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Recovering the 'lost years' in the fight against hunger

The number of hungry and malnourished people in the world remains unacceptably high. Achieving Sustainable Development Goal 2 (SDG2: Zero Hunger) by 2030 is moving increasingly out of reach, despite ongoing and widely publicized national, regional and global policy efforts to make progress (e.g. G7, G20 and the UN Food Systems Summit and its follow-up processes). In 2022, 9 percent of the global population (735 million people) were undernourished and 30 percent (2.4 billion people) faced moderate or severe food insecurity. Africa, in particular, stands out with persistently higher levels of food insecurity compared to the global average. This is especially the case for rural populations and women. The world is also not on track to achieve the 2030 targets for child stunting, child overweight, child wasting and low birthweight, important indicators of severe malnutrition.

The trends of promising decline in undernourishment ended around 2015. Starting in 2020, the world has experienced unprecedented food security disruptions, leading to what can be described as "lost years" in the pursuit of SDG2. Conflicts and climate change impacts remain key drivers of hunger. While the world was still recovering from the impacts of the COVID-19 pandemic, the war in Ukraine had adverse spillover effects on global food, fertilizer and energy markets. At the same time, the frequency of extreme weather has increased substantially since 2000. Countries most exposed to climate impacts exhibit the highest prevalence of undernourishment, especially in the Horn of Africa and South Asia. A more recent trend is the growing scepticism against development cooperation and multilateral partnerships.

To combat food insecurity, G7 nations attending the Elmau Summit in 2015 pledged to contribute to eradicating hunger and malnutrition of 500 million people by 2030 through an increase in bilateral and multilateral assistance. This pledge was reaffirmed in 2022 with a joint commitment of USD 14 billion towards global food security in that year. Both the Indian and Brazilian G20

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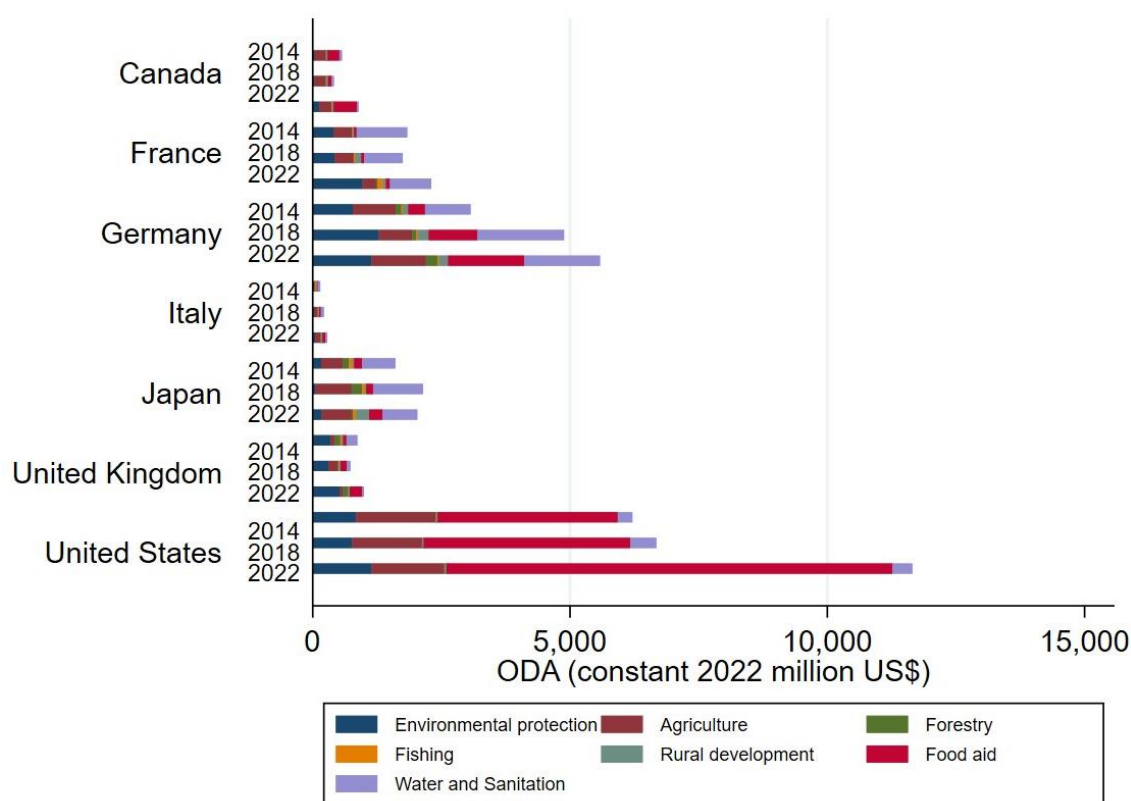[2] Senior Researcher, Center for Development Research (ZEF), Bonn University
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presidencies put hunger eradication at the top of their agenda in 2023 and 2024 respectively. Overall aid from the 27 Development Assistance Community (DAC) member countries has increased in recent years. However, among the G7, only Germany reached the 0.7 percent of Gross National Income (GNI) target in 2023. Encouragingly, G7 aid related to food security and rural development has almost tripled since 2000, rising from US$ 9 billion to US$ 24 billion in 2022 (albeit with some fluctuations at the country level, see Figure 1), but there are signals that this level of commitment is now declining.

