UNDERNOURISHMENT

The cost of zero hunger

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Exacerbated by the COVID-19 crisis, global hunger and child undernutrition are on the rise and the targets of the United Nations Sustainable Development Goal 2 are off track. Pre-pandemic models put the cost of reducing undernourishment at up to US\$265 billion per year, although estimates of cost and the number of people lifted out of hunger varied widely between models designed with a variety of definitions, objectives and strategies in mind. Now, Bezawit Beyene Chichaibelua and colleagues from the University of Bonn have developed a marginal abatement cost curve (MACC) to identify interventions with the highest potential for hunger reduction by 2030 with least-cost investment, with projections that incorporate the impact of COVID-19 as a reference scenario.

The MACC allows investment options to be ranked by effectiveness. The expert-based MACC employed here, and the pros and cons of this approach, are well detailed in the manuscript, which has a strong academic narrative. The potential to reduce hunger and cost of each of 22 interventions (12 related to crop yield at farm level; 5 related to infrastructure for food distribution; 3 related to food access; 2 related to maternal and child care) were elicited from a literature review with additional calculations, and interventions were ranked from least to most expensive based on the average cost of lifting an individual out of hunger.

The MACC shows that the G7 target of lifting 500 million people out of hunger by 2030 would require investment of US\$11–14 billion per year, and could be

achieved with least cost through agricultural research and development efficiency enhancement, agricultural extension services, information and communications technology, agricultural information services, small-scale irrigation expansion in Africa, female literacy improvements and scaling up existing social protection. To end hunger by 2030, investment of US\$39–50 billion per year could lift 840–909 million people out of hunger.

Chichaibelua and colleagues offer a very richly detailed paper that has academic value beyond presentation of the MACC. They detail and build a narrative around previous models from the Food and Agriculture Organization, the International Food Policy Research Institute, The World Bank and others including the Achieving Zero Hunger framework, Towards Zero-Hunger by 2030, Ending Hunger: What Would It Cost, and Investment Framework for Nutrition. The overview of the MACC as an aid for policymakers is an informative and insightful read. As a take-home message, the authors highlight the need to frontload investment in more expensive strategies that will come to fruition in the long term, while ensuring immediate measures are taken to feed the hungry. Ultimately, at the cost modelled in this study, the authors conclude that ending hunger is not prohibitively expensive.

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