

Sierra Leone Opportunities for Business Action SOBA Poultry Farmers Baseline Study

June 2016







Introduction

Sierra Leone's poultry sector is currently struggling with immense challenges to meet the growing demand for poultry products, whilst contending with competition from imported products. Poultry products are considered one of the cheapest forms of protein to a country suffering from high level of poverty and malnutrition. Though still emerging, the poultry sector presents a massive opportunity to create jobs and increase income for poor farmers. The poultry sector is also one of the largest consumers of maize, which is cash crop grown in several districts in the country.

The core challenges affecting the growth and development of the poultry sector are: access to quality affordable feed and other inputs such as quality day old chicks (DOC), proper veterinary services and vaccine/medications. Based on SOBA's initial findings, feed accounts for over 70% of total production cost. Poultry feed has an expensive, inaccessible and inconsistent supply chain that stands as a major challenge for poultry farmers in Sierra Leone. There is no locally available complete feed processor available, due to it being a nascent sector that invites minimal investment. Some poultry farmers rely on sourcing different ingredients in different quantities and making their own feed mixture. This method is both time-consuming and costly, as farmers have to go through the hassle of buying all the needed ingredients. Inconsistent availability of key inputs, such as maize, force farmers to buy large amounts of inputs up-front during the season to last the entire year – if they are unable to afford this initial cost, they must buy maize for a much higher price throughout the off-season.

SOBA has already done some initial research and analysis of this sector to gain insight on these challenges. These findings can help tackle major systemic barriers for productive poultry production through developing informed interventions that will stimulate growth of the sector and expand market opportunities for smallholder maize farmers to increase their income. This research was done to validate some of these initial findings and to gather some key figures: total number of poultry farmers, total number of layer birds, total annual egg production, total annual feed and maize demand, and to assess farmers interest in buying ready-made poultry feed. The findings from this assessment will be used to find various entry points for SOBA and to also assess the feasibility of having a feed mill in Sierra Leone.

Methodology

The aim of the study was to conduct in-depth interviews with 13 poultry farmers – all owning small-, medium- and largescale poultry farms. During the assessment, farmers of six small (100-1000 layer birds), six medium (1001-5000 layer birds) and two large (5001 plus layer birds) poultry farms were interviewed. During the research process, it was also decided to interview egg traders and supermarkets to determine: the kinds (local or imported) of eggs they were trading, the buying and selling prices for both local and imported eggs, and overall consumer preference. In total, eleven egg traders and two supermarkets were interviewed.

This baseline study was done by SOBA Consultants Peter Ghombo (M&E Analyst), Saio Bobson (Implementation Lead) and supervised by Ritesh Prasad (M&E Manager). The fieldwork was done from 30th May until 3rd June 2016 across three districts in the Northern, Western Rural and Central Urban districts. Interviews were done in Freetown, Makeni, Mile 91 and Magburaka.

Main Study Findings

Objective 1: Determine the total number of poultry farmers, total number of layer birds, average egg production efficiency and total annual egg production by poultry farmers in Sierra Leone.

Based on these findings, and with consultation with few key stakeholders, it is estimated that there are about 100 poultry farmers in Sierra Leone. This includes 60% small-scale, 35% medium-scale and 5% commercial-scale poultry farmers. Altogether, these farmers have a total of about 151,000 layer birds that produce close to 30 million eggs annually. Large-scale farmers who have more than 5,000 layer birds contribute to 46% of the total annual egg



production alone. Medium farmers who have 1,000-5,000 layer birds contribute to 42%, whilst small farmers with 100-1,000 layer birds contribute to only 12% of total annual egg production. The table below summarises the estimated total number of poultry farmers, number of layer birds and total annual egg production per different category of farmers.

Category of poultry farmers	Estimated total number of farmers	Estimated total number of layer birds	Total annual egg production
Small	60	21,000	3,731,000
Medium	35	72,000	12,815,000
Large	5	58,000	13,911,000
Total	100	151,000	30,457,000

Table 1: Estimated total number of poultry farmers, total number of layers birds and total egg production

Secondary data suggests that Sierra Leone imports close to 14 million eggs per month. If this is true, then the current local annual production of 30 million eggs is just 18% of country's total annual demand of about 168 million eggs. The study findings also suggest that 73% of farmers (mostly small-scale farmers) surveyed had indicated that their production has decreased this year as compared to last year, 18% has recorded an increase in production, whilst 9% indicated that their production has remained the same. The main reasons for decline in production are as follows:

- Availability and high cost of poultry feed (35%).
- Death of birds due to various disease or new disease outbreaks (35%).
- Absent or poor management, i.e. owners being away and workers don't take good care of birds (18%).
- Loss of birds through theft (9%).

