training/extension and microcredit, and is believed to have had more impact. As a consulting company, CEFRAP has to adapt their approach to the donor. In all cases, CEFRAP trained VVV in the target villages who are directly linked to a DVM. Farmers are trained to use locally available feed and produce fly maggots to supplement protein, and houses are low cost using local materials (35-50,000FCFA).

**Capacity:** Very good technical capacity. Organization should receive additional managerial assistance from INGO. Additional staff will need to be employed.

**Areas Served:** CEFRAP worked in the Center East Region (15 villages, 130 households) for the DANIDA project, and now in the Cascades Region (13 villages, 156 households) and in the Sahel Regions (20 villages, 120 households).

**Business Models Deployed:**
CEFRAP as a consulting company executes donors’ projects. However, CEFRAP believes that training (husbandry, health, feed, management) and credit need to be combined to have impact. Poultry farmers are encouraged to use appropriate technology, like poultry house construction based on local material costing around FCFA 35-50,000.
Burkina Faso
Potential Local Partners

Maison d’Aviculture (MDA) professional poultry farmers organization

**Partner Profile:** Started in 1998 with support of the French Cooperation (until 2007). There are 200 members, of which around 85% have flock size of less than 1000. MDA conducts training for their members and employs a DVM. Though targeted to modern farmers with flocks of over 50 birds, MDA has several traditional poultry farmers associations as members.

**Program Summary:** Their initial project was to organize the poultry value chain and improve access to inputs through combined orders. The organization conducts many trainings for its members, such as teaching mixing food rations and animal health. MDA was also greatly involved in informing its members during the HPAI crisis in Burkina and lobbying for their interests (compensation, tax reductions, trade barriers). The challenge is finding common ground between FP producers, small and large commercial operators.

**Capacity:** Nearly all staff are volunteers, but the technical director (DVM) is employed.

**Areas Served:** National program but concentrated around Ouagadougou and Bobo-Dioulasso where most of the commercial farms are.

**Business Models Deployed:** MDA is loosely governed and may have limited potential to make important changes in servicing the family poultry sub-sector. MDA has experience in advising small farmers who want to start commercial farming with small flock sizes.
Burkina Faso
Potential Local Partners

**APATE/DR**:

**Partner Profile:** APATE/DR is a non-profit professional association of animal husbandry technicians (Association Professionnelle des Agents Techniques d’Elevage pour le Développement Rural, APATE/DR) and has now 8 full time Burkinabe staff (animal husbandry technicians). APATE/DR receives support from different donors.

**Program Summary:** APATE/DR executes project components from different donors, mostly consisting of direct support to farmers via micro-credit and extension. APATE/DR previously trained VVV and farmers in target villages. APATE/DR has also been involved in giving advice to and following up with poultry farmers who got support through PAFASP. APATE has experience in modern and traditional poultry production (as well as small and large ruminant production). APATE/DR currently participates in the implementation of the Projet de renforcement des capacités des organisations de la société civile (PROS) financed by EU, to set up five private animal husbandry technicians units in the province.

**Capacity:** Good technical capacity. Organization should receive additional technical assistance from organizations like VSF- B or AVFS, and should enhance targeting of women when working on poultry.

**Areas Served:** APATE/DR works mainly in the Region Hauts-Bassins (Bobo-Dioulasso), but can also mobilize animal husbandry technicians throughout most parts of the country through APATE/DR.

**Business Models Deployed:** APATE promotes all animal husbandry activity in the rural environment, principally through training (production, management, marketing, processing) and integrates activities to better organize farmers, improve access to credit, coordinate stakeholders and improve adult alphabetization.
Agenda

Demand (10 yr trends)
Supply (10 yr trends)
Trade (cross border, regional, international)
Enabling Environment (policy implications)
Overview of Traditional Poultry Value Chain
Poultry Value Chain Prices and Costs
Partners Identified

Existing Donor Projects Overview
Burkina Faso has a long history of giving support to the traditional poultry sector through various projects, the most important of which are presented in the following slides:

- Projet de Développement de l’Aviculture Villageoise (PDAV)
- Programme d’Appui aux Filières Agro-sylvopastorale the (PAFASP3)
- Programme d'Appui au Développement de l'Agriculture du Burkina Faso (PADAB-2)
- Appui à l'amélioration et à la gestion durable du petit élevage en zone périurbaine de Bobo-Dioulasso et Nouna(GCP/BKF/050/ITA)
- Programme Développement de l’Agriculture (PDA1)

BMGF can build on the achievements of these projects and avoid some of their difficulties.
Burkina Faso
Donor Projects Overview-PDAV

The Projet de Développement de l’Aviculture Villageoise (PDAV) was supported by the French Cooperation from 1978 till 2004. Since then the program has continued with (limited) government funding, assuring that qualified and experienced staff are available to coordinate traditional poultry activities. PDAV has supported traditional poultry farming since 1980 in over 20 of the 45 provinces.

The PDAV primarily supported vaccination campaigns against Newcastle and to a lesser extent, fowl pox. It also:

- Advised farmers on other poultry health related issues such as internal and external parasites
- Introduced poultry housing constructed from local material to protect poultry from predators and reduce chick and guinea fowl chick mortality
- Supported farmer study tours to different regions
- Organized farmer-to-farmer exchanges
- Distributed equipment like feeders and drinkers, as well as quality chick feed
- Extended the cold chain of the veterinary posts to cover nearly 50% of the departments
- Trained over 5000 VVV and equipped them with veterinary material and a bicycle for active VVV
- Installed a feed mill in Bobo-Dioulasso was supported, which is still functioning

In regions where the vaccination campaigns were rigorously conducted, overall mortality fell to less than 20% and poultry production increased over 50%. Many farmers seem to have taken on vaccination and other forms of improved animal husbandry.

Due to limited funding and late arrival of donor funding through PAFASP, these vaccination campaigns were not executed in 2009. It is clear that a sustainable way of providing access to vaccines for poultry farmers must be developed.

SOURCE: Interview with Namena, L., PDAV M&E adviser, Interviews of 5 farmers having received support through PDAV
Programme d’Appui aux Filières Agro-Sylvo-Pastorale (PAFASP3)

— Financed through the World Bank (2007-2012)
— Supports mango, onion, beef, traditional poultry, and sesame, maize and Niébé to a lesser degree

Objectives:
— Increase the quantity and quality of local poultry by developing improved farms and upgrading marketing and slaughtering facilities to sanitary norms
— Increase sustainable Newcastle vaccination coverage to 30%.
— Extend improved housing and management similar to the Bousse and Poa models
— Promote the use of small incubators

• The project plans to increase vaccine access, promote the use of small incubators, improve the quality and hygiene of marketed fresh or grilled poultry through promotion of modern kiosks, and construct an improved slaughter facility.

Results
• In 2009, vaccination coverage reached 9%, and 178 VVV and 389 poultry farmers had received training (of which 44 are women)
• The project co-financed 156 micro-projects covering 300,000 poultry. 32 of these have already completed one production cycle and sold 7,611 poultry ($20,550). The microloans supported housing and animal health care. The participating farmers managed to negotiate 500 FCFA more on farm-gate price.
The Programme d'Appui au Développement de l'Agriculture du Burkina Faso (PADAB-2) is financed by DANIDA.

Supports decentralized rural development by supporting transfer of competencies to producer organizations, regional agriculture chambers and territorial collectivities to develop regional value chain strategies within the national framework. Additional aspects are to elaborate rural land allocation laws and adopt a national microfinance strategy.

The program implements activities in the regions of Sahel, Est and Center Est and supports value chains chosen by their regional partners. The traditional poultry value chain is supported in the Region Center Est.

1,992 farmers were supported (41% of which were women). For an average production unit of 15 poultry and an initial investment of 10,000F, the annual income of the households increased by 8% (30,000 CFA).

The project found that if poultry rearing was chosen by the poorest as well as women, then the initial investment was lowest and return on investment fastest.

Currently 3 activities are prioritized:
1. Training of VVV and improving access to veterinary products
2. Improving guinea fowl management and disease prevention to decrease chick mortality
3. Organize marketing and slaughtering in the region.

SOURCE: Interview with J.FOURNIER, PADAB-2 Planning, Management and M&E Adviser, and W. BAAS, PADAB-2 Value Cain Adviser
The FAO supports traditional poultry farmers through:
- Rural development projects
- Emergency programs after draughts or flooding,
- Its food security programme

**Appui à l'amélioration et à la gestion durable du petit élevage en zone périurbaine de Bobo-Dioulasso et Nouna** (GCP/BKF/050/ITA), a FAO project, implemented through a unit set up at the DPRA, and financed by Italy. The three-year project began in 2010.

The project aims to:
- Fight poverty and food insecurity,
- Create long term jobs in rural and peri-urban zones through support to the decentralized cooperation.
- Emphasize peri-urban pork, small ruminants and poultry production.

The traditional poultry production component began activities with 70 families around Bobo and 70 families around Nouna. 78% of farmers are women, and the emphasis is on the most vulnerable.

- The project works with existing farmer groups who choose the first participants
- The project subsidizes non-local material for improved housing (windows, doors, roof), while farmers are responsible for construction and providing locally available material.
- Two Isa Brown cocks and 10 hens, feed for one year and veterinary care are given as a revolving fund to each family, who then reimburses the farmers group so other members can participate
- Technical advice and animal health services are given through the local public veterinary service, DPRA in collaboration with PDAV

**SOURCE:** Interview with D. KONTONGOMDE, FAOR Assistant Burkina Faso, Z. SORGHO, National Project Coordinator and S. KONDOMBO, FAO Emergency Unit
During the first phase of the program (2004-2007), the objectives of the Programme Développement de l’Agriculture (PDA1) of GTZ were to increase food security and incomes of stakeholders from many different value chains, including the traditional poultry value chain in two districts of the Region South West.

No further support to poultry was given since 2008.

<table>
<thead>
<tr>
<th>Project Activities</th>
<th>Project Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional poultry raising had been identified as an income generating activity, and interventions concentrated on improved housing, health care and feeding in 13 villages of 2 districts. 65 producers received direct support by the project. In Nako district, credit was given to purchase 10 local hens and 1 local cock. In Batie producers multiplied their existing flock. In both cases, a subsidy was given for doors and windows of chicken houses, and vaccinations were subsidized for 6 months. 10 VVV were trained.</td>
<td>Though income has indeed been increased for most of the target group (65% achieved an annual income of $180 through poultry by the end of the project), the number of farmers involved was too small to realize any long term strategy in achieving sustainability of input supply and technical advice. The technical follow up of farmers had been considered insufficient. For example, of 10 improved cockerels given, only one had survived. Also many farmers who had taken credit had difficulties to repay it as they had received insufficient management advice.</td>
</tr>
</tbody>
</table>

Mali
Agenda

Demand (10 yr trends)

Supply (10 yr trends)

Trade (cross border, regional, international)

Enabling Environment (policy implications)

Overview of Traditional Poultry Value Chain

Poultry Value Chain Prices and Costs

Partners Identified
Mali
Factors Influencing Poultry Demand

Population
- Estimated 2009 population: 14,517,176 (Census of Population and Housing RGPH 2009 – preliminary results)
- Estimated growth rate: 2.61% (CIA World Fact Book)
- Population is expected to be 19,033,539 in 2020

Urbanization
- In 2010 32% of the population (4,707,308) lives in urban areas (CIA World Fact Book) and rate of urban growth is 4.8%
- Bamako is the fastest growing city in Africa & 6th fastest in world (CityMayors.com) and 2020 urban population: 6.09 million (est.)
- The effect of income on poultry consumption not believed to play as large a part in determining food consumption in Mali as population and urbanization (IFPRI)

Income

Price
- Poultry meat is more expensive than beef, mutton and goat meat in Mali which puts it out of the reach of most consumers. Over time the price of poultry meat may decline, which will increase the demand for poultry vis-à-vis other sources of animal protein
- Traditionally produced poultry meat is generally preferred by the general population because of its taste, less fat, and cooking attributes that fit the Malian cuisine.
- This preference could diminish as the retail price of broiler meat declines with improved efficiencies.
Mali
Current Demand for Poultry Meat

Small-scale family poultry operations dominate the supply of poultry to urban and peri-urban areas and will continue to do so for the foreseeable future.

Total Consumption of poultry meat = 8,025 mt (no import of poultry meat is reported by DNPIA)

Per capita consumption of most of the poultry is consumed in urban and peri-urban areas is 1.70 kg per person

Meat from Family Poultry Operations = 6,000 mt (this estimate is from surveys of poultry markets)

Meat from Commercial Spent Hens (1.2 kg carcass yield) = 600 mt

Meat from Commercial Broilers = 1,425 mt

Note: Consumption figures are based on estimates provided in “Notice of Presentation of Poultry Industry of Mali” by The Directorate of National Production and Animal Industries (DNPIA) – March, 2010
Most recent data suggests that per capita consumption of poultry lags that of other countries; but the data are old, and current market forces have likely increased poultry’s share of the household food budget for meat products.

The FAO estimated national consumption of poultry meat of nearly 2.96 kg per capita in 2002, much higher than the estimates of the DNPIA. Based on this the FAO estimates Malians consume approximately 38,000 mt a year.

<table>
<thead>
<tr>
<th>Total Meat consumption (kg/person/yr)</th>
<th>Total Poultry Meat Consumption (kg/person/yr)</th>
<th>% of total meat consumption</th>
<th>Total Egg Consumption (kg/person/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption in 2002</td>
<td>21.83</td>
<td>2.96</td>
<td>14%</td>
</tr>
</tbody>
</table>

Source: Livestock Sector Brief, FAO, March 2005
Mali

Forecast Demand for Poultry Meat

An additional 2,400 mt to 4,000 mt of poultry meat will be required annually in urban areas in 2020, 30%-50% over current levels.

Based on growth rates for population and urbanization to 2020 there would be 19.033 million people in Mali and 6.09 million people living in urban and peri-urban areas. Two estimates are made to provide a high and low range for forecasted poultry consumption.

Low Range

- Assuming that per capita consumption remained the same as in 2010 at 1.7 kg for commercial poultry entering the peri-urban and urban area with no income effect, no effect from relative prices of substitute meats or a change in the preference for traditionally grown poultry, then the annual consumption of poultry would increase from 8,025 to 10,353 mt in peri-urban and urban areas – an additional 2,328 mt or an increase of 29 percent over the current level of consumption.

High Range

- Based on FAO estimates the national consumption of poultry meat would be 56,339 mt and the consumption in peri-urban and urban areas would be 18,028 mt, an increase of 4,094 mt.
Mali
Forecast Demand for Poultry Meat

If the Government of Mali continues to restrict imports of low cost frozen poultry meat, domestic, traditional and modern sectors will have to expand production to meet the increased demand.

The FAO estimates peri-urban and urban consumption of poultry meat comprises 32 percent of national consumption. To meet this demand both the traditional and modern poultry sectors must be utilized.

