

CHANGING FOOD SYSTEMS IN KENYA AND MALAWI AND THE CHALLENGE OF TACKLING ANTIMICROBIAL RESISTANCE



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**INTRODUCTION TO THE RESEARCH PARTNERSHIP
AHRC/GCRF CULTURES, BEHAVIORS, AND HISTORIES OF AGRICULTURE, FOOD & NUTRITION (UP TO £200,000
FOR TWO YEARS FROM 1ST JANUARY 2020)**

**“CHANGING FOOD SYSTEMS IN KENYA AND MALAWI AND THE CHALLENGE OF TACKLING ANTIMICROBIAL
RESISTANCE”**

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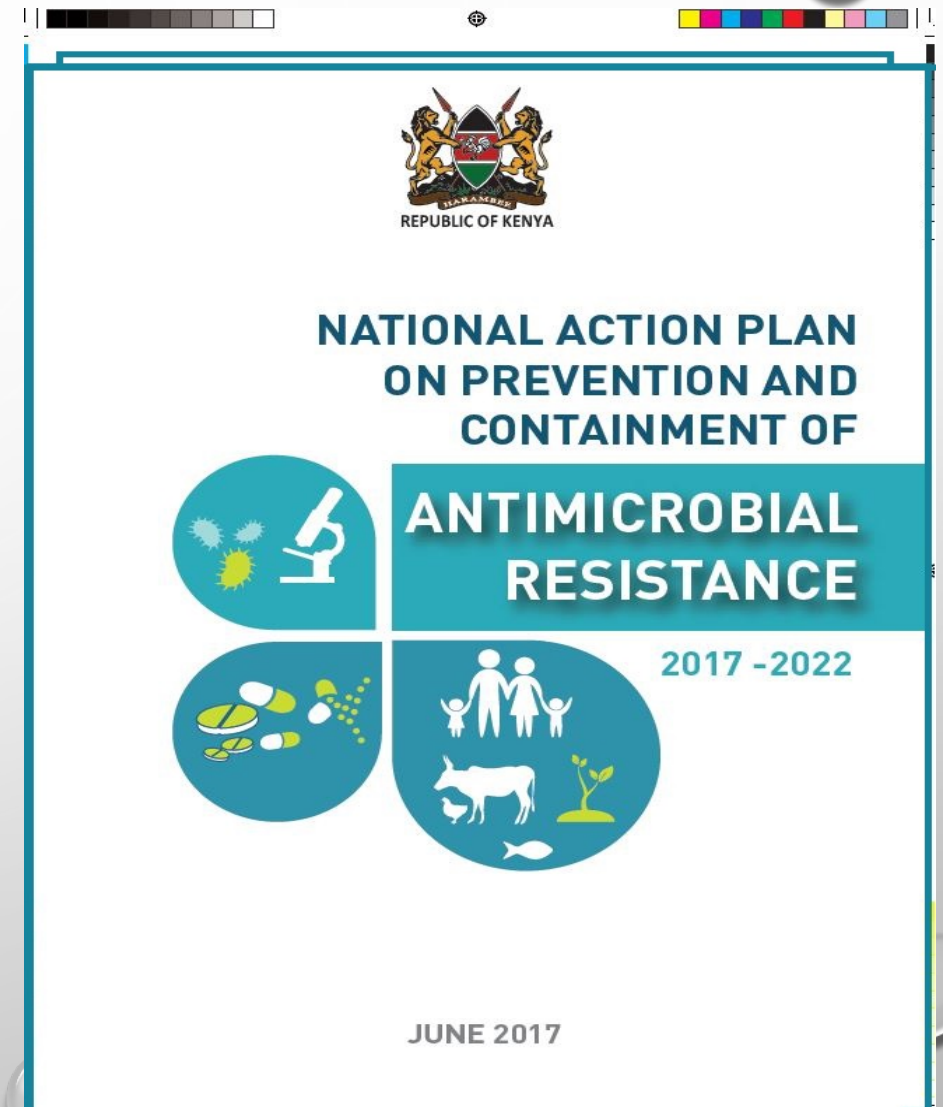


