



SHEFS

POLICY BRIEF 1

From the spotlight to the floodlight:
**Illuminating the commercial
broiler chicken system**

WHAT IS SHEFS?

SHEFS (Sustainable and Healthy Food Systems) is an international research programme using novel methods to generate and synthesise evidence, and to help decision makers create policies that deliver nutritious and healthy diets in an environmentally sustainable and socially equitable manner. The programme is funded by the Wellcome Trust.



ABOUT THIS SERIES

This series of five policy briefs draws on research conducted by South African and United Kingdom-based researchers within the SHEFS consortium. The series seeks to encourage policy makers working on the commercial broiler chicken system in South Africa to adopt a broad systems-based perspective in their work. This first brief provides an introduction to commercial broiler industry policy in South Africa, while the subsequent briefs focus, in turn, on a series of key challenges facing the broiler system.

BRIEFING 2

Highlights the systemic inequalities which are created by policies that favour large-scale commercial producers, and which, in turn, generate price-driven nutritional inequalities for consumers

BRIEFING 3

Explores the potential nutrition and health implications of policies aimed at increasing per capita consumption of broiler chicken meat

BRIEFING 1

Provides a broad overview of the challenges associated with current broiler industry policy in South Africa

BRIEFING 4

Highlights the fragmented nature of food safety governance within the context of the broiler chicken system and the potential risk of foodborne disease in South Africa

BRIEFING 5

Explores the hidden impact of the commercial broiler chicken system on the environment and the broiler system's climate change vulnerability

A system-wide perspective for integrated and sustainable policy

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SUMMARY

This policy brief provides a broad overview of the challenges associated with current broiler industry policies in South Africa.

Current broiler policies in South Africa focus on the commercial system's growth, with the aim of improving national food security and agricultural GDP. However, the unintended consequence of this narrow-focused "spotlight" view is the risk of exacerbating inequality, poverty, malnutrition (under- and overnutrition), household food and nutrition insecurity, food safety risk, and climate change.

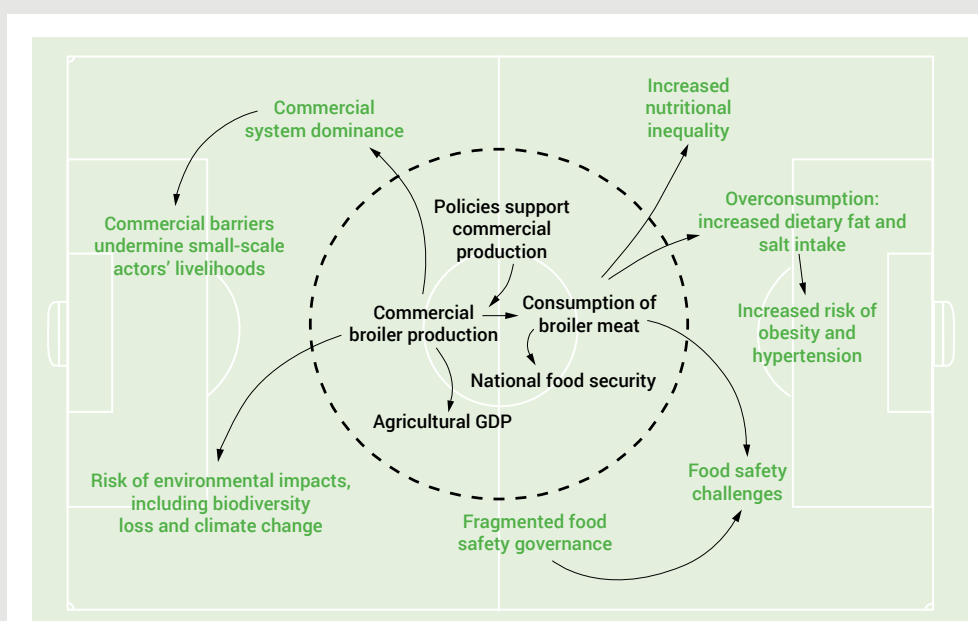


FIGURE 1

- Current focus of commercial broiler policies and their intended outcomes in central spotlight
- Wider unintended consequences, revealed with a food systems approach, in full floodlight view

A broader food systems approach floodlights the wider commercial broiler system's potential impacts (Figure 1) – illuminating pitfalls beyond the current narrow focus:

- Systemic inequality creates entry barriers for small-scale actors, and nutritional inequality for consumers
- Overconsumption increases health risks related to obesity and hypertension
- Food safety is threatened by fragmented governance
- Environmental costs are hidden and unsustainable

RECOMMENDATION

Apply a food systems approach to gain a system-wide perspective and build a foundation to identify policies that transform the commercial broiler system in alignment with the National Development Plan 2030.

