COPING WITH COVID-19 FROM THE CAPABILITY PERSPECTIVE: A VIEW FROM A DEVELOPING COUNTRY

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Abstract

Faced with cruel dilemmas posed by the COVID-19 pandemic, governments of many developing countries have displayed reluctance in imposing a strict shutdown, and even when one has been imposed they have been too eager to relax it prematurely while the pandemic is still rampant. More often than not, this is simply a manifestation of the way policymakers around the world continue to be guided by the single-minded pursuit of economic growth even if at the cost of human misery. This paper argues that there is a better way of handling the pandemic – one that places the concern for human capability at the centre of policymaking. The proposed strategy consists of a judicious combination of three types of policy instruments: (a) physical distancing through economic shutdown, as a means of containing the spread of infection, (b) bold measures of economic support, especially entitlement support to households, who are facing the spectre of hunger as a consequence of economic shutdown, and (c) an effective system of public health support, as a means of ensuring that the economy can be reopened 'safely'. While all three instruments are important, special emphasis is given on the role of entitlement support, in the form of income protection for households who have lost their livelihoods. The specific empirical focus is on Bangladesh, but the arguments have more general validity.

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I. Introduction

The COVID-19 pandemic is a major catastrophe which has the potential for causing unprecedented loss of lives unless effective measures are taken to contain it. Governments all over the world have introduced various measures to contain the spread of infection; the chief among them is social distancing, more accurately described as physical distancing. As an immediate consequence of enforced physical distancing on a wide scale, a large part of economic activities has come to a standstill. The resulting shutdown of the economy, while essential for limiting the spread of infection, has potentially disastrous consequences not just for economic growth but also for the lives and livelihoods of millions of people who have been forced to stop working. Our societies are thus caught in a cruel dilemma: the economy, among other domains, must be shut down to ensure effective physical distancing, otherwise too many lives will be lost; and yet shutting down much of the economy has its own dire consequences. The present paper seeks to present an integrated policy framework for dealing with this dilemma. The arguments are illustrated with reference to the specific case of Bangladesh, but the main thrust of the arguments has much wider validity and applicability.

In high-income countries, the dilemma has often been posed as a choice between human life versus the economy. In low and middle-income countries, the nature of the choice must be seen slightly differently. Here, the consequence of an economic shutdown is bound to manifest itself in the form of massive loss of livelihoods for millions of people, for whom an adequate social safety net seldom exists. This is especially true of those working in the informal sector of the economy, which accounts for by far the larger part of the labour force. Because of the very nature of the work they do and the amount of income they earn, the majority of the people who will lose their livelihoods have very little staying power; as a result, the threat of hunger will inevitably loom large. For a population that is already poor and undernourished, acute hunger is very likely to engender increasing levels of morbidity and mortality. No wonder the refrain "If the virus doesn't kill us, hunger will" has become common around the developing world.

There is a genuine trade-off here whose existence cannot be wished away. Faced with this trade-off, governments of many developing countries have displayed a certain degree of hesitation in imposing a strict shutdown, and even when one has been imposed they have been too eager to relax it prematurely while the pandemic is still rampant. Governments have sometimes justified this type of behaviour in the name of protecting the livelihoods of poor people, turning a blind eye to the manifest contradiction that economic activities, and hence livelihoods, cannot be sustained for long in a milieu of fear and uncertainty caused by the

pandemic. More often than not, governments have been motivated by the eagerness to avoid or manage a drastic fall in economic output, even though they were aware that the price of doing so would be a rise in morbidity and mortality. This is simply yet another manifestation of the way policymakers around the world are overwhelmingly guided by the single-minded pursuit of economic growth even if at the cost of human misery.

This paper argues that there is a better way of handling the pandemic, one that places the concern for human capability at the centre of policymaking. While acknowledging the need for avoiding excessive loss of output, the paper argues that it is possible to adopt a strategy that reconciles this concern with concerns for saving human lives both from the virus and from hunger. The proposed strategy consists of a judicious combination of three types of policy instrument: (a) physical distancing through economic shutdown, as a means of containing the spread of infection, (b) bold measures of economic support, especially entitlement support to households, who are facing the spectre of hunger as a consequence of economic shutdown, and (c) an effective system of public health support, as a means of ensuring that the economy can be reopened 'safely'. The paper emphasises the centrality of entitlement support, which is crucial for the success of the entire policy package. The paper also discusses how the precise combination of the three instruments ought to change over time during the course of the pandemic so as to better manage the trade-offs that inevitably arise. For this purpose, the paper makes a distinction between two phases of the pandemic – the first phase, characterised by strict distancing and widespread economic shutdown, and a second phase, characterised by more relaxed distancing and gradual reopening of the economy. Policy proposals are calibrated to meet the distinctive demands of the two phases.

The paper is organised as follows. A conceptual framework is developed in section II to clarify the inter-connections between the three types of policy instruments mentioned above. Section III discusses the main features of the kind of public health support that will be needed to lay the foundation for the strategies of shutdown and economic support. In section IV, we derive certain principle of economic support based on the insights of the conceptual framework. Section V discusses the nature and scale of entitlement support that would be needed in Bangladesh. Finally, section VI offers some concluding observations.

II. A Conceptual Framework

We can begin by specifying a three-fold objective that should guide government's response to the pandemic: (1) minimising loss of lives directly attributable to the pandemic, (2) minimising hunger (and potential loss of lives) due to loss of livelihoods caused by measures designed to control the pandemic, and (3) minimising loss of output in the economy, again caused by measures designed to control the pandemic. Governments have often displayed a manifest bias towards the third objective, attesting to the continued obsession with growth among policymakers. In contrast, a capability-focussed strategy demands serious concern for all three objectives.

As we demonstrate in the context of Bangladesh, each of these objectives is of paramount importance. We show in section II that if the pandemic is allowed to spread undeterred, at least half a million people could die from COVID-19 in Bangladesh. There is, therefore, no choice but to adopt harsh restrictive measures to ensure physical distancing to contain the spread of the virus, resulting inevitably in temporary economic shutdown. But, as we also know, the economic shutdown has already resulted in a huge loss of livelihoods, causing nearly half the population to lose their entitlement to food and other essentials (see Section V). The lost entitlements must be restored in order avoid large-scale hunger and distress morbidity and mortality induced by hunger. Finally, the direct economic cost of output lost due to shutdown is also going to be enormous. The World Bank has estimated that in Bangladesh the growth of GDP could fall drastically from the height of over 8 percent in 2018-19 to as low as 2-3 percent in 2019-20 and 1.2-2.9 percent in 2020-21, even if complete shutdown lasted for 2-4 months. If the shutdown were to continue for longer, growth could even be negative, resulting in a fall in GDP (World Bank, 2020: p.36). All three objectives must, therefore, be pursued simultaneously.