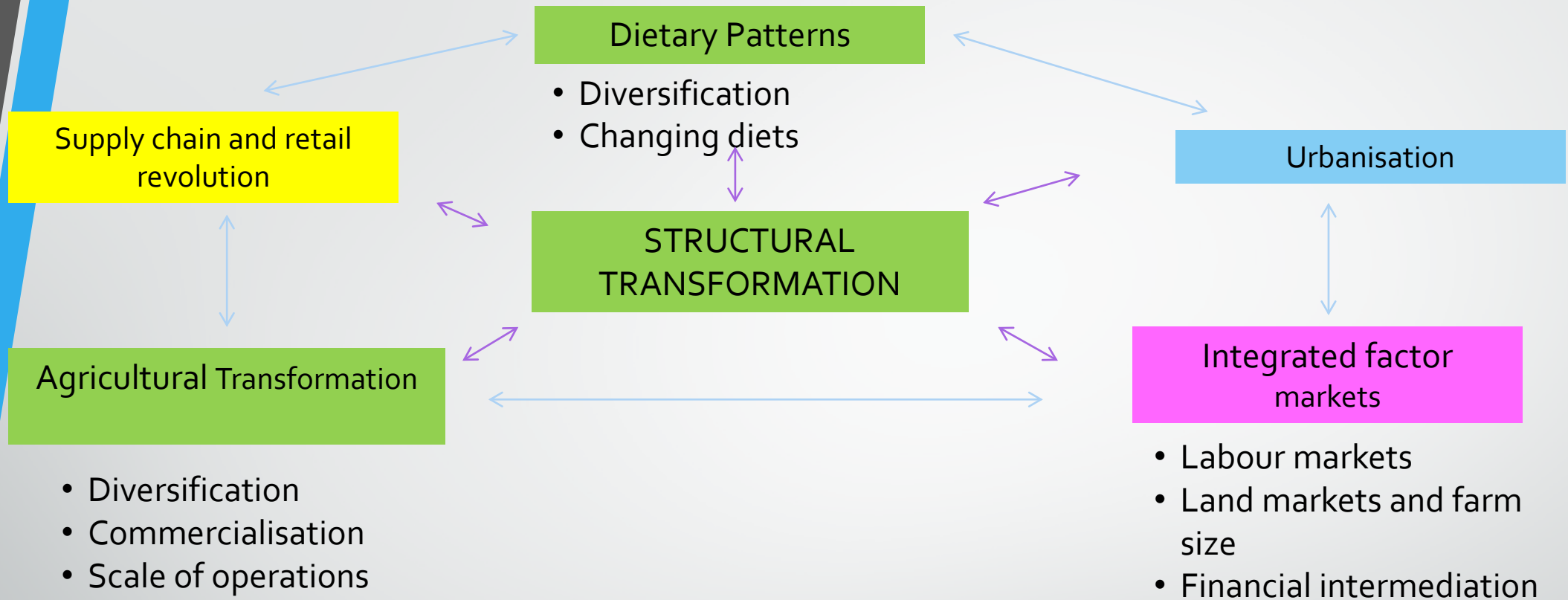
THE AMR CHALLENGE IN AGRICULTURE & FOOD SYSTEMS

- “Antimicrobial resistance occurs when a microorganism evolves to resist the effects of an antimicrobial agent and multiply in its presence” United Nations Environment Programme (UNEP) (2017: page 13)
- “While antibiotics are an important tool to support the health, welfare, and productivity of animals, a key issue is their inappropriate and disproportionate use on farm (Buller et al 2015). This has the ripple effect of reduced efficacy of antibiotics, including Critically Important Antibiotics (CIAs)

FOCUS AND AIMS OF RESEARCH PARTNERSHIP

- To research the cultural & economic dimensions of food consumption and agriculture that are critical to confronting AMR effectively.
- Ways in which rapidly changing cultures of poultry meat consumption and agricultural systems in Kenya and Malawi shape antibiotic use/misuse in farming, with implications for tackling AMR.





Contextualising AMR & global supply chains - underlying transformation of agrifood systems of Asia, Latin America and Africa

OBJECTIVES OF THE RESEARCH

- (i) To explore how **changing urban cultures of food consumption** in Kenya (focused on Nairobi) and Malawi (focused on Lilongwe) over the last 30 years have emerged alongside a growth in poultry meat production and associated transitions of farming systems;
- (ii) To map the **poultry production and distribution systems** of Nairobi and Lilongwe, capturing a diverse range of poultry farming systems, ranging from smallholders to large-scale commercial producers;
- (iii) To evaluate the ways in which the early phases of Kenya's and Malawi's **National Action Plans for AMR** (relating to legislation) are **influencing antibiotic stewardship and antibiotic reduction targets in poultry farming**, and to evaluate challenges associated with implementation, in particular relating to awareness of AMR and behaviour change regarding antibiotic usage in cultural context;
- (iv) To investigate the **patterns and practices of antibiotic use across the diverse set of poultry farms** in and around Nairobi and Lilongwe, establishing which antibiotics are used, under what circumstances and pressures, at what scale and intensity and by whom;

EMERGING RESULTS FROM SCOPING REVIEW AND RESEARCH

1. POLICY, PRACTICE AND REGULATORY FRAMEWORKS SHAPING THE POULTRY SECTOR AND AMR

- The results revealed that AMR policies and strategic plans exist in Kenya and Malawi e.g. the Malawi AMR strategy (2017-2022), Kenya National Policy on prevention and containment of AMR 2018-2022 – outline initiatives and policy interventions for tackling AMR.
- Different initiatives exist at local level in both countries e.g AMR National coordinating bodies/committees, AMR stewardship and surveillance plans. **Interventions on ground include regulation against irrational antibiotics use**
- There are also some gaps and challenges that were found in literature such as more focus of AMR on the human than the animal sector, more focus on agriculture as a whole and not specific to the poultry sector.



