

Food and Agriculture Organization of the United Nations

MAXIMIZING NUTRITION IN THE LIVESTOCK SECTOR IN ESWATINI AND ZIMBABWE



According to the World Economic Forum white paper "Meat: The Future", 821 million people are malnourished and 151 million under the age of five are stunted. One factor contributing to global malnutrition is the low intake of essential nutrients and proteins from animal sourced foods such as meat, milk/dairy, fish and eggs. Livestock contributes 40 percent of worldwide income from agriculture from various livestock systems, in addition to having an impact on world food production and food security, nutrition, and land use.

The question of how to better incorporate nutrition into the livestock sector is a challenge shared by many policymakers and programme managers at regional, national and local levels, due to a lack of proven methodological tools setting out how to effectively achieve this. To help address this challenge the Food and Agriculture Organization of the United Nations (FAO), with support from World Vision (WV), has developed an innovative stepwise approach that combines theory and practice by establishing a **theory of change and associated impact pathways**. This work was carried out as part of a consultative process involving expert stakeholders from Eswatini and Zimbabwe. The results obtained demonstrate the utility of this methodological process to help policy makers and technicians **formulate and evaluate nutrition sensitive policies, programmes and interventions**.





THE KEY STEPS OF THE METHODOLOGICAL PROCESS

STEP 1. SITUATIONAL ANALYSIS

- Scientific literature review
- Identify key participants from the sector in the selected country
- Identify sector challenges using the food system framework
- Validate the situational analysis findings

STEP 2. DEVELOP THE THEORIES OF CHANGE

- Prioritise the challenges to be addressed by the theories of change
- Develop theories of change for each identified priority

STEP 3. DEFINE IMPACT PATHWAYS BASED ON PRACTICAL EXPERIENCES

- Identify the relevant sub-sectors
- Map policies and actions from selected sub-sectors
- Define practice-based impact pathways for each sub-sector based on existing activities

STEP 4. VALIDATION OF THE THEORIES OF CHANGE AND IMPACT PATHWAYS

- Assess critical hypotheses and trade-offs
- Consolidate the theories of change based on the impact pathways
- Provide indicators to measure the expected changes
- Consult stakeholders and validate findings

I. Entry point: a food systems approach

Why is it necessary for the livestock sector to integrate nutrition into food systems?

The livestock sector and its some 17 billion animals contribute to the feeding of nearly 8 billion people worldwide. In sub-Saharan Africa, livestock accounts for up to 40 percent of GDP and up to 33% of smallholder household income. It is also estimated that livestock-derived foods, or animal source foods (ASFs), provide up to 18 percent of energy and 34 percent of protein consumption globally. Indeed, of all the plant and animal sources of protein and micronutrients, milk and eggs are among the lowest cost options. Demand for ASFs is projected to increase by 80 percent in Africa in the space of two decades (2010–2030), primarily due to a projected increase in population growth. This larger population is expected to consume 125 percent more beef, 65 percent more poultry, 46 percent more milk and 77 percent more eggs than in 2010.

Within the context of the wider food system and its components (the food supply chain, the food environment, consumer behaviour and diets), there are a number of critical challenges to improving and optimizing nutritional outcomes through animal source foods. These challenges generally relate to food supply chains (i.e. from initial production to final marketing) and the enabling environment for food production, and to a lesser degree,

The key players in the livestock sector and their relation to the three key components of the food system



consumer awareness and behaviour in relation to nutrition, the accessibility and affordability of food. To address food insecurity and malnutrition in Eswatini and Zimbabwe, the above factors must be tackled using a food systems approach.

II- Identification of challenges and issues in relation to addressing nutrition in the livestock sector

Looking at the entire food system and its components, a number of critical challenges were identified. These relate to food supply chains, the enabling environment for food production, and to a lesser degree, consumer awareness and behaviour in relation to nutrition and the accessibility and affordability of food.

Carry out a contextual analysis using a food systems approach to prioritize sector specific challenges and issues related to nutrition and to contribute to more diverse diets.

Food supply chain. It is important to strengthen the management and productivity of communal grazing lands; improve livestock nutrition, marketing and processing; improve breeding programmes; increase access to advice and support services; and encourage the adoption of climate-resilient programmes and technology. On the post-production side, investment in cold storage, greater private sector investment, increased access to finance, and a reliable and accessible input system are needed.

Food environment. In the context of post-farm gate interventions, support for improving storage and distribution would contribute to food security and nutrition diversity. With respect to added value and processing, investment to establish proper slaughter and abattoir facilities able to handle the slaughtering of different types of livestock, comply with sanitary and phytosanitary measures standards and allow for the decentralization of processing facilities is essential.

Consumer behaviour. There is a lack of education through schools, extension services and consumer awareness.