The problem is that it is not easy to reconcile the three objectives, because measures designed to promote one goal may militate against the others. For example, strict enforcement of physical distancing through economic shutdown will promote the first objective very well, but this will make it harder to achieve the other two goals, because the stricter the observance of physical distancing, the more massive will have to be the scale and duration of economic shutdown, causing greater loss of output and livelihoods. On the other hand, if the government wanted to minimise the loss of output and livelihoods by relaxing the shutdown too early, infection could get out of control, thereby defeating the first objective, and eventually defeating the other two objectives as well, as even more drastic measures might be needed later to regain control over runaway infection.[1]

Difficult trade-offs are thus inescapable. Policy instruments must be chosen with a view to softening these trade-offs. A systematic way of thinking about it is to recall Jan Tinbergen's famous dictum that we must have at least as many instruments as objectives (Tinbergen, 1952). Since we have three objectives here, we should look for three instruments. These are: (a) enforcement of strict physical distancing even if it requires temporary economic shutdown[2], (b) a massive programme of economic support – in particular, entitlement support for those who have lost their livelihoods, and (c) an effective programme of public health support that will allow 'safe' reopening of the economy through a massive campaign of testing, tracing and treatment (the 3T's).

It is only when the three instruments are employed together that it will be possible to deal effectively with the trade-offs among different objectives that will arise inevitably in the course of controlling the pandemic. To see precisely how the trade-offs can be softened, it may be helpful to use a simple model that examines the interconnections among the three instruments systematically. Given the nature of the problem we confront, the model involves

both epidemiological and economic considerations. Let us begin with some basic issues in the epidemiology of COVID-19 because they set the parameters within which both economic and public health measures must operate.[3]

It is important to begin by recognising that there is no easy way out of the COVID-19 pandemic. When a virus first causes an outbreak of disease, there is initially a limited window of opportunity when it can be nipped in the bud – by identifying the few affected individuals and keeping them in quarantine so that the virus cannot escape to the rest of the community. In that case, either the patients will recover by killing the virus with the help of antibodies created by their immune system, or the patients will die taking the virus to the grave with them. Either way, the virus is controlled within a few patients.

However, once infections start to spread across a large swathe of the community, things become much more difficult. In this situation, the pandemic will end only when a community achieves what is known as 'herd immunity'. This is a state of affairs where a certain threshold proportion of the population has acquired immunity from the disease so that the virus finds it hard to locate new victims.[4] The threshold of herd immunity can be achieved in two ways. First, there is a natural process, whereby infection spreads undeterred across the community, and the infected people acquire immunity with the help of antibodies created in response to infection. There is no guarantee that immunity can indeed be achieved in this manner; it depends very much on the nature of the virus and the kind of response it generates in the body of the infected person. But if infection does confer lasting immunity, then it is possible that once the virus has infected a sufficiently large number of people to ensure 'herd immunity', the pandemic will gradually die out.[5] The second way is through human intervention – in particular, by gaining immunity through vaccination.[6]

The problem, however, is that the second option is not currently available; and if the first option works, it will be too painful to contemplate. If infection is allowed to spread undeterred in the hope of achieving 'herd immunity' through the natural process, and if it is assumed optimistically that infection does confer lasting immunity, a conservative estimate suggests that almost half a million people could die in Bangladesh before the pandemic comes to an end.[7] This is a mind-boggling figure, evocative of an impending apocalypse. The natural path to herd immunity is, therefore, not really an option. However, since the other option – acquiring immunity through vaccination – is not available at the moment, the only sensible thing the society can do is to find some way of keeping the rate of infection low, so that fatality from infection be kept well below the natural path, until a vaccine arrives. In other words, what the society needs is a 'holding operation', which will essentially buy time until vaccines become available. This is where the first instrument comes into play. Physical distancing is precisely the kind of holding operation that is needed. By reducing interactions, physical distancing reduces the scope for new infections.[8]

The logic of physical distancing suggests that the stricter the observance of distancing, the greater will be the gain in terms of saving lives from infection, simply because the rate of

infection will be slowed down further. The problem with stricter distancing, however, is that it will also impose a heavier economic cost – in terms of loss of output, livelihoods and possibly even lives. Distancing will inevitably result in reduction in economic activities, and more stringent distancing will result in more widespread shutdown of the economy. As argued before, in the context of a country like Bangladesh, shutdown in economic activities not only means loss of economic output but potentially loss of lives as well – through hunger and malnutrition; we may call it 'distress mortality' to distinguish it from infection fatality.[9] By resulting more widespread shutdown of the economy, stricter distancing will entail higher level of distress mortality. Thus arises the trade-off between infection fatality and distress mortality.

Faced with this trade-off, the policymakers will have to employ the second instrument – viz., economic support – in particular, entitlement support to those who have lost livelihoods, so as to avert hunger and distress mortality. If the scale of entitlement support is large enough to mitigate widespread hunger, the trade-off between lives and lives can be avoided. But this does not mean that trade-off disappears completely; only the content of the trade-off changes. The stricter the distancing regime and the longer its duration, the bigger will have to be the scale and cost of economic support; in addition, there will remain the cost of lost output because of the shutdown. Thus, while saving more lives from infection, a stricter distancing regime will impose a bigger economic cost. The only way this trade-off can be softened is by introducing the third instrument – viz., namely public health support. The role of this instrument, in the present context, is to enable 'safe' reopening of the economy. Once the capability to 'test, trace, isolate, treat and support' is developed well, it will be possible to send back to work those individuals who test negative. This will permit gradual reopening of the economy, thereby reducing economic cost without aggravating infection mortality. That is how the trade-offs will be softened.

The interconnections between the three instruments are analysed in Figure 1, where we show levels of mortality associated with different degrees of stringency of distancing, under two alternative regimes of public health support. Let us first focus on the upper two curves. The curve IF_N shows the final cumulative levels of infection fatality that will be associated with different degrees of distancing in the absence of public health support.[10]

We have noted earlier that a more stringent distancing regime will lead to lower cumulative fatality rate. Accordingly, the curve IF_N is shown to fall as the level of stringency rises. The curve OM_N shows the final cumulative levels of overall mortality – combining infection fatality and distress mortality – that will be associated with different degrees of distancing in the absence of the other two instruments. The vertical gap between the two curves shows the level of distress mortality. Since distress mortality is higher at stricter levels of distancing, the gap between the two curves widens as distancing becomes more and more stringent.[11] With zero distancing (and hence no economic shutdown), both infection fatality and overall mortality coincide and they are denoted by the point M_1 on the vertical axis.