<table>
<thead>
<tr>
<th></th>
<th>DNPIA Estimate 2010</th>
<th>DNPIA Estimate 2020</th>
<th>Qty &amp; Percent Change Increase</th>
<th>FAO Estimate 2010</th>
<th>FAO Estimate 2020</th>
<th>Qty &amp; Percent Change Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peri-Urban and Urban</td>
<td>8,025</td>
<td>10,353</td>
<td>2,328 29%</td>
<td>13,933</td>
<td>18,028</td>
<td>4,094 29%</td>
</tr>
<tr>
<td>National</td>
<td></td>
<td></td>
<td></td>
<td>43,543</td>
<td>56,339</td>
<td>12,796 29%</td>
</tr>
</tbody>
</table>
**Mali**

**Volume of Poultry in Markets**

*Chickens dominate the live bird markets, and they will be the main source of poultry over the next decade to meet local demand. Guinea fowls will remain a specialty product, for which consumers will pay a higher price compared to chicken.*

A weekly survey conducted of commercial markets in May 2010 by the Directorate Nationale Service Veterinaire (DNSV) found that chickens outnumbered all other types of poultry.

<table>
<thead>
<tr>
<th></th>
<th>Week 1</th>
<th>Week 2</th>
<th>Weekly Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chickens</td>
<td>114,316</td>
<td>156,795</td>
<td>135,555</td>
</tr>
<tr>
<td>Guinea fowls</td>
<td>36,828</td>
<td>35,745</td>
<td>36,286</td>
</tr>
<tr>
<td>Pigeons</td>
<td>6,293</td>
<td>9,252</td>
<td>7,772</td>
</tr>
<tr>
<td>Ducks</td>
<td>826</td>
<td>2,041</td>
<td>1,433</td>
</tr>
<tr>
<td>Turkeys</td>
<td>201</td>
<td>23</td>
<td>112</td>
</tr>
<tr>
<td>Geese</td>
<td>14</td>
<td>31</td>
<td>22</td>
</tr>
</tbody>
</table>
Commercial layer operations will be more important and cost competitive in supplying eggs for the domestic markets than family poultry operations.

**Chicken**
- There are approximately 1 million commercial layers
- They produce 225 million table eggs annually
- With an average weight of 50g, the modern sector supplies 11,250mt of eggs annually

**Guinea Fowl**
- Guinea fowl have a seasonal laying period from April – June to October
- A guinea fowl produces 90 eggs for a total of 243 million eggs produced.
- Producers hold back 60% for reproduction and therefore sell 97m guinea fowl eggs for human consumption weighing around 20 g each for a total production of 2,910mt

Total production of eggs for human consumption is estimated at 14,160mt, with an average of .97 kg per person per year (DNPIA).
Sikasso Region is an important area for development of both family poultry and commercial poultry production. Regional population and households estimates are listed below.

<table>
<thead>
<tr>
<th>District and Region</th>
<th>Households</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yanfolilia</td>
<td>32,151</td>
<td>211,824</td>
</tr>
<tr>
<td>Bougouni</td>
<td>67,730</td>
<td>459,509</td>
</tr>
<tr>
<td>Kolondieka</td>
<td>29,994</td>
<td>202,618</td>
</tr>
<tr>
<td>Sikasso</td>
<td>112,146</td>
<td>725,494</td>
</tr>
<tr>
<td>Kadiolo</td>
<td>47,962</td>
<td>239,713</td>
</tr>
<tr>
<td>Koutiale</td>
<td>84,680</td>
<td>575,253</td>
</tr>
<tr>
<td>Yorosso</td>
<td>33,786</td>
<td>211,508</td>
</tr>
<tr>
<td>Sikasso Region</td>
<td>410,449</td>
<td>2,625,919</td>
</tr>
</tbody>
</table>

(Source: Regional Agricultural Office in Sikasso)
### Mali

**Market Outlets for Poultry**

The large numbers of village, secondary and final markets facilitate the movement of poultry from surplus to deficit markets. The Sikasso Region has the largest number of markets outside of Bamako.

<table>
<thead>
<tr>
<th>Region</th>
<th>Poultry Markets</th>
<th>Poultry Fairs</th>
<th>Chicken</th>
<th>Guinea Fowl</th>
<th>Pigeons</th>
<th>Duck</th>
<th>Misc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kayes</td>
<td>7</td>
<td>35</td>
<td>4326</td>
<td>970</td>
<td>436</td>
<td>34</td>
<td>-</td>
</tr>
<tr>
<td>Koulikoro</td>
<td>5</td>
<td>49</td>
<td>43,315</td>
<td>7337</td>
<td>2433</td>
<td>1208</td>
<td>37</td>
</tr>
<tr>
<td>Sikasso</td>
<td>9</td>
<td>46</td>
<td>40,803</td>
<td>14,880</td>
<td>2665</td>
<td>391</td>
<td>17</td>
</tr>
<tr>
<td>Segou</td>
<td>7</td>
<td>53</td>
<td>46,564</td>
<td>8890</td>
<td>2141</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Mopti</td>
<td>3</td>
<td>35</td>
<td>10,583</td>
<td>1682</td>
<td>631</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Tombouctou</td>
<td>-</td>
<td>19</td>
<td>1,196</td>
<td>147</td>
<td>241</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Gao</td>
<td>2</td>
<td>14</td>
<td>2912</td>
<td>155</td>
<td>321</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Kidal</td>
<td>0</td>
<td>3</td>
<td>71</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Bamako</td>
<td>12</td>
<td>0</td>
<td>7025</td>
<td>1684</td>
<td>384</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>254</strong></td>
<td><strong>156,795</strong></td>
<td><strong>35,745</strong></td>
<td><strong>9252</strong></td>
<td><strong>2041</strong></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

A number of poultry markets facilitate the transactions of poultry and related business. Some markets have been improved through PDAM grant funds.
Agenda

Demand (10 yr trends)

Supply (10 yr trends)

Trade (cross border, regional, international)

Enabling Environment (policy implications)

Overview of Traditional Poultry Value Chain

Poultry Value Chain Prices and Costs

Partners Identified
Total poultry population is estimated to be about 35m. Most poultry is concentrated in the Sikasso (9.1m poultry) and Koulikoro (8m poultry) Regions. These birds are traditional village and backyard poultry (96%) which are raised by nearly 70% of all households. They consist of local chickens (80%) and guinea fowls (18%). The remaining species are turkey, ducks, and pigeon. Ducks exist only in irrigated areas.

Source: FAO Global Livestock Production and Health Atlas

*Poultry includes chickens, turkeys and ducks
Maize & Sikasso

The major production area for maize is the Sikasso Region with 395,000mt of maize produced in the 2007/08 crop year.

Combined production in all the other regions does not equal production in Sikasso.

65% of Malian land planted with maize is in Sikasso.

Average yield per hectare is 1,500 kg per ha which is higher than the national average of 1,300 kg per ha.

The Sikasso Region has the largest number of poultry in Mali.

Source: DNPIA

Maize Production by Region 2007/08 (tons)

Total 2007/08: 542,096

Kayes: 50,852
Tombouctou: 4,739
Koulikoro: 61,785
Sikasso: 396,195
Segou: 28,012
Mopti: 513
Gao: 0
The introduction of improved technical packages for producers will increase the supply of poultry to keep pace with the rising demand for meat in Mali.

Growth rates in domestic production and consumption of poultry meat have risen slowly during the past decade, constrained by limited poultry production in the commercial sector. Per capita consumption of chicken meat and eggs remain flat at 3 kg and .9 kg per capita, respectively.
Agenda

Demand (10 yr trends)

Supply (10 yr trends)

Trade (cross border, regional, international)

Enabling Environment (policy implications)

Overview of Traditional Poultry Value Chain

Poultry Value Chain Prices and Costs

Partners Identified
Over 1 million poultry were exported in 2007 before the ban because of AI in region. Abidjan and Accra have a combined population of 8 million people and represent attractive markets.

Poultry meat imports have been a fraction of total domestic consumption (less than 1%) as the GoM prefers to encourage the development of the domestic industry.

Imports of live poultry were mainly DOC until the ban imposed from outbreak of AI in West Africa. Before the ban, exports would have been traditional poultry exported to Cote d’Ivoire and Ghana.
Market agents reported the following direction and volume of trade

**Mopti Region**
Key market is Mopti and rural markets of Bankass and Koro supply poultry to urban area. Mopti is a major source of fish meal exported to Sikasso and Bamako for use in poultry feed.

**Segou region**
Key markets are Segou, Bla, San, Fana, Dioila supplying Bamako with poultry transported in cages of 100 birds on tops of buses.

**Koulikoro Region**
Key poultry markets are Fana and Dioila.

**Bamako Region**
Three modern markets and 48 smaller poultry markets in the city. Many poultry arrive daily on bus from outlying areas to these markets. Kati and Dral are two important feeder markets in the poultry catchment area for Bamako.

**Bougouni in Sikasso Region**
12 markets in the catchment area. Some poultry is sent to Bamako, but there is a large number of restaurants in town requiring poultry.

**Sikasso Region**
Poultry catchment area is in Sikasso with poultry coming from 14 rural markets. Currently 80 cages of poultry with 50 birds per cage are sent three times per week by bus to Bamako = 12,000 chickens and guinea fowls. Maize is exported from Sikasso Region to Bamako, Segou and Mopti Regions for poultry feeding.
Abidjan, with a population of about 4 million, makes the north-south flow of poultry very attractive for the producers in Sikasso Region.

Cote d’Ivoire is a market for Mali’s traditional poultry. (The border has been closed to poultry since 2007, but will reopen in the future).

- Domestic consumption of poultry is 22,963mt
- In 2006, imports of live poultry was 1M
- In 2003, imports of poultry meat was 16,000 mt
- No exports have been reported in the past 5 years
- Sikasso traders reported sending 12,000 traditional poultry before the border closure to Abidjan and see good potential for trade when the border reopens
Imports of day-old chicks (DOC) is a major input into the poultry value chain. A small number of cockerels and hens are imported for cross-breeding programs (Wassache breed) to be supplied to associations, development organizations and individual producers to upgrade local poultry. Major exporting countries of DOCs are Senegal, France and other European countries. Producers experience high mortality losses in DOC during transit. Suppliers of hatching eggs (ETH) are mainly from Brazil and Europe.

### Mali has a deficit in hatchery capacity and must rely on imports of day-old-chicks which are susceptible to high rates of mortality, especially during the hot season.
Agenda

Demand (10 yr trends)
Supply (10 yr trends)
Trade (cross border, regional, international)
Enabling Environment (policy implications)
Overview of Traditional Poultry Value Chain
Poultry Value Chain Prices and Costs
Partners Identified
The Government of Mali supports family and commercial poultry, though their resources are limited.

**Government Support**

- GOM provides direct resources in the Directorate of National Production and Animal Industries (DNPIA) to advise the commercial layer and broiler industries.
- DNPIA staff attends international conferences and workshops in the USA.
- GOM had an active program for family poultry but with the close out of the PDAM program the level of outreach has declined.
- GOM continues to support the multiplication of the Wassache cross-bred poultry – though program is small compared to the need.
### Mali

**Enabling Environment for Poultry**

The policy environment towards poultry is moderately supportive. The Government of Mali could do more to support the private sector by removing some import taxes.

<table>
<thead>
<tr>
<th>Tax Policy</th>
<th>Oversight</th>
</tr>
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</table>
| • The Government of Mali has placed a tax on:  
  • Imports of eggs to hatch (ETH). Eggs from ECOWAS are taxed less than from outside the region. Tax on ETH from Europe is 33%, which is over 400% higher than the tax set in Senegal. Without the tax, the imported price of ETH for layers is FCFA 250 – 260 per egg and eggs for broilers is FCFA 300 – 310 per egg.  
  • Veterinarian medicines and feedstuffs (maize, soy, vitamins, and minerals)  
  • GOM has a tax free policy for poultry equipment and DOC. | • GOM oversight of standard food safety practices for poultry meat is completely lacking in both the traditional and commercial sectors hindering the development of the poultry industry  
• Testing and certification of poultry rations is not required, thus creating opportunities for sub-standard animal feed to be sold to producers. |
Agenda

Demand (10 yr trends)
Supply (10 yr trends)
Trade (cross border, regional, international)
Enabling Environment (policy implications)
Overview of Traditional Poultry Value Chain
Poultry Value Chain Prices and Costs
Partners Identified
The supply chain for traditional poultry is longer (has more intermediaries) than for commercial eggs and broilers resulting in greater stress, mortality, and costs.

Illustration of the product flows and actors are identified for the traditional and commercial sectors in the following slides.

- Commercial sector has more private actors engaged in providing support services
- More poultry in the traditional sector, but flocks are smaller and their productivity is lower – takes a longer time to reach final market weights
- Market chain in the family poultry sector is longer with more actors in distribution channels resulting in higher stress and mortality
- There is no significant commercial processing of poultry, and what little exists is only slightly more hygienic than slaughter in the open live bird markets
- Traditional poultry sells for less than broiler meat in the HRI markets
- Consumers prefer traditionally raised poultry to broiler meat at the present time.
- Export potential is greater for live birds from traditional than commercial poultry
Mali

Family Poultry Value Chain

Inputs
- Animal Health Services – DVM (585 GoM), engineers, technicians, VVV
- Locally available feed ingredients (surplus grown by farmer, waste...)
- Commercial Feed
- Support Services e.g. Poultry Development Project (PDAM)
- Cockerels supplied to family poultry producers (CFA 3500 – 5000/Bird)

Production
- 34 million birds (90%)
  - 16,415 households
  - 18 chickens per household
- Guinea Fowl Eggs
  - 97 million per year
- Extensive Rural Smallholder Production
  - (mostly 1-50 poultry, if guinea fowl: sometimes up to 1000)
- Semi-intensive Smallholder production (mostly 50-200)
- Farm Gate Price = CFA 1100 – 1500/bird

Distribution
- Village market, price = 1200 – 1500/bird
- 1st collector bikes, motor-bikes; Margin = CFA 50/bird
- Rural Market price = CFA 1250 - 1750
- 2nd collector, bikes, motor-bikes; Margin=CFA50/bird
- Urban and Peri-Urban Markets for eggs & Spent Hens (48 market in Bamako & 3 modern), price= CFA 1750 - 2500
- Urban and Peri-urban HHs - CFA 1850 – 2600 / bird
- HRI- meat CFA 5000/kg Grillers CFA 2500/kg
- Small retail Shops – many – eggs CFA 1800/plate
- Regional Export Markets of live birds, Cote d’Ivoire

Processing
- Public Slaughter Points at the market (of which 14 improved), 5 cold rooms 6000t supplied, Process fee = CFA 50 – 100/bird

Markets
- Road side eggs sales (CFA550/10 eggs)
- Home consumption gifts, and ceremonies
- Feces and feathers sold as manure for agriculture. Estimated CFA2000 per pile.

Consumers
- Informal trade: CFA 3000 -3500/bird in Abidjan.

