HESAT2030

Ending Hunger Sustainably, Nutritiously, and Equitably

ACHIEVING FOOD AND NUTRITION SECURITY BY 2030:

HESAT2030 ASSESSMENT – EVIDENCE SYNTHESIS AND COSTING OF NUTRITION-SENSITIVE INTERVENTIONS

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BACKGROUND

Countries are not progressing sufficiently to meet the targets of Sustainable Development Goal 2 to achieve Zero Hunger by 2030 (FAO, 2023). Globally, 9.2% or 735 million people are chronically undernourished and lack consistent access to diverse, safe, and nutrient-rich foods (FAO, 2023). Women and children are disproportionately affected, primarily those living in rural and peri-urban areas of lower-middle income countries (LMICs) across Southern Asia and Eastern and Middle Africa (FAO, 2023). Prolonged and repeated food insecurity[1] and undernutrition, especially during critical life stages, such as early childhood, adolescence and pregnancy, poses long-term consequences. This includes an increased risk of developing multiple forms of malnutrition, obesity and non-communicable diseases later in life, as well as increasing the national economic and health burdens facing countries (Popkin et al., 2020; Uauy et al., 2011). In recent years food insecurity and undernutrition have been further compounded by climate change, conflict, trade disruptions, the COVID-19 pandemic and rapidly changing food environments that rely on the ubiquitous availability of low-cost, unhealthy, and ultra-processed foods in peri-urban and urban areas (Wells et al., 2020).

To ensure food and nutrition security[2], it is necessary that food production and caloric intake enable healthy diets. Traditionally, food security policies and programmes have prioritized increased food access or production, with the aim of increasing staple crop production and daily caloric intake (Mozaffarian et al., 2018; Pingali, 2015). However, this approach does not improve diet quality of undernourished populations, thus failing to address other forms of malnutrition, such as stunting and wasting. Rather, multidimensional interventions that include healthy diets[3] are needed to prevent malnutrition and other associated risks arising later in life as well as reduce the need for next interventions to address those risks (Neufeld et al., 2023).

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1 A person is food insecure when they lack regular access to enough safe and nutritious food for normal growth and development and an active and healthy life. This may be due to unavailability of food and/or lack of resources to obtain food. Food insecurity can be experienced at different levels of severity (FAO, 2024).

2 When secure access to an appropriately nutritious diet is coupled with a sanitary environment, adequate health services and care, in order to ensure a healthy and active life for all household members. Nutrition security differs from food security in that it also considers the aspects of adequate caring practices, health and hygiene in addition to dietary adequacy (FAO, 2012).

3 Beyond calories and essential nutrients, healthy diets characterized by a variety and balance of recommended food groups and moderation of unhealthy foods. What constitutes a healthy diet for any given population depends on the physiological needs of its individuals, which largely vary by age, life stage, and health status.

Many nutrition-specific, or nutrition-direct, policies and programmes are evidence-based and costed. Some of these include micronutrient supplementation, large-scale food fortification, and maternal child nutrition services delivered through the health sector (Bhutta et al., 2013; Escher et al., 2024; Keats et al., 2021). *However, these stand-alone policies are not sufficient.* Accelerating progress in nutrition requires a combination of effective, nutrition-specific interventions that are implemented at scale, with complementary, nutrition-sensitive, or nutrition-indirect, programmes integrated across multiple sectors. (Bhutta et al. 2013)[4]. These interventions include social safety nets, nurturing care programmes, school feeding programmes, women's empowerment and gender equality, and agriculture (including fisheries, forestry, and livestock) (Sharma et al., 2021).

Nutrition sensitive interventions that engage the entire agrifood system can lead to healthier diets and improved nutrition outcomes. This is indicated by the growing evidence base on the impact of nutrition-sensitive intervention at the farm level to address food and nutrition security, and to a lesser extent value chain, markets, and food environments (Fiorella et al., 2016; Ruel et al., 2018; Bird et al., 2019; Di Prima et al., 2022; Margolies et al., 2022). In addition, several high-level reports have highlighted the opportunities of nutrition sensitive interventions in their recommendations and analysis (Hawkes et al. 2020; HLPE 2020; IFRPI 2024).