Figure 1

Physical Distancing, Public Health Support and Mortality
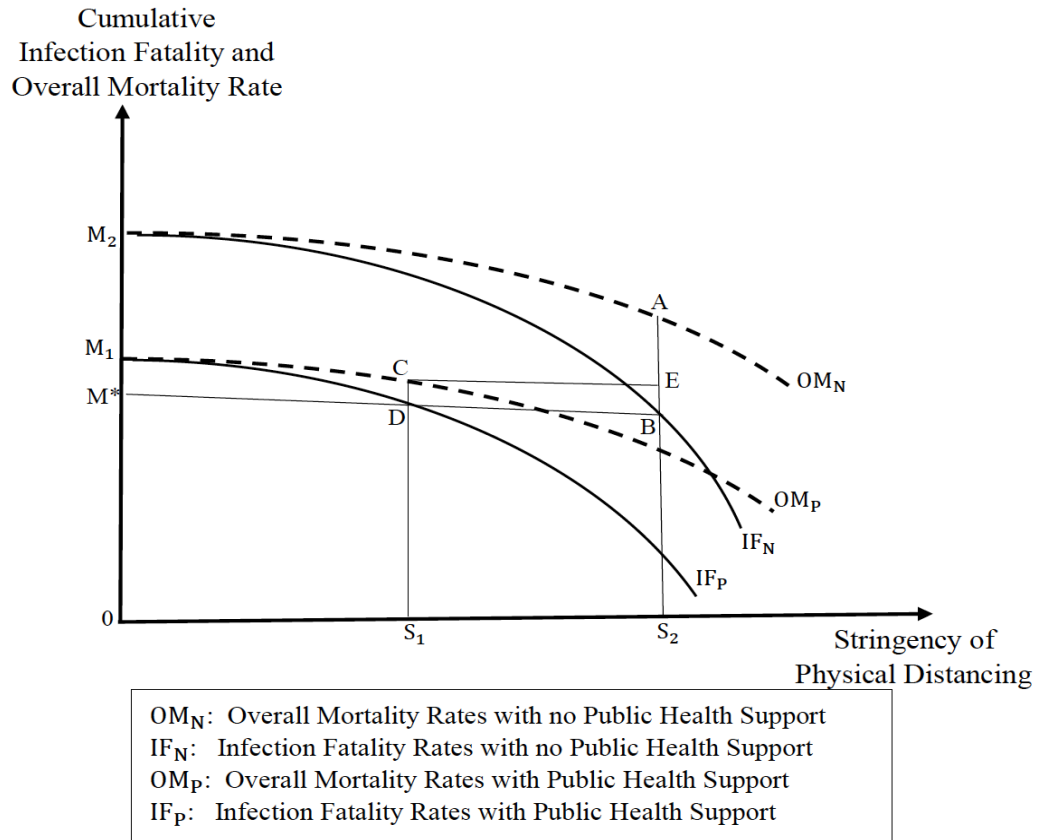
Now imagine a scenario where community transmission of the virus has already occurred, and somewhat belatedly the policymakers have woken up to the reality and opted to take drastic measures of physical distancing, represented in the diagram by S_2, resulting in large-scale economic shutdown. If the rules of distancing are strictly observed, the authorities would succeed in bringing down the final infection fatalities from M_1 to M^*. However, a heavy price will be paid in terms of distress mortality – shown by the vertical gap AB between the two curves at the point S_2. Suppose, the government is fully alert to this danger and attempts to avert distress mortality by adopting the second instrument i.e., by offering generous entitlement support. And imagine that support is so generous and effective that the entire distress mortality is eliminated. Overall mortality would then be exactly equal to the infection fatality rate M^*.

But there would still remain a huge economic cost, consisting of the cost of economic support for those who have lost their livelihoods and the loss of output due to shutdown. Introduction of the third policy instrument helps minimise this cost. Suppose an effective public health programme has been put in place so that any given level of infection fatality can be maintained while reducing the stringency of distancing. Alternatively, for any given level of

stringency, the level of infection fatality comes down. In the diagram, this means the infection fatality curve will shift to the left (or go down) – from IF_N to IF_P. Correspondingly, the overall mortality curve will also shift from OM_N to OM_P. An immediate consequence of this shift is that while previously a strict regime of physical distancing (represented by S_2) was necessary to achieve the infection fatality rate $M*$, the same fatality rate can now be achieved at a more relaxed regime of distancing (represented by S_1). As a result, the stringency of shutdown goes down and hence the loss of output goes down. At the same time, the potential of distress mortality also comes down (because more people are able to work under the relaxed regime) – from AB to CD; correspondingly, the need for economic support also comes down. The overall economic cost of distancing can thus be reduced without aggravating infection mortality. The inescapable trade-offs would thus have been softened by the combined effect of the three instruments applied in tandem.

An important implication of this analysis is that, because of the interconnections between the three policy instruments, it is not possible to specify the level of any one policy instrument without reference to the others. For example, for how long strict distancing should be enforced in the form of economic shutdown depends on how soon it is possible to set up an effective system of public health support that will enable safe reopening of the economy. Similarly, the nature and level of economic support that will be needed in order to avoid distress mortality will depend on both the stringency of distancing and the efficacy of public health support. On the other hand, strong public health support will reduce the need for economic support by permitting a shorter period of strict shutdown and hence a faster restoration of livelihoods. The policy proposals made in the ensuing sections have been made with these considerations in mind.

III. The Role of Public Health Support

The conceptual framework developed in the preceding section makes it abundantly clear public health support must be treated as the foundation of any comprehensive policy package in response to COVID-19. Physical distancing and the consequent economic shutdown are needed to reduce the spread of infection. However, distancing by itself cannot bring the epidemic to an end. The epidemic will end only when the community achieves herd community, either naturally through community transmission of infection (provided infection confers lasting immunity), or artificially through vaccination. Since achieving herd immunity through the natural path would be disastrous in terms of lives lost, the only sensible strategy is to wait for the vaccination to arrive and meanwhile try to keep the spread of the virus as low as possible through physical distancing (along with other measures such as wearing masks, handwashing, etc.). In short, the objective of physical distancing is to 'buy time', not to cure the epidemic. The more rigorously we implement physical distancing, the lower will be the loss of lives from infection during the waiting period. However, more rigorous physical distancing will also entail more stringent and more prolonged economic shutdown, causing harsher economic distress. This gives rise to an inevitable trade-off between keeping infection

under control and keeping economic distress under control. Public health support can help manage this trade-off better by reducing the length of time for which strict distancing will be needed.[12]

The task of public health support in this context is two-fold: (a) testing people for the evidence of past infection, so that those who are found to have acquired immunity can be allowed to go back to work, and (b) isolating and treating those who test positive for current infection and tracing their contacts for further action, if needed. If these two tasks can be performed effectively on a large scale, this will allow the authorities to relax the severity of economic shutdown and thus reduce economic distress without aggravating infection fatality. The sooner an extensive system of public health support is installed, the quicker will it be possible to relax the shutdown (while still waiting for the vaccine); as a result, the lower will be the magnitude of economic distress and hence the smaller would need to be the scope of economic support. This is the basis of the contention that the size and duration of economic support depends crucially on the availability of public health support.

What, then, needs to be done on the public health front? First, on the issue of testing, we may begin by noting that two different types of test are being considered all over the world. There is firstly a test to check whether a person has infection at the time of being tested. The standard version of this test is known as the RT-PCR (Reverse Transcription-Polymerase Chain Reaction) test, and it is being used all over the world. The second type of test looks for signs that a person has had infection in the past – this is known as the antibody test, as past infections are expected to leave their marks in the form of antibodies that the immune system creates to fight the virus.

The two types of tests are not substitute of each other, however, as each has its own strengths and limitations. As a test for the presence of current infection, the RT-PCR test is important for the purpose of treatment and containment of the disease. The antibody test is less useful for testing current infection (since the antibodies might have been created by a past infection that no longer exists), but it is more useful for assessing the cumulative prevalence of infection and the extent of acquired immunity in the community – a vital piece of information required to devise public health strategies (e.g., risk stratification, vaccine prioritisation).

