REPORT

What Would it Cost to Avert the COVID-19 Hunger Crisis?

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An additional USD 10 billion is urgently needed to prevent millions more people from becoming food insecure as a result of COVID-19. USD 5 billion of this must come from donor governments as aid, with the rest provided by developing countries themselves. Without funding for social protection programs providing food or money to people in developing countries, decades of progress in tackling hunger could be wiped out by the end of this year, with longstanding consequences.

AVERTING A LOOMING FOOD SECURITY AND NUTRITION CRISIS

COVID-19 is a once-in-a-lifetime crisis for people and the planet. The pandemic is showing us what it means to face a crisis in a world whose systems are global and interlinked. In a matter of months, most of the world has been touched by COVID-19. In its wake, government efforts to address the health and economic impacts of the virus are exposing stark inequalities within and among countries.

Responding to the health emergency is the first essential government action. Yet, on the heels of the health response, governments' efforts to limit the spread of the virus have created secondary threats for their citizens. Such threats, most urgently, include threats to their food security and nutrition. The United Nations (UN) Secretary-General has warned of an impending "global food emergency" that could "result in consequences for health and nutrition of a severity and scale unseen for more than half a century" (UN, 2020b, p. 2). He has called on countries to mobilize to save lives and livelihoods, strengthen social protection systems, and invest in a sustainable future (UN, 2020b). The most recent State of Food Security and Nutrition in the World (SOFI) report confirms this stark reality, predicting that up to 130 million more people will be affected by hunger this year as a result of COVID-19 (Food and Agriculture Organization of the United Nations, et al., 2020).

To support global efforts to coordinate an immediate response, the International Food Policy Research Institute (IFPRI), the International Institute for Sustainable Development (IISD), and Cornell University used the research tools they have developed to help governments assess the financial costs and increase the effectiveness of their investments to end hunger sustainably, in line with the UN goal to end hunger by 2030 (Sustainable Development Goal [SDG] 2). This report presents the results of using some of the Ceres2030 tools to estimate the additional public investment needed to avert a hunger crisis and target spending to those most in need.

The results of the Ceres2030 modelling show that it will cost an additional USD 10 billion this year to prevent millions more people from becoming food insecure as a result of COVID-19 and to maintain their previous food consumption profile at pre-COVID-19 levels. USD 5 billion of this must come from donor governments as aid, with the rest provided by developing countries themselves (see Figure 1). The donor support required is less than a fifth of the USD 25 billion the U.S. government has made available to bail out the airline industry after COVID-19 (Rappeport & Chokshi, 2020).

The analysis uses data from the UN's latest SOFI report, which forecasts how many people will be pushed into hunger as a result of the pandemic unless government action is taken. The Ceres2030 modelling results predict that the number of people in extreme poverty and hunger will increase by 95 million this year, taking us back to absolute levels not seen in almost two decades. Addressing such complex challenges requires a systemic approach to food security through more and better investments in both rural development and social protection.

An additional USD 10 billion is needed in 2020 to prevent millions more people becoming food insecure

FIGURE 1. PUBLIC INVESTMENT NEEDED, INCLUDING DONOR SHARE, TO MAINTAIN FOOD CONSUMPTION PROFILE TO PRE-COVID-19 LEVELS (USD).

Donor share
USD 5 billion

An additional
USD 10 billion
is needed
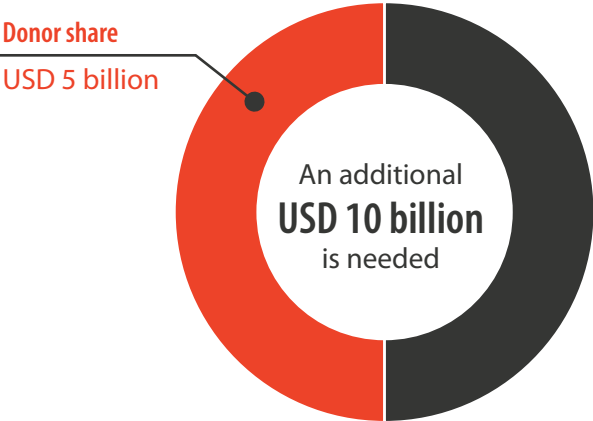
Source: MIRAGRODEP simulations.

