Effective strategies to eradicate poverty and hunger: Addressing food insecurity in the time of COVID-19

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23 July 2021

Paper prepared as background document for: Virtual Expert Group Meeting on "Inclusive and resilient recovery from COVID-19 for sustainable livelihoods, wellbeing and dignity for all: eradicating poverty and hunger in all its forms and dimensions to achieve the 2030 Agenda".

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Acknowledgements: This paper draws on conceptual work on the effects of COVID-19 on food security undertaken with Stephen Devereux, and Christophe Béné and with ongoing work on the impact of COVID-19 on food security in Bangladesh undertaken in collaboration with Akhter Ahmed, Mehrab Bakhtiar, Daniel Gilligan, John Hoddinott, Shalini Roy, Sadat Anowar, Julie Ghostlaw, and Giang Thai and on COVID-19 impacts in Ethiopia undertaken with Kibrom Abay, Guush Berhane and Kibrom Tafere. Funding for the Bangladesh data described in this note was provided by Cornell University and the CGIAR Research Program on Policies, Institutions, and Markets (PIM) led by the International Food Policy Research Institute (IFPRI).

1. Introduction

The COVID-19 pandemic has had major impacts on health across the globe. In response, governments have imposed measures including social distancing, restrictions on mobility and closures of workplaces and retail outlets. While these measures have been necessary to contain the spread of the virus, they have created significant economic stresses as well as having adverse impacts on national and international food systems. Estimates by FAO and partner organizations suggest that chronic hunger increased by approximately 118 million people and that the number of people lacking adequate access to food rose by 330 million people in 2020 (FAO, IFAD, UNICEF, WFP and WHO, 2020).

Devereux, Béné and Hoddinott (2020) argue that understanding how these consequences arise, and how best to respond, can be improved by drawing on conceptual frameworks commonly used in food security analysis. They consider three: FAO's 'four pillars' approach (FAO 2008); the 'food systems' approach as proposed by the UN Committee on World Food Security (HLPE 2017); and Sen's 'entitlement' approach (Sen 1981). The four pillars approach considers availability, access, utilisation, and stability (FAO 2008). Availability corresponds broadly to food supply, access to effective demand for food expressed both in terms of economic access and proximity of markets (physical access). Utilisation refers to biological processes through which the body converts foods into nutrients used for physical functioning; stability captures the idea that food secure requires stability in the other three pillars over time. A food systems approach includes "activities that relate to the production, processing, distribution, preparation and consumption of food.", and the output of these activities, including socio-economic and environmental outcomes" (HLPE, 2017: 23). Sen's 'entitlement approach' emphasises that food security is not simply a supply-side issue; rather that food insecurity, hunger and even famine can result when entitlements to food, rather than food supply, falls.

These three approaches are not mutually exclusive; they contain common elements associated with the production, processing, distribution, and consumption of food. For this reason, Devereux, Béné and Hoddinott (2020) note that a holistic response to assessing and alleviating the rise in household food insecurity occasioned crisis that COVID-19 is best served by drawing on complementary aspects of these frameworks. Within that broader context, this note focuses on one component of food security, economics access to food. Sen's entitlement approach is well-suited to consideration of this. Accordingly, below we briefly outline Sen's approach. We draw on recent evidence from Bangladesh as an application of Sen's approach before drawing some broader lessons on their implications for effective strategies to eradicate poverty and hunger in the time of COVID-19.

2. Sen's Entitlement approach

In the context of a market economy, Sen (1981) identifies four forms of entitlements: (1) *production* - a farming household produces the food it consumes; (2) *trade* - a farming

household produces a non-food crop, sells that crop and uses the income to buy food; (3) *own labour* – household members work for themselves (operating their own businesses) or for others (receiving wages); and (4) *transfers* - received from other households (remittances), from charities or other non-profit institutions or from governments. The ability to translate these entitlements into food depends on both the stock (or level) of these entitlements as well as the relationship between the prices associated with those entitlements and the prices of food, the latter being referred to by Sen as the exchange-entitlement mapping.