Layer birds start laying eggs in about 16-20 weeks – this time lapse from investment to return discourages poultry farmers in Sierra Leone. Lack of capital or access to finance is an additional factor that limits farmers from entering into poultry farming business. The table below summarises investment and operational costs required for 1,000 layer birds for the first four months.

Breakdown of Cost	Per Month	First 4 months	Percenatge of cost
Basic Poultry Shed	SLL 15,375,000	SLL 15,375,000	26%
Day Old Chicks	SLL 9,439,167	SLL 9,439,167	16%
Poultry Feed	SLL 6,758,496	SLL 27,033,983.69	46%
Electricity/Fuel cost	SLL 316,951	SLL 1,267,802.14	2%
Medication & Vaccines	SLL 492,727	SLL 1,970,908.02	3%
Transport	SLL 393,467	SLL 1,573,868.18	3%
Labor or Staff	SLL 415,267	SLL 1,661,066.90	3%
Total cost per month	SLL 33,191,074	SLL 58,321,796	100%

	Table 2: Estimated Investm	ent and operational	cost for 1,000 lay	yer birds
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Note: Basic poultry shed is one of investment cost, and depending on the nature of materials used, could last up to two layer bird production cycles. Day old chicks are also one of investment cost and last for one production cycle.

All new or existing poultry farmers with a new set of layer birds have to wait for 4-5 months before they start to receive some returns through egg sales. Aside from this, it also takes just over a year for a new poultry farming business to recover all production cost and start making profit. Layer birds have an economic/productivity cycle where they can lay



eggs productively until they are about 80 weeks of age – they are able to produce eggs for 60 weeks of this time. They then need to be replaced with a new stock. The table below summarises different cost involved per bird per production cycle for different category of farmers.

Turne of	Feed cost	Choff and	Cost of day	Operational - Fuel/electrici	Total cost
farmers	cycle	per cycle	per cycle	transport	costs)
Small	SLL 120,723	SLL 3,292	SLL 9,250	SLL 41,046	SLL 174,311
Medium	SLL 141,253	SLL 7,128	SLL 9,917	SLL 11,003	SLL 169,300
Large	SLL 166,090	SLL 10,339	SLL 8,385	SLL 21,351	SLL 206,166

Table 3: Average spent on different cost items for different category of farmers.

It is noted that larger commercial farmers spent a lot more on feed cost and hiring of staff for the management of layer birds, potentially being one reason that they have higher egg production efficiency than medium and small category poultry farmers. Feed accounts for 78% of the total production cost. The graph below summarises the total cost of production, total return and total net profit margin per bird per production cycle for different category of farmers.



Figure 1: Total cost, Total Revenue and Total Net Profit per bird for the whole production cycle.

Objective 2: Determine total annual feed and maize requirements by the current poultry industry.

Larger poultry farmers on average must use 72 kg of feed per bird for an 80-week production cycle, which is higher than what medium and small poultry farmers feed their layer birds. This could be another reason why larger poultry farmers have higher egg production efficiency. Medium farmer use about 64 kg of feed, whilst small farmers use about 63 kg of feed per bird for 80 weeks production cycle. The table below summarises total feed per bird for production cycle and total current annual feed and maize demand.



Table 3: Estimated Total current annual feed and maize demand

Category of farmers	Feed per bird per cycle (KG)	Total annual feed requirement (tonnes)	% maize per feed mixture	Estimated total annual maize requirement (tonnes)
Small	63	756	50%	378
Medium	64	2689	47%	1265
Large	72	2457	48%	1184
		5902	48%	2827

The baseline study finding reveals that that current estimated total annual feed demand stands at 5,902 tonnes. Maize contributes, on average, to about 48% of the total feed mixture, whilst current total estimated annual maize demand stands at 2,827 tonnes. All (100%) farmers said they were sourcing maize locally and 46% of farmers surveyed highlighted that they were not able to source the required volume of maize that they needed. This was mostly during the off-season (rainy season) when there was limited supply and a very high price. Some of the medium and large farmers also mentioned that they usually buy a whole year's stock of maize during the high season, as a means to avoid purchasing it at a high price during the off season.