The additional money should be spent on social protection programs targeting the groups of people most affected by the pandemic. Indeed, one of the most effective ways to support vulnerable populations in times of crisis is through social protection programs. These public or private initiatives (and sometimes a mix) often come in the form of cash transfers that aid the poor and protect against threats to people's livelihoods. While the effective implementation of social protection programs can be difficult and costly, well-designed programs make an invaluable contribution to longer-term economic and social development, and reduce the likelihood of governments having to fund far costlier humanitarian interventions (Wouterse & Taffesse, 2018).

# WHAT IS DRIVING THE COVID-19 FOOD SECURITY AND NUTRITION CRISIS?

COVID-19 affects food security and nutrition through three principal avenues: **falling incomes** reduce people's ability to purchase food and create a drop in demand; **supply disruptions** caused by lockdown measures and border closures limit production and disrupt food value chains; and **panic and hoarding** triggered by policy responses result in higher prices and reduction in supply.

The COVID-19 pandemic and resulting economic downturn have left millions of people, particularly those in the informal sector, without work and without income, unable to buy enough food. This loss of income is the principal driver of increased hunger during the pandemic.

In a scenario where global economic growth declines by 4.8% compared to 2019, we estimate that 95 million more people will fall into extreme poverty over the course of 2020, mostly in sub-Saharan Africa, but also in South Asia (see Figure 2). This economic downturn is driven by the direct impact of the pandemic (sickness) and the recorded public policies deployed to mitigate the health damage (confinement, lockdown, and social distancing). Relatively more people in urban areas are affected than people in rural areas, reflecting the focus of confinement measures in towns and cities and the larger disruptions occurring in the services sectors. There will be a 15% increase in poverty in urban areas, compared to an 11% increase in poverty in rural areas. Still, in absolute terms, most of the people affected will be in rural areas (See Figure 2).

A 4.8% drop in global economic growth would push 95 million more people into extreme poverty in 2020

FIGURE 2. PREDICTED IMPACT OF COVID-19 ON POVERTY AS A RESULT OF 4.8% DECLINE IN GLOBAL ECONOMIC GROWTH IN 2020
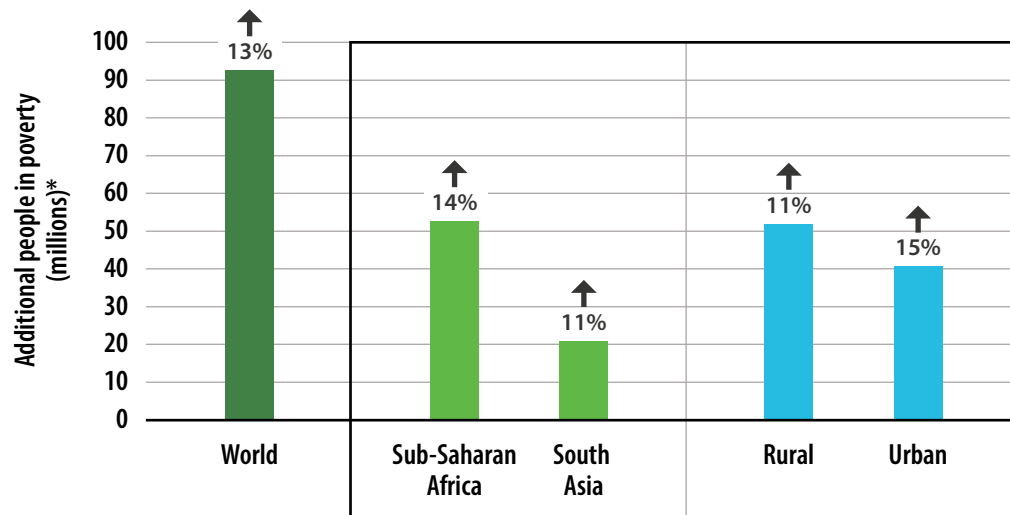
*Note: *Based on USD 1.90 per day poverty line.*
Percentages show the proportional increase of people pushed into extreme poverty as a result of COVID-19.
Source: MIRAGRODEP simulations.

A second important driver of increased food insecurity is the disruption of food value chains. This has happened in labour-intensive food chains because of outbreaks of COVID-19 among factory workers. There are also labour shortages on and off farms because of restrictions on migrant workers. And there have been slow-downs or halts in the movement of food, for instance at ports, where new controls have been introduced, or at airports, where many flights have been cancelled. Perishable foods, like fruits, vegetables, meat, and dairy, have faced greater disruptions than staple foods. For instance, vegetable supplies in Ethiopia have been disrupted, perishable foods in West Africa have gone to waste, and meat and dairy supply chains in the United States have been disrupted (Bouët & Laborde, 2020; Tamru et al., 2020).

