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What do we know about THE FUTURE OF FOOD SYSTEMS?

CHAPTER 2

What do we know about THE FUTURE OF POVERTY IN RELATION TO FOOD SYSTEMS?

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Key messages

- The global poverty headcount rate declined rapidly over the past 25 years, from around 30 percent to 8.5 percent today, but a series of global crises caused the pace of poverty reduction to slow down from 2020 onward. Some regions have done well; for instance, the East Asia and Pacific region has now effectively eliminated extreme poverty, a Sustainable Development Goal (SDG), while extreme poverty in South Asia is expected to be eradicated by 2030. But with almost no further reduction in the extreme poverty rate in sub-Saharan Africa until 2030, the number of poor people in this region will increase by 10 percent to reach 500 million. This means that by 2030, around 80 percent of the world's poor people will live in sub-Saharan Africa.
- Poverty and food systems are closely intertwined. Both theory and evidence support the notion that investments in food systems that reduce food prices or create food systems jobs will be highly effective at reducing poverty, and likely more so than investments outside of the food system, especially during the earlier stages of a country's development. With respect to investments within food systems, since the majority of the world's extreme poor are engaged in farming, investments in the on-farm part of food systems are likewise more effective at reducing extreme poverty than off-farm investments, such as in processing, distribution, and food services. However, rural-urban migration and structural shifts in employment into off-farm jobs, combined with growing demand for processed foods from retail or food service outlets, will gradually increase the poverty-reducing impacts of off-farm investments. Foresight analysis

can help policymakers anticipate employment and dietary shifts and identify the mix of food systems investments that would maximize their impact on extreme poverty.

- Policies and investments designed to facilitate food systems transformation may be associated with trade-offs across development outcomes. For instance, while investments in staple crop productivity may be most effective at reducing poverty and calorie availability, they may not contribute to improving dietary quality or health outcomes, which are also important SDGs. Likewise, regulations that

encourage the adoption of environmentally conscious food production processes, also central to several of the SDGs, may raise the cost of food, with negative consequences for poverty. At the same time, inaction now to facilitate a transition toward more sustainable food systems will contribute to conflicts, disasters, physical displacement, and adverse health and economic outcomes in the future, the burden of which will fall disproportionately on future generations of poor people. Foresight analysis can help policymakers understand these trade-offs as they consider alternative investment choices and measures to protect vulnerable populations from any adverse impacts.

RECENT TRENDS AND CHALLENGES

Although poverty is a complex, multifaceted phenomenon, it can be broadly defined as the lack of basic capacity to maintain a minimum standard of living and participate effectively in society. Important strides have been made in the fight against poverty over the past 25 years. As shown in Figure 1, the global poverty headcount rate – measured at the World Bank’s “extreme” poverty line of US\$2.15 per

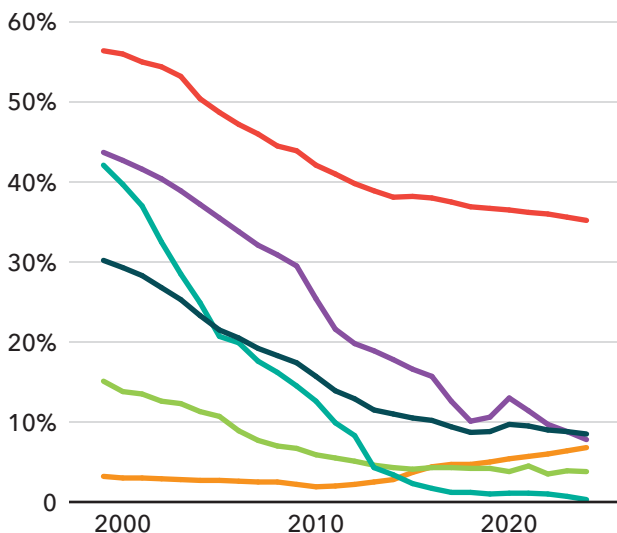
day (2017 PPP prices) – fell from 30.0 percent to 8.5 percent between 1999 and 2024, while the number of poor people declined from 1.8 to 0.7 billion – even as the global population grew from 6.1 to 8.1 billion (World Bank 2024a).