In light of recent developments in food insecurity and related drivers, this policy brief presents new estimates of investment needs and priority interventions to achieve the ambitious target of zero hunger. It follows from an earlier cost estimate carried out by ZEF and FAO in 2020[5] which has been updated to reflect changes in timeframes and circumstances.

Figure 1: Sub-sector allocation of G7 food security and rural development ODA (ODA commitments, constant 2022 million USD)

Source: Authors' own elaboration based on OECD (2024)

Note: As shown in the figure, a large share of US ODA is food aid. While this aid is helpful, some valuation aspects of the US food aid, such as cargo preference laws and monetization practices, have raised concerns (Lentz, Mercier, & Barrett, 2017). Lentz et.al (2017) estimated that for every tax dollar spent on US food aid, only 35–40 cents reach those in need, with more funds allocated to shipping and handling than to actual food.

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[5] ZEF and FAO (2020) Investment Costs and Policy Action Opportunities for Reaching a World without Hunger (SDG 2). Available at bit.ly/ZEF_FAO_SDG2.

Methodology and two scenarios

The estimates presented in this brief and the related report employ a marginal abatement cost curve (MACC) to identify a mix of least-cost investment options with the highest potential for reduction in hunger and malnutrition. Two different MACC analyses are provided (Table 1):

1. **Urgency for 2030 - actions with short-term impactful investments:** We present a short-term focused MACC analysis, identifying interventions that can be feasibly invested in to achieve significant hunger reduction by 2030.

2. **Realism with urgency – investing in ending hunger by 2040 without further delay:** We highlight the need to prioritize interventions with longer-term impacts jointly with short-term actions, thereby providing a MACC analysis that considers interventions requiring more time to take effect and achieve significant hunger reductions by 2040.

Most of these interventions interact and complement each other. To gain an additional perspective, we review **model-based findings** that simulate the effect of multiple policy interventions on hunger reduction and the associated costs by accounting for their synergies and trade-offs.