III. Overarching theory of change for the livestock sector

The theory of change for mainstreaming nutrition within the livestock sector, developed in consultation with stakeholders in Eswatini and Zimbabwe, is that if the availability, accessibility, quantity and quality of ASFs are

Establish key assumptions that identify the sectoral changes needed to contribute to more diverse diets.

improved for both marginal rural households and the wider public by a) improving livestock production systems and b) increasing access to and the use of inputs and services; if c) market linkages are strengthened and there is greater awareness of and access to technology and information on all aspects of livestock management, husbandry and animal health; and if d) there is greater consumer awareness of the importance of ASFs for dietary diversity and e) greater acknowledgement of and engagement with women in order to address social and gender inequities in livestock production and the consumption of ASFs; then the use and consumption of ASFs will play a greater role in households' social and economic development and it will also improve their nutritional diversity and security.

IV. Illustrative food system impact pathway for the livestock sector aimed at improving nutrition outcomes

The impact pathway illustrates the supply chain of Eswatini's swine sub-sector. The critical entry points were identified as productivity, access to inputs and services, access and improvements to slaughter facilities, and the establishment of adequate regulations and food safety standards. For the

Develop impact pathways based on sub-sector specific practices to identify existing gaps and opportunities that may contribute to more diverse diets.

most part, markets are not well organized in the swine sector; there is poor access to finance and start-up costs are high. These issues are compounded by a generally poor standard of animal housing, a lack of management and husbandry practices, limited access to feed and limited feed formulation capacity. Interventions in these areas could improve the quality and increase the diversity of pork available to the consumer and encourage greater production and specialization in the sector.

Example impact pathway: food supply chain in the swine sub-sector



Source: the authors.

Summary of additional livestock sector impact pathways and their associated theories of change

SMALL RUMINANTS If farmers' capacity in relation to husbandry and management practices is further developed and there is greater promotion, awareness and consumption of goat meat as a viable ASF, and if there is better access to start-up kits, particularly for the most vulnerable HHs (including women engagement), then productivity and quality will improve, leading to improved HH nutrition as a result of increased on-farm consumption and sales due to increased offtake.

POULTRY If the productivity of poultry farms is improved through better access to high-quality feed, farmers' producing their own feed ingredients, improved poultry housing, husbandry, and management aspects and increased awareness of the nutritional benefits of eggs and poultry meat, particularly for women and young people, this will lead to higher incomes and greater HH dietary diversity.

- DAIRY In both Eswatini and Zimbabwe, smallholder dairy production can be a route out of poverty and towards improved dietary diversity. Addressing dairy production issues at the HH level, by focusing on improving water access, livestock nutrition, dairy herd management, and the management of communal and HH resources, is critical. In addition, establishing a system of milk collection and/or setting up dairy producer clusters to help improve economies of scale for production, primary collection and processing will lead to a) higher productivity, b) improved product quality and c) better access to markets at both the local and regional levels, making it more attractive for dairy processors and microenterprises and SMEs to operate in the sector.
- BEEF If production issues are addressed, by improving management of the natural resource base, husbandry practices and access to improved breeds and feed, then livestock nutrition will improve and productivity will increase, leading to more beef being produced and thus more sales and on-farm consumption, resulting in turn in higher income and greater dietary diversity thanks to either the option of purchasing of a more diverse diet, more beef being consumed directly by farmers, or a combination thereof.

V - Recommendations and evidence gaps

Recommendation 1

Focus programme and policy responses on production and market linkages. Interventions focusing on the various entry points along the production pathway and improving market linkages and accessibility are bighty like Consolidate theories of change on the impact pathways findings, and provide recommendations for improving nutrition in the sector/ sub-sector.

improving market linkages and accessibility are highly likely to increase ASF consumption in all sub-sector pathways.

Recommendation 2

Create demand for animal source foods (ASFs) through a combination of social and behavioural change, public campaigns and the marketing of ASF products. Consumption of these among the wider public is highly dependent on the level of consumer awareness of the importance of them in diets, which is in turn conditional to varying degrees on public sector policy (including education and health), the extent to which the food environment makes ASFs accessible, and private sector support to ensure the affordability of ASFs, as well as the way that animal source foods are marketed, which could be used to raise awareness of its benefits in relation to dietary and food security.

Recommendation 3

Increase commitment to safe food handling at all stages of the food system, from the production of ASFs to their consumption. This includes a commitment from stakeholders to increasing awareness of the benefits of preventing food contamination at all levels and stages of production, processing and retail, by adopting basic phytosanitary measures during on-farm production, post-farm handling, processing (primary and secondary), packaging, storage and transport, and retail to the consumer.

Evidence gaps

- Further research on the role that the various livestock sub-sectors play in the first 1 000 days from conception, and their impact on birth outcomes and the development of infants and young children, would be beneficial.
- Operations research on programmes that use livestock impact pathways to improve nutrition, as well as looking at how local interventions and national programmes can effectively contribute to women's economic empowerment, could also provide insight.

For more information check also:

- Maximizing nutrition in livestock using a food systems approach. An evidence-based literature review
- Maximizing nutrition in livestock. A guidance note on impact pathways for mainstreaming nutrition based on case studies from Eswatini and Zimbabwe

To access to all the publications on maximizing nutrition, go to: www.fao.org/nutrition/policies-programmes