Until a vaccine is found, the tests will have to be conducted not just repeatedly but also on a massive scale if most of the economy is to remain open. To get a sense of how massive the scale of testing will need to be, consider a proposal made by Paul Romer, a Nobel-laureate economist, who suggested that, if almost all of the US economy is to remain open, more than 20 million tests will have to conducted every day, so that every American citizen can be tested every two weeks.[13] Romer also shows that even though the cost of such a massive amount of testing will inevitably be high, it will still be worthwhile because the economic loss inflicted by the shutdown is much higher. By applying the same logic to Bangladesh, if the economy were to remain almost fully open, nearly 12 million tests will have to be conducted every day. There are those who think a less ambitious scale of testing than the one suggested by Romer

may suffice – e.g., if children with no symptoms are excluded and if testing is supplemented by other measures such as contact tracing. But, even by their criterion, the number of tests per day needed in Bangladesh would run into millions rather than thousands, which is the current situation in the country.[14]

In view of the massive scale of testing needed, cost considerations as well as the feasibility of scaling up assume great significance. In this respect, antibody tests have the advantage that they are much cheaper than PCR tests. While a standard PCR test can cost several hundred dollars, a typical antibody test could be carried out at less than 10 dollars. In fact, a locally developed test, called the G-Rapid Dot Blot test, can cost as low as four dollars per test kit.[15] Antibody tests have the further advantage that they can give results very quickly. While it can take several days to get the result of a standard PCR test, the results of antibody tests can be obtained within minutes. The scientists who developed the local rapid test claim that currently their test takes about 15 minutes but with further refinement the time required can be brought down to as low as five minutes. Especially important in the present context, the production of antibody test kits can be scaled up very significantly within a relatively short period of time. In the case of G-Rapid Dot Blot test, it has been suggested that with an investment of $5 million over a period of six months it should be possible to produce 100 million tests kits per month.[16] This is the kind of scale at which testing will be needed, even if the economy of Bangladesh were to reopen only partially but safely.

While pursuing these and other avenues of scaling up the production of reliable antibody tests, efforts must be made simultaneously to encourage the search for cheaper ways of doing PCR tests at a large scale. Given proper incentives, this is not an impossible task. In India, for example, official approval has recently been given for a locally developed PCR kit, which costs one-fourth of the imported kits and can deliver results in less than three hours. The private laboratory that developed this kit has claimed that it can manufacture up to 100,000 kits per week which can be further scaled up if needed.[17]

There is no reason why testing capacity cannot be increased manifold in Bangladesh, given adequate incentive to the producers of test kits. The best policy for this purpose is for the government to give an undertaking that it will buy whatever amount is supplied (up to a limit) at an agreed price, and then to provide the tests free of cost, at least to the poorer households who would be provided with entitlement support.[18] The commitment to buy whatever is produced is the mechanism needed to ensure adequate supply, while providing the test free of cost to the poor is the mechanism needed to ensure that demand does not lag behind supply. In the process, the government will have to bear the brunt of the financial cost, while the task of innovation falls to the private sector.

Mass testing is one arm of public health support that will be needed in order to manage the pandemic. The other arm is facilities for isolating, contact tracing and treating the patients who will test positive for current infection. As the rate of testing is ramped up, the demand on these facilities will also expand correspondingly. The need for both material and personnel will

increase manifold; the number of doctors, nurses, PPE, hospital beds, oxygen, ventilators, and medicine related to COVID treatment will have to be multiplied by several factors from the current levels. But just as the country is not yet ready to undertake testing on the required scale, the country is not equipped to supply these facilities at the required level either. The government must make an all-out to build up the necessary capacity before it contemplates relaxing the restrictions on distancing.

Capacity building will involve both commitment of additional financial resources and organizational innovation. Historically, the health sector of Bangladesh has been starved of resources in a scale that has few parallels even in the developing world. As the comparative picture presented in Table 1 shows, Bangladesh lags way behind its South Asian neighbours and all grouping of low-income countries in terms of government expenditure on health, whatever criterion is used – share of GDP, share of total government or per capita expenditure.

For example, around 2017, the government of Bangladesh spent less than 0.4 percent of GDP on the health sector; the next lowest in South Asia was Pakistan which spent 0.9 percent. Even the least developed countries (LDCs) as a group spent 1 percent of GDP on health, and the group of lower-middle income countries, to which Bangladesh currently belongs, spent 1.3 percent. What is also a matter of grave concern is the fact that the share of GDP spent on the health sector has been declining over time. During the decade of the 2000s, the share was around 0.52 percent; in the next five years, between 2011 and 2015, it came down to 0.49 percent; and in the next two years, it fell further to 0.38 percent. This means that as the GDP of the country has grown relatively rapidly in the recent years, government expenditure on health has failed to keep pace with it.

Table 1
Government Expenditure on the Health Sector:
A Comparative Picture 2017

Country/Region	Percentage of GDP	Percentage of Total Government Expenditure	Per Capita Expenditure (USD)
Bangladesh	0.38	2.99	6.06
Nepal	1.24	4.50	10.70
Pakistan	0.92	4.30	14.08
India	0.96	3.38	18.80
Sri Lanka	1.63	8.48	68.50
South Asia	0.94	3.55	14.95
Sub-Saharan Africa	1.87	---	27.39
Least Developed Countries	1.03	5.84	10.82
Low Income Countries	1.25	---	7.90
Lower Middle-Income Countries	1.29	5.65	25.59

Such a poorly funded healthcare system can hardly be expected to take good care of people's health even in normal times, let alone in a state of pandemic. Even much better equipped health systems around the world are getting overwhelmed by the pressure of COVID-19. The government of Bangladesh has as so far allocated a paltry Tk. 1,500 million to the health sector in response to the pandemic, which is less than 0.01 percent of GDP. This is symptomatic of the neglect with which the health sector has all along been treated in Bangladesh; but if the authorities do not realise even now that the time has come to make a decisive break with the past, and prioritise financing the health sector, this pandemic is going wreak havoc on the economy as well as on human life. Financial allocation for the sector must be pushed up at least by 1 percent of GDP (thus making the overall allocation to the health sector comparable to the average of lower-middle income countries) if the public health system is to have any chance of fighting the deadly virus successfully so that, not only human lives are saved, but also the economy can function with some degree of normalcy.

For the programme to succeed, however, commitment of additional resources is not going to be enough. An extensive and highly efficient organizational framework must be put into place so that services can be delivered quickly whenever and wherever needed.[19] The official organizational structure is simply not equipped to face this challenge on its own; the government must reach out for help from others. Apart from inducting the private healthcare sector within an integrated emergency healthcare network, the government must also involve the social sector – the extensive network of NGOs that have a rich experience of providing healthcare services at the grassroots level. Despite its many failings, the government of Bangladesh has a distinguished history of forging effective cooperation with the social sector for providing public health facilities to the masses – for example, mass immunization, oral rehydration therapy, and improvement in sanitation and water supply. Indeed, it is primarily through this cooperation that Bangladesh has achieved quite startling progress in health outcomes, compared to other low-income countries, despite its pitifully low expenditure on the health sector, leading to an apparent paradox that has been dubbed as a 'development surprise' (Asadullah *et al*., 2014).