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Introduction

The challenges that policy makers face in delivering effective food systems are numerous and typically complex, and are often interconnected and interdependent (see **Box 1**). Focusing on individual challenges, or specific aspects within them, may reveal easy-to-reach solutions for a specific sector, but this frequently leads to disjointed policies and unintended consequences. Moving the focus from what lies within a narrow-beamed spotlight to the wider perspective of a floodlight, will expose the wider system within which individual challenges arise. This helps to identify the underlying drivers of each

challenge, and potential unexpected outcomes of planned interventions. This so called “food systems approach” has been championed as the paradigm shift required to transform food policy formulation³. It was also endorsed by the United Nations through their 2021 Food Systems Summit, as a means to building food systems that are healthier, more inclusive, sustainable and equitable⁴. This brief looks at the current trajectory of the commercial broiler chicken system, and demonstrates what a food systems approach reveals about the system’s wider implications.





BOX 1

THE COMPLEX CHALLENGES IN FOOD SYSTEMS: GLOBAL AND SOUTH AFRICAN CONTEXTS

Food related policies have historically aimed at resolving food insecurity, through increasingly intensive production systems, and distribution systems that are formal, integrated and globally connected. However, these policies are now under scrutiny for their failure to resolve hunger and malnutrition, and for their unintended consequences, many of which are of equal or greater concern than food insecurity. Livestock-derived food systems are central within this debate, both globally and nationally.

THEME	GLOBAL CONTEXT	SOUTH AFRICAN CONTEXT
Food insecurity	10% of the population are food insecure and 30% lack year-round access to adequate food ¹	18% of households have inadequate or severely inadequate access to food ² ; 27% of children are stunted ⁵
Obesity	Overnutrition and obesity affects 25% of the population, the burden borne mostly by lower socio-economic groups ⁶	36% of adults are living with obesity, 68% of women and 31% of men are living with overweight or obesity ⁵
Affordability	Healthy food is unaffordable for approximately 38% of the population ¹	25% live below the food poverty line ¹⁰
Micronutrient deficiencies	Caused by poor quality diets. Nutrition related anaemia affects 30% of (15–49-year-old) women	Iron deficiency anaemia affects 23% of preschool children and 22% of pregnant women, and Vitamin A deficiency rates are 17% and 19% respectively ¹⁰
Big Food	Transnational corporations control many global supply chains and prioritise business growth over consumers' health and nutrition, and their industry's environmental impacts ¹¹	Four main supermarket companies dominate food retail, supplying 95% of the formal market ¹²
Food Safety	Despite food safety research and investment, foodborne disease control remains a challenge among poorer and more vulnerable populations ¹³	In 2017–18, the largest foodborne listeriosis outbreak globally arose within the formal food processing system ¹⁴
Environment	Food production produces 24% of greenhouse gas emissions, uses 70% of freshwater resources, and contributes to biodiversity loss through chemical use and land-use change ^{15,16} . Climate change induced temperature rises will impact cereal yields and rangeland grazing (particularly in sub-Saharan Africa) ¹⁷	Climate change will make the bulk of the country vulnerable to heat stress ¹⁸ , with water shortages affecting food production ¹⁹ , only 13.5% of agricultural land is arable and most is rainfall dependent ^{20,21}
Livestock-derived food (LDF)	LDF has the greatest contribution to the environmental impact of food ²² . It is integral to meeting nutrient requirements of children and pregnant women in low- and middle-income settings ²³ . Overconsumption can contribute to obesity and associated non-communicable disease ²⁴ . Poultry makes up 34% of global meat consumption second only to pork at 37% ²⁵	Livestock keeping has an important cultural role ²⁶ and meat is one of the most regularly consumed foods ²⁷ . Annual meat consumption per capita in SA is the highest in Africa ²⁵ and 60% of this is broiler meat ²⁸



Research findings

Commercial broiler policies focus on local industry growth

Current government policies (that form part of the South African Poultry Master Plan) are geared towards supporting local commercial industry development, with the overall aims of increasing per capita broiler consumption and improving national food security. The local industry is protected with higher tariffs on imported broiler meat, but with the caveat that the commercial system facilitates the inclusion of more emerging farmers. Broiler production is the greatest contributor to agricultural GDP and supports employment opportunities throughout the system – including those associated with inputs (such as feed and chicks), processing, and the sale of broiler products to consumers. Broiler meat is the most affordable meat option and is the source of a range of products, which is why many consider it a staple within South African diets. Consumption per capita of broiler meat has doubled in the past 20 years and it makes up the bulk of meat consumption in South Africa, which itself is the highest per capita on the continent.