This is occurring despite the abundance of food on world markets. Indeed, the situation today is very different to the food price crisis of 2007–2008, when poor harvests in major food exporters, low global stocks, surging energy prices, and an unexpected jump in demand as a result of biofuel subsidies caused high and volatile food prices, leading to a spike in hunger (Murphy & Smaller, 2020).

In contrast, the COVID-19 pandemic occurs at a moment when global food stocks are plentiful, harvests are expected to be large, and energy prices—particularly oil prices—are in free fall (Murphy & Smaller, 2020). This has not stopped some disruptions from occurring due to panic buying and hoarding. For example, so far, 22 countries have responded to the pandemic by restricting the export of food (see IFPRI's COVID-19 Food Trade Policy Tracker [Laborde, Mamun, & Parent, 2020]). This has affected about 5% of the world food market, measured as a share of the global calories traded; however, for some specific countries (e.g., Afghanistan, Egypt, or Ghana), it has affected between one third and half of their external calorie supply. Evidence from the 2007–2008 food price crisis shows that trade restrictions on food led to inflated prices and increased food insecurity. In response, G20 ministers and the member states of the World Trade Organization have called for open trade to avoid repeating the problems of 2007–2008 (Australia et al., 2020). Governments seem to be leveraging evidence from the 2008 crisis to cooperate on food trade policy, which has been positive for food security.

THE IMPACT OF COVID-19 ON FOOD SECURITY AND NUTRITION

Despite this evidence of cooperation, the pandemic has resulted in a significant increase in hunger globally. Using data from the most recent UN SOFI report, we found that an additional 95 million people could be affected by hunger in 2020 (Figure 3). As seen in the increase in poverty levels above, the regions most affected are sub-Saharan Africa and South Asia, and a higher share of people in urban areas are affected than people in rural areas. There will be a 15% increase in hunger in urban areas and a 13% increase in hunger in rural areas. Still, in absolute terms, most of the people affected will be in rural areas.

An additional 95 million people could be affected by hunger in 2020

FIGURE 3. PREDICTED IMPACT OF COVID-19 ON FOOD SECURITY AND NUTRITION IN 2020
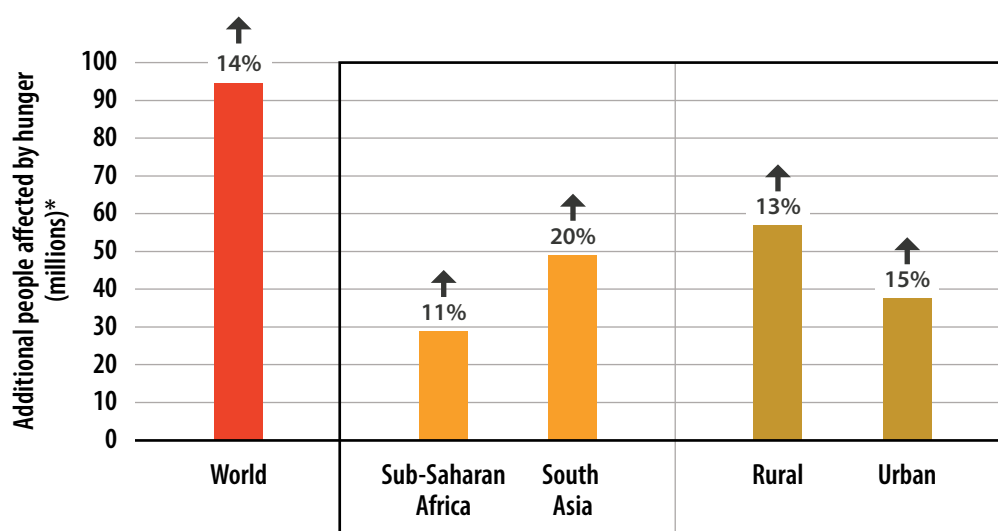

Note: *Based on the Minimal Dietary Energy Requirement (MDER) used by FAO to estimate the Prevalence of Undernourishment
Percentages show the proportional increase of people pushed into hunger as a result of COVID-19.
Source: MIRAGRODEP simulations.