The time has come to revive that spirit of cooperation once again. The government already has an extensive network of community clinics at the rural level and healthcare centres at union and upazila levels, even though they are heavily underfunded and undermanned. It should be possible to find a way so that these facilities can join forces with the NGOS who have expertise in the health sector, thereby developing a nation-wide network that is capable of providing both testing and post-test healthcare at a massive scale.

Only when the public health system is capable of undertaking mass testing and providing the concomitant healthcare services to the infected people, will it be possible to

reopen the economy gradually. And only then will it be possible to achieve the triple goals of saving lives, reducing economic distress and minimising the loss of economic output.

IV. Some Principles Underlying Policies for Economic Support

The conceptual framework developed in section II makes it clear that the size and content of economic support cannot be decided independently of what is being done about the other two policy instruments – viz., physical distancing and public health support. The capacity of the public health system to test for infection and manage the patients is especially important in this regard. How well these tasks are performed will dictate how stringent or relaxed would distancing have to be, which in turn will determine how much of the economy can be allowed to remain open and how many people can be allowed to return to work, and this in turn will have a bearing on the nature and size of economic support. This line of reasoning leads to several principles that should guide the formulation of policies for economic support.

(A) <u>Two-Phase Approach</u>: Greater ability of the public health system for testing and patient-management will permit more relaxed distancing and less severe shutdown. The nature of economic support that will be relevant under such conditions would be very different from what would be needed under a regime of strict distancing when most of the economy will have to remain closed. But, as discussed in section III, it will take time before the current public health system of Bangladesh can be brought up to a level that would permit significant relaxation of physical distancing. Therefore, policymakers will need to contemplate two different types of economic policy response appropriate for two phases: (1) the first phase, characterised by very strict physical distancing and very little opening of the economy, and (2) the second phase, when distancing can be relaxed significantly, thus allowing gradual reopening of the economy.

The duration of the first phase will depend on two factors: (a) how quickly the regime of physical distancing is able to bring down the daily rate of infection on a consistent basis i.e., how soon we can cross the peak of infection, and (b) how quickly the capability of the public health system can be developed to do the three T's (test, trace and treat) effectively.[20] Experience of other countries suggests that if distancing can be implemented rigorously across the country, it may be possible to meet the first condition in about three months. If the public health system can be revamped up to an acceptable level of efficacy during this period, we thus assume, somewhat optimistically, that the first phase will last for about three months. As for the onset of the second phase, it has to be recognised that building up a strong public health system is a continuous process. Therefore, the second phase itself will have to be viewed as an evolving scenario in which more and more enterprises are allowed to reopen as our capacities to test and manage patients become gradually stronger. The duration of the second phase will depend on how long it takes for herd immunity to be achieved. We hope this will be achieved through vaccination rather than through the natural process. On the expectation that a workable

vaccine will be available early next year, we have assumed tentatively that the second phase will last for at least six months.

(B) <u>Two-Sector Approach</u>: It needs to be borne in mind that even in the first phase, with strict distancing in place, the entire economy cannot be closed down; some essential sectors must continue to function. After all, people must be provided with food, medicine, healthcare, sanitation, electricity, and means of communication, for example. If they are to function effectively, government's policy package will have to pay special attention to the needs of these sectors.

While thinking about economic support, it will, therefore, be useful to think in terms of a two-sector approach: an 'essential' sector that must remain open even in the first phase and a 'non-essential' sector that remains closed until the second phase sets in.[21] We should, however, be clear in our mind as to what constitutes an 'essential' sector in the present context. Whether a sector is 'essential' does not depend on either its weight in the GDP, or its share of employment, or its importance as a foreign exchange earner. It depends solely on whether continued operation of the sector is essential even in a regime of strict distancing in order to support the life and sustenance of the population. The core of it is the food sector broadly defined.[22] The rest of the economy is 'non-essential' in the present context.

The two sectors cannot be viewed in isolation, however. They are interlinked in a way that is important to appreciate because it has an important bearing on policy. The households belonging to the 'non-essential' sector would be facing the threat of hunger, but their hunger can be averted only by the 'essential' sector that is capable of providing the goods and services needed by these households. In other words, the 'essential' sector needs to be supported in the first phase not only for the sake of the people who are continuing to earn their livelihoods from it but also for the sake of the households who used to belong to the 'non-essential' sector, which is now closed. Any support intended for the households left jobless in the 'non-essential' sector will be ineffective unless the 'essential' sector is capable of meeting their needs.

(C) <u>Changing Focus of Economic Support</u>: An implication of the two-phase two-sector approach is that the focus of economic support must change over time. The difference in the focus in the two phases can be stated simply. In the first phase, the focus will have to be primarily on households – to compensate for their loss of livelihoods caused by widespread economic shutdown required by strict distancing. Millions of households have lost their entitlement to food and other essentials of life as a result of economic shutdown.[23] Restoring their entitlements should be the prime concern in this phase. There will have to be an element of 'enterprise'-focus too, in so far as enterprises in the 'essential' sector must be supported so that they can provide the goods and services demanded by those receiving entitlement support. The primary focus would still be on households, but enterprises involved in the 'essential' sector (for example, food producers) will need to be supported, as a complement to entitlement support for households.

In the second phase, the focus will begin to shift away from households and towards enterprises in all sectors, including the 'non-essential' sector. As more and more enterprises begin to function, many households will also begin to earn their livelihoods by working; to that extent, the need for entitlement support to households will diminish. This shift will have to happen first slowly and then more rapidly as the second phase matures enough to permit more and more enterprises to be brought back to economic life. Even within the second phase itself, some refocussing would be needed as the phase evolves. Initially, the focus will have to be on the smaller enterprises, as their staying power is the weakest and as such their need for support is the greatest. The larger enterprises can be taken care of later.[24]

Thus, the focus of economic support will have to change in the following sequence: primarily households in the first phase, gradually shifting towards enterprises in the second phase – initially, smaller enterprises and then the larger ones. From this perspective, the sequence in which the Government of Bangladesh has been announcing its various policy packages is completely the wrong way around. The first few packages it announced were mainly enterprise-focussed, and even within them, the large-scale export sector received priority attention.[25] Household-focussed social security support came later and that too initially in a patchy way, with a more systematic package being devised only gradually.[26]

V. The Nature and Scale of Entitlement Support

The policy package for economic support will have to have two major components: (a) entitlement support for households and (b) production support for enterprises. As discussed above, importance must be attached to proper sequencing of the two components. In the first phase, which we have defined as the period of strictest possible adherence to physical distancing, the main focus will be on entitlement support for households who have lost their livelihoods. This will have to be complemented by enterprise support to the 'essential' sector, because otherwise entitlement support will be ineffective.[27] In the second phase, defined as the period of a more relaxed regime of physical distancing made possible by large-scale testing and strong patient-management capability of the public health system, the focus will shift gradually towards enterprise support for the 'non-essential' sector as well. In this paper, we focus primarily on the type and scale of entitlement support needed.[28]

Three major issues are involved here: (a) how much support i.e., the scale of support per household and in the aggregate, (b) who should receive support i.e., identification of beneficiaries, and (c) what kind of support – for example, whether it should be in cash or kind – and the mode of delivery. We shall argue that some bold and non-conventional thinking may be needed on each of these issues.