Sen's entitlement approach implies that COVID-19 and related restrictions on economic activity will have different effects on different types of households. Households that are food producers are, potentially less likely to be affected unless they fall ill, are unable to access crop inputs or if they lose access to markets to sell their produce, because of restrictions on trade and mobility. Lockdowns undermine own-labour entitlements as they prevent people from engaging in wage work or operating businesses. Lockdowns affect own-labour entitlements either by reducing the amount of employment available to workers, by reducing the wages they receive for their work, or through both channels. However, the impact of the lockdowns will depend on the precise nature of this wage work. High-skill workers with internet connections at home will be able to continue working. By contrast, informal sector and self-employed workers (e.g. daily labourers, street traders) are at high risk of food insecurity because lockdowns and other restrictions on economic activity reduce demand for their services. Private transfers are also threatened by lockdowns. First, remittances will fall if family members, working elsewhere domestically or abroad, see their own incomes collapse. Second, they may be disrupted where lockdowns make it physically difficult to send or collect payments.

3. Case study: Bangladesh

Bangladesh has not been immune to the effects of the coronavirus pandemic. The first three cases were identified on March 8, 2020, in Dhaka, Bangladesh's capital city, setting in motion a range of policy responses to contain the outbreak, most notably a 10-day "general holiday" nationwide from March 26 to April 4, 202 during which, everyone but essential workers was expected to stay home, avoid nonessential movements, and practice physical distancing. Over time, restrictions on gatherings and travel were iteratively extended in phases, then lifted by the end of 2020, before being re-imposed in mid-2021 as the Delta variant became more widespread.

The International Food Policy Research Institute (IFPRI) and Cornell University have been tracking the effects of the pandemic in Bangladesh. To do so, they build on surveys first collected in-person prior to the onset of the pandemic: (1) IFPRI's 2018/2019 Bangladesh Integrated Household Survey (BIHS), a national-level rural survey with approximately 2,000 households; and (2) the 2019 Urban Socioeconomic Assessment Survey (USAS), which is representative of low-income urban areas and contains approximately 730

households. Building off these two samples, IFPRI and Cornell University have conducted two telephone surveys, one in June-July 2020 (in the aftermath of the initial lockdowns) and a second in January 2021 after the lockdowns had been eased. (A third phone survey will take place in August 2021 to capture the effects of the recent re-introductions of lockdown measures.)