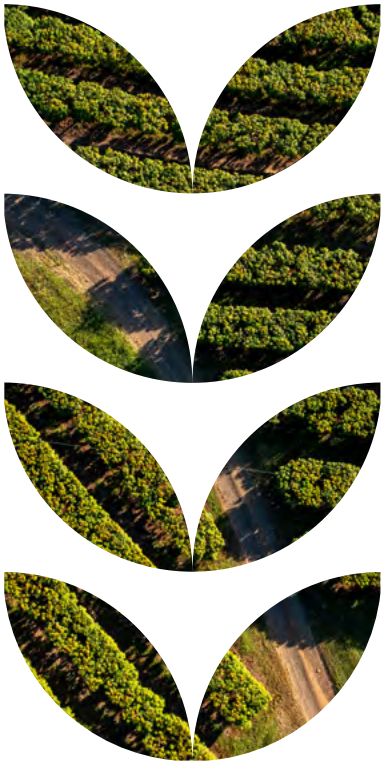
Despite these encouraging developments, many gaps in the evidence base remain.

4 Nutrition-specific interventions target proximal determinants of dietary and nutrient intake, and often are delivered through health system and state institutions, whereas nutrition-sensitive interventions address underlying and enabling determinants of malnutrition (Ruel & Alderman, 2013).

HESAT2030 ASSESSMENT –

EVIDENCE SYNTHESIS AND ECONOMIC MODELLING OF NUTRITION-SENSITIVE INTERVENTIONS

With its partners, the Shamba Centre for Food & Climate, the JUNO Evidence Alliance and the Food and Agriculture Organization of the United Nations (FAO), Hesat2030 is developing a comprehensive assessment and economic modelling of nutrition-sensitive interventions to determine the additional public investment needed to achieve food and nutrition security in the most vulnerable populations by 2030, and within the limits set by the Paris climate agreement.



The assessment consists of *an evidence-synthesis* of nutrition-sensitive interventions that interface with the agrifood systems, followed by *economic modelling* for the interventions selected based on the review's findings, using the MIRAGRODEP model[5].

The evidence-synthesis combines manual search and artificial intelligence to screen relevant bibliographic and organization databases to ensure the inclusion of key scientific articles and grey literature reports from 2008 to 2024[6].

5 The MIAGRODEP is a dynamic, multi-country, multi-sector Computable General Equilibrium (CGE) model which incorporates extensive data on income levels, production opportunities, and consumption patterns at macroeconomic, regional, sectoral, and household levels to enable a thorough analysis of household heterogeneity and socio-economic factors.

6 For further details on the methodology. please refer to the research protocol

THE HESAT2030 ASSESSMENT AIMS TO:

Provide a comprehensive analysis and costing of the most effective nutrition sensitive interventions in agrifood systems that improve diets and nutrition. A better understanding is needed on what interventions are the most effective, in what context, under what conditions, how to bring them to scale and what is their cost. This will help inform government and donors on the additional public investment needed for such interventions. This supports ongoing efforts to systematically examine the extent to which official development assistance (ODA) on food and nutrition security interventions are aligned with scientific evidence.

Advance the understanding of the linkages between multiple nutrition sensitive interventions in order to maximise impact. Emerging evidence suggests additional returns on investment when bundling[7] nutrition-sensitive social protection, policy and regulatory measures with behaviour change communication interventions addressing the marketing and availability of unhealthy foods (Barrett et al., 2022; Wadi et al., 2024). The assessment will determine how interventions can be bundled.

7 Implementing interventions together, **in the same location and/or programme**, to target distinct shifts, such as changes in food allocation bundled with changes in nutritious food crop production.