Table 1: Annual and total cost to lift 500 million and 700 million people out of hunger: Comparison across three MACC analyses
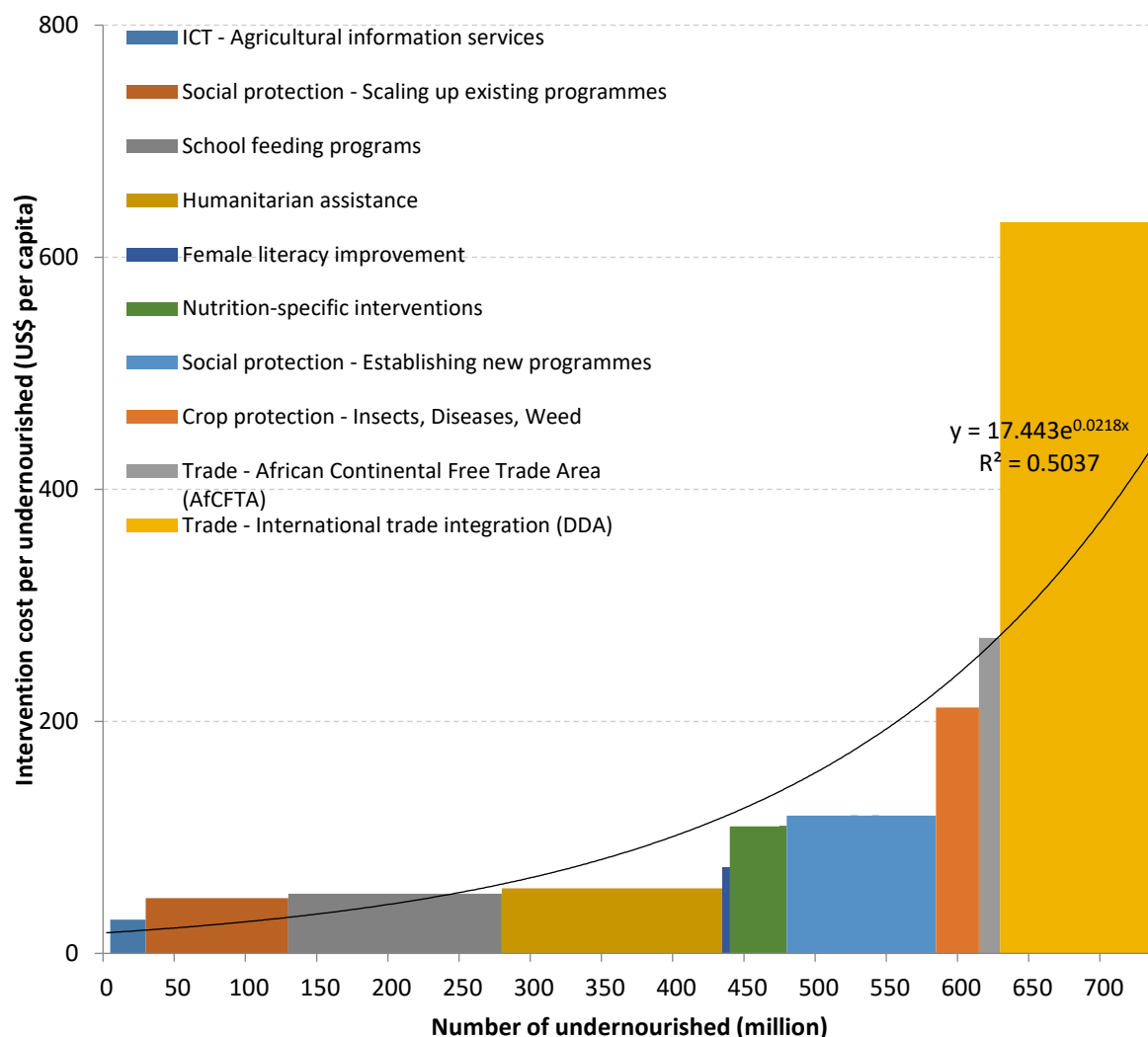
	Annual and total cost to lift about 500 million people out of hunger (US$, billion) (total cost in brackets)	Annual and total cost to lift about 700 million people out of hunger (US$, billion) (total cost in brackets)
MACC analysis – "Earlier estimate" 2020 – 2030	_12 (94)_	_30 (185)_
MACC analysis – "Short-term investments" 2025-2030	27 (146)	93 (512)
MACC analysis – 2025-2040	10 (116)	21 (223)

Costs and investment priorities to meet the G7 Elmau commitments and end hunger

Urgency for 2030 - actions with short-term impactful investments

Meeting the **G7 commitment of lifting 500 million people** out of hunger and malnutrition by 2030 could be achieved by **increasing existing investments by USD 27 billion annually**. This is more than double the estimate of USD 11-14 billion annually

projected in 2020. The ten short-term measures identified in the study include ICT-based agricultural information services (USD 29 per individual lifted out of hunger annually), school feeding programs (USD 51), humanitarian assistance (USD 56), female literacy improvement (USD 75), scaling up existing social protection programs (USD 56), and establishing new social protection programs (USD 119) (Figure 2). This approach has important humanitarian benefits but lacks sustainability and long-term economic efficiency.