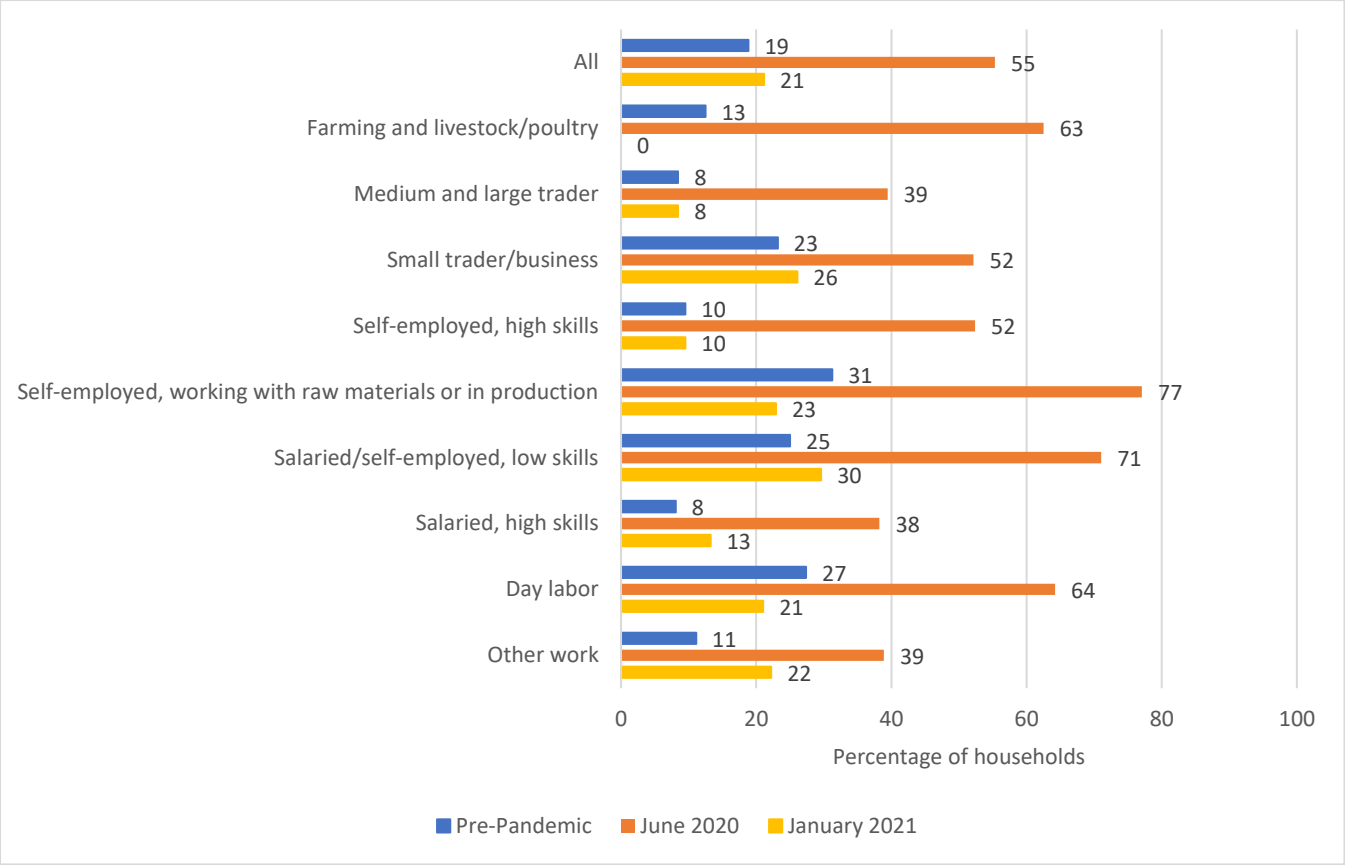
An important feature of these data was that the pre-pandemic surveys included eight yes/no questions designed to elicit information on food behaviors and actions taken by individuals and households when the resources needed to access food are constrained. For example, these questions asked whether the household worried that it would not have enough food to eat; skipped meals because the household lacked money or other resources to access food; been hungry but gone without eating; or gone without food for an entire day. These questions are ideally suited for phone surveys because they do not require either lengthy questions or answers. Responses can be used to construct the four categories based on the Food and Agriculture Organization's (FAO) Food Insecurity Experience Scale (FIES): (a) food secure—answer yes to *none* of the eight questions; (b) mild food insecurity—answered yes to 1, 2, or 3 questions, indicating some element of food insecurity; (c) moderate food insecurity—answered yes to 4, 5, or 6 questions; and (d) severe food insecurity—answered yes to 7 or 8 questions.

Data from our urban sample shows that by June 2020, there had been a dramatic increase in acute hunger and food insecurity. Prior to the pandemic, two-thirds (65.9 percent) of urban households were food secure, 15 percent reported mild and moderate food insecurity (14.6 and 14.7 percent, respectively) and 4.8 percent were severely food insecure. By June 2020, the prevalence of mild and moderate food insecurity more than doubled to 36.6 and 39.4 percent, respectively. Urban households reported a three-fold increase in severe food insecurity over this timeframe, from 4.8 percent to 15.7 percent.