Equally important for human well-being are the changes in the quality of people's diets: there will be an overall decrease in consumption of all food and a significantly sharper decrease in the consumption of fruits, vegetables, fish, meat, and dairy due to COVID-19. The first coping strategy for people suffering an income loss is to maintain calorie intake but at the expense of healthy (but more expensive) nutritious foods. For example, the consumption of vegetable oils and sugar, sources of cheap but poor calories, has increased by 5%, while the consumption of fish is down 10% and the consumption of fruits and vegetables is down by 9% (see Figure 4), strengthening the existing bias toward unhealthy diets. This reality is increasing the challenge for households to access and afford healthy diets, as documented in the latest UN SOFI report.

In 2020, the coping strategy for people in poverty is to maintain calorie intake at the expense of nutritious foods, which are less affordable

FIGURE 4. CHANGES IN FOOD CONSUMPTION BY HOUSEHOLD AND BY PRODUCT (VOLUME, %)
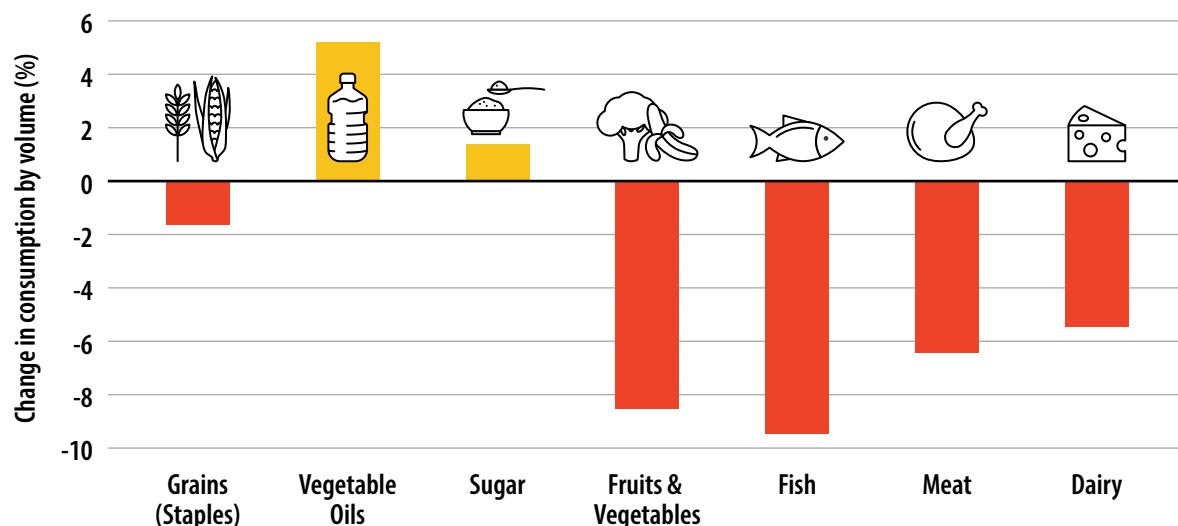
Source: MIRAGRODEP simulations.

THE ROLE OF SOCIAL PROTECTION PROGRAMS

A central pillar of governments' responses to the pandemic has been an important and necessary turn to investing in social protection programs. Social protection is an effective way to protect immediate human needs and to cushion economic reversals by protecting productive assets. If governments have channels in place that they can use to put income into people's hands when they lose their livelihoods (as have been created, for example, for cash transfer programs), they can forestall losses that might set economic recovery back years. The objective is to avoid panic sales of productive assets, ensure households keep a roof over their heads, help small businesses to pay wages of furloughed staff, and provide public works employment while the informal sector is paralyzed. These are all forms of social insurance that limit the harm created by an economic shock, such as the income loss that has resulted from the measures governments have imposed to contain the spread of COVID-19.

An astonishing number of safety net and protection programs have been activated around the world in response to the pandemic (Gentilini et al., 2020). Togo, for example, introduced a minimum payment for every citizen and paid women more than men on the grounds that they were more likely to be responsible for feeding dependents in the household.

From the perspective of realizing SDG 2, these safety nets are vital. First and foremost, they protect the precious gains already made in reducing the incidence of hunger. Without safety nets, shocks like COVID-19 push the already ambitious 2030 targets that much further out of reach. At the same time, safety nets contribute to the continued investment in the longer-term initiatives that reduce people's vulnerability to risks, such as an economic recession or a health pandemic. Safety nets are key in protecting households' assets in terms of human and physical capital, built through public or private resources. Without safety nets, any short-term shock will not only wash away recent progress but jeopardize future potential. Ultimately, social protection works best when it is well-funded by a strong tax base and is only required

by a relatively small share of the productive population at any one time. Social protection programs on their own are an expensive way to realize the goals of the UN 2030 agenda; instead, they should be just one risk management strategy in a larger portfolio of investment in agriculture, rural development, and food systems.