Figure 2: Marginal cost curve of short-term interventions to reduce hunger from 2025 to 2030

Note: The MACC for hunger shows the cost of each hunger reduction measure such that each bar represents a single intervention where the width shows the number of individuals lifted out of hunger, the height its associated annual per-capita cost, and the area its associated total annual cost. The total width of the MACC reflects the total hunger reduction possible from all interventions, while the sum of the areas of all of the bars represents the total annual cost of reducing hunger through the implementation of all interventions considered. The positions of the bars along the MACC reflect the order of each intervention by their cost-effectiveness based on the annual per-capita costs. When moving along the MACC from left to right, the cost-effectiveness of the interventions worsens as each next intervention becomes more expensive than the preceding. It is important to note that MACC analysis is subject to missed synergies, the potential of some overlap between interventions, and the impact of extreme events not considered.

Cost of complacency and changed circumstances

With only six years remaining until the 2030 deadline, the range of technically feasible investment options becomes limited. As a result, the MACC projects that the ten short-term measures can lift **about 700 million people** out of hunger and malnutrition until 2030 at **additional costs of USD 93 billion annually** between 2025 and 2030. This marks a sharp increase in the projected costs compared to the 2020 estimate which had been about USD 30 billion annually, highlighting the significant cost of delayed action.

The **modelling results** come close to the MACC estimate, projecting additional annual investment needs of USD 90 billion between 2025 and 2030). Similar to the MACC, the modelling also emphasises the need for increased spending in particular for humanitarian assistance and social security.

Realism with urgency – investing for ending hunger by 2040 without further delay

To reach SDG2 in sustainable ways, short-term actions would need to be combined with investments that have long-term impacts on a realistic time path. Extending the endline to 2040 would allow for the implementation of interventions that require more time to take effect and achieve significant hunger reductions. By combining short- and long-term investments, it would be possible to lift **500 million individuals** out of hunger and malnutrition by 2040 by **increasing investments by approximately USD 10 billion** annually. These investments would for instance include agricultural extension services (USD 18 per individual lifted out of hunger annually), agricultural R&D (USD 18), ICT-based agricultural information services (USD 29), and small-scale irrigation expansion in Africa (USD 23) (Figure 3).

To lift **about 700 million people** out of hunger and malnutrition by 2040, the additional costs almost double to about **USD 21 billion annually**, incorporating additional interventions such as female literacy improvement, scaling up existing social protection programs, school feeding programs, humanitarian assistance, and establishing new social protection programs.
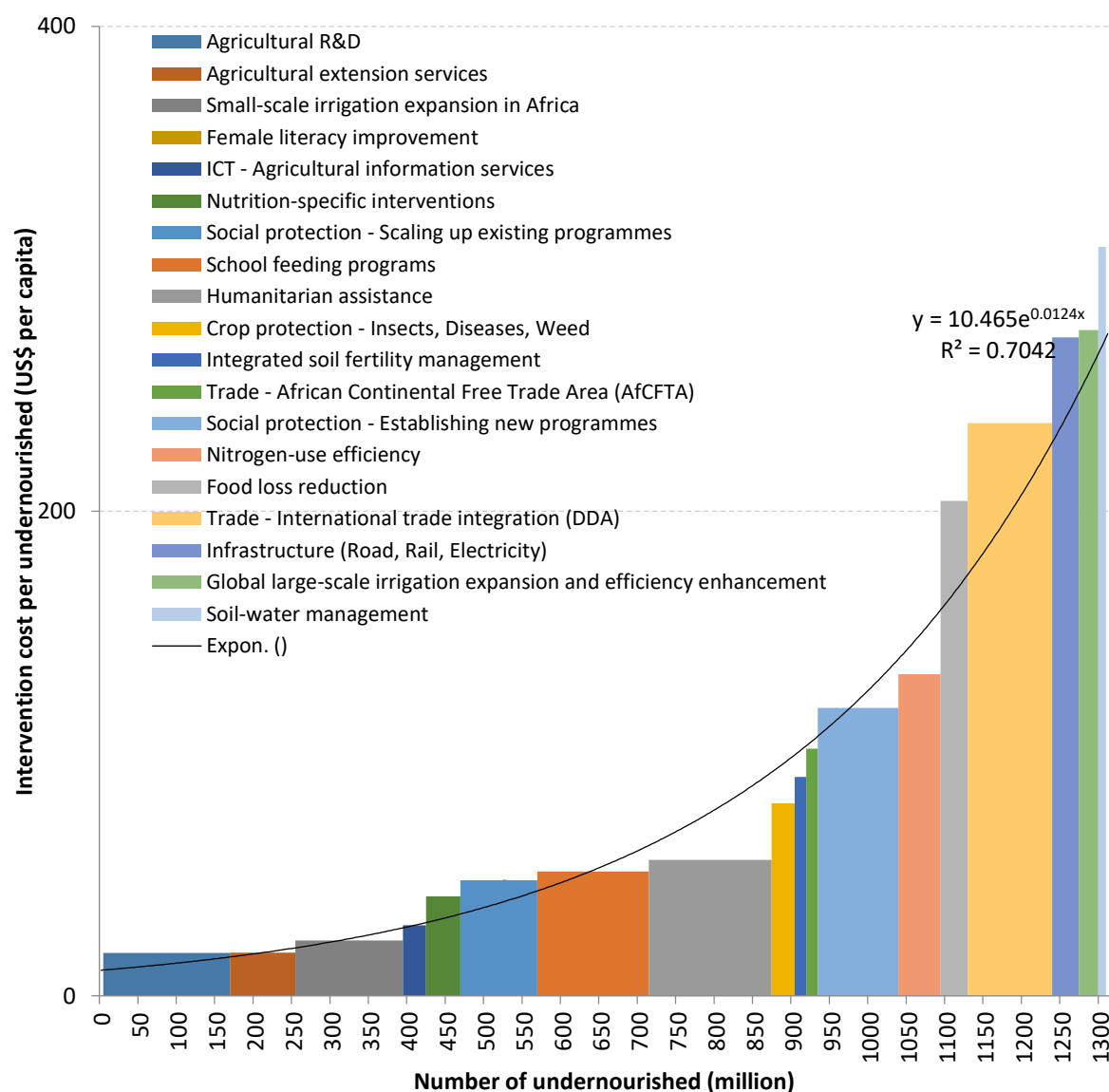