(a) The Scale and Cost of the Entitlement Support Programme

A couple of questions are addressed here: (1) how many people need entitlement support and (2) what should be the size of support?

We should begin by acknowledging that in the absence of some kind of official record of who has lost work and who has not, it is impossible to arrive at an accurate estimate of how many people are facing the threat of hunger, and hence need support. At this point, one can at best make an educated guess so as to serve as a basis for emergency planning and allocation of resources. The real picture will become clearer at the stage of implementation, when the people in need begin to be identified at the local level through the process described earlier. At that stage, the estimates for both the number of beneficiaries and the amount of resources required can be revised to make them more realistic.

One approach towards making an initial estimate is to start with the official estimate of the proportion of people who were already poor before the crisis began (because if anybody is suffering from the threat of hunger now, surely those who were already poor must be among them) and add some estimate of people who have become 'newly poor' as a result of the shutdown. According to official estimates, based on projections from data from *Household Income and Expenditure Survey* (HIES) of 2016, about 20 percent of the population can be categorised as poor in 2020 under normal circumstances. In order to make an estimate of the 'new poor', let us go back to HIES 2016. According to this survey, about a quarter (24.3 per cent) of the population lived below the poverty line in 2016. Another 30 percent of the population had consumption level below one and half times the (upper) poverty line.[29] If the income of this latter group were to decline even by one-third, they would have joined the ranks of the poor. By using these proportions, we may surmise that if 20 per cent of the population were poor in 2020 before the pandemic began, there would be another 24 per cent for whom even a loss of one-third of income would be enough to push them into poverty. Loss of income of this magnitude for the non-poor is not at all implausible in the present circumstances. In fact, given the evidence we have from rapid response surveys, one-third loss of income for the vulnerable non-poor would appear to be almost certainly an underestimate (Rahman and Matin, 2020). The actual proportion of 'new poor' will almost certainly be higher than 24 percent. We assume, not unreasonably, that at least 30 percent of the population would have become 'new poor' in the wake of the shutdown. Adding them to the 'old poor' (20 percent), we can estimate that at least half the population are now in a state of acute food insecurity. That makes 85 million food insecure people. According to HIES 2016, the bottom half of the population has an average household size of 4.3.[30] This means approximately 20 million households are in dire need of entitlement support right now.

An alternative approach would be to start from labour force data, rather than poverty data, and make an estimate of how many people may have become newly unemployed, partially or wholly. Islam (2020) has followed this route. Using the *Labour Force Survey* (LFS) of 2017, and assuming quite reasonably that daily labourers and a part of those in the formal and informal sectors who are employed on a precarious basis must have become unemployed, he estimates that about 20 million workers are currently facing the threat of hunger. This is identical to our estimates of 20 million needy households. There is a slight difference in that

our estimate is in terms of households whereas Islam's is in terms of workers, and since there may be multiple workers from the same household, the implicit number of households in Islam's estimates will be somewhat lower than ours. But the two estimates are not miles apart.

For the purpose of comparison, one may also look at the estimate of poverty based on World Bank's upper poverty line of PPP $3.20, which is meant to capture those who may be non-poor by the standard poverty lines but whose income is low enough to make them vulnerable to sudden shocks. According to this poverty line, some 52.3 percent of the people of Bangladesh were poor in 2016. By 2020, this figure may have just dipped below 50 percent, which again validates our estimate that almost half the population of the country could be currently below the national poverty line. We can, therefore, proceed with some confidence with the estimate that half the population, which translates to 20 million households, need entitlement support immediately.

Turning now to the task of estimating the magnitude of support needed, we proceed in two steps. First, we make an estimate of a minimal level of income a typical poor household might need to pull through these difficult times, and then apply an estimate of income lost to arrive finally at the amount of support needed.

For the first part, we start with what is called the 'lower poverty line' in the literature of poverty estimation in Bangladesh (and other developing countries). It refers to a level of income (strictly speaking, consumption), which allows for minimum food requirements but very little by way of non-food expenditure. By contrast, the 'upper poverty line' also allows for minimum food needs but makes room for a slightly more comfortable expenditure on non-food items. Since, food consumption is the prime concern in the current predicament, it makes sense to work with the lower poverty line. In HIES 2016, the lower poverty line for 2016 is given as Tk. 1862 per capita per month (BBS 2017). Between 2016-17 and the first three months of 2010, the consumer price index has gone up by around 20 percent (BBS, 2020). Thus, in current prices, the lower poverty line will be around Tk. 2234. For an average household with 4.3 members, this translates to Tk. 9606, or approximately Tk. 10,000 per month. This is the level of income that must be guaranteed, on the average, for the food insecure households.

The whole amount of this income need not be provided as support, though, because the goal should be to replace the portion of income that has been lost due to the shutdown of the economy. A Rapid Response survey carried in the first half of April shows that poor and vulnerable non-poor households have lost close to 80 percent of their pre-pandemic income on the average (PPRC-BIGD, 2020). In order to compensate for this loss of income, the food insecure households should be given Tk. 8000 per month.

For 20 million households, the total amount of resources works out to be Tk. 160,000 million per month. This level of support should continue for at least three months (the first phase), because the country is unlikely to be ready for the second phase (of relaxed distancing,

and hence gradual relaxing of shutdown) before that. Thus, a total of Tk. 480,000 million will be needed for entitlement support in the first phase, which amounts to slightly less than 2 percent of GDP. This is by no means excessive considering how important entitlement support is not only on humanitarian grounds but also for the sake of controlling the pandemic – a because the poor people are unlikely to abide by distancing restrictions for long if they and their children have to go hungry for months on end.

As the second phase begins, and people gradually go back to work, it will be possible to taper down the amount of entitlement support. As discussed earlier, we must be prepared for the possibility that the second phase will last for at least six months in Bangladesh, before the shutdown can finally be ended with the emergence of an effective vaccine. Assuming that the level of entitlement will decline linearly to zero over the six-month period, an amount of Tk. 80,000 million will be needed per month on the average i.e., half the monthly expenditure in the first phase. Thus, over the second phase as a whole, another Tk. 480,000 million will be needed. Combining the two phases, the total resource requirement turns out to be Tk. 960,000 million, which amounts to about 3.8 percent of GDP.

(b) <u>Identification of beneficiaries</u>

Since the need for entitlement support has arisen because people have become unemployed and the majority of them will have to remain unemployed in the first phase (the regime of strict distancing), one possible approach would be to identify the unemployed people, prepare a list, and target them for entitlement support. Unfortunately, however, this option may not exist for practical purposes because identification would pose serious problems, especially for people working in the informal sector.

Another possible option is to look to the Ministry of Social Welfare, which operates a wide variety of social safety net programmes catering to various vulnerable segments of the society. Lists of beneficiaries in these programmes already exist, which can be a basis for preparing updated lists to include those who were previously not counted as vulnerable but have now become so because of loss of livelihoods. The government has already made a move in this direction by proposing to expand the existing schemes of "Old Age Allowance" and "Allowances for the Widow, Deserted and Destitute Women" in 100 poverty-prone upazilas. A budget of Tk. 8,150 million has been allocated under this initiative. Potentially, it should be possible to expand several other social security schemes in a similar manner.