Figure 1 also highlights regional disparities in poverty outcomes. South Asia, renowned for successfully transforming

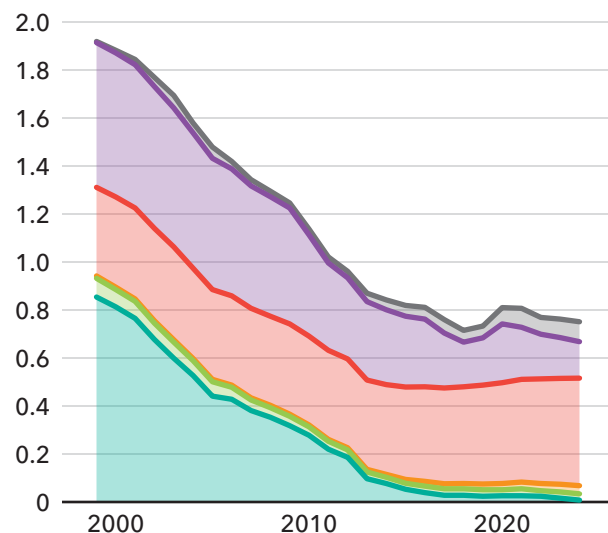
FIGURE 1 Poverty rates and number of people in poverty, 1999-2024

— Global — East Asia & Pacific — Latin America & Caribbean — Middle East & North Africa
— Sub-Saharan Africa — South Asia — Rest of the World

Poverty headcount rate (%) by region



Number of poor (billions) by region



Source: Authors' representation based on World Bank (2024a, 2024b).

its agriculture sector during the “Green Revolution” in the 1960s and 1970s (Pingali 2012), saw its poverty rate decline faster than the global average from 1999 to 2024. Poverty in the East Asia and Pacific region was effectively eliminated over the same period on the back of the “East Asian Miracle” from 1965 to 1990, a period of rapid structural change and growth led by manufacturing exports (Birdsall et al. 1993). Sub-Saharan Africa experienced its own “African Growth Miracle” in the early 2000s, with economic growth outpacing that in the rest of the world (McMillan, Diao, and Verduzco-Gallo 2014) and a decline in poverty that was evidently much faster than previously thought possible (Sala-i-Martin and Pinkovskiy 2010).

Unfortunately, by 2012, poverty reduction in sub-Saharan Africa slowed down. Today the region is home to almost two-thirds of the world’s poor despite only making up 15 percent of the global population. Several other regions also started experiencing a decline in the rate of poverty reduction from 2020 onward as the COVID-19 pandemic adversely impacted livelihoods (Pauw, Smart, and Thurlow 2021) and the Russia-Ukraine war contributed to rising costs of living (Arndt et al. 2023).

LATEST FORESIGHT RESEARCH

The World Bank (2024b) projects that poverty in sub-Saharan Africa will decline only marginally, from 8.5 to 7.3 percent during the 2024–2030 period. Regional poverty projections by Kharas and Dooley (2022) suggest that South Asia will eradicate extreme poverty by 2030. But in sub-Saharan Africa, with virtually no further reduction in the poverty rate, the number of poor people will expand by about 10 percent to reach 500 million by 2030, or about 80 percent of the global population of poor people. Sub-Saharan Africa should clearly be a key priority in the global fight against poverty in the coming 5 to 10 years.

With over 80 percent of the world’s extreme poor living in rural areas and nearly two-thirds of them engaged in primary agriculture (UN 2023), agricultural productivity growth has been found to be especially effective at reducing extreme poverty (Christiaensen, Demery, and Kuhl 2011). Such productivity growth might be associated with land productivity (for example, due to improved soil quality) or labor productivity (for example, the effects of education combined with the adoption of better technologies

or machinery). Agricultural productivity growth has been shown to be relatively more effective at reducing poverty than equivalent-sized productivity gains in industry or services (Dorosh and Thurlow 2018; Ivanic and Martin 2018), provided product, factor, or credit market failures do not exclude poor farmers from profitable opportunities to grow out of poverty (Dercon 2009). Of course, the benefits of agricultural productivity growth are not restricted to farm households. Household food budget shares in low-income South Asian and sub-Saharan African countries average around 40–50 percent (USDA 2023), with even higher shares for poor households within those countries. Since agricultural productivity gains help lower farm output prices, they can contribute significantly to poverty reduction among rural nonfarm and urban households that consume agricultural products.