Figure 3: Marginal cost curve of short-term interventions to reduce hunger from 2025 to 2040

Note: see Figure 2.

Implications for policies and global food systems governance

In the fight against global hunger, the human and financial costs of complacency are alarming. With limited time until 2030, feasible investment options become restricted and the cost of achieving Zero Hunger escalates. Extending the SDG 2 endline to 2040 would be an unfortunate consequence of lack of sufficient action in the first decade of the SDGs. Such an extension of the endline should only be considered if the - indeed sizable - investment actions that could deliver the end of hunger by 2030 cannot be mobilized quickly enough.

Recalculating the costs of hunger reduction and shifting policy agendas forward is not satisfactory unless the causes of the failure to achieve the needed progress are addressed. This leads to issues of food systems governance and related broader policy implications. In sum, attention needs to be on:

1. **Immediate and concerted efforts are required to mobilize substantial investments in short-term hunger reduction interventions**, focusing on transfers to the needy, humanitarian assistance, and social protection programs.

2. **Combining short-term actions with long-term strategies is essential for sustainable hunger reduction beyond 2030**, requiring a comprehensive innovation agenda that balances short-term impactful interventions with additional investments in productivity-enhancing and sustainable solutions.

3. **The global governance of food and nutrition needs revisiting and reform**. While making laudable efforts to mobilize additional investments, the G20 and G7 require to strengthen implementation capacities and follow up mechanisms. More structured approaches to include corporate sectors of the food system, finance institution and science are also welcome.

4. **The important global policy actions that require attention to end hunger are**:

   - facilitating **integration of global-level actions** in the key areas of hunger reduction jointly with actions on climate resilience, health, biodiversity and international trade,

   - developing a strong **finance agenda** for the investments needed to end hunger and achieve other key nutrition targets,

   - encouraging institutional innovations and enhanced coordination for a sound **science – policy interface** from national to global levels,

   - strengthening the **capacities for national-level implementation** of actions, especially in emerging economies, with increased domestic and international support, and

   - **leveraging initiatives** such as the Global Alliance Against Hunger and Poverty proposed by the Brazilian G20 presidency **to accelerate progress**.

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