But a major problem with this option is that safety net schemes in Bangladesh do not have a great track record of targeting benefits to those who need them the most. An analysis of the overall safety net programme based on the *Household Income and Expenditure Survey of 2016* found that "About two-thirds of the beneficiaries belong to the non-poor households, and they capture three-fourths of the total benefits disbursed by the programme nation-wide." (Osmani, 2018, p.37). There are of course variations among schemes, but the two schemes singled out for expansion in the 100 poorest upazilas do not fare any better than the average.

The above-mentioned study shows that the proportion of poor among the beneficiaries was only 29 percent for the Old Age Allowance scheme and 32 percent for the scheme for Widows, Deserted and Destitute Women (p.40).

In any case, the really serious problem of relying on the existing social safety net is its fragmented nature, which is composed of over hundred schemes and administered by multiple government departments. Such an unwieldly and uncoordinated system will not be able to meet the needs of the hour. What is needed is a vastly simplified system, with a unified structure, so that millions of households can be reached swiftly and efficiently (even if with some degree of mistargeting). For this purpose, a nation-wide comprehensive list of vulnerable households must be prepared immediately, building from the ground up – a list for each village and each ward. The criterion for inclusion will simply be whether a household is suffering from food insecurity. It does not matter how many members of the household are employed or unemployed, or whether they are involved in the formal or informal sector, or whether they live in slums or not, or whether or not the members of the household include those who have come back from their normal place of work in search of a temporary abode, or whether they include old, disabled, widows, or people with other types of vulnerabilities. It also does not matter whether the household is old poor or new poor. All that matters is whether or not the household is facing food insecurity at the moment.[31]

It should be possible to prepare such a list reasonably quickly, and fairly reliably, at the local level by involving local government personnel, elected representatives, school teachers, religious leaders, and NGOs (which are ubiquitous in rural Bangladesh). Some error of targeting is perhaps inevitable in such a process. Overall, the goal should be to allow some error of inclusion, if necessary, in order to avoid the error of exclusion as much as possible. To minimise errors, and to ensure transparency, it is imperative that the list from each village/ward is openly displayed at a place where everyone has access. In this digital age, it should also be possible to upload these lists online. Such open display will serve two purposes. First, those who feel that they have been unreasonably left out can appeal for inclusion. Second, it will also act as a mechanism for self-selection to some extent since well-off households will be loath to be seen by everyone as belonging to the ranks of the needy. This will help minimise errors of both exclusion and inclusion.

(c) <u>The Nature of Support and the Mode of Delivery</u>

In the measures taken so far, the government has sought to provide support in both cash and kind, but the major emphasis has been on in-kind support – viz. distribution of food. But the modality of support it has chosen to adopt deserves serious rethinking. The current thinking seems to be stuck in the old ways of dealing with welfare needs in a fragmented and uncoordinated way that characterises the existing social safety net system.

The current proposals consist of multiple programmes for food distribution combined with multiple programmes for cash distribution, targeted to different segments of the

population.[32] In normal times, there is some justification for pursuing multiple programmes for welfare support, as specially designed schemes may be needed to reach different target groups most effectively. But these are not normal times. The logic of multiple targeted programmes does not apply now, for there is no multiplicity of target groups at this time. There is just one target group – a vast mass of people faced with the threat of hunger and food insecurity. As noted above, it will be necessary to provide entitlement support to nearly half the population for a prolonged period of time. When operating on such a vast scale, simplicity of the delivery mechanism will be the key to success. And nothing is simpler than a cash support programme for all. The alternative mechanism of delivering food directly to half of the households in the country for several months will be a logistical nightmare. Even a combination of food and cash support may not be wise as it would compromise the simplicity of the mode of delivery that is needed at this moment. Of course, cash support may be supplemented on the supply side by releasing government stock of food through Open Market Sales (OMS). The government has already purchased additional foodgrain as part of its COVID-response. This stock should be used to expand the availability of food in the market, instead of distributing it directly to households, for the sake ensuring simplicity of the delivery system.

In addition to its simplicity of operation, cash support programme has the further advantage that it will help oil the wheel of the 'essential' sector, which will remain open even in the first phase, and segments of the 'non-essential' sector that will gradually open up in the second phase. As people spend their cash to buy food from the market, the whole chain from production and transportation to distribution will be rejuvenated. This will not only strengthen the incentive for producers to keep producing the food the country needs but will also boost the entitlement of millions of people involved in this chain.[33] The benefit of cash support will be even stronger in the second phase. As enterprises belonging to the 'non-essential' sector are gradually allowed to reopen, lack of demand may threaten to replace supply restriction as the binding constraint. Cash in the hands of the people will help resolve that problem.

Despite these advantages, several misgivings are quite common against cash support, but upon reasoned scrutiny they do not hold in the present circumstances. First, there is an apprehension that cash income may be at least partially frittered away, whereas whatever food support one gets will be mostly consumed. There is in fact quite a large literature on the question of whether cash or food support can better ensure that people actually consume more food. Findings from recent studies do not lend support to the popular apprehension; in general, cash support is found to be no less effective than food support in ensuring higher levels of food consumption.[34] In any case, one must bear in mind the difference between normal and abnormal times. In these abnormal times, when people have lost work and have no idea of when they might be able to get back to work again, it is highly unlikely that people will do anything with the cash other than what is absolutely essential for their survival.

Second, there a common perception that injection of cash in the economy will raise the price of food thus hurting the poor themselves. The distinction between normal and abnormal

times is again relevant here. Under normal circumstances, a large dose of cash support to millions of poor people may indeed lead to a one-shot increase in the price of food, although even in this case the poor would not necessarily be hurt (compared to the situation of no support) – it is just that the real value of the support will be less than the nominal value. However, the present situation is far from normal. Because of the massive loss of work, people's purchasing power and hence effective demand for food has fallen drastically. If this situation persists, the price of food will fall. In these circumstances, the new injection of cash will only restore (perhaps only partially) the demand that has been lost, and thus at best lift the price up to the level that prevailed before the pandemic began. So long as the cash support programme does not overcompensate people for their loss of income, there is no reason to suspect that enhanced demand will raise prices above the level of *status quo ante*.

Finally, one needs to confront the perennial question of corruption. There is a common refrain that it is easier to steal cash than to steal food. However, past experience as well as recent newspaper reports about misappropriation of food – so much so that the initial programme of special Open Market Sales had to be suspended[35] – do not inspire much confidence in the presumption in favour of food on the ground of corruption. In any case, it all depends on the mechanism through which cash is delivered. Without adequate safeguards, cash may indeed be stolen relatively easily, but it should not be beyond the ingenuity of policy-makers to put in place the right kind of safeguards.

To begin with, the opportunities for misappropriation of funds will be greatly reduced if the list of beneficiaries is prepared through the process described earlier – involving multiple segments of the population at the local level and then displaying the list in an accessible manner. In order to minimise the risk further, cash should be transferred directly to the beneficiaries' bank accounts wherever possible.