Figure 1 shows how food insecurity evolved by pre-pandemic occupation class in our urban sample. Initially, COVID-19-induced disruptions affected many households with steep increases in the prevalence of moderate or severe food insecurity across all occupational categories. Although food insecurity was pervasive in the urban sample, and high-skilled main earners were not immune to COVID-19-induced food insecurity, low-skilled workers were disproportionately affected. In June 2020, self-employed workers and low-skilled salaried workers (e.g., housemaid, readymade garment workers, rickshaw puller, etc.) were among the most food insecure. Moderate or severe food insecurity was also prevalent among) individuals working with raw materials or in production (77.1 percent) (e.g., carpenters, masons) than high-skilled self-employed main earners (52.4 percent). Declines in income affected the demand for services provided by salaried or self-employed low-skilled workers (such as maids, porters, and rickshaw pullers), which increased unemployment among this occupational group and, in turn, nearly tripled food insecurity (pre-pandemic: 25.0 percent; June 2020: 71.1 percent). The prevalence of moderate or severe food insecurity was also high among urban day laborers and main earners operating small businesses (for example, operating a roadside stand or a tea stall)—64.2 percent and

52.2 percent, respectively. In other words, a collapse in own-labour entitlements among low skill and casual workers – the latter being what in North America are referred to as workers in the gig economy – led to large increases in food insecurity. After the easing of the lockdowns and related restrictions on economic activity, moderate and severe food insecurity among urban households fell back towards pre-pandemic levels. (Note that these data do not capture effects of the most recent lockdowns; these will be captured in the next survey round.)

Figure 1: Prevalence of moderate or severe food insecurity, post-pandemic onset, urban, by occupation



Source: Ahmed et al (2021).

Before the pandemic, over half (54.4 percent) of households in our rural sample were classified as food secure and only 15.1 percent was moderately (12.2 percent) or severely (2.9 percent) food insecure. By June 2020, there had been a substantial rise in food insecurity among the rural sample in tandem with increasing unemployment and income losses. But this differed by occupation (and by extension, entitlement to food). High-skill workers or medium and large traders, all of whom are relatively well-off by rural Bangladeshi standards, saw relatively modest increases in food insecurity as did farming households who derive access to food through production-based entitlements. By contrast, those reliant on own-labour entitlements, including day laborers (58.2 percent), low-skilled

salaried (56.8 percent), and self-employed main earners working with raw materials or in production (50.0 percent). By January 2021, moderate and severe food insecurity status returned to pre-pandemic levels, though mild food insecurity remained elevated.

Figure 2: Prevalence of moderate or severe food insecurity, post-pandemic onset, rural, by occupation

Source: Ahmed et al (2021).

What role did public actions take to address this pandemic. Bangladesh, like many low- and middle-income countries, has been gradually expanding its social protection programs, targeted non-contributory interventions that provide cash or in-kind transfers to poor households. Both our urban and rural surveys collected information on these. How well did they protect beneficiaries from the malign impacts of the pandemic on household food security? To answer this question, we used regression analysis[1] to quantify the association between pre-pandemic enrolment in these programs and food insecurity during the pandemic.[2] For comparative purposes, we also assessed the associations between pre-

[1] Specifically, we ran household fixed effects regressions controlling for survey round, interview day of week and time of day effects with dummy variables for pre-pandemic receipt of social protection payments, international remittances and domestic remittances each interacted with survey round dummy variables.

[2] The Government of Bangladesh, like many other governments, implemented a series of interventions including subsidized rice and loans to small farmers in response to the pandemic. Because receipt of these

pandemic receipt of domestic and international transfers and food insecurity during the pandemic.

Results for our rural sample are shown in Figure 3a and for the urban sample in Figure 3b. The associations between receipt of social safety net payments and the likelihood that the household is food insecure in both June 2020 and January 2021 are negative, indicating that prior participation was associated with lower food insecurity. The magnitudes range from -4.4 to -11.6 meaning that past receipt was associated with a reduction in the likelihood of being food insecure by between 4.4 and 11.6 percentage points. Note that these negative associations between food insecurity and past enrolment in social safety net interventions is observed in both urban and rural areas. Note too that most (75%+) recipients prior to the pandemic continued to receive these payments during the pandemic. Using Sen's language of entitlements, access to a public transfer entitlement appears to have offset the negative effects of the pandemic on own labor entitlements. This contrasts with the positive associations between past receipt of domestic and international remittances. With the caveat that these positive associations are not statistically significant, they are suggestive that food insecurity rose in households that were past recipients of these transfers, possibly because these were cut-off as a result of the pandemic.