Critically, start-up costs for social protection programs can be high, and, while their sustainability will require the use of domestic resources, official development assistance (ODA) can make a significant difference by initiating a program in place that might be able then to cover its operating costs over time.

HOW MUCH WILL IT COST TO AVERT A COVID-19 HUNGER CRISIS?

The model used to estimate the costs of averting a COVID-19 hunger crisis combines epidemiologic, macroeconomic, and household data in a multi-country, multi-sectoral model. This approach allows the model to target spending based on the precise characteristics of affected households, instead of national averages, and thereby minimizes the costs and improves the efficiency of spending decisions (see Figure 5).
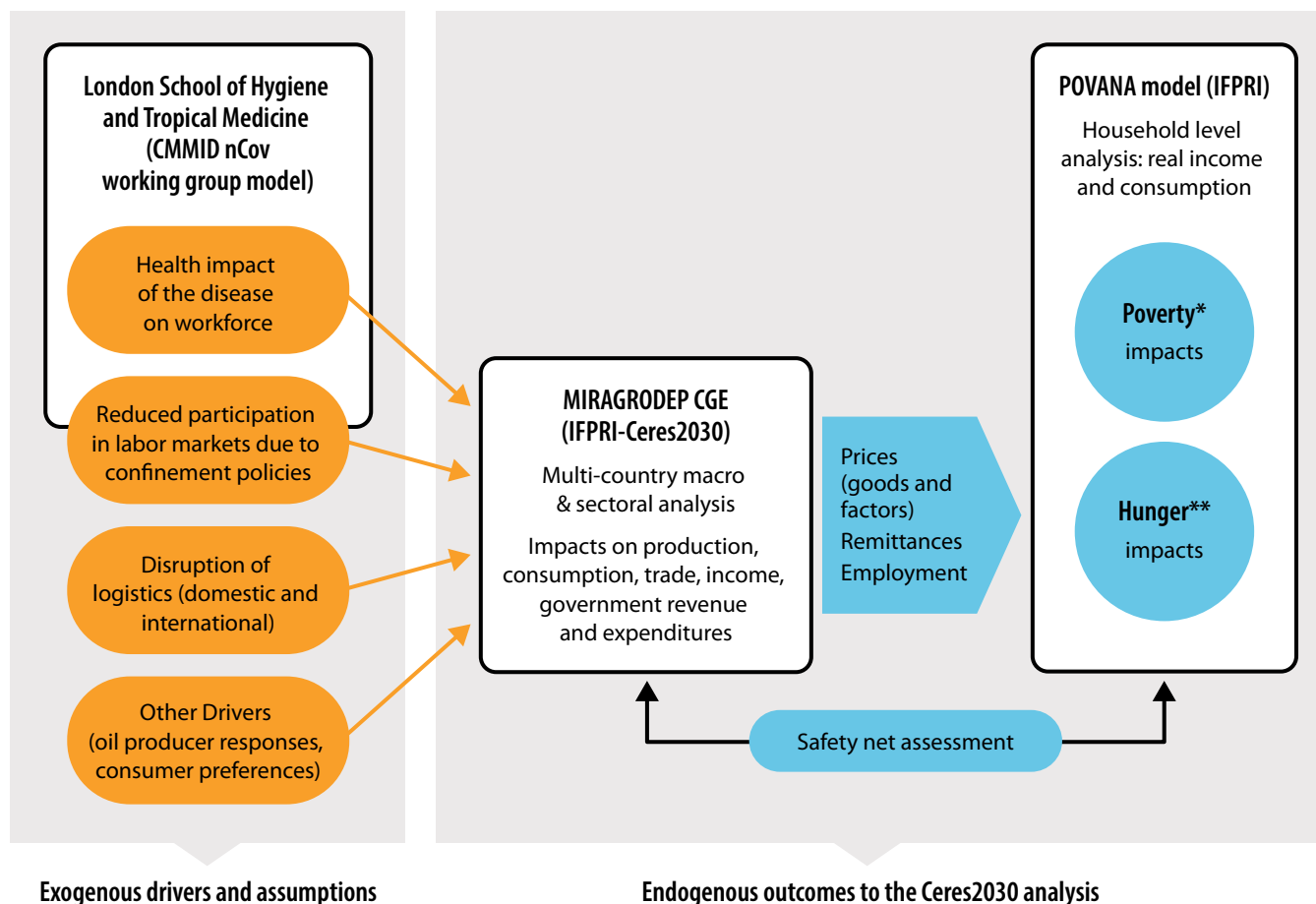
The macroeconomic model used is a global computable general equilibrium economic model called the MIRAGRODEP model and the core assessment to cost the pathway to SDG 2 in the Ceres2030 project. The model was adapted for the current crisis to be able to estimate both the macroeconomic and microeconomic impacts of the pandemic. The model uses historical data from the UN's SOFI report, published just before this report, on the number of people who were hungry before the COVID-19 pandemic. The model also uses epidemiological data from the London School of Hygiene & Tropical Medicine (Pearson et al., 2020) and parameters representing social distancing to simulate the specific effects of the pandemic on household food consumption via economic pathways. More details are provided in Laborde, Martin, and Vos (2020) regarding the process of implementing these scenarios. The estimated effects on food consumption are then used to estimate the cost of social protection programs providing food or money that would be sufficient to maintain people's food consumption profile previous to pre-COVID-19 levels. The allocation between domestic and external resources are driven by an econometrically estimated co-funding rule linking the level of ODA contribution to the domestic public spending in relation to the income per capita of the recipient country.[1] The model determines the total additional expenditures required for each country annually and the split between the country share and the donor share (Laborde et al., 2016).