2. CONTEXT OF CHANGING POULTRY PRODUCTION AND DISTRIBUTION SYSTEMS

- **MANY FARMERS KEEP IMPROVED VARIETIES OF POULTRY TO MAXIMIZE ON PRODUCTION MOSTLY FOR COMMERCIAL REASONS.**
- **THERE IS A DRIVE TOWARDS INTENSIVE AGRICULTURE AND INTENSIVE ANIMAL HUSBANDRY WITH INCREASED USE OF MORDERNIZED, LARGE-SCALE PRODUCTION AND DISTRIBUTION SYSTEMS TO SERVE GROWING SUPERMARKET AND FOOD SERVICE SECTOR.**
- **ANTIMICROBIALS ARE WIDELY USED BY FARMERS FOR TREATMENT, PREVENTION AND AS GROWTH PROMOTERS, PARTICULARLY IN THE MEDIUM AND LARGE SCALE POULTRY PRODUCTION.**
- **MARKET DOMINATED BY SMALL-SCALE PRODUCERS PROVISIONING INFORMAL MARKETS VIA INTERMEDIARIES.**

3. SHIFTING DIETS AND URBANISATION

Increased consumption and demand of chicken meat and chicken products. E.g. Malawi: **78,121,449** tonnes in 2014/15 to **~137,001,243** tonnes in 2018/19. Kenya: Poultry population **~ 26,000** chicken in 2000 to **~ 31 million** birds in 2012 nationally.

Due to urbanisation, people are preferring industrially produced poultry meat such as broilers.

Work constraints and town life is making people to eat out often in restaurants where chicken meat is amongst the served meals.

The growth of the poultry industry has made chicken meat a cheaper source of protein, increasing consumption.

A rise in the purchasing power of consumers has also initiated the shift towards industrialised/processed poultry products.

4. THE ROLE OF POULTRY PRODUCTION SYSTEMS IN THE DEVELOPMENT OF AMR

- THERE IS EVIDENCE OF THE USE OF ANTIBIOTICS IN POULTRY PRODUCTION AT A LARGER SCALE. THIS ACCORDING TO KEY INFORMANTS IS ON THE INCREASE.
- IN MOST CASES FARMERS PRESCRIBE ANTIBIOTICS BY THEMSELVES WITHOUT PROFESSIONAL GUIDANCE.
- FARMERS MEDICATE CHICKENS WITHOUT DIAGNOSIS.
- MOST FARMERS' KNOWLEDGE AND UNDERSTANDING OF JUDICIOUS ANTIBIOTIC USE AND ANTIMICROBIAL RESISTANCE IS VERY LOW.
- FROM THE REVIEW, EVIDENCE SHOWS RESISTANCE OF BACTERIAL ISOLATES FROM POULTRY TO MANY OF COMMON ANTIBIOTICS (SUCH AS TETRACYCLINE, AND PENICILLINS) FOR HUMAN HEALTH.

5. LEVEL OF IMPLEMENTATION OF AMR INTERVENTIONS

Various activities involving the government and private sector to implement the action plans are underway. E.g. creating awareness and action through media and multisectoral forums (AM awareness week, evaluation meeting on indicators), more public-private partnerships in implementation (govt. and FAO, OIE, WHO etc), surveillance and infection prevention activities.

Some major implementation challenges include: inadequate resources (human and financial), lack of infrastructure such as labs, COVID-19 impact, limited coordination, limited local evidence, lack of policy enforcement, more focus on human than animal health, drug sharing and non-adherence to dosages.

CONCLUSION AND RECOMMENDATIONS

- Findings from review of literature and key informants demonstrate there is misuse and/or irrational use of antimicrobials in poultry production which needs to be urgently addressed.
- There is a need for creating awareness on the impact of misuse of antibiotics in poultry production to human health and strengthening surveillance and stewardship.
- There is need for multi-sectoral collaboration through different public and private policy actors to ensure effective implementation of the country action plan objectives. A One Health approach of implementation needed. Within agriculture more focus on poultry as it is currently broadly targeted.
- More representative research providing evidence on the link between misuse in agriculture and human health, and testing integrated interventions.