These results from Bangladesh are consistent with what Abay, Berhane, Hoddinott, and Tafere (forthcoming) find in rural Ethiopia. They assess the effectiveness of Ethiopia's flagship social protection program, the Productive Safety Net Program (PSNP), in mitigating the adverse impacts of the COVID-19 pandemic on household food security. Using a similar approach (combining pre-pandemic in-person household survey data with post-pandemic phone survey), they report that two thirds of their respondents reported that their incomes had fallen after the pandemic began and almost half reported that their ability to satisfy their food needs had worsened. Household food insecurity increased by 11.7 percentage points and the size of the food gap increased by 0.47 months in the aftermath of the onset of the pandemic. However, participation in the PSNP offsets virtually almost all of this adverse change; the likelihood of becoming food insecure increased by only 2.4 percentage points for PSNP households and the food gap increased by only 0.13 months.

interventions may be correlated with changes in food security status, it is not possible to assess their impact with the data available to us.

Figure 3a: Associations between receipts of social safety net payments, remittances and changes in rural household food security status, Bangladesh, by round

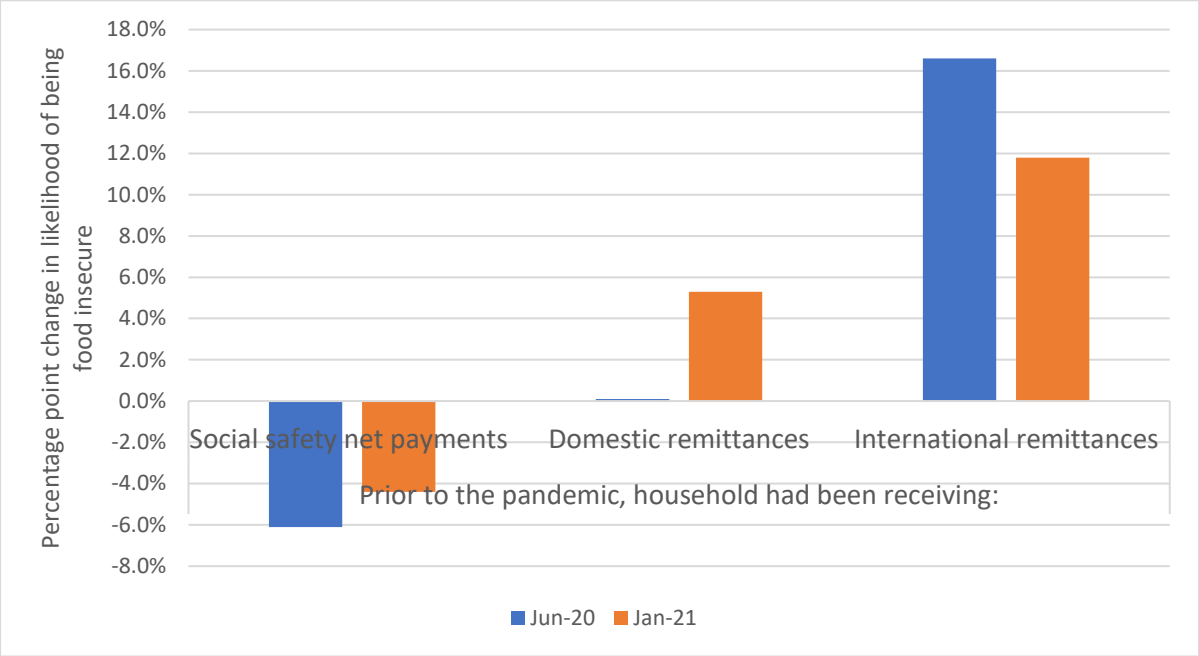
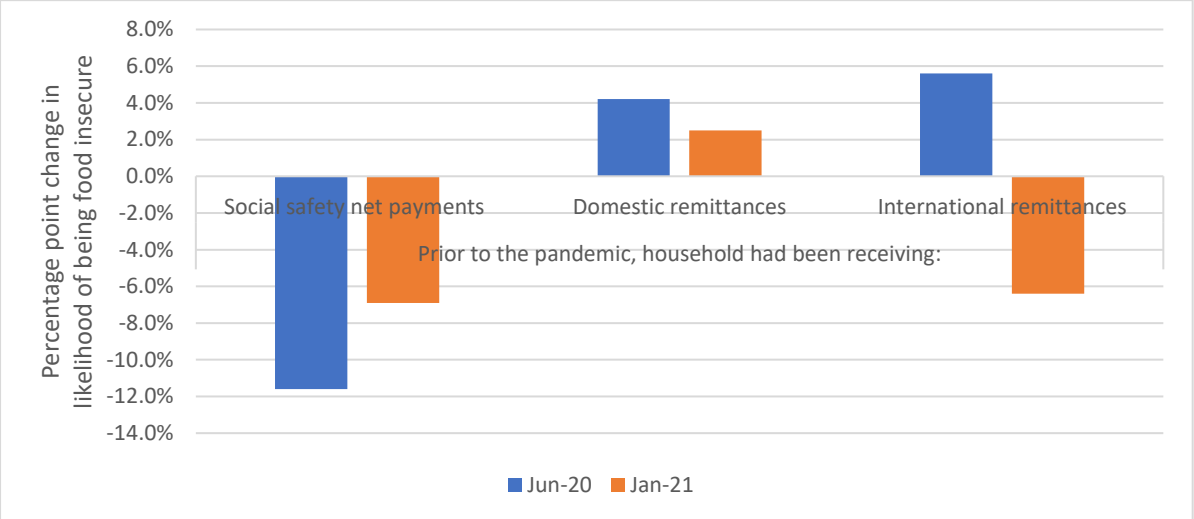