Key: DOC=day-old Chick, ETH=Eggs to Hatch, HRI = hotel, restaurants and institutions, egg = live bird = 0
Mali

Commercial Poultry Value Chain

**Inputs**
- Animal Health & Animal Production Services – DVM & engineers, animal scientists
- Feed Millers (19) Capacity 44,000 mt. Avg Price for CFA 175 -210/kg
- Exotic Parent Stock Farm (1), size 30,000 birds
- Imported ETH
- Imports – DOC 627,000 DOC/yr Price: 800-1100 CFA/DOC
- Cross-breeding program for Wassache

**Production**
- Farms = 184
  - Year = 2009
  - 1,984,000 birds
  - 985,693 layers
  - 998,222 broilers
  - Turnover 25M CFA
- Eggs Production 225 million/yr
  - Sodouf = 45000/dy
  - Cost of production CFA1000/plate
- Broiler production 950,000 birds/yr Est.
  - Cost/ bird = CFA1600 (1.5 kg Live weight.
- Forecast Yr =2010
  - 2,600,000 birds
  - 1,100,000 layers
  - 1,500,000 broiler

**Distribution**
- Private distributors of eggs, bikes, motor-bikes
- Margin for egg seller CFA 100/plate
- Farm Operators distribute their own eggs in cars and vans
- Cockerels supplied to family poultry producers (cfa 3500 – 5000/Bird)
- Eggs Production 225 million/yr
- Sodouf = 45000/dy
- Cost of production CFA1000/plate

**Markets**
- Public Slaughter Points (14 slaughter points), 5 cold rooms
  - 600 mt spent hen
- Slaughter Points on farm or at distributors location
  - 1,425 mt of broiler meat
- Urban and Peri-Urban Markets for eggs & Spent Hens (19 markets)
- Urban and Peri-Urban HHs
  - CFA 2000 – 2500/kg dressed chicken liveweight

**Consumers**
- HRI – café omelet = CFA 150/egg
- Small retail Shops – many
  - Eggs – (CFA 3000/plate)
- Supermarkets (2 - 3) in Bamako
  - Whole FCFA 3000/kg
  - Legs FCFA 4000/kg

**Support Services**
- Poultry Development Project (PDAM)
- Imports of feed: fish meal & maize
- Imports – DOC 627,000 DOC/yr Price: 800-1100 CFA/DOC

**Key:**
- DOC=day-old Chick, ETH=Eggs to Hatch, HRI = hotel, restaurants and institutions
- eggs = 0
- broiler/spent hen= +

Urban and Peri-Urban Markets for eggs & Spent Hens (19 markets)
Commercial poultry operations hire private veterinarians and technicians to treat their animals. Still there are incidents of high rates of mortality, especially during the winter months starting in November and after DOC arrive at the farm.

GOM with support from donors has developed a unique cross-bred chicken, Wassache – local cockerel crossed with the imported Rhode Island Red hen. This pullet can reach market weight in 5 months compared to the local breed which takes 10 to 12 months. The hens produce more eggs though they are not good brooder hens sitting on eggs only after one month.

Smallholder poultry producers lack any access to training on improved poultry management, unless it is paid for and delivered by an NGO.
Lack of financial services available to poultry producers constrains development of the industry.

Donor Projects

- Finance to poultry producers has been through designated donor projects, e.g. PDAM, and programs not sustained beyond the life of the project.
- PDAM funded the construction of poultry markets in a number of cities with the plan that wholesalers would pay 10% of the costs. Most buildings are poorly designed and in some case never operated according to plan. Wholesaler associations have not been able to obtain financing to make their contribution to the building.

Businesses

- Commercial feed mills, growers and processors have not extended credit to smallholders in out-grower schemes.

Banks & Lenders

- Banks and microfinance institutions have not made credit readily available because of the perceived riskiness of the operations (high death losses) and the lack of collateral on part of producers.
Any intervention requires properly designed and affordable housing to reduce heat stress and mortality.

**Opportunities**

- House design, maintenance and hygienic care of the surrounding are requirements of good poultry management.
- A simple housing design at an affordable cost, e.g. FCFA 60,000, would have the potential to improve the productivity of the flock when combined with good management.

**Risks**

- Projects have offered subsidies for construction of housing with doors, windows and roofing. Only a small number of producers benefitted from the program. In some cases, families moved into the house, evicting the chickens.
A public-private partnership will be necessary to effectively reach a large number of family poultry operations with adequate animal health services.

### Smallholder Constraints
- Smallholder producers realize that poultry production is risky because of the threat from disease and theft so producers do not invest in an asset whose value is small compared to other household assets and food production.
- It is necessary to obtain commercial economies of scale in health delivery if traditional poultry can move to a commercial scale.

### Vaccine Benefits
- An annual health prevention plan of ND vaccine, fowl pox and parasite medicine would cost between FCFA 325 to 400 per bird and would reduce mortality by as much as 70%.
- The Newcastle vaccine is available from pharmacies in vials of 100 (FCFA 2,500/bottle) and 1,000 doses (FCFA 11,000/bottle). The vaccine is in adequate supply.

### Policy Changes
- GOM budget to regional and district veterinary officers has been significantly reduced, not allowing for their travel to the villages.
- The GOM privatized the veterinary services placing the responsibility for treatment of livestock with private veterinarians, engineers and village vaccinators. The number of animal health care workers is not sufficient to deliver necessary services.
Knowledge-based systems for poultry production are more effective than trying to create a burdensome, costly and ineffective delivery of inputs by the public sector.

The GOM does not have the resources to carry out wide-scale extension programs. Restricted budgets resulted in government officials remaining in the office unable to contact producers, and over time, their skill set diminishes.

Producers are left to rely on NGO programs for assistance; if an incentive is provided, producers will accept whether or not they are interested in poultry. Once the program ends and technical assistance stops, the poultry activity will stop or revert back to a scavenger, no-input activity.
Expansion of family poultry has to be done without putting the household at food security risk.

One of the most frequently mentioned problems by producers of family poultry is the lack of feed during the dry season, when both people and poultry compete for available grain. Purchase of food grains become expensive and the price of maize can increase 67%.

Producers mentioned wanting to purchase their feed ingredients during the harvest period and store and feed during the dry season. Producers have difficulty obtaining the financing to do this.

A business opportunity exists for a smallholder poultry associations to obtain credit to purchase feed when prices are lowest at harvest time.

Seasonal Price of Grain (FCFA/kg)

- Rainy Season: 75
- Dry Season: 125
Several individuals would be key catalysts for improving the family poultry industry.

**Dr. Dolo Yaya, D.V.M.**, Director of AgriDolo S.A.R.L., a multi-purpose animal health services company. Dr. Dolo has been active in training community animal health workers in Mali and in other countries in Africa. He attended the workshop for a period of time.

**Mr. Ousmane Hamady** is a poultry specialist with DNPIA. He is very knowledgeable regarding how to improve the traditional poultry producers and link them to the commercial sector.

**Mme. Diarata Sango Traorí** is president of FIFAM and also a private entrepreneur in the poultry industry. She attended the roundtable in Bamako, and she is interested in FIFAM playing a role in development of the traditional poultry value chain.
Mr. Salif Doumbia, owner and operator, Cooperative des Provendiers (COPROMA) manufactures livestock feed. Company sells to a few small family poultry operators, and he wants to expand this business with a lower priced feed ration for smallholder poultry producers. He belongs to feed millers association (10 members) in Bamako. He buys maize from Sikasso Region.

Mr. Sidiki Doucoure, general manager, SODOUF poultry company in Bamako. His company is the leading commercial poultry company in Mali. He expressed an interest in developing contract broiler production with rural households.

Mr. Abdoulaye Kone, Director General, and Ousmane Moctar Simpara, Director General of Adjoint, operate Mali-Voilailles – Enterpris Mali-Poussins which sell DOC. The company sells DOC to smallholder farmers.
Mali

Overview of the Traditional Value Chain Map: Identify Beneficiaries

- **Maize and soybean producers**
  - Will receive improved seed and training
  - Will link feed millers and poultry associations to contract their maize and soybean at harvest. (About 287,000 households in Sikasso Region farming approx. 1.0 ha of maize.)

- **Producers and traders of fishmeal**
  - Will provide a better quality product in Mopti to meet the needs of commercial feedmills. (A large number of producers of fishmeal on the islands in the Niger Delta around Mopti and an estimated 30 to 60 traders of fishmeal in the Mopti market.)

- **Family poultry producers**
  - Will receive vaccines for inoculation of poultry against ND in key production regions. (More than 500,000 producers)
  - Will improve their poultry houses in Sikasso and Kouloudo through a housing credit scheme and available TA.

- **Commercial hatcheries**
  - Will have access to a credit fund for the purchase of birds and equipment to distribute improved cross-bred chickens and cockerels to family poultry producers. (Four medium size hatcheries in Mali and number of smaller operators incubating the cross-bred Wassache chicken.)

- **Collectors of poultry**
  - Will have access to a trade credit fund to regularly purchase poultry from producers to supply the two development poles of Sikasso and Bamako. (Hundreds of collectors and wholesales linked to collectors in Sikasso and Kouloudo Regions.)

- **Associations of poultry wholesalers**
  - Will be able to improve their collection, holding, and processing of chickens in the key poultry markets of Sikasso, Bamako, Bougouni, Bla, and Segou for consumers and clients in HRI markets. (Each market association has at least 10 members and some over 50 members.)
Improvement of family poultry operations requires a complete technical package.

The number of poultry in Mali is highly variable because of the severity of disease outbreaks. Villages can lose many poultry in a short span of time from ND.

- Vaccination programs must encompass a large area because of the mixing of poultry outside the house.
- Health programs must be complemented with proper housing and feeding to realize improvements in productivity.
- Producers must better manage production risks.

The structure of the value chain map for family poultry indicates that on the input side, smallholders do not have many support services available.

- Village vaccinators (VVs) are spotty
- DVMs and engineers do not see the profitability in treating producers with small numbers of birds.

Introducing improved poultry genetics, e.g. Wassache, is attractive and can be part of a sustained improvement plan.

- However, the low level of hygiene in the poultry house increases the risks for early mortality as reported by several recipients of improved cockerels.
Poultry production and marketing in Burkina Faso and Mali closely resemble what is known as “perfect competition” in economics. Many producers and buyers daily transact large numbers of poultry. Prices move closely with supply and demand conditions present in the wholesale - retail markets were sellers are mainly price takers.

Transactions are informal with prices negotiated within a narrow band and producers have difficulty differentiating their product from another sellers. The nature of the transaction limits the ability on the part of producers to invest more in improving the quality because premiums will not be paid - other than on weight.

Keeping costs of production low will be important, if family poultry operators are to invest in expanding their flocks and move from scavenger to improved production systems.
It will be necessary to create the necessary market incentives for poultry producers to invest in vaccines, housing, feed, and genetics to improve their poultry operations.

The market conditions do not create incentives for necessary investments on the part of producers, partly because of market prices, partly because of the size of poultry assets relative to other farm activities. When cropping season starts, poultry becomes of secondary concern among household activities.

Transport of poultry is stressful on the animal such that death rates can rise during the hot season because of overcrowding of cages and lack of water. Cages are not properly cleaned after, which can cause poultry to easily become sick and die. The low value of an individual chicken does not incentivize the collectors and wholesalers to invest in new cages or new ways of transporting chickens.
Mali
Processing

Poultry processing has not received the attention it requires for a modern poultry industry to emerge and be competitive with other meat products.

A severe weakness in improving the value chain is the lack of a formal business processing industry for traditional poultry. It is difficult to intervene in the value chain when value added processing is not present in a structured, commercial business organization.

Another general weakness in the value chain is the poor hygienic conditions under which poultry are slaughtered and processed for home and HRI markets. Contaminated slaughter places become a biosecurity risk for transmission of Avian Influenza (AI) and other food borne diseases to humans. The risk of contamination can also reach back to production sites, especially commercial operations in peri-urban areas.

All parts of the chicken are captured in the processing, except for the blood, because of the slaughter procedures. Many individuals are engaged around the slaughter and processing of poultry involving killing, cleaning intestines, trimming the heads and removing the feet – important in job creation.
Agenda

Demand (10 yr trends)
Supply (10 yr trends)
Trade (cross border, regional, international)
Enabling Environment (policy implications)
Overview of Traditional Poultry Value Chain

Poultry Value Chain Prices and Costs

Partners Identified
Reducing the price of local chicken meat requires increasing production, reducing the cost of feed, relieving stress in birds, and decreasing the rate of mortality.

The cost of local chicken is relatively high compared to other meat products (which is the opposite of most countries self-sufficient in poultry production), because of the preference for the taste of traditional poultry meat by consumers in urban and peri-urban markets.

Reducing the price of local chicken requires reducing the cost of feed, which is over 60% of the cost of production of poultry meat, and decreasing bird mortality, which can be over 50% or higher from Newcastle Disease.

Comparative Retail Prices (FCFA/kg)

<table>
<thead>
<tr>
<th></th>
<th>Price in FCFA/kg</th>
<th>Consumption in Kg/cap/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>800-2,000</td>
<td>9.5</td>
</tr>
<tr>
<td>Goat</td>
<td>1,000-1,250</td>
<td>7.3</td>
</tr>
<tr>
<td>Mutton</td>
<td>1,500-2000</td>
<td></td>
</tr>
<tr>
<td>Com. spent hen</td>
<td>2,000</td>
<td>0.2</td>
</tr>
<tr>
<td>Broiler at farmgate</td>
<td>1,200-2,000</td>
<td>0.07</td>
</tr>
<tr>
<td>Broiler (price at supermarket)</td>
<td>3,000</td>
<td>0.53</td>
</tr>
<tr>
<td>Local chicken</td>
<td>3,000-3,200</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: consumption FAOSTAT 2007, prices taken during field visits
Mali

Poultry Value Chain Markups

Price Markups in Mali Family Poultry Chain (CFA/Bird)

- Farm Gate Price (59%)
- Village Market (5%)
- Rural Market (3%)
- Urban Market (27%)
- Retailer (5%)
- Final Price

There is a 100% markup for broiler chickens that are sold in the supermarkets in Bamako. This margin pays for the higher costs of slaughter, processing, transport and labor.

Price Markups in Mali Commercial Poultry Chain (CFA/Bird)

- Farm Cost (53%)
- Retail Markup (47%)
- Final Price

The margins between the farm gate and the consumer of traditional poultry are reasonable and not too distorted by market structures or practices.
Mali

Northern Zone Value Chain Costs and Margins

Charts on left show the margin based on cash

Cash Costs & Margins for Poultry (CFA/Bird) - Northern Zone (Bamako), Mali

- Farm Gate: Cost Per Bird 943, Margin 257
- Village Market: Cost Per Bird 1,200, Margin 150
- Rural Market: Cost Per Bird 1,410, Margin 90
- Urban Market: Cost Per Bird 1,887, Margin 313
- Griller: Cost Per Bird 2550, Margin 90

Charts on the right show that when non-cash values and costs are included, the margin to farmer is reduced drastically.

Imputed Market Values and Direct Costs for Poultry (CFA/Bird) - Northern Zone (Bamako), Mali

- Farm Gate: Cost Per Bird 1,040, Gross Margin 257
- Feed: Cost 634, Gross Margin 149
- Labor: Cost 149
- Amortization: Cost 257

Cash Costs & Margins for Poultry (%) - Northern Zone (Bamako), Mali

- Farm Gate: Cost Per Bird 79%, Margin 21%
- Village Market: Cost Per Bird 89%, Margin 11%
- Rural Market: Cost Per Bird 94%, Margin 6%
- Urban Market: Cost Per Bird 86%, Margin 14%
- Griller: Cost Per Bird 51%, Margin 49%

Imputed Market Values and Direct Costs for Poultry (%) - Northern Zone (Bamako), Mali

- Farm Gate: Gross Margin 13%
- Feed: Gross Margin 87%
- Labor: Gross Margin 61%
- Amortization: Gross Margin 14%
Mali
Southern Zone Value Chain Costs and Margins

Cash Costs & Margins for Poultry (CFA/Bird) - Southern Zone (Sikasso), Mali

Cash Costs & Margins for Poultry (%) - Southern Zone (Sikasso), Mali

Imputed Market Values and Direct Costs for Poultry (CFA/Bird) - Southern Zone (Sikasso), Mali

Imputed Market Values and Direct Costs for Poultry (%) - Southern Zone (Sikasso), Mali

Charts on left show the margin based on cash

Charts on the right show when non-cash values and costs are included, and the reduced margin to producer
Because returns are low, farmers have been reluctant to invest in traditional poultry.