“Consumption per capita of broiler meat has doubled in the past 20 years”

Wider impacts of the broiler system potentially undermine the National Development Plan 2030

Food systems should aim to provide safe, healthy and nutritious food, that is environmentally sustainable and accessible to all. These are key aspects of South Africa’s National Development Plan 2030 (NDP). However, the focus of current commercial broiler policies – on local industry development and increased per capita consumption – demonstrates little consideration for meeting the wider aim of food systems, and risks undermining NDP goals. Policy makers are therefore encouraged to ask: How will current broiler policies impact on the health and nutrition security of all consumers? Can food safety be maintained? How can access be equitable? Will the system be environmentally sustainable? To answer these questions, a food systems approach is required. It can provide a better understanding of the system, identify the linkages between system components, and therefore facilitate the development of policies that mitigate unintended consequences and identify more durable solutions.



A food systems approach reveals wider linkages

The SHEFS research into commercial broilers^{7,8,9} took a food systems approach that considered the questions outlined in the previous paragraph. A wide range of broiler stakeholders were included, from those involved in production and distribution, to those involved within the wider boundaries of food safety, health, nutrition, wellbeing and environmental sustainability. Several issues requiring the attention of policy makers were identified and are outlined below. Each of these forms the basis of one of the subsequent, more detailed, policy briefs in this series.

- 1. Systemic inequality creates entry barriers for small-scale actors, and nutritional inequality for consumers:** The dominance of the commercial production system and retail giants creates barriers for smaller enterprises, perpetuates inequality and undermines attempts to alleviate poverty. By increasing access and affordability of certain products, with products of lower nutritional value being aimed at low-income consumers, nutritional inequality is deepened.
- 2. Overconsumption increases health risks related to obesity and hypertension:** Increasing broiler meat consumption levels for vulnerable individuals can address their nutritional shortfalls, but increasing per capita consumption for everyone will have several unintended consequences, especially through consumption of less healthy formulations. Chicken is the primary meat used in the fast-food industry, adding to dietary fat and the rising levels of obesity and related non-communicable disease. The bulk of frozen chicken pieces are injected with brine, adding salt to consumers' diets – thereby increasing the risk of hypertension and cardio-vascular disease.
- 3. Food safety is threatened by fragmented governance:** Food safety governance is split between three siloed government departments, leading to policies with limited coherence or shared responsibility, and to challenges in policy implementation.
- 4. Environmental costs are hidden and unsustainable:** The environmental impact of broiler meat may be less than meat from ruminants, but its dependence on cereals for feed puts pressure on crop systems that already face threats of climate change on the relatively small proportion (14%) of agricultural land that is arable. The broiler system's intensive production requires inputs of energy and water, and produces waste requiring responsible management to avoid contamination of water sources. Equally, climate change threatens broiler productivity, via heat stress and increased disease risk, while higher ambient temperatures increase the risk of foodborne disease through failure of consistent refrigeration or shortages of water.

RECOMMENDATION

Apply a food systems approach to gain a system-wide perspective and build a foundation to identify policies that transform the commercial broiler system in alignment with the National Development Plan 2030.





Conclusion

A food systems approach is recommended to build a system-wide perspective of the complex challenges that food systems present. Rather than a focused spotlighted view of a challenge, a food systems approach produces a floodlit view of the wider system within which the challenges are positioned. In doing so, policy makers are enabled to identify the main drivers behind the challenges, and the linkages to other areas of policy concern. In turn, policy makers will be encouraged to break down interdepartmental silo walls and prompted to draw on opinions and evidence from multiple stakeholders that are active in various areas of the system. Consequently, resulting policies are more likely to avoid stakeholder resistance and unintended consequences, and lead to more durable and sustainable outcomes that align with the National Development Plan 2030.



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