Figure 3b: Associations between receipts of social safety net payments, remittances and changes in urban household food security status, Bangladesh, by round



Source: Author's calculations

4. Concluding remarks

Evidence presented here from Bangladesh, consistent with what is observed in other parts of the world, shows that the coronavirus pandemic together with associated restrictions on economic activity contributed to increases in food insecurity in both rural and urban areas. These malign effects, however, were not equally distributed; instead, they were – in the language of Sen's entitlements – particularly marked among households that relied on their own labour entitlements (low skill workers; the self-employed) to generate the income needed to acquire food. Private transfers, either domestic or international remittances, were not protective. Indeed, there is suggestive evidence that such households became worse off.

By contrast, our findings highlight the value of having a well-functioning social protection program in place *prior* to the pandemic to protect the food security of poor households. Evidence presented from both Bangladesh and Ethiopia is consistent with this claim; households that had been enrolled in well-functioning social protection programs before the pandemic struck were less likely to food insecure during the pandemic. While it is not possible to compare these results to social protection interventions that were introduced after the pandemic began, evidence such as the fact that were considerable difficulties in disbursing these in Bangladesh (Ahmed, Bakhtiar, Abedin, and Ghostlaw 2020; Hasan 2020). That said, there are at least two ways in which existing programs can be improved. First, the pandemic has revealed that delivery mechanisms can be improved. For example, instead of distributing cash or food directly to households (versus collection centers), increased use of mobile cash transfers v could make accessing these transfers easier while minimizing contact in food- and cash-transfer distribution It may also be the time to reconsider whether social protection in Bangladesh should continue to condition access to these on work requirements which are problematic to maintain during a pandemic. Second, in many countries, linkages between social protection interventions and programs implemented in response to emergencies (such as humanitarian assistance) are poorly developed. Hybrid approaches – 'shock-responsive social protection' (OPM 2017) – that can scale up social protection mechanisms both horizontally (enrolling additional needy people) and vertically (paying additional benefits to existing participants) are likely to be an important component of effective strategies to eradicate poverty and hunger in the future (Devereux, Béné and Hoddinott, 2020).

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