The cash returns to the smallholder producers are attractive, as seen in the left-hand charts in the previous slides. The Northern and Southern production zone of Mali has cash returns as high as FCFA 940 and a gross margin of 80%.

- Market observation indicates many immature chickens are being sold, because a farmer receives cash payment even for chickens weighing 500 g or less.

However, when non-cash values (eggs and manure) and non-cash costs (family labor, feed from household stores, and high amortization – disease risk of complete loss of the flock) are considered, then the return per mature cockerel declines to FCFA 166, and the estimated gross margin drops to 13%.

- Family members calculate these non-cash costs and returns and can be reluctant to expand their poultry operations, compared to other investments in the household economy.
Agenda

Demand (10 yr trends)
Supply (10 yr trends)
Trade (cross border, regional, international)
Enabling Environment (policy implications)
Overview of Traditional Poultry Value Chain
Poultry Value Chain Prices and Costs

Partners Identified
Mali
Potential Local Partners

ICD and VSF – Belgium: *Projet d’Appui aux Organisations Feminines par l’Elevage d’Especes à Cycle Court.*

**Partner Profile:** Started in 2001, it has 100% Malian staff with support from VSF-Belgium. The project has 200 households participating in its program. The target is to expand to 500 households, but more likely will reach 300 – 350 households.

**Program Summary:** The poultry project is one of five projects being implemented. Before the project, women sold 2 – 3 chickens per year. Now, they are selling 8 – 10 chickens every three months. ICD helps women to prepare their livestock for market to get a better price. The project vaccinated poultry in 10 villages around Kati. The program distributed improved cockerel with mixed results. Women increased their annual poultry sales from an average of FCFA 6,000 per household in 2007, to FCFA 24,000 in 2008, and 46,000 in 2009.

**Capacity:** Organization receives technical assistance from VSF-Belgium. ICD shares office space with other NGOs.

**Areas Served:** The ICD works in villages around Kati near Bamako.

**Business Models Deployed:** ICD focuses on engaging women in short cycle livestock using appropriate technology, like poultry house construction costing under FCFA 20,000. Staff promotes women associations and links producers to the market through organized sales using a collector.
Mali
Potential Local Partners

**FIFAM**

**Partner Profile:** Started in 2005 with guidance of PDAM. Its first office was in the headquarters of PDAM. There are 3,000 members, and FIFAM organizes producers first at the village level, and then representatives are appointed for the commune, district, region and national levels. All staff are volunteers, and the president is Mme. Diarata Sango Traori, who operates an animal health pharmacy.

**Program Summary:** The initial task was to organize the value chain for family poultry. The challenge is finding common ground between FP producers and larger commercial operators. The organization conducts many trainings for its members and uses European experts who volunteer for the assignments.

**Capacity:** Staff are all volunteers, so it can be difficult to get their time.

**Areas Served:** National program to assist areas of concern to its members, e.g. transportation, and work to remove the problems.

**Business Models Deployed:** FIFAM is loosely governed, so its potential to service the family poultry sub-sector is unknown.
Competitive Analysis of Traditional and Commercial Poultry
Competitive Analysis of Family Poultry and Commercial Broiler Production
(4 batches of 500 Broilers per Year) in the Major Production Zones in Burkina Faso and Mali

Gross Margin for Different Levels of Traditional Poultry Compared to Commercial Broiler Production Southern Zone, Burkina Faso

<table>
<thead>
<tr>
<th></th>
<th>Operating Costs</th>
<th>Gross Margin</th>
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</thead>
<tbody>
<tr>
<td>Scav-trad</td>
<td>0.86</td>
<td>0.14</td>
</tr>
<tr>
<td>Imp-Basic</td>
<td>0.61</td>
<td>0.22</td>
</tr>
<tr>
<td>Imp - Xbred</td>
<td>0.76</td>
<td>0.49</td>
</tr>
<tr>
<td>Imp - 30 hen</td>
<td>0.48</td>
<td>0.55</td>
</tr>
<tr>
<td>v.imp - 50 hen</td>
<td>0.51</td>
<td>0.78</td>
</tr>
<tr>
<td>4-br - 500</td>
<td>0.52</td>
<td>0.55</td>
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Gross Margin Analysis for Different Levels of Traditional Poultry Compared to Commercial Broiler Production Southern Zone, Mali

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<td>0.22</td>
</tr>
<tr>
<td>Imp-Xbred</td>
<td>0.60</td>
<td>0.49</td>
</tr>
<tr>
<td>Imp-30</td>
<td>0.45</td>
<td>0.55</td>
</tr>
<tr>
<td>v.imp - 50 hen</td>
<td>0.45</td>
<td>0.78</td>
</tr>
<tr>
<td>4-br - 500</td>
<td>0.51</td>
<td>0.51</td>
</tr>
</tbody>
</table>

- Gross margins for family poultry increase as producer shifts from traditional extensive scavenger poultry systems to improved semi-intensive systems with larger flock size and better genetics
- Flock sizes can only be increased if farmers switch to improved husbandry and management methods
- As gross margin increases, then the family poultry operator will have increased gross margins to invest in more efficient production methods or lower their asking price to collectors
- Improved traditional poultry can be marketed in urban areas even at a higher price to broiler meat
- Broiler meat will be sold at a lower price and will be mainly sold in the peri-urban and urban markets to price-conscious consumers
- Only producers able to improve their scavenger poultry operations up to 30 - 50 hens through better husbandry and management have acquired the basic skills to become contract growers for commercial broiler companies if they were to expand production in both countries

Source: JE Austin analysis of 52 interviews with poultry farmers
Although sufficient demand exists to absorb all current supply of broilers, poor farmers are unable to increase production as risk and required investment levels are high.
Poultry Business Models
Key business models in other countries offer the potential for BMGF to replicate similar successes in Burkina Faso and Mali. These models are examples of being:
Poultry Business Models: Organization

BRAC/DANIDA Household Poultry Model (Bangladesh and other countries)

**Background:**

- The model evolved out of a food aid project supported by the World Food Program and the Bangladeshi Department of Livestock Services. The Bangladesh Rural Advancement Committee (BRAC) joined the initiative partly to provide credit support and included the poultry model in their Rural Development Program (RDP) during the years 1983-1986. Several smallholder livestock development projects have been designed around this model.

**Characteristics:**

- Technical training
- Credit
- Market linkages
- Promotion of backyard poultry production for the poorest female-headed households.

**Process:**

- to identify target group households with less than half an acre of land,
- organize village groups
- provide them training, credit and supply of inputs
- undertake necessary supervision and monitoring.

**Key Actors:**

- **The Department of Livestock Services (DLS)** delivered vaccines, day-old chickens and training and follow-up for farmers, but did not have the capacity to cover all demands.
- **The NGO purchases the chickens** from the chick rearing units and sell them to the key rearers. The support services for the key rearers are primarily the Poultry Workers.

*In Bangladesh, a public animal health and production network was set up, and credit was provided through NGOs to improve poor farmers’ poultry systems and increase their income.*
Beginning in 1999 with the assistance of Danida, the Network for Smallholder Poultry Development implemented the model in at least ten countries: Benin, Bolivia, Burkina Faso, Eritrea, Kenya, Malawi, Mozambique, Senegal, South Africa.

Despite apparent success in Bangladesh, difficulties emerged. A large number of female farmers dropped out of the poultry model enterprises, due to problems of profitability and service deliveries.

The model has been simplified and more diverse strategies implemented.

The present strategy for the development of the Bangladesh smallholder poultry sector may include two paths, one for simple poverty alleviation activities and one for small-scale commercial enterprises.

**SOURCES:**

RIISE, J.C. et al. 2005. Impact of Smallholder Poultry Production in Bangladesh –12 years Experience with Danida supported livestock projects in Bangladesh

AHUJA, V. and A. Sen. 2007. Scope and Space for small scale poultry production in developing countries. INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD INDIA W.P. No.2007-12-02

Jacques Fournier, PADAB2 project, personal communication
Too many beneficiaries were targeted, leading to a model that was too complicated and delivered insufficient benefits to poor farmers.

The Beneficiaries in Bangladesh Poultry Model Supply Chain

**Model Breeder**

Small low cost parent farms with a breeding stock of about 50 local hens and the requisite number of RIR cocks received either from the project site or directly from government poultry farms. These were raised under a semi-scavenging system with balanced rations for producing high quality fertile eggs for hatching. These eggs were to be sold to Mini Hatcheries and to Key Rearers who would hatch them under local hens.

**Mini Hatchery**

Small, low cost hatcheries operated with solar energy and kerosene stove. Each hatchery had a capacity to hatch 1,000 chicks per month. The day-old chicks were sold to the Chick and Key Rearer.

**Chick Rearer**

Small rearing farms with a capacity of 200-300 chickens per batch and 4 batches per year. The chickens were reared in low cost houses from day-old to 8 weeks of age. These chickens were fed with balanced feed and sold to Key Rearers at about 8 weeks old.

**Key Rearers**

Small farmers with about 5 crossbreed layers for the production of table eggs. The hens were kept under semi-scavenging conditions with 30-70% supplementary feed. Additionally 4 local hens were kept to hatch eggs preferably from Model Breeders and rear chick from Mini Hatcheries. They are the main target group (95% of project beneficiaries) in the poultry model.
The model included training of workers to vaccinate birds, training of feed sellers to properly mix feed, and the supply of eggs to a community sale center or wholesaler.

**Poultry workers**

A numbers of poultry workers were trained to vaccinate the birds to control diseases, give some basic treatment, and advise on poultry management. The vaccine was supplied for free by the DLS through the Area Office of BRAC, and the Poultry Workers charged a vaccination fee for providing the service.

**Feed Seller**

The feed sellers were trained to mix feed or sell pre-mixed feed as a supplementary feed to the poultry keepers. They prepared balanced chicken rations from locally available feed materials supplemented by purchased nutrients.

**Egg Collectors**

Table eggs were collected from the Key Rearers by Egg Collectors to be supplied to a community sale center or to the wholesaler at the nearby market.
Income from poultry of poor farmers increased substantially from a low base, but still only reached 0.2 USD/day, the current level in Burkina Faso and Mali.

**Successes of the model:**

- Significant impact on the economic and nutritional status of the poor, especially women and girls
- Favourable cost-benefit ratio
- Viable path for poor women to enhance household incomes and develop social status

**Absolute income increases are fairly marginal (4 USD/month),** but the model added to the market-orientation of the households and contributed to the cash flows at the household level.

- A qualitative tool of self-assessment showed a marked reduction in poverty due to the targeted poultry program, from a head-count incidence of 42% to 26%
- Livelihood strategies were noted to be heterogeneous, although poultry enterprise alone is being supported with technology, training, information, vaccination etc.
- The mean level of income share from poultry was 5.7%
- The poultry mortality rate fell from 21.3 to 7.6% in the project area
- Annual chicken meat increased from 1.6 to 16.7 chickens and that of eggs from 43 to 186
- Yearly income from sale of chicken and eggs rose from 10 USD to 60 USD
- Since 1993, over 5 million beneficiaries were involved in the model (around 4% of the Bangladeshi population)
The model did show that increasing income through poultry empowers women, is directly invested in family expenses and a good tool to address poverty.

Successes of the model:

- Poultry facilitates improvements in social status and can – together with other factors – have a catalysing effect, helping farmers move out of poverty.

- Income generation activities for women increase women’s control of resources. Women no longer need to rely economically on their husbands or sons and are able to deposit savings and spend money on what they need.

- Women believe this has increased both their status within their household and their own self-confidence.

- With a relatively low profit margins, smallholder poultry farming is attractive to people with low opportunity costs, i.e. those who have limited opportunities for alternative income streams.

- With complementary NGO poverty programs the economic and social development of the project participants would progress more rapidly.

- The Poultry Worker group increased household income significantly due to income from vaccination services.


Constraints of the model included lack of sustainability, too narrow of a focus on technology adoption, and an unstable and unreliable supply of vaccines.

Constraints of the Model:

Individually, enterprises may be profitable, but when donor support stops, the largely supply-driven structure falls apart.

- The non-sustainability of the interlinked poultry model with its 6-8 interdependent poultry production enterprises was revealed.

The original Bangladesh model was too narrowly focused on technology adoption and strict rules on using techniques, instead of:

- adapting the general guidelines to local situations
- using locally available materials and experience.

The poultry workers had a considerable workload and with a highly unstable and unreliable supply of vaccines they were vulnerable to events outside their control.

- Domestic vaccine production was able to cover less than 50% of the growing demand
- The perception of the business as high risky explains the limited continuation of poultry workers post-project (only 5-10 percent continued)
Poultry Business Models: Constraints of the Model
BRAC/DANIDA Household Poultry Model (Bangladesh and other countries)

Inappropriate incentive structures were created by bundling micro-credit and technical advice and by developing a selection process that excluded the poorest beneficiaries

Constraints of the Model:

The rigid model approach, with its fixed numbers per level and pre-set production outputs, resulted in several unintended effects:

- NGOs had a less demand-driven approach
- NGOs did not involve farmers or village organisations in decision making (e.g. on size of loan or type of enterprise)
- NGOs focused more on loan disbursement and recovery than on technical support for smallholders

Poultry was not considered a particularly profitable investment by those receiving project credits

- many of the beneficiaries may have entered the poultry projects primarily to gain access to credit, rather than improving poultry production
- Most beneficiaries were from relatively well-off households with landholdings and income levels significantly above target levels set in the project documents.

This is partly because a key selection criterion for participation in the project was the debt capacity of beneficiaries, which excluded the poorer segments of the population.

- Obviously the official selection criteria was not related to debt capacity of beneficiaries, but as implementing NGOs gained their main income from expanding their micro-credit portfolio and were monitored primarily on their credit performance, they had every incentive to select beneficiaries with assets and diverse income streams in order to improve the quality of their loan portfolio.
Poultry Business Models: Lessons learned
BRAC/DANIDA Household Poultry Model (Bangladesh and Other Countries)

When the model was adapted to other countries, it was simplified, more attention was paid to technical advice, and crossbreeds were introduced only to farmers who could manage them properly.

Some lessons learned which are currently applied in similar projects in several African countries:

### Enhanced income from poultry requires knowledge of basic husbandry skills

- Trainers must acknowledge that farmers adopt and adapt new knowledge more easily if trained in their own environment through practice based learning.
- Only simple adaptive techniques are suitable for poor farmers, and adaptability and cost-effectiveness are the key factors for keeping techniques viable in the local community.
- Using what is available locally, in terms of available breeds, feeds and farmers’ skills and local knowledge, the existing system may be improved by as few external inputs as possible.

### When dealing with poultry as a means of addressing poverty, the risks involved in starting up or improving the production must be minimal from a producer’s point of view.