The results show that it will cost an additional USD 10 billion this year to prevent millions more people in developing countries from facing increased food insecurity and diet depreciation as a result of COVID-19. USD 5 billion of this must come from donor governments as aid, with the rest provided by developing countries themselves. These costs are required on top of the public spending needed for those that were hungry before the COVID-19 pandemic.

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[1] We found that the richer the country, the less it depends on external resources for its public spending. Full dependency on ODA occurs for countries with income per capita below USD 500, while the role of ODA is phased out for countries at the USD 15,000 per capita mark.

The model used to estimate the costs of averting a COVID-19 hunger crisis combines epidemiologic, macroeconomic and household data in a multi-country, multi-sectoral model

FIGURE 5. MODELLING FRAMEWORK FOR COMBINING EPIDEMIOLOGICAL, MACRO-ECONOMIC, AND HOUSEHOLD DATA

London School of Hygiene and Tropical Medicine (CMMID nCov working group model)

Health impact of the disease on workforce

Reduced participation in labor markets due to confinement policies

Disruption of logistics (domestic and international)

Other Drivers (oil producer responses, consumer preferences)

MIRAGRODEP CGE (IFPRI-Ceres2030)
Multi-country macro & sectoral analysis
Impacts on production, consumption, trade, income, government revenue and expenditures

Prices (goods and factors) Remittances Employment

POVANA model (IFPRI)
Household level analysis: real income and consumption

Poverty* impacts

Hunger** impacts

Safety net assessment

Exogenous drivers and assumptions

Endogenous outcomes to the Ceres2030 analysis

* Consistent with World Bank historical estimates
** Consistent with FAO historical estimates
Source: Laborde and al., 2020.

CALL FOR ACTION

Our analysis shows that, if governments provide USD 10 billion this year for social protection programs, especially in Africa and South Asia, with at least USD 5 billion coming from donor governments as aid, then we could prevent the COVID-19 food crisis. Social protection programs are needed both in the short term to address the current crisis and into the longer term to provide a safety net and boost incomes for the worst off, helping to tackle deep-rooted poverty and inequality. There is a growing consensus on the need for these measures. In response to the COVID-19 crisis, UN Secretary-General António Guterres recently called for governments to strengthen social protection systems for nutrition (UN, 2020a). With the right policies and long-term investments in social protection schemes and to build sustainable and resilient food systems, governments can not only avert the COVID-19 hunger crisis but get the UN goal to end hunger by 2030 back on track.

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ACKNOWLEDGEMENTS

Ceres2030

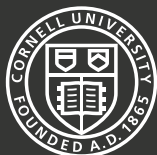### Sustainable Solutions to End Hunger

ABOUT CERES2030

Ceres2030 brings together three institutions who share a common vision: a world without hunger, where small-scale producers enjoy greater agricultural incomes and productivity, in a way that supports sustainable food systems. Our mission is to provide the donor community with a menu of policy options for directing their investments, backed by the best available evidence and economic models.

The partnership brings together Cornell University, the International Food Policy Research Institute (IFPRI) and the International Institute for Sustainable Development (IISD). Funding support comes from Germany's Federal Ministry of Economic Cooperation and Development (BMZ) and the Bill & Melinda Gates Foundation (BMGF).