Formulate evidence-based recommendations on climate-smart actions that achieve healthy diets and improve nutrition sustainably, without breaching the 1.5 °C threshold. Experts increasingly call for the integration of climate action into nutrition related policies and programmes. (Fanzo & Miacron 2023; Caleffi et al., 2023, Ambikapathi & Mason-D'Croz, 2024). While the bi-directional relationship between nutrition and climate resilience and adaptiveness is well-established, there is limited evidence on the effectiveness of interventions that address both (Venegas Hargous et al.). So far, modelling of climate-friendly intervention scenarios showed positive results (Geyik et al., 2023; Jennings et al., 2024). The assessment aims to provide the evidence base that could maximise untapped potential to implement more policies and programmes in this regard (FAO, 2023). As per the Hesat2030 objectives, the recommended interventions will consider nature-based solutions and, at a minimum, not impede progress on gender equity and climate targets.

4

Facilitate consensus among practitioners of nutrition and foods systems policies on a shortlist of essential actions to take, which is currently lacking (Walton et al., 2023). This has been reiterated in independent expert consultations conducted by Shamba Centre for Food & Climate[8] on behalf of the Hesat2030 project.

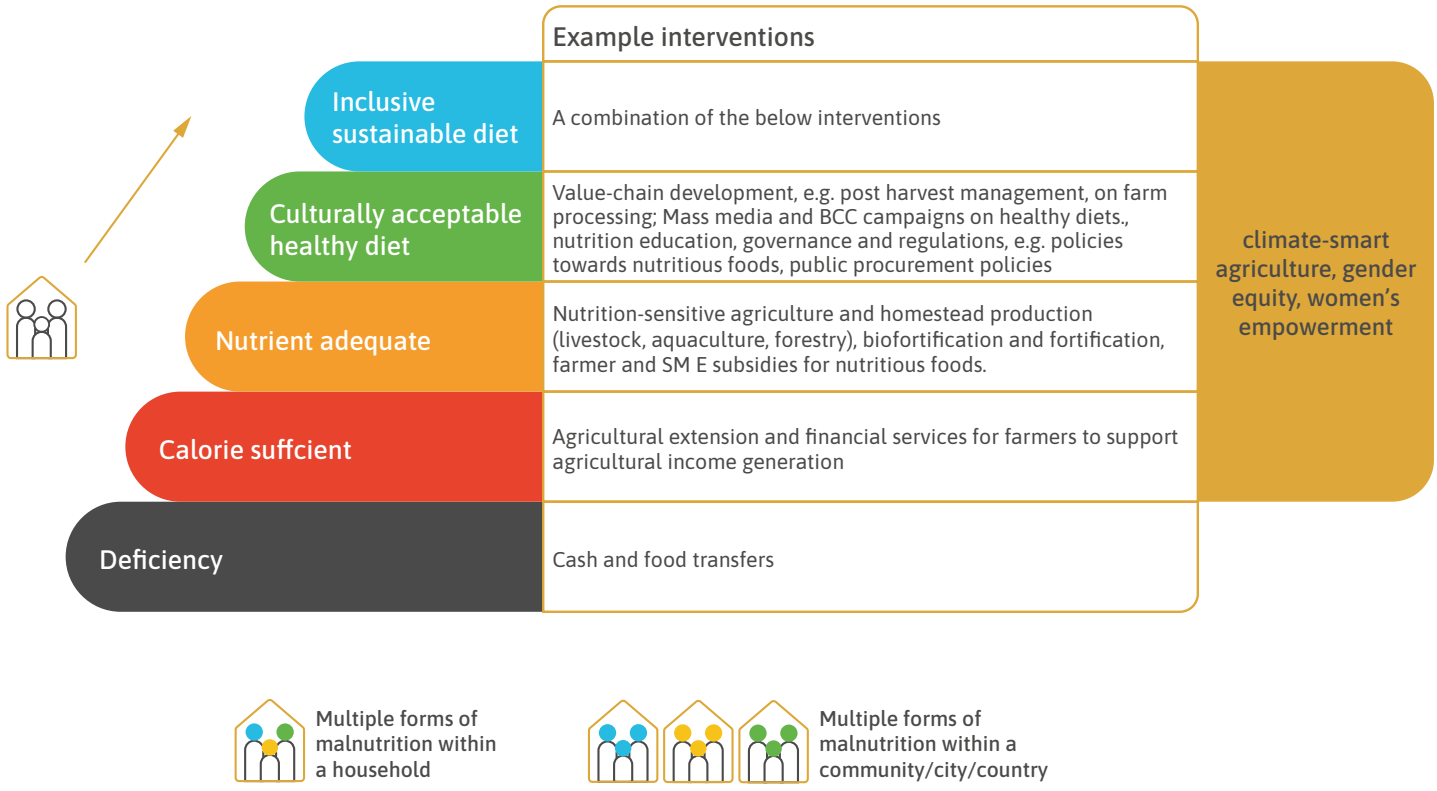
8 For the purpose of the Hesat2030 nutrition assessment, between January – June 2024, Shamba Centre interviewed over 15 key experts from academia, research institutions, United Nations organizations, private and government donors, global and regional international finance institutions and non-governmental organizations on their recommendations for a short-list of the most effective nutrition sensitive agrifood system interventions to end hunger and malnutrition in the most vulnerable populations.