- Introducing new high-yielding breeds should be done in a careful step-wise manner, ensuring that producers know how to handle disease and management problems first.
- A slow participatory sensitization process of all village members, is an essential starting point for the development of village-based poultry production.

Subsequent training and service delivery are important, using a participatory training approach for extension personnel and farmers.
The strengths and weaknesses of starting poultry activities without credit need to be investigated:

- Local savings and labour may be invested for the essential inputs
  - Reduce the overall risk
  - Increase the cost-benefit by simple means
- Starting Farmer Field School groups based on the common interest of the farmers
  - Avoid farmers entering into poultry rearing with little interest in poultry
  - Groups formed in a participatory bottom-up approach will enroll fewer participants

To make the poverty-focused approach sustainable, the sophisticated model approach should be abandoned and support should focus only on simple adaptable techniques and approaches, assuring the steady delivery of a few essential service inputs, and the organization and training of farmers in common-interest groups at village level.
In its simplest form, the number of enterprises is reduced from 8 to only 2

- Village poultry rearers
- Village vaccinators (former Poultry Workers),
- The broader task of delivering vaccines, medicine and simple advice on animal health issues remains

The importance of the private sector in service delivery was recognized

- The most crucial input for improving small-scale poultry farming is timely and adequate delivery of vaccines
- It is essential that the service delivery market is liberalized and that government-based vaccine production is privatized and subsidies removed
- To make development sustainable, input supplies should receive limited subsidization. Activities in Burkina Faso, Benin and Senegal involved giving the first vaccination for free to demonstrate to smallholders that vaccination works. Subsequently, vaccines and medication were sold at market prices with a vaccination fee for the village vaccinators

Poultry is a first step out of poverty, and not a goal in itself

- It is important to remember this and avoid viewing drop-out rates as a sole criteria for success or failures.

Pilot activities in Benin, Burkina Faso and Senegal were initially organized around local chickens or guinea fowl for a dual-purpose egg and meat production, but with a clear marketing strategy focusing on sale of live birds and occasional eggs for incubation.

- Marketing was important when dealing with poultry production as an income generating activity
- Most market research show no product saturation for indigenous products on a local or even national level
- Production of improved meat (broilers) or eggs needs more attention on the national and even global markets
Keggfarms Background

- Keggfarms was founded in 1967 to produce industrial DOC
- In 1991, India opened its previously protected economy to foreign competition and Keggfarms needed to identify an opportunity that the large players could not address
- It was realized that large poultry breeders and producers would be able to serve the urban markets, but could not serve the 75% of Indians who lived in semi-rural or rural India
- Per capita poultry meat (increase 10%/year) and egg consumption (4% per year) rose for years, in absolute terms and relative to other comparable foods, for several reasons:
  - Due to industrial production, prices of eggs and chickens rose the least relative to prices of other meat, like mutton, beef, pork, etc.
  - Decreasing vegetarianism encouraged poultry consumption, particularly in urban areas
- However in rural India, production and consumption of poultry products did not experience similar increases (transportation costs rendered industrial poultry products far more expensive than in the urban areas)
This was achieved by developing a cross-breed with higher productivity that was adapted to consumer preferences in the huge Indian market.

Kuroiler Bird Background

- Kuroiler is a **crossbreed** of foreign and local chicken that specially developed as a meat and egg-producing chicken for the rural conditions in India:
  - Double weight and **5 fold egg production** of local chicken (1 kg at around three months/150-200 eggs)
- Keggfarms geneticists and breeding specialists spent years developing the current “genetic model” of the Kuroiler
- It is multi-colored for camouflage and farmers prefer it because it:
  - Thrives on household waste, scraps, bugs, insects, seeds, vegetation, and pulverized sea shells and **does not compete with villagers** for expensive grain or require any special feeding
  - Requires **no special animal husbandry methods** that could not be cheaply provided by using scrap materials readily available to poor, rural villagers
  - Is **genetically resistant to disease**
Poultry Business Model: Organization (cont’d)

KEGGS Kuroiler Model (India)

The network created was also complicated but sustainable, as it relied on technical input through private businesses.

Kuroiler Business Model Background

- The key strength of the ‘Kuroiler’ business model is the door step delivery system that supports ‘Kuroiler’ distribution in the villages.
- Keggfarms supplies its DOCs to the villages through an extensive network of dealers/suppliers, Mother Units and vendors across Northern and Northeast India.
  - The Mother Unit operators and the vendors are independent, local entrepreneurs whereas Keggfarms does not employ but appoints the dealers/suppliers. This is to provide the necessary linkages between company hatcheries and the Mother Units and finally to households dispersed over the entire country often in remote locations.

Unfortunately growth was still slow and profits from the poor, rural village business were very limited due to the severely limited purchasing power of the customers.
To boost growth of the Kuroiler, in 2003 two new products were developed:

- A fast-growing meat Kuroiler (“Kuroiler FFG”) to be sold to rural farmers
- KEGGS, a branded premium egg to be sold in upscale urban markets

**Kuroiler FFG™ DOC**

- Targeted to be raised by small-scale, professional farmers near rural villages with 500 to 1,000 chickens per farm
- These farmers are more **quality conscious** and will purchase feed for their stock.
- Tend to be **relatively prosperous**, with annual incomes of Rs50,000 and above
- The fast growing Kuroiler possessed traits that were appropriate for professional growing in rural settings
- There was a **dense enough concentration** of villages so that vendor distribution would be efficient (A territory is needed to be able to absorb 200,000 chicks per month in order to be financially sustainable)

**A study comparing the performance of Ugandan Indigenous (UI) chickens and Kuroiler (K) chickens is currently underway in Uganda, but no conclusions have been reached**
Poultry Business Models: Successes of the model

KEGGS Kuroiler Model (India)

**Income from poultry of poor farmers increased significantly but still only rose to USD0.25/day, probably due to very small flock sizes resulting in part from limited technical assistance.**

### Measurable successes of the model:

- Poultry numbers increased 14M from 1996 to 2005 (annual growth rate of almost 22%)
- The domestic hatchery industry remained competitive against imported birds
- Everyone in the Kuroiler chain are independent but still dependent on each other. This aspect of the Kegg Farm model seems sustainable because it has created the needed rural entrepreneurs

### 5,000 additional jobs created in the poultry industry

- 3,000 independent chick distributors and vendors
- 1,500 MU farmers
- 500 chick dealers
- In addition 800,000 families raise Kuroilers

### Vendors

- Most of the vendors were landless and unemployed or farm and non-farm labourers
- Many belong to the poorest income strata
- They are often poorer than the poorest Kuroiler household
- They were able to get incomes of up to $150 per month

### Farmers

- The rural households make $6.5-7.5 per month as supplementary income
There was no grassroots support for restocking. Neither the government nor the Keggfarms extended any support to the Mother Units, vendors, or the Kuroiler rearing households.

Chick vendors did not engage in continuous training of farmers, especially during the AI crisis in India.

After the outbreaks in India, 40% of Mother Units closed, and vendors were jobless for several months.

Private businesses did not train the vendors who are selling three-week old crossbreds to farmers during the HPAI crisis, meaning that farmers suffered most and, furthermore, that the hatchery profited later when the flock needed to restock.

Without education from the government or from Keggfarms about poultry and AI, the impact of the outbreaks on Kuroiler farmers and all actors in the value chain was severely affected.

The disruptions in the supply chain made it difficult to spread extension messages because old relationships of trust were weakened. The cost of the two key inputs—the DOCs and the feed—increased considerably (nearly 30%) immediately after the ban period.

Sources:
ISENDERG, D. (2007) Keggfarms (India) - Which Came First, the Kuroiler™ or the KEGG™? Harvard Business School. Ref 9-807-089
AHUJA, V. et al. (2008). Poultry based livelihoods of rural poor: Case of Kuroier in West Bengal NDD-FAO.
AHUJA, V. et al. (2009) Dead Birds or Shattered Hopes? A Study of the Impact of Bird Flu on Poor People’s Poultry related Livelihoods in West Bengal. FAO.
Poultry Business Models: Organization
PRADAN/Kesla Cooperative home based broiler model (India)

This model created the incentives for private businesses to engage cooperatives of family poultry operators in broiler out-growing.

PRADAN/Kesla Background

• In 1991, when India opened its previously protected economy to foreign competition, small producers found themselves pitched against big commercial houses and private traders catering to complicated and long supply chains.

• Though poultry was the fastest growing agricultural enterprise during the last decades, growing at 11% in with 1.8 million tons of poultry consumed in 2007 and the commercial poultry industry having a 1,500 million broiler capacity, the contribution of small-producers to the poultry sector was just 8% of the total share.

• Rigid entry barriers like supply chain demands, competition, lack of extension, marketing services and access to appropriate technology were major impediments.

• In Madhya Pradesh, which has poor road connectivity, poor irrigation facilities and low agricultural outputs, annual household income was below USD300, with most households living in deficit.

• To address this situation, Professional Assistance for Development Action (PRADAN), a national NGO working since 1988, in 1997 started a home-based broiler farming pilot project, based on the hypothesis that it was possible for a larger cooperation of small-producers to surmount commercial poultry entry barriers provided their production efficiency, quality orientation and veterinary inputs were combined into a cost effective system that could withstand the unpredictable nature of the poultry market.
This model focused on fast growing broilers and was adapted to the Indian broiler market.

Fast growing broilers were chosen because:

- The niche market for improved birds such as ‘Kuroiler’ were limited
- India has a large domestic market for broiler meat (comparable to the US)
- Growth of cockerels were considered too slow and poor families require quicker returns;
- Risk reduction such as protecting birds against predators would necessitate creation of ‘confined’ space.
- The scavenging area per homestead and household waste would provide feed for only 20-25 birds.
- Keeping birds confined and increasing the number of birds implies buying feed from outside thus a bird which can provide the maximum return to investments made was necessary
- Broilers have the ability to convert a minimum amount of feed into a maximum amount of meat (high feed conversion rate).
This model was successful as it only worked with farmers who had transitioned from local genetics to cross-breds and because it created market linkages.

This approach began by first building on backyard poultry systems through the introduction of improved breeds like cockerels and Kuroiler combined with marketing support services from PRADAN.

- However, the results were mixed and the model was reassessed.
- The home-based broiler value chain is at its core a scaled-down version of the modern industrial broiler value chain.

The Kesla Poultry Cooperative Society links small-holders to fast growing Broiler markets by creating a collective, filling skill gaps, addressing production efficiency, providing support services and inputs and marketing of live broilers.

- The Cooperative today comprises 459 women members across 18 villages. Each member owns backyard production units of a minimum of 300-400 broiler birds and sells under the ‘Sukhtawa Chicken’ Brand and through wholesalers.
- PRADAN motivated small-producers (i.e. poor women but who already had experience as members of successful self-help groups) to organize themselves into a cooperative. To become a member you needed 130 m² of owned or leased land.
- Each member of the cooperative invests about USD 1,380 in bank loans and subsidies to build sheds, buy day-old chicks and equipment.
- Broiler rearing sheds could house 300-400 birds per batch. PRADAN supplied day-old chicks to members, which were ready for sale within a 32 day cycle. This allowed members to rear 7-8 batches a year and earn around 250-450USD per year. (200 working days)
The Cooperative ensures procurement of inputs (chicks, feed, medicines and litter material) in bulk along with veterinary facilities and marketing services through local traders, city warehouses and retail outlets in the nearest urban centre.

The Cooperative takes ready birds at predetermined rates and dates.

Each member is provided with a production card, to record all cost transactions including performance variables like mortality, weight gain, feed conversion ratio, etc.

Members are helped to analyse reasons for high or low profits at the end of each cycle.

This model was also successful because it was based on contract farming, which reduced the risk for farmers and linking large and small business interests.
The model did not neglect village-based animal health and production assistance.

Trained Supervisor

Each village of 25-30 producers has a trained supervisor (CAHW) who provides round-the-clock production support including distribution of inputs. The supervisor also oversees disinfection of sheds, vaccination and lifting of birds, monitors weekly bird weight, records mortality and brings information to the Cooperative office, where, jointly with the DVM production performance is analysed and corrective measures are suggested.

Member Training

All members underwent training (chick management, measuring feed and medicines, vaccine schedules, disease prevention, maintenance of sheds, usage of poultry equipment and record keeping etc). The training also took the members through the intricacies of an entire rearing cycle including enhanced focus on bio-security, management of major diseases, water management, litter management etc. A CEO manages the day-to-day operations of the Cooperative and is assisted by 37 paid staff (including village supervisors) from affiliated villages.

Governing Board

Each month a Governing Board comprising of at least 11 elected women representatives from amongst the producers, meets to discuss and take decisions on the performance of clusters, staff deployment and remuneration, input procurement, fixing of input-output prices, new appointments and marketing issues (like price and pick-up dates). This information is communicated to members regularly.

The system works through: effective organization of production, clarity on input and output requirements, clear communication procedures, and a robust financial system.
A cooperative model was used based on many well-trained farmers raising larger flocks, risk reduction through contract farming, and a risk reduction fund.

This is a successful **cooperative model** (federated at the State level into a producer company) where quality inputs, risk mitigation and access to market are guaranteed to minimise producer risks and retain equity.

- The Kesla Cooperative **produces 125,000 birds every month.**
  - It supplied 714,000 birds and sold 1,360 t of live broilers in 2008, thereby making it one of the largest poultry production houses in Madhya Pradesh.
  - An increase in the monthly supply of broiler chicks from 2,500 in 1998 to over 714,000 chicks in 2008, resulting in **an average annual income of USD 250-450** to each member.
  - The annual turnover of the Cooperative has doubled in the last three years and in 2007-2008 **the total amount distributed to members was USD14,500** a fourfold increase from 2004-05.
A significant part of the surplus at the Cooperative level is pooled into the **risk mitigation fund** to deal with future price fluctuations.

- The fund provides a resilience which individual members do not possess.
- For instance, during the January 2006 avian influenza crisis, as other small producers were selling birds at a distress price of 0.2USD/kg, and many small poultry producers closed business, the Cooperative used innovative methods of tapping the rural markets and realised a price of 0.4USD/kg.
- The Cooperative members stayed in business, due to the Cooperative’s mitigation fund.
- Today the net worth of Kesla Cooperative is 75,000 USD and has a risk mitigation fund of 21,500 USD.
Poultry Business Models: Successes of the model
PRADAN / Kesla Cooperative home based broiler model (India)

Scalability of this model was possible due to the large Indian domestic broiler market.

Today the Kesla Cooperative comprises 459 women members across 18 villages.

Today, the model has been extended to reach 5,306 women broiler farmers organised into 16 cooperatives in the states of Madhya Pradesh, Chhattisgarh, Orissa and Jharkhand making it the largest conglomeration of farmer led modern poultry effort in India. It is planned to reach out to 50,000 women by 2020.

Tribal women and other women of disadvantaged communities who traditionally keep poultry have an excellent skill base to develop as broiler rearing entrepreneurs. They manage to keep two systems alongside each other; i.e. the high tech broiler rearing and traditional backyard poultry based on indigenous birds for home consumption and cultural reasons. The broiler birds are not in contact with the indigenous poultry breeds.
Poultry Business Models: Successes of the model
PRADAN / Kesla Cooperative home based broiler model (India)

The model encourages poor rural women to become entrepreneurs and earn a decent living.