Agricultural productivity growth – or agricultural transformation more broadly – provides the impetus for structural change and rural-urban migration (Johnston and Mellor 1961; Timmer 1988), but the net impact of structural change on growth is not always positive (McMillan, Diao, and Verduzco-Gallo 2014), and may even result in urban slums and rising urban poverty (see Chapter 14). Rural-urban migration is also associated with growing demand for processed and convenience foods from retail or food service outlets as opposed to unprocessed farm produce (Barret et al. 2022), such that the share of food processing, packaging, trade, and transport costs in the overall cost of food rises. These dynamics affect the relative effectiveness of on-farm versus off-farm investments in reducing poverty. In the context of Ethiopia, Dorosh et al. (2020) show that investments in nonagriculture sectors become more important for poverty reduction after approximately 10 years of sustained growth and structural transformation. Dorosh and Thurlow (2018), in turn, show that among the nonagriculture sectors, investments in those sectors with strong connections to the food system, such as food processing, trade, or transport, have larger impacts on poverty than those in nonfood manufacturing or service sectors.

The global food system is operating beyond its planetary boundaries (Steffen et al. 2015; Ruggeri et al. 2024). The resulting degradation of environmental systems and greenhouse gas emissions contribute to fragile settings characterized by conflict, disaster, and physical displacement and worsening food security, diet quality, and nutrition outcomes. By 2030, 2.8 billion people will live in fragile settings, up from 1.8 billion in 2020, and 80 percent

of them will be poor (GLOPAN 2020). Not only are food systems in urgent need of transformation, but the burden of climate *inaction* will also fall disproportionately on the poor. The urgency of food systems transformation also challenges conceptions around poverty measurement. Poverty lines are traditionally derived from the cost of calories required to sustain human activity. However, food systems should provide more than sufficient calories; they should also ensure that healthy, sustainably produced foods are affordable to poor people (Willet et al. 2019). The global average cost of a healthy diet is estimated at around US\$3.30 per day in 2017 prices (FAO 2024), more than 50 percent higher than the global poverty line of US\$2.15. Eradicating extreme poverty will not be enough to ensure that all people can afford a healthy diet. More ambitious poverty reduction targets should be adopted if the poor are expected to contribute to more sustainable food systems through their dietary choices.

KEY GAPS AND OPPORTUNITIES FOR FORESIGHT RESEARCH

Foresight analysis can inform the design of food systems policies and investment programs aimed at facilitating transformation and poverty reduction. Investments that raise on-farm productivity in agriculture remain important for driving poverty reduction among the many poor farm households around the world. However, structural change and dietary shifts mean the effectiveness of investments in the off-farm components of the food system, such as food processing, distribution, and food services, will gradually become more important in reducing poverty. Foresight analysis can help policymakers anticipate these changes and adjust their investment allocation decisions across the on- and off-farm components of food systems accordingly.

Potential trade-offs arise across development outcomes. Poverty reduction is not the only development goal of food systems transformation. Others include improved availability and access to healthy foods and the transition toward environmentally sustainable food production practices. Policies that target one development outcome may have unintended consequences for others. For instance, investing in staple crops might be highly effective at reducing extreme poverty but may have adverse

implications for diet quality (for example, if it results in overconsumption of calories and lower consumption of healthy foods) or for the environment (for example, because of land use change or increased use of inorganic fertilizer). Likewise, regulations that encourage the adoption of sustainable food production processes (for example, limits on greenhouse gas emissions in food processing or transport) could raise the cost of food, with implications for poverty or diet quality. Foresight analysis can help policymakers identify potential trade-offs associated with the policies they design so that they can implement measures to protect vulnerable households from any adverse impacts.

Trade-offs – or synergies – may also exist between current and future development outcomes. Making quality diets more affordable for poor people today results in a healthier, more productive workforce and higher lifetime earnings. Better diets are also associated with improved learning among school-aged children and better earnings prospects in the future. These future benefits may offset current costs. Conversely, delaying or slowing down the transition toward sustainable food systems may save financial resources today, but the burden of environmental degradation that may follow as a result will be shifted onto future generations of poor people. Foresight analysis can account for future streams of benefits and costs, which in turn can inform optimal budgetary allocations today.

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Related chapters on the future of food system drivers and impacts, regional and national perspectives, food commodities, and foresight tools are available in our [Table of Contents](#).

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