Objective 3: Assess poultry farmer's interest in buying and using ready-made affordable poultry feed.

44% of the farmers showed their interest in buying ready-made affordable poultry feed. These farmers were willing to pay as much as SLL 150,000 per bag of 50kg feed, as long as quality was guaranteed. The other 56% opted not to buy ready-made poultry feed for following reasons:

- 50% highlighted quality issues
- 50% highlighted availability and high cost

A number of the farmers were found to be buying ready-made starter feed (feed given to day old chicks till 2-4 weeks of age). The major challenge these farmers faced was the availability of ready-made feed and the distance they had to travel to buy these feeds that are only available for sale in Freetown.

Objective 4: Determine consumer preference, and buying and selling prices for local and imported eggs.

Only 38% of traders surveyed were found to be selling local eggs (those sourced from poultry farmers in their locality). The majority of traders were selling imported eggs, as they couldn't source it locally. Imported eggs were mostly sourced from supermarkets, either in their town or from Freetown. It was also found that those traders who were trading local eggs managed to buy it at a much cheaper price than the imported eggs, whilst the selling price was almost the same. Hence, those traders trading local eggs had a higher profit margin. The figure below summarises the buying, selling and net profit margin for local and import eggs (cost per egg).





Figure 2: Buying and Selling Price of Local and Imported Eggs

50% of traders surveyed mentioned that consumers ask for local eggs when they come and shop for eggs, whilst the other 50% said their customers do not ask anything. The reason for asking for local eggs is that they are fresh and can be stored for a longer period of time.

Conclusion

The following conclusions can be drawn from this baseline study:

- It is estimated that there are total of 100 poultry farmers in Sierra Leone. These farmers altogether have close to 151,000 layer birds producing 30 million eggs annually. The local production accounts for only 15% of the total annual egg demand.
- The majority (73%) of farmers have recorded reduced production this year as compared to last year, mainly due to disease outbreak, and the high cost or lack of feed. Feed accounts for 78% of total production cost.
- The current annual demand for poultry feed is about 5,902 tonnes. Total annual demand for maize stands at 2,827 tonnes, as it contributes to 48% of the total feed mixture.
- The majority (56%) of poultry farmers prefer to buy ingredients and mix their own feed, due to issues of quality and the high cost of both transportation and imported feed. 44% of poultry farmers showed their interest in buying imported feed if quality was guaranteed.
- Traders find local egg sourcing cheaper than that of imported eggs, whilst both are sold at almost the same price. Therefore, they are able to make a higher profit on trading local eggs.

Recommendations and Next steps

The following recommendations are drawn based on the study findings:

- There is huge demand for eggs in Sierra Leone, with the current local production accounting for 15% of total annual demand, whilst the rest is currently being met through importation. People's preference for local eggs over imported eggs, along with a huge supply-demand gap, confirms opportunity for SOBA to work towards increasing local egg production.
- SOBA should explore opportunities to address two major poultry sector constraints, which not only lead to lower egg production efficiency, but have also led to a decline in the poultry industry this year as compared to last year. These major constraints are (1) availability, quality and high cost of poultry feed; and (2) availability of veterinary services (including vaccines and medications).



• The majority (56%) of poultry farmers preferred to make their own feed due to quality, availability and high price of ready-made poultry feed. The remaining 44% of poultry farmers have showed interest in purchasing ready-made poultry feed provided that (1) quality is guaranteed and (2) it's sold at an affordable price. A poultry feed producer who is able to guarantee the quality, availability and consistency in supply is more likely to be able to influence more poultry farmers to buy ready-made poultry feed.

Any increase in the number of poultry farmers, number of layer birds or egg production efficiency for existing poultry farmers would provide an opportunity for thousands of maize farmers and local egg traders to increase their income. The current estimated number of maize farmers and local egg traders are estimated to be around 10,000 and 2,000 respectively (both of these are best estimates and needs to be verified).