The monitoring ‘producer cards’ work as an effective focused communication tool to:

- analyse performance and to provide advice (producer – supervisor)
- discuss problems and seek technical assistance (supervisor – technical/veterinary staff of cooperative)
- discuss overall performance
- plan off-take schedules, etc. during monthly cooperative meetings

Poor rural women with interest in poultry and under the guidance of their cooperative can become entrepreneurs and successfully enter a complicated and volatile poultry market. Apart from making a living from broiler production, they acquire confidence, greater esteem and a range of skills (communication, negotiation, record keeping etc.) that empower them as community members.

This practice of ‘collectivised home-based broiler production’ explores a ‘mid-way’ model between industrial large scale employed labour based broiler production and traditional backyard scavenging system. Poor women make a decent living from rearing broilers, while many others are employed through the multitude of cooperative functions and tasks. The model has so far proven to be viable.
Poultry Business Models: Some constraints of the model

PRADAN / Kesla Cooperative home based broiler model (India)

Investment in extension is a necessary prerequisite for the model, and requires an extended period of time to assure that home-based broiler farming is sufficiently developed.

Operational since 1997, the Kesla Cooperative model showed, however, that painful years of learning were needed to arrive at viable small scale broiler production systems.

- At the initial stage, investing in extension (conventional and on-the-job training, exposure visits and exchange) is a prerequisite to develop the skill base for potential small scale broiler producers.
- It was necessary to enhance cost effectiveness by augmenting producers’ performance, ensuring a single window procurement process and establishing robust backward-forward linkages.
- Facilitating and supporting the development of organised/collectivised ‘home based broiler farming’ with disadvantaged households based in remote rural areas is complex; it can only succeed when the initiating agency is given sufficient time, has the right set of expertise, commitment and perseverance to make the system conducive for the participation of the poor.
Poultry Business Models: Some constraints of the model
PRADAN / Kesla Cooperative home based broiler model (India)

It proved not to be a universally applicable strategy to contribute to broad-based poverty reduction.

The cooperative put in place adequate bio-security measures at individual broiler units and ensured adherence to protocols for hygiene maintenance and other routine tasks at each level (handling, transportation, sales outlet etc); i.e. from farm gate to the consumer, and created the brand ‘Sukhtawa chicken’ as a synonym for safe and fresh broiler meat. Branding is useful but consumers are not yet willing to pay more.

However, since the number of rural households which can become small-scale intensive producers is limited, estimated at 85,000 by PRADAN given the Indian market for broilers, the promotion of smallholder-centred poultry production models cannot be a universally applicable strategy to directly contribute to broad-based poverty reduction.

Sources:
BISWAS, S. PRADAN’s Poultry Intervention for Livelihood Augmentation in Tribal Areas
Poultry Business Models
Technoserve Model (Mozambique)

This private-sector led model focuses on medium and large companies and aims to develop a forum for dialogue between the public and private sectors.

The goal of the project is to improve the income of rural households through development of a modern poultry industry based on a core of private medium and large size companies.

USDA’s Food for Peace Program supported activities through the sale of U.S. agricultural commodities in Mozambique.

Technoserve manages the project with one expatriate and three local staff.

The project promotes a business forum for dialogue between the private businesses and government agencies to plan and execute a private sector led poultry industry.
The Technoserve Model (Mozambique)

**The model focuses on “embedded services” whereby larger companies provide small producers with inputs (such as feed) and technical assistance.**

The project offers financial incentives in investment funds for private companies to invest in new infrastructure, e.g. a poultry slaughter plant.

Companies access project funds with the agreement they engage rural producers in their business plan through supply contracts for poultry.

Private companies deliver input supplies (day-old-chicks, feed and health services) and trainings to small-scale rural producers.

Minimum size of poultry operations is 500 broilers, based on the theory that “too small is just too small” to realize impactful and sustainable development.

The project staff worked with key government agencies to create a friendly business environment and remove barriers to the development of the local industry. For example, the government enforced the regulation restricting importers from receiving frozen poultry meat over 90 days old.
Poultry Business Models

Technoserve Model (Mozambique)

The project has shown measurable results in terms of poultry numbers, jobs, and additional income.

Measurable successes of the project:

- Poultry numbers increased from 7 million at start of project in 2005 to 50 million in 2010.
- A domestic hatchery industry emerged to supply DOC replacing expensive imported birds.
- 40,000 additional jobs were created in the poultry industry (1,000 new jobs for every 1.1 million chickens added to the national inventory).
- Private companies trained 770 smallholders and 400 of these continue to produce and supply chickens to the poultry companies. Average household income of integrated contract farmers increased by US$200 to US$400 per month over the baseline at the start of the project.
- The 40,000 additional job holders created by the project are receiving at least the minimum wage of US$52 per month.
- Addressed marketing constraints for soybean and maize producers. Partnered with CLUSA to distribute improved seed and provide training to 1,500 producers cultivating 3,500 hectares of soybeans. Soybean production increased from 300 mt in 2007 to more than 5,000 mt in 2010.
- Improved market linkages between maize producers of 6,000 hectares and the feed millers. Project worked hard to line up purchase financing for feed millers to buy maize at harvest.
Sierra Leone is a country transitioning from a long period of civil war.

- Basic infrastructure was destroyed slowing economic recovery.
- Rural families, especially children, suffer from poverty and malnutrition.
- CARE conducted a country mapping activity to evaluate economic growth projects that could address the nutrition deficiencies of mothers and their children.
- CARE has a Child Protection and Health Unit which would be engaged in this effort.

CARE determined that egg production was a suitable business to spur rural economic growth

- CARE’s assessment determined that small-scale broiler production would not be competitive in Sierra Leone because inexpensive frozen poultry products from Brazil dominate the market.
- Egg production is more isolated from international markets. Only one percent of all table eggs produced worldwide crossing borders. (Some trade in table eggs occurs between Guinea and Sierra Leone.)
- CARE’s proposal targets households in rural areas away from the peri-urban areas where risks of animal disease transmission is greater. With proper training, CARE felt biosecurity issues could be dealt with.
- CARE’s target group is women, and CARE has developed training modules in countries like Bangladesh and Malawi which could be easily applied in Sierra Leone.
Poultry Business Models
CARE Project Design (Sierra Leone)

The project has not yet been funded, so it is difficult to draw any lessons from it.

CARE has a long track record working with rural savings and credit organizations.

- CARE would use these existing institutions to make credit available to women to start up egg producing units (minimum size of 100 layers)
- Women in Sierra Leone are known for their willingness to save money
- It is not uncommon for women to have over US$1,000 in their savings account

CARE also planned to roll out a national awareness campaign on the benefits of consuming eggs.

- In certain areas of Sierra Leone, especially in rural areas, there is a taboo preventing egg consumption by children
- CARE wants to correct this commonly held belief with a positive message on the importance of eggs in the diet, especially for children

CARE believed that the egg production project would complement its work in rice, maize and soybean production.

- These projects are financed by the European Union
- CARE believes it is important to lower the cost of primary feedstuffs which comprise up to 70 percent of the cost of producing an egg

Though the program has not yet been funded, CARE believes in the merits of the design and its potential to both:

- Provide a source for economic benefits through the sale of eggs
- Improve the general level of nutrition of household members through consumption of eggs
### Factors of Success

- Demand driven and market led;
- High quality extension services (rigorous training of producers, intensive production support and quality orientation, on-call veterinary services, appropriate technologies);
- Provision of backward (input supply) and forward (access to market) linkage;
- Private sector involvement;
- A pro-poor orientation/commitment to poor.

### Limits of Some Models

- Insufficient market opportunities;
- Inadequate extension services for continuous monitoring of producers’ operations;
- Insufficient integration of biosecurity measures in the face of HPAI threat;
- Training not adapted to farmers needs;
- Too complicated in organization design and implementation;
- Not private sector driven;
- Subsidized inputs over extended periods without strategy to phase out;
- Expectations not in line with a pro-poor orientation.
Poultry Business Models
Lessons Learned

**Sustainability:**

- Design needs to be simple and easy to execute
- Private sector e.g. individuals and associations must be engaged from beginning
- Stakeholder meetings should be held to include private and public sectors

**Market-Led:**

- Markets must be identified and assessed before the program starts
- Marketing plan for both domestic and export markets should be developed

**Scalable:**

- Size of market for poultry in Burkina Faso and Mali is smaller than in India and Bangladesh so need to be careful to properly size the program
- Build-out program with products that fit market demands, e.g. urban and peri-urban markets and exports of traditional chickens
- Include key input suppliers in feed and medicines in business plan to reach large number of producers in rural areas
- Initially provide some subsidized health care for a limited time to avoid catastrophic losses early in the program
- Engage collectors and traders in market coordination so that as production increases then output is easily sold
Transferrable:

• The Governments of Burkina Faso and Mali have created a generally positive environment for transferring the best of the business models examined.
• In Burkina Faso there are a small number of private investors interested in investing in building the poultry sector including working with family poultry operators.
• In Mali a larger number of private sector individuals are present who have expressed an interest in investing in the poultry sector.
The Objectives for Burkina Faso and Mali are similar, and by addressing these objectives, BMGF can create opportunities which improve the livelihoods of traditional poultry producers in both countries.
Recommendations

Program Design

- **Leverage Points** for short term and longer term grant opportunities
- Identify for each country **the investments** to be made
- Identify potential **interventions, business models and value chain actors (beneficiaries)**
- **Quantify** the likely impact for each intervention using direct and/or multiplier effects

*Sustainable Program Design*
Opportunities in Burkina Faso

Relationships and Possible Leverage Points with Exponential Impacts

**Commercial Upgrading** - Develop a sustainable commercial sector with creation of off-farm labor opportunities, and business investments based on managed risk

**Production as business** - Increase production and productivity by shifting to a semi-intensive system. Requires extension services and access to funds. Move to more commercial interactions with traditional poultry producers (e.g. contracting, delivery of inputs)

**Market Linkages** Create necessary market linkages to have impact on household incomes

---

Key: DOC=Day Old Chick, ETH=Eggs to Hatch, HHs=households; HRI= hotel, restaurants and Institutions, egg = φ live bird =
Opportunities in Mali

Relationships and Possible Leverage Points with Exponential Impacts

**Commercial Upgrading** - Develop a sustainable commercial sector with creation of off-farm labor opportunities, and business investments based on managed risk.

**Expansion of feed supplies and linkage to traditional and commercial producers** - Develop a commercial feed industry that would improve the competitiveness of poultry vis-à-vis other local meat products.

**Production as business** - Move to more commercial interactions with traditional poultry producers (e.g. contracting, delivery of inputs).

**Market Linkages** - Create necessary market linkages between production to final consumption to have impact on household incomes.

- **Inputs**
  - Animal Health Services - DVM (585 GoM), engineers, technicians, VUV
  - Locally available feed ingredients (surplus grown by farmer, waste...)
  - Commercial Feed
  - Support Services e.g. Poultry Development Project (PDAM)
  - Coolers supplied to family poultry producers [CFA 3500 - 5000/bird]

- **Production**
  - 34 million birds (90%)
  - 16,415 households - 18 chickens per household
  - Guinea Fowl Eggs 97 million per year
  - Extensive Rural Smallholder Production (mostly 1-50 poultry, if guinea fowl sometimes up to 1000)
  - Semi-intensive Smallholder Breeding (mostly 50-200)
  - Farm Gate Price = CFA 1100 - 1500/bird

- **Distribution**
  - Village market price = CFA 1200 - 1500/bird
  - 1st collector bikes, motor-bikes; Margin = CFA 50/bird
  - Rural Market price = CFA 1250 - 1750

- **Processing & Markets**
  - 2nd collector bikes, motor-bikes; Margin = CFA 50/bird
  - Public Slaughter Points at the market (of which 14 improved), 5 cold rooms 60000 supplied, Process fee = CFA 50 - 100/bird
  - Urban and peri-urban HFs - CFA 1850 - 2600 /bird
  - HRI - Meat CFA 5000/kg
  - Grillers CFA 2500/kg
  - Small retail Shops - many - eggs CFA 1800/plate

- **Consumers**
  - Road side eggs sales (CFA 3500/10 eggs)
  - Regional Export Markets of live birds, Cote d'Ivoire 2002 yr 1 million/year; informal trade: CFA 3000 - 3000 bird in Abidjan.

**Mali Family Poultry Value Chain**

- Home consumption gifts, and ceremonies
- Feces and feathers sold as manure for agriculture. Estimated CFA 2000 per pile.

**Key**
- DOC = Day Old Chick, ETH = Eggs to Hatch, HRI = hotel, restaurants and institutions, egg = live bird
Based on the leverage points for both countries, BGMF Strategies should be designed holistically, taking into account poultry production management, health, feed supply and housing.
### Recommendations

_Strategies, interventions as well as one pilot project were identified as having direct or indirect impact on households living on $2 / day_

<table>
<thead>
<tr>
<th>Prioritized Interventions</th>
<th>Justification</th>
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<tbody>
<tr>
<td><strong>Animal Health and Production Programme</strong> provides access to credit, drugs and TA for traditional poultry producers</td>
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<tr>
<td><strong>Animal Feed Market Links Program</strong> — Provides seed and technical assistance and market linkage to feed mills for maize and soybean producers</td>
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<tr>
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<tr>
<td><strong>Prioritized Interventions</strong></td>
<td><strong>Justification</strong></td>
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<tr>
<td>• Propels private sector activity in animal health deliver systems including delivery of thermostable Newcastle Vaccine.</td>
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<td>• Credit program through MFIs for the construction of proper chicken houses to reduce mortalities and increase productivity</td>
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<tr>
<td>• Propels private sector feed industry to distribute improved maize and soybean seeds and technical assistance to farmers in Haute Basin and Boucle du Mouhoun in Burkina and Sikassoin Mali.</td>
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<tr>
<td>• Credit program for associations and feed processors to purchase and store grain and associations to purchase feed and equipment for feed milling.</td>
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<tr>
<td>• Support to market intermediaries to improve their purchasing, transporting, selling and processing of poultry to reduce shrink, stress and mortalities and to process a hygienic poultry product for the local retail and HRI markets and for live exports.</td>
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<tr>
<td>• Private sector hatcheries and commercial producers will link with traditional poultry producers to introduce improved cockerels and cross-bred poultry. The scheme will be linked with feed suppliers and commercial poultry companies.</td>
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<tr>
<td>• This programme is only adequate for farmers who have successfully implemented an improved Animal Health and Production Programme, but if market for cross-breds proves stable, will be scalable.</td>
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</tbody>
</table>
$14m investment in Animal Health and Production Program to provide access to credit, drugs and TA for traditional poultry producers

1. The Opportunity

Assist smallholder producers to increase productivity through access to regular Newcastle vaccination including use of thermostable vaccine

- **Expand Reach** to 500,000 smallholder producers in Haute Bassin and Boucle de Mouhoun regions in Burkina Faso, and Sikasso Region in Mali

2. The Opportunity

Link Private DVMS (animal production technicians) to VVVs to give regular advice for up to two years