These recommendations will help inform policy makers and the donor community on how to prioritize their investments for maximum impact. This is especially timely given that many countries deliberating on their commitments for the upcoming Nutrition for Growth summit in March 2025. It also complements similar work underway such as the World Bank's forthcoming update for their Investment Framework for Nutrition which focuses on nutrition specific and sensitive interventions in relation to health targets.

PRELIMINARY FINDINGS

The assessment adopts the concept of enabling individuals to progress from caloric deficiency to optimal nutrition status as illustrated in Figure 1 below. Interventions should ideally address all forms of malnutrition at critical life stages through healthy diets and reduce current and future risks of malnutrition and malnutrition-related diseases.

Figure 1: Ladder Towards Optimal Food and Nutrition Security for Household Members



Source: adapted from HLPE 2024

As a first step, the research team conducted a preliminary assessment of over 60 recent scientific reviews articles and high-level reports, followed by an expert consultation (please see footnote 6). This resulted in a shortlist of effective nutrition sensitive interventions that interface or engage with the entire agrifood system. These interventions demonstrated the highest potential for improving dietary and nutrition outcomes in children, adolescents, women of reproductive age, and other household members, and implementing them appropriately is critical to ending hunger and malnutrition in these populations. This shortlist of interventions was used to guide the development of the assessment's theory of change and research protocol. Categorized under three pathways in Table 1 below, these interventions will be fully examined during the evidence synthesis and may change based on the actual review.

Table 1. Proposed interventions and preliminary assessment of evidence availability

Pathways	Proposed interventions	Evidence availability
Producing sustainability	Agricultural extension and financial services for farmers	Medium
	Homestead production, including livestock, aquaculture, forestry	High
	Biofortification	Medium/ Emerging
	Subsidies for farmers and SMEs on nutritious foods	Low/ Emerging
Boosting fair and efficient markets	Post harvest management, for example to reduce food loss and waste	Medium/ Emerging
	On-farm and SME processing	Medium/Emerging
	Large scale food fortification	High
Consuming healthy diets	Mass media and behaviour change communication (BCC) campaigns on healthy diets	Medium
	Nutrition education	High
	School feeding programmes	High and *expert consensus*
	Cash and food transfers	Medium
	Nutritious foods policies	Medium
	Public procurement policies	Medium/ Emerging

NEXT STEPS

The initial results will be available in the third quarter of 2024 and shared at relevant high-level events, to be identified together with Hesat2030's funding partners and collaborators.

The assessment will be shared in a policy brief and other materials that will include recommendations and the additional costs required to implement a set of costed and evidence-based interventions.

Prior to the announcement of the recommendations, a scientific paper will be shared for peer review. The paper will include details on the methodology and disaggregated results to technical experts and practitioners. It is planned to discuss the findings during the Scaling up Nutrition (SUN) Global Gathering in November 2024.

The registered research protocol can be accessed at:
https://www.cabidigitallibrary.org/doi/10.31220/agriRxiv.2024.00263

This work is funded by the Gates Foundation and the German Federal Ministry for Economic Cooperation and Development (BMZ).