

# Project *brief*

Thünen Institute of Farm Economics

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## Broiler production in Ghana and Senegal: farm performance and economics

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- **Broiler production in Ghana and Senegal is characterized by high production costs, with feed and day-old chick costs as the most significant cost items.**
- **Broiler production is profitable in Ghana as a seasonal activity and in Senegal as a year-round activity.**
- **Through the use of high-quality inputs (feeds and chicks) and proper husbandry practices, Senegalese broiler farms perform better and have lower production costs than Ghanaian farms.**
- **To compete against German and other international broiler farms, Ghanaian and Senegalese farms will have to improve performance and lower feed and day-old chick costs.**

### Background and aims

Broiler producers in Ghana are struggling to meet the growing demand for chicken meat. Consequently, the country is dependent on frozen chicken imports. In Senegal, the importation of all forms of uncooked poultry meat was banned in 2005 by the government in an attempt to prevent an outbreak of Avian Influenza (AI). The ban is not only protecting the country from AI but also from competition against low-priced frozen chicken imports. Here, we present the results of Work Package (WP) 2 of the IMMPEX project (Impact of meat and milk product exports on developing countries). WP2 examines the economics and international competitiveness of typical broiler farms in Ghana and Senegal.

### Methods and data

The typical farm approach was used for the farm economic analysis. The approach entails using semi-structured interviews, expert consultations and focus groups to construct virtual farm data sets that are called 'typical' farms. Typical conventional broiler production data sets were constructed for Ghana, Senegal and Germany. Including the German farms enabled an international comparison. Three typical farms were constructed in each country and named according to their respective country codes and the total number of chickens they produce annually (in thousands).

### Key findings

#### Farm performance

Typical broiler farms from Senegal are performing better than those from Ghana in terms of the Feed Conversion Ratio (FCR) and mortality rates (Table 1). Senegalese medium-scale farms (SN\_38k and SN\_36k) have performance indicators that are

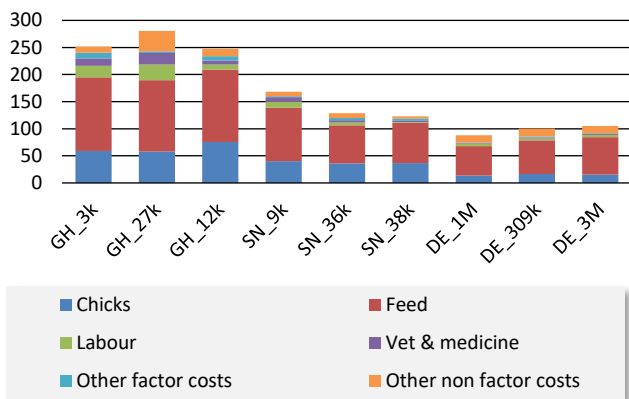
almost comparable to those of German farms, which are the most efficient farms in this comparison. The good performance of the Senegalese farms is due to the use of high-quality feed, chicks, and proper husbandry. In contrast, Ghana's low farm performance is due to the use of poor-quality inputs (poor-quality feed and low-quality, locally-hatched day-old chicks) and poor husbandry practices. Broiler production in Ghana is seasonal due to competition from low-cost frozen chicken imports. This is because producers can only sell their chickens during festive seasons, when there is an increase in demand from local consumers.

#### Comparison of costs of production and profitability

The costs of feed and day-old chicks (DOCs) are the most significant cost items for typical broiler farms in Ghana, Senegal and Germany (Figure 1). Ghanaian farms have the highest production costs, followed by Senegalese farms and German farms. The Ghanaian farms have the highest production costs because they have higher costs of feed, DOCs, and veterinary services. GH\_3k and GH\_12k have higher DOC costs because they are rearing imported DOCs that are more expensive. The farms prefer to rear DOCs imported from Europe and the Ivory Coast because the domestically hatched DOCs are of a lower quality. In contrast, the Senegalese farms are using locally hatched DOCs that are more affordable. The DOCs in Senegal usually come from imported hatching eggs or imported breeder stocks. German producers typically rear much more affordable DOCs that are hatched domestically. As for the feed costs, many factors can account for the differences across the three countries. At the farm level, the main factor is feed use efficiency. The German and Senegalese farms are more efficient in feed use (low FCR). The farms use less feed to produce a

kilogram of meat in comparison to the Ghanaian farms. This implies that they spend less on feed per kilogram of meat produced.

Figure 1: Comparison of production costs (EUR/100kg live weight)



Source: Own survey and calculations

Figure 2 shows that despite the high costs of production in Ghana and Senegal, broiler production is profitable in Ghana as a seasonal activity and in Senegal as a year-round activity.

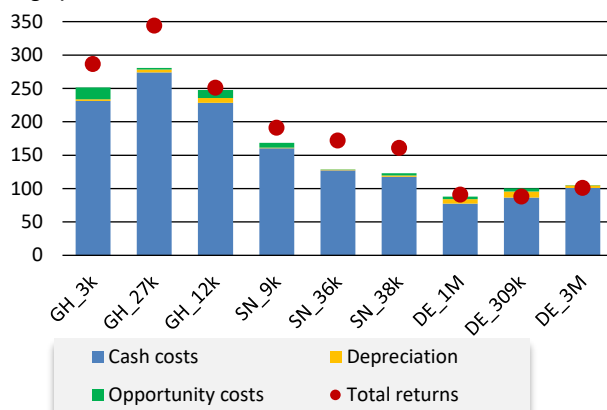
## Conclusions

To improve the performance and lower production costs of broiler farms in Ghana and Senegal, we recommend the following interventions:

- Producers' husbandry practices can be improved in both countries through increased extension services and training.
- Using high quality inputs and proper husbandry practices can improve the feed-use efficiency of Ghanaian farms and reduce their feed costs. The quality of locally-hatched DOCs could be improved by monitoring and regulating hatchery operations.
- The costs of DOCs could be reduced in Senegal by promoting the importation of breeder stocks.

Although Ghana's and Senegal's farms may improve their performance and production costs slightly, local chicken meat will likely be unable to compete with imported frozen pieces due to limited slaughtering facilities and dependence on imported inputs (chick genetics, feed ingredients). To resolve these issues, sector-wide interventions and substantial investments will be needed.

Figure 2: Total costs, returns and profitability (Euro/100 kg live weight)



Source: Own survey and calculations

Table 1: Comparison of farm performance indicators

	Ghana			Senegal			Germany		
	GH_3k	GH_12k	GH_27k	SN_9k	SN_36k	SN_38k	DE_1M	DE_309k	DE_3M
Feed Conversion Ratio (FCR)	2.43	2.08	2.33	2.06	1.78	1.61	1,52	1,51	1,70
Mortality at farm level (%)	2.88	4.08	10.00	5.00	5.00	3.50	2,35	3,40	4,26
Number of cycles per year	3.72	3.00	3.00	6.00	6.20	6.10	7,80	7,60	7,30

Source: Own survey and calculations

## Further Information

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### Publications

Chibanda, C., Almadani, M. I., Thobe, P., & Wieck, C. (2022). Broiler production systems in Ghana: economics and the impact of frozen chicken imports. *International Food and Agribusiness Management Review*, 1-16.

Chibanda, C., Sall, M & Wieck, C. (2023). An analysis of the broiler value chain and economics of broiler production in Senegal: status quo after two decades of import restrictions.