- **Advise** 50,000 traditional poultry farmers on improved production techniques
- **Expand Training** by enabling privately run DVMs to provide village based training
- **Provide Starter Toolkits** to 5,000 VVVs to set up their businesses to regularly vaccinate and treat poultry in their villages
- **Reach** 500,000 smallholder poultry farmers to improved vaccinations
- **Decrease Mortality** by 50%
- **Link** poultry producer associations to link to poultry collectors or directly to HRI to obtain better farmgate prices

Daily Net Increase from poultry production by $1.3 to $1.5

VVV incomes increase by $120-$400
Intervention Opportunity

$4.8M investment in revolving credit fund guarantees to lend to traditional poultry producers for investments in improved housing, equipment and feed

1. The Opportunity

$2.8M Fund Credit Programs for the construction of proper chicken houses to reduce mortality and increase productivity

- **Facilitate lending** for purchase of materials and equipment to 50,000 smallholder poultry farmers and increase income to $1.3 to $1.5/day
- **Provide technical assistance and introduce new financial models** to financial institutions to increase access to affordable credit
- **Mid term increases to $5/day**

2. The Opportunity

$2M Fund Credit Programs to facilitate the purchase of seed and other inputs by crop farmers to increase supplies of maize and soybeans for poultry feed production

- **Facilitate matching funds** from feed mills who provide in kind technical assistance to crop farmers and poultry producer associations
- **Encourage contract purchases** of maize and soybeans at harvest time for storage and year-round poultry feed
- **Provide a cost savings** to family poultry producers of CFA 40/kg valued at $1.2M/year

Feed mills will be able to process maize into meal and oil and produce 15,000mt of poultry feed by end of Year 5. Cost savings to family.
**Intervention Opportunity**

### $7m Investment in value chain upgrading to increase production, and competitiveness

1. **The Opportunity**
   - **$4M fund provision of technology and technical assistance to poultry collectors, wholesalers and processors to improve value chain performance**
     - **Facilitate Market Linkages** between small holder poultry producers to input suppliers and end markets
     - **Establish** a revolving credit scheme for collectors and wholesalers to purchase chickens in larger quantities
     - **Encourage** reinvestments in equipment and processing facilities and investments in transportation
     - **Increase** the volume of poultry sold, processed and exported to Cote d'Ivoire and Ghana
   - **5000 new jobs created**

2. **The Opportunity**
   - **$3M in Revolving Loans to privately run feed mills**
     - **Leverage** presence of privately run feed mills to provide extension to poultry producers
     - **Establish** private sector-run feed distribution networks, which also provide technical assistance to traditional poultry producers
   - Feed mills increase production to additional 9,400mt of maize and 3,800mt of soybeans by end of Year 5
Pilot Opportunity

$1.2M investment to improve hatcheries which assure supplies of day-old chicks and improved cross-bred chickens

The Opportunity

As a pilot program, Fund local hatchery in Burkina Faso to start contract farming

- **Improve chicken varieties** through cross-breeding
- **Invest** in improved biosecurity to mitigate against avian diseases
- **Install** small slaughtering centers to improve processing capacity
- **Scale** pilot once model is proven effective

*Income for 500 poultry producers increases by $2/day*
**Potential Interventions**

The focus of these interventions is on developing the traditional poultry sector to improve the livelihoods of rural households through collaboration between the private and public sector.

### Potential BMGF Interventions in Burkina Faso and Mali

- Fund business contracts to link private DVM or animal production technicians to VVV and to farmers for training and regular (monthly) advise for two years to 50,000 traditional poultry farmers on how to increase their productivity. This includes funding the introduction of thermostable ND vaccine with the target to reduce significantly mortality of poultry in at least 500,000 households in Burkina Faso and in Mali through a program of private veterinarians and village vaccinators.
- Fund a credit program for qualified poultry producers who form an association to receive a loan to build improved poultry houses (50,000 households).
- Fund the provision of a credit guarantee fund with a financial institution for private sector distribution of improved maize and soybean seed with appropriate TA and link producers to feed mills and farmer organizations to allow purchasing grain in bulk. Strengthen the capacity of producers of cereals to access the market.
- Fund the provision of technology and technical assistance to poultry collectors, wholesalers and processors to invest in improved systems of collecting, transporting and processing poultry to add value.
- As a pilot, provide credit for private businesses that wish to invest in the development or expansion of a parent stock and hatchery for improved varieties of cross-bred poultry, e.g. Wassache, in Mali and in Burkina Faso.

### Potential Links to other BMGF Supported Programs in the region

- GalvMed: develop and test a thermostable vaccine against Newcastle Disease in other countries
- C IRDES: support to the institution’s agricultural research program
Annex
<table>
<thead>
<tr>
<th>Name and first name</th>
<th>Position</th>
<th>Organisation</th>
<th>Telephone</th>
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<tbody>
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<tr>
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## People Met in Burkina Faso

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<tbody>
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**Thursday, 6 May**

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<td>Alidou OUEDRAOGO</td>
<td>Poultry farmer Rintegue Beogo village</td>
<td>Association des Aviculeurs de Boussé</td>
<td>(+226) 76 51 57 15</td>
</tr>
<tr>
<td>Salamata OUEDRAOGO</td>
<td>Poultry farmer Napalgue village</td>
<td>Association des Aviculeurs de Boussé</td>
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</table>

**Friday, 7 May**

<table>
<thead>
<tr>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>Salibo SOME</td>
<td>Executive Director</td>
<td>ASUDEC (Burkina NGO)</td>
<td>(+226) 70 25 07 15</td>
<td>asudec.asudec.org</td>
</tr>
</tbody>
</table>

Visit of 3 farmers at Gonsé, Koupéla road (East direction)

**Saturday, May 8**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Organization</th>
<th>Telephone</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Némaoua BANAON</td>
<td>Directeur</td>
<td>CEFRAP (Burkina Consulting)</td>
<td>(+226) 70 20 55 16</td>
<td>nemaoua.banaon.cefrap.com</td>
</tr>
</tbody>
</table>

Visit of 3 farmers at Kombrissi, Tuili (45 km from Ouagadougou)

**Monday, May 10**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Organization</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>El Hadj Nana ABLASSE</td>
<td>President of the Poultry Farmers' Union</td>
<td>Poultry farmers association of Poa (Koudougou)</td>
<td>(+226) 70 11 98 44</td>
</tr>
</tbody>
</table>
## People met in Burkina Faso

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Organization</th>
<th>Telephone</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rasmané ZONGO</td>
<td>Member</td>
<td>Poultry farmers association of Poa (Koudougou)</td>
<td>(+226) 71 33 71 74</td>
<td>-</td>
</tr>
<tr>
<td>Marcel DAH</td>
<td>Directeur</td>
<td>DPRA (Provincial Animal Resources Department)</td>
<td>(+226) 70 45 14 20</td>
<td><a href="mailto:marceldah@yahoo.fr">marceldah@yahoo.fr</a></td>
</tr>
<tr>
<td>Robert YAMEOGO dit Carlos</td>
<td>Member</td>
<td>Association des commerçants de volaille de Koudougou</td>
<td>(+226) 72 13 80 47</td>
<td>-</td>
</tr>
<tr>
<td><strong>Tuesday, May 11</strong></td>
<td></td>
<td><strong>Tuesday, May 11</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marc ZANKONE</td>
<td>Private DVM</td>
<td>Private DVM</td>
<td>(+226) 70 27 51 61</td>
<td><a href="mailto:zankonemarc@yahoo.fr">zankonemarc@yahoo.fr</a></td>
</tr>
<tr>
<td>Wambié NAON</td>
<td>Animateur</td>
<td>CEFRAP (Burkina Consulting)</td>
<td>(+226) 70 86 93 49</td>
<td>-</td>
</tr>
<tr>
<td>Joseph BEWOMOU</td>
<td>Poultry farmer in Serena village, Yeda Association</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Kadounda NAON</td>
<td>Poultry farmer in Serena village, Yeda Association</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Neya SAFOURA</td>
<td>Poultry farmer in Serena village, Yeda Association</td>
<td>-</td>
<td>(+226) 78 29 78 26</td>
<td>-</td>
</tr>
<tr>
<td>Bila TRAORE</td>
<td>Grilled chicken vendor at Boromo bus station</td>
<td>-</td>
<td>(+226) 70 35 93 76</td>
<td>-</td>
</tr>
<tr>
<td><strong>Wednesday, May 12</strong></td>
<td></td>
<td><strong>Wednesday, May 12</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appolinaire ZOUNGRANA</td>
<td>Coordinator</td>
<td>ASUDEC (Burkina NGO)</td>
<td>(+226) 78 06 04 42</td>
<td><a href="mailto:zopowi@yahoo.fr">zopowi@yahoo.fr</a></td>
</tr>
<tr>
<td>Womens Association of Bapla</td>
<td>Members (during training session on micro-credit)</td>
<td>Womens association of Bapla</td>
<td>(+226) 78 06 04 42</td>
<td>-</td>
</tr>
<tr>
<td>K. Jean Paul HIEN</td>
<td>VVV</td>
<td>Bapla Association member</td>
<td>(+226) 78 06 04 42</td>
<td>-</td>
</tr>
<tr>
<td>Jeanne Kounssebè HIEN</td>
<td>Poultry farmer</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Teacher and children</td>
<td>Ecole pilote d'éducation des adolescents de Naviegane</td>
<td>School for 9-14 year old children</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### People met in Burkina Faso

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td><strong>Thursday, 13 May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adèle TRAORE KAM</td>
<td>DVM</td>
<td>MDA</td>
<td>(+226) 20 97 41 93</td>
<td><a href="mailto:adkam_2006@yahoo.fr">adkam_2006@yahoo.fr</a></td>
</tr>
<tr>
<td>Mahamadou, SAMORA</td>
<td>Poultry Farmer, owner of feedmill, Vice President</td>
<td>FAMASI MDA</td>
<td>(+226) 70 27 74 72 (+226) 78 10 73 75 (+226) 75 50 00 30</td>
<td><a href="mailto:famassetfa@yahoo.fr">famassetfa@yahoo.fr</a></td>
</tr>
<tr>
<td><strong>Friday, 14 May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lassina DAO</td>
<td>Directeur</td>
<td>DPRA (Provincial Animal Resources Department)</td>
<td>(+226) 70 27 74 72 (+226) 76 51 24 32 (+226) 20 98 16 24</td>
<td><a href="mailto:daolassina@yahoo.fr">daolassina@yahoo.fr</a></td>
</tr>
<tr>
<td>Abdoulaye GOURO</td>
<td>Directeur Général</td>
<td>CIRDES</td>
<td>(+226) 20 97 20 53</td>
<td><a href="mailto:gouro@fasonet.bf">gouro@fasonet.bf</a></td>
</tr>
<tr>
<td>Marcel BENGALY</td>
<td>Chercheur</td>
<td>CIRDES</td>
<td>(+226) 20 97 20 54</td>
<td><a href="mailto:marcelbmd@yahoo.fr">marcelbmd@yahoo.fr</a></td>
</tr>
<tr>
<td>Mamadou SANGARE</td>
<td>Chercheur</td>
<td>CIRDES</td>
<td>(+226) 20 97 20 55</td>
<td><a href="mailto:mamadousangre@hotmail.com">mamadousangre@hotmail.com</a> <a href="mailto:sangare-mamadou2003@yahoo.fr">sangare-mamadou2003@yahoo.fr</a></td>
</tr>
<tr>
<td>Poultry Vendors</td>
<td>Members</td>
<td>Accart ville marketvendors association</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DEME Drissa and other members</td>
<td></td>
<td>Sourkoukiin market vendors association</td>
<td>(+226) 70 25 34 87</td>
<td>-</td>
</tr>
<tr>
<td><strong>Saturday, May 15</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Habib OUATTARA</td>
<td>President</td>
<td>CATE (professional group of animal technicians)</td>
<td>(+226) 70 40 44 22</td>
<td><a href="mailto:o_kbhabib@yahoo.fr">o_kbhabib@yahoo.fr</a></td>
</tr>
<tr>
<td>Djagala OUATTARA</td>
<td>Poultry farmer</td>
<td>-</td>
<td>(+226) 76 55 36 67</td>
<td>-</td>
</tr>
<tr>
<td>Kologo OUATTARA</td>
<td>Poultry farmer</td>
<td>-</td>
<td>(+226) 76 81 55 86</td>
<td>-</td>
</tr>
<tr>
<td>Marie Therèse OUEDRAOGO</td>
<td>Responsible de l'Anrenne Regionale de l'Ouest du PDAV</td>
<td>AFAB (Atelier de Fabrication des Aliments de Bétail)</td>
<td>(+226) 70 25 34 87</td>
<td>-</td>
</tr>
<tr>
<td><strong>Monday, May 31</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salam KONDONUBO</td>
<td>Chargéde Programme Volaille</td>
<td>INERA (Environmental and Agricultural Research Institute)</td>
<td>(+226) 70 29 27 00</td>
<td><a href="mailto:kondombo.salam@gmail.com">kondombo.salam@gmail.com</a></td>
</tr>
<tr>
<td><strong>Tuesday, June 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moussa KINDA</td>
<td>Poultry Farmer</td>
<td>Association des Aviculeurs de Boussé</td>
<td>(+226) 76 93 44 55</td>
<td>-</td>
</tr>
<tr>
<td>Ousmane OUEDRAOGO</td>
<td>Poultry Farmer</td>
<td>Association des Aviculeurs de Boussé</td>
<td>(+226) 75 73 84 83</td>
<td>-</td>
</tr>
<tr>
<td>Boukaré OUEDRAOGO</td>
<td>Poultry Farmer</td>
<td>Association des Aviculeurs de Boussé</td>
<td>(+226) 75 13 43 67</td>
<td>-</td>
</tr>
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# People met in Mali

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tr>
<td><strong>Sunday, 16 May</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Alpha Kergna</td>
<td>National Consultant for Poultry Assessment Team - Mali</td>
<td>Institute d;Economie Rurale</td>
<td></td>
<td><a href="mailto:akergna@yahoo.fr">akergna@yahoo.fr</a></td>
</tr>
<tr>
<td><strong>Monday, 17 May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jean Pierre Janate</td>
<td>Technician</td>
<td>Regional Office for Livestock Production and Industries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baba Sanogo</td>
<td>Aviculteur Villageois</td>
<td>Pedougou Commune</td>
<td>66019761</td>
<td></td>
</tr>
<tr>
<td>Abdoul Kader</td>
<td>Commercial Producer</td>
<td>Private person</td>
<td>223 79070237</td>
<td></td>
</tr>
<tr>
<td><strong>Tuesday, 18 May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Souleymane Diallo</td>
<td>Brother of feed mill owner</td>
<td>Feed mill</td>
<td>76064476</td>
<td></td>
</tr>
<tr>
<td>Dr. BinafouDembele</td>
<td>Veterinarian/Director</td>
<td>DirectionRegionale Des Services Veterinaires de Sikasso</td>
<td>o: 2620-203 and cell: 633 -43-62</td>
<td><a href="mailto:drslysko@hotmail.fr">drslysko@hotmail.fr</a></td>
</tr>
<tr>
<td>SeydauSogoba</td>
<td>Technician</td>
<td>DirectionRegionale Des Services Veterinaires de Sikasso</td>
<td>76-07-31-00</td>
<td></td>
</tr>
<tr>
<td>Bougonssama Coulibaly</td>
<td>Veterinary Officer, Chef of Production and Coordinator</td>
<td>Regional PDAM Sikasso, DNVS</td>
<td>76380760</td>
<td><a href="mailto:bengans@yahoo.fr">bengans@yahoo.fr</a></td>
</tr>
<tr>
<td><strong>Wednesday, 19 May</strong></td>
<td></td>
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</tr>
<tr>
<td>OusmaneCoulibaly</td>
<td>Poultry Specialist</td>
<td>DNPIA</td>
<td>233-76196479</td>
<td><a href="mailto:ousmane.hamady@gmail.com">ousmane.hamady@gmail.com</a></td>
</tr>
<tr>
<td>Dr. Souleyma Camara</td>
<td>Director</td>
<td>Epidemiologist, DNVV</td>
<td>76-30-76-35</td>
<td><a href="mailto:camarasolo@hotmail.com">camarasolo@hotmail.com</a></td>
</tr>
<tr>
<td>Dr. Mamadou Kone</td>
<td>Director</td>
<td>Min. of Livestock and Fishery (MEP)</td>
<td>233-76051237</td>
<td><a href="mailto:kan_mamadou@yahoo.fr">kan_mamadou@yahoo.fr</a></td>
</tr>
<tr>
<td>Dr. Dolo Yaya</td>
<td>Veterinarian - private</td>
<td>Agri DOLO</td>
<td>233-76-38-53-62</td>
<td><a href="mailto:dolo_yaya@yahoo.fr">dolo_yaya@yahoo.fr</a></td>
</tr>
<tr>
<td>Namony Camara</td>
<td>Poultry producer</td>
<td>farm is near Djiguidala (Siby)</td>
<td>223-76469865</td>
<td></td>
</tr>
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## People met in Mali

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td><strong>Thursday, 20 May</strong></td>
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</tr>
<tr>
<td>Mr. Hamady Sissoko</td>
<td>Director Adjoint</td>
<td>Projet de Developpement de L'Aviculture au Mali, (PDAM)</td>
<td>223-66-78-38-78</td>
<td><a href="mailto:sissokohamady@yahoo.fr">sissokohamady@yahoo.fr</a></td>
</tr>
<tr>
<td>Dr. E. Fallou Gueye</td>
<td>Spécialiste en Aviculture Sécurisée et Bidiversité</td>
<td>FAO - ECTAD</td>
<td>+223 73 06 40 00</td>
<td><a href="mailto:Fallou.Gueye@fao.org">Fallou.Gueye@fao.org</a></td>
</tr>
<tr>
<td>Dr. Jacques Conforti</td>
<td>Agro-Economist</td>
<td>FAO - ECTAD</td>
<td>223-20-24-05-80, cell:73-41-39-24</td>
<td><a href="mailto:jacques.conforti@fao.org">jacques.conforti@fao.org</a></td>
</tr>
<tr>
<td>Dr. Boubacar M'Baye Seck</td>
<td>Regional Expert Early Warning and Early Reaction</td>
<td>ECTAD, FAO</td>
<td>223-20-24-05-80</td>
<td><a href="mailto:bmseck@gmail.com">bmseck@gmail.com</a></td>
</tr>
<tr>
<td>Dr. Oumou Sangara Loko</td>
<td>Coordinator</td>
<td>AU and AU-IBAR Regional Representative</td>
<td>223-20-24-60-53</td>
<td><a href="mailto:oumou.sangare@crsabamako.org">oumou.sangare@crsabamako.org</a></td>
</tr>
<tr>
<td>Dr. Zacharie Compaore</td>
<td>Regional Coordinator</td>
<td>SPINAP - AHI</td>
<td>223-20-24-60-53</td>
<td><a href="mailto:zacharie.compaore@au-ibar.org">zacharie.compaore@au-ibar.org</a></td>
</tr>
<tr>
<td>Dr. Idrissa Sissoko</td>
<td>Director</td>
<td>DSNV, Bamako</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Friday, 21 May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abdoulaye Kone</td>
<td>Director General</td>
<td>Vollallles Sari - Mali Poussins</td>
<td>20-20-15-11</td>
<td><a href="mailto:ablo_ar@yahoo.fr">ablo_ar@yahoo.fr</a></td>
</tr>
<tr>
<td>Ousmane Moctar Simpara</td>
<td>Joint Director General</td>
<td>Vollallles Sari - Mali Poussins</td>
<td>GSM 66-96-17-68</td>
<td><a href="mailto:simparafra@yahoo.fr">simparafra@yahoo.fr</a></td>
</tr>
<tr>
<td>Salif Doumbia</td>
<td>Directeur</td>
<td>AVI-PRO and Cooperative Provendiers (COPROMA). Feed mill.</td>
<td>223 66 71 59 57</td>
<td><a href="mailto:aviprobamako@yahoo.fr">aviprobamako@yahoo.fr</a></td>
</tr>
<tr>
<td>Sonago Diarraha Toure</td>
<td>Présidente et commercial producer</td>
<td>President of FIFAM</td>
<td>22376471636, 66720379, <a href="mailto:diagraTatraori@hotmail.com">diagraTatraori@hotmail.com</a></td>
<td><a href="mailto:fifamali@hotmail.com">fifamali@hotmail.com</a>, <a href="mailto:diaratatraori@hotmail.com">diaratatraori@hotmail.com</a></td>
</tr>
<tr>
<td><strong>Saturday, 22 May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. Amadou Moktar Diallo</td>
<td>Coordonnateur</td>
<td>ICD (VSF-B project)</td>
<td>+223 76 01 52 08</td>
<td><a href="mailto:amocdi@yahoo.fr">amocdi@yahoo.fr</a>, <a href="mailto:pafecmali@afribone.net.ml">pafecmali@afribone.net.ml</a></td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Organisation</td>
<td>Telephone</td>
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<tr>
<td>-------------------------------</td>
<td>---------------------------</td>
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<td>------------------------------------------------</td>
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<tr>
<td><strong>Monday, 24 May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. El Hadji Tamboura</td>
<td>General Director</td>
<td>Assemblee Permanente Des Chambre D'Agriculture du Mali (APCAM)</td>
<td>223-20-21-87-25, 223-76-42-22-04</td>
<td><a href="mailto:elhadjitamboura@apcam.org">elhadjitamboura@apcam.org</a>, <a href="mailto:apcam@apcam.org">apcam@apcam.org</a></td>
</tr>
<tr>
<td>Mme. Coulibaly Djenebou Traore</td>
<td>Director</td>
<td>Federation Nationale des Association de Femme Rural</td>
<td>76-04-86-59</td>
<td><a href="mailto:jenietraore@yahoo.com">jenietraore@yahoo.com</a></td>
</tr>
<tr>
<td>Dramane Sereme</td>
<td>Director</td>
<td>Ordre des Veterinaires (ODV)</td>
<td>76-42-67-28</td>
<td><a href="mailto:dramane.sereme@laposte.net">dramane.sereme@laposte.net</a></td>
</tr>
<tr>
<td>Dr. Modibo Sylla</td>
<td>Chef du Programme Volaille</td>
<td>Institute d'Economie Rurale</td>
<td>223-224-3582 and cell: 223-621-9110</td>
<td><a href="mailto:modibo.sylla@ier.ml">modibo.sylla@ier.ml</a> or <a href="mailto:modibo_sylla640@hotmail.com">modibo_sylla640@hotmail.com</a></td>
</tr>
<tr>
<td>Boubacar Doumbia</td>
<td>Director</td>
<td>Association Nationale des Aviculture Moderne (ANAM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sidiki Doucoure</td>
<td>General Manager-Owner</td>
<td>SODOUF - Societe Doucoure et Freres Vente Materiaus de Construction</td>
<td>223-20-24-22-82, cell:79-22-57-32</td>
<td><a href="mailto:sidiki_doucoure@yahoo.fr">sidiki_doucoure@yahoo.fr</a></td>
</tr>
<tr>
<td>Dr. Sanogo Yaya</td>
<td>Technical Director</td>
<td>SODOUF - Societe Doucoure et Freres Vente Materiaus de Construction</td>
<td>223-20-24-22-82, cell:223-76024350</td>
<td><a href="mailto:sanogoyafam78@yahoo.fr">sanogoyafam78@yahoo.fr</a></td>
</tr>
<tr>
<td>Dick Cook</td>
<td>Value Chain Specialist</td>
<td>SAGIR P:roject - Senegal (team spoke to him by phone from Bamako)</td>
<td>221-33-869-77-30</td>
<td><a href="mailto:rcook@pce.net">rcook@pce.net</a></td>
</tr>
<tr>
<td><strong>Tuesday, 25 May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chef Uapia Siby, Massama Keita, Tata Keita</td>
<td>Village chef and president of the poultry association in the village.</td>
<td>Poultry Association of Siby - Southwest of Bamako</td>
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<td><strong>Wednesday, 26 May</strong></td>
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<tr>
<td>Aburonlaye Konate</td>
<td>Chef</td>
<td>SLPIA - Kati</td>
<td>21272330 cell: 76314772</td>
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### People met in Mali

<table>
<thead>
<tr>
<th>Name</th>
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<th>E-mail</th>
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<td>Thursday, 27 May</td>
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<td>Roundtable Discussions</td>
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<td>Friday, 28 May</td>
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<td>BaieimaTaunkaraand BenjiCisse</td>
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<td>Baroueli near Segoupartipating in Africare Project</td>
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<td>Saturday, 29 May</td>
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<tr>
<td>Fantamadi COULIBALY</td>
<td>Trader</td>
<td>Segou Market</td>
<td>223 75 17 50 33</td>
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<td>Bla Market</td>
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<td>Mohammed Babayere</td>
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<td>Mopti Market</td>
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<td>Tarou Maiga</td>
<td>President</td>
<td>Association of Poultry Traders in Mopti</td>
<td>66947064</td>
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<td>Adara guindou</td>
<td>Member</td>
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<td>Amadu TESOUGUE</td>
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<tr>
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<td>Deborah Daige Sakaira</td>
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<tr>
<td>Salif Guindo</td>
<td>Guinea Fowl farmer</td>
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<td>Institut national de la statistique et de la démographie, Burkina Faso</td>
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<td>Farmers Savings and Credit Mutual from ASUDEC</td>
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<td>Microfinance Institutions</td>
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<td>Ministère des Ressources Animales du <em>Burkina</em> Faso</td>
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<td>ND</td>
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<td>World Organisation for Animal Health</td>
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<td>Société Doucouré et Frères (hatchery in Mali)</td>
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<td>Vétérinaires Sans Frontières Belgique (Belgian NGO, member of VSF-E)</td>
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<td>Vétérinaires Sans Frontières Europe</td>
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<td>VVV</td>
<td>Vaccinateur Volontaire Villageois (CAHW in Burkina)</td>
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<td>WAHID</td>
<td>World Animal Health Information Database</td>
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<td>WB</td>
<td>World Bank</td>
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</table>
Burkina Faso

Current and Forecast Demand for Poultry Meat

**In the next ten years, demand will grow at least by 4519 t, of which more than 90% can be captured by smallholders**

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2010</th>
<th>2020</th>
<th>Increase 2010-2020</th>
<th>2010 total consumption traditional poultry (kg)</th>
<th>2010 consumption per habitant traditional poultry (kg)</th>
<th>2020 total consumption traditional poultry (kg)</th>
<th>Additional need</th>
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<tbody>
<tr>
<td><strong>Total population</strong></td>
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<td></td>
<td></td>
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<td></td>
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<td>Unit</td>
<td>14,017,262</td>
<td>15,776,552</td>
<td>21,202,368</td>
<td>5,425,815</td>
<td>36,451,066</td>
<td>2.3</td>
<td>48,987,184</td>
<td>12,536,119</td>
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<tr>
<td>Urban (23%)</td>
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<tr>
<td>Ouagadougou</td>
<td>3,181,967</td>
<td>3,581,332</td>
<td>4,813,011</td>
<td>1,631,044</td>
<td>13,140,009</td>
<td>3.7</td>
<td>17,659,061</td>
<td>4,519,061</td>
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<tr>
<td>Bobo</td>
<td>1,475,223</td>
<td>1,660,376</td>
<td>2,231,407</td>
<td>756,131</td>
<td>7,300,093</td>
<td>4.4</td>
<td>9,810,590</td>
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<td>Other urban</td>
<td>489,967</td>
<td>551,462</td>
<td>741,119</td>
<td>251,152</td>
<td>2,190,022</td>
<td>4.0</td>
<td>2,943,177</td>
<td>753,177</td>
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<td>Rural (77%)</td>
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<tr>
<td>Total number of households</td>
<td>10,835,295</td>
<td>12,195,220</td>
<td>16,389,356</td>
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<td>31,328,123</td>
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<td>Average size of households</td>
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<td>5.9</td>
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<tr>
<td>Number of urban households</td>
<td>634,161</td>
<td>713,754</td>
<td>959,225</td>
<td>245,472</td>
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<tr>
<td>Average size of urban households</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
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<tr>
<td>Number of rural households</td>
<td>1,725,969</td>
<td>1,942,585</td>
<td>2,610,677</td>
<td>668,088</td>
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<tr>
<td>Average size of rural households</td>
<td>6.3</td>
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<td>6.3</td>
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</table>

Current annual average consumption per person of poultry products in Burkina Faso estimated by MDA in 2001:

<table>
<thead>
<tr>
<th></th>
<th>Total Meat Consumption</th>
<th>Total Poultry Meat Consumption in the Family Poultry Subsector</th>
<th>Total Egg Consumption (egg/person/year)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>kg/person/year</td>
<td>kg/person/year</td>
<td>% of total consumption</td>
</tr>
<tr>
<td>2001</td>
<td>1.4</td>
<td>12.5</td>
<td>8.4</td>
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<tr>
<td>Project 2016</td>
<td>2.9</td>
<td>12.29</td>
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</table>

Current consumption of traditional poultry meat in Burkina Faso is estimated at 36,450 t per year, of which 13,140 t are marketed to urban centers. Commercial poultry meat produced and consumed per year is currently no more than 192 t (1.5% of urban poultry meat consumption).

If we project consumption data for 2010 only based on population growth without considering possible increases in consumption per habitant, an additional demand of 4519t of poultry meat to be marketed in Burkina Faso will exist in 2020.

This is a careful calculation as if urbanization and poultry consumptions per habitant increases, this amount might be more than doubled. Furthermore if the existing trade barriers due to avian influenza and the crisis in Côte d’Ivoire were to be removed, an additional export market of around 1000t of traditional poultry meat (chicken and guinea fowl) will open up.

It should be noted that around 80% of poultry sold is estimated to be chicken, 18% guinea fowl and 2% of other species.

Source: Institut National de la Statistique et de la Démographie; projections 2010/2020 based on 2006 census for population data and Public Veterinary Services and Maison d’Aviculture (MDA) for poultry consumption data (based on poultry marketing statistics in and to urban areas in 2005).
### Burkina Faso

**Priority and Timeline for Proposed Interventions**

<table>
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<tr>
<th>No.</th>
<th>Intervention</th>
<th>Priority</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
<th>Year 10</th>
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<td><em>TOT for DVM / technicians</em></td>
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<tr>
<td>a</td>
<td>Boucle de Mouhoun</td>
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<tr>
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<td><em>village based participatory training for farmers</em></td>
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**Priority and Timeline for Proposed Interventions**

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