The Government of Bangladesh already has some experience with cash transfer programmes through its social security system. For instance, the Cash Transfer Modernization Project under the Ministry of Social Welfare administers the Old age, Widow and Disability allowance programmes, reaching more than six million poor households. Also, among the new initiatives adopted in response to COVID pandemic, the component aimed at helping urban informal sector workers involves cash support through direct bank transfer. There is no reason why the same approach cannot be expanded to encompass all beneficiaries. For those who do not have a bank account, recourse may be taken to the services of agency banking, mobile banking agents and microfinance institutions, who are to be found all over the country. The *Palli Karma Shahayk Foundation* (PKSF), which acts a conduit for channelling funds to microfinance institutions across the country, can play a key role as a facilitator of this process. The point is that, given good intention, it should not be hard to work out the details of a digital mechanism for secure transfer of funds to the beneficiaries. The current government first came to power with a rousing promise of creating a digital Bangladesh; the time has come to deliver on that promise fully.

VI. Concluding Observations

In conclusion, one must ask the obvious question: can a poor country like Bangladesh afford the kind of measures of economic support being proposed in this paper? There is no doubt that the proposed measures will involve a substantial fiscal commitment on the part of the government. As noted above, entitlement support alone will cost around 3.8 percent of GDP. Adding the cost of enterprise support and public health support will make the fiscal burden even higher. For example, if the various measures of support proposed in Osmani (2000) are accepted, the overall fiscal burden would come to just over 6 percent of GDP. By way of comparison, the fiscal burden implied by the official packages announced so far amounts to a mere 0.4 percent of GDP.[36]

A huge step up in terms of fiscal commitment is thus clearly needed. Can the country afford it? The answer depends essentially on how much importance the government attaches to the proposed measures. If enough importance is attached, the fiscal burden will be deemed affordable, otherwise not. In other words, it's all a matter of priority. Once the government makes the commitment, and accords the highest priority to the proposed measures, the necessary resources can be found – partly by postponing many less urgent expenditures (for example, large infrastructural projects), partly by reducing various subsidies whose benefit goes mainly to the relatively well-off segment of the population, and partly by resorting to deficit financing through government borrowing. With regard to borrowing, Bangladesh actually enjoys an advantage over many other developing countries in so far as it has been able to maintain a relatively low level of budget deficit in recent years – averaging around 4-5 percent of GDP, and its overall burden of public debt is also quite low by international standards. In these circumstances, even a doubling of budget deficit for a couple of years will not cause any long-run macroeconomic instability, provided the government displays the same degree of fiscal prudence once normalcy is restored as it has done in the recent past.

The crucial question, therefore, is: will the government attach the highest degree of importance to the measures of economic support – in particular, to entitlement support? The evidence so far suggests to the contrary. And this is true not just in Bangladesh, but also in many other countries around the world, both developed and developing, where the governments are displaying an eagerness to open up the economies prematurely while the pandemic is still rampant. An implicit, and sometimes explicit, premise of this propensity for premature reopening is that governments cannot afford the cost of economic support if the shutdown is prolonged.

This presumption is fundamentally misguided. It stems from a misunderstanding of the true significance of economic support – and in particular, entitlement support – in the context of a pandemic. The general tendency is to view entitlement support as an unfortunate cost of fighting the pandemic: the economy (along with other domains of the society) is shut down to curb the virus, people lose livelihoods in the process, which lands the governments with the unfortunate cost of providing entitlement support to them. This cost-centric view of entitlement

support lends naturally to a certain degree of impatience with it, leading to an eagerness to keep the cost as low as possible and to dispense with it as soon as possible.

In contrast, a view that is more consistent with the capability approach would see entitlement support in a more positive light. There are two distinct aspects of this positive view. The most obvious one is that it contributes to the protection of human capability by avoiding morbidity and mortality from hunger. Furthermore, entitlement support is actually an indispensable tool for fighting the pandemic itself – as part of a three-pronged policy package proposed in this paper. The significance of its role as a policy tool can be appreciated by noting that there are several pathways through which it can help achieve the goal of fighting the pandemic efficiently.

First, entitlement support makes it easier to implement the policy of economic shutdown by mitigating the potential trade-off between 'lives and lives'. The most obvious way it does so is by saving 'lives from hunger'. Less obvious, but no less important, is the fact that it also saves 'lives from the virus'. In the absence of such support, hungry people will be compelled to disregard physical distancing in search of livelihoods, thus aiding the spread of the virus and causing avoidable deaths. On the other hand, the assurance of freedom from hunger that comes from the enjoyment of entitlement support will ensure that people will be willing to abide by the restrictions of physical distancing imposed by economic shutdown. This will save 'lives from the virus'. Thus, by saving lives on both counts – from hunger and from the virus – entitlement support resolves the potential trade-off between 'lives and lives'. And in so doing, it contributes to successful implementation of the policy of temporary economic shutdown, which is essential for fighting the pandemic.

Second, in a country where the public health system is poorly developed, entitlement support offers a breathing space in which a serious attempt can be made to equip the public health institutions so that they can deal effectively with the health crisis brought about by the pandemic. It is generally recognised that the policy of economic shutdown, aided by an efficient system of public health support, is essentially a method of 'buying time' before effective therapeutics or vaccination can finally bring the pandemic to an end. But the success of this policy is contingent on having a system of public health support that is capable of handling the crisis once the economy begins to reopen. Many developing countries do not often have the necessary capability. Such countries need an earlier phase of 'buying time', during which the capability of public health institutions can be developed. During this phase, a strict shutdown of the economy must be maintained until the public health system has acquired some minimal capability. But as argued earlier, sustaining a strict shutdown itself requires an effective system of entitlement support so that people do not feel compelled by hunger to defy the shutdown. Thus, by allowing strict shutdown to persist for a long enough period, entitlement support 'buys time' during which the public health system can be strengthened, which in turn can 'buy time' before effective therapeutics or vaccines become available.

Third, entitlement support can contribute to the goal of fighting the pandemic at a minimum cost in terms of lost output. In other words, it can not only save lives, it can also save the economy. The clue to understanding how this is so is to first recognise that the loss of output that occurs during a pandemic can be broadly categorized into two parts – unavoidable and avoidable; and entitlement support can help minimize the avoidable part. When the economy is shut down to contain the virus, some output will inevitably be lost simply because many economic activities are not allowed to operate, by decree; this is the unavoidable part. There are, however, various ways in which the eventual loss of output can be bigger than the initial loss; but this additional loss can in principle be avoided to a large extent with the right kind of policies. Entitlement support is one such policy. There are several channels through which entitlement support can help minimise the avoidable loss of output.

The first channel involves the distinction between supply-shock and demand-shock to the economy. The initial unavoidable loss of output caused by the shutdown is a case of supply-shock, since supply of output would have been forcibly curtailed by closing down economic activities. However, further loss of output can occur due to demand-shock as people who lose their livelihoods are forced to reduce their demand for goods and services in the absence of purchasing power. Recalling the two-phase two-sector framework of analysis proposed in this paper, deficient demand can cause loss of output in the 'essential' sectors in the first phase (when much of the economy is closed) and can affect the non-essential sectors in the second phase (when the economy begins to reopen). This demand-induced loss of output is entirely avoidable, however. It can be avoided simply by operating a generous programme of entitlement support that restores the purchasing power of those who have lost their livelihoods.

The second channel involves fear and uncertainty caused by the pandemic. As noted earlier, without the assurance of freedom from hunger, people will feel compelled to disregard the need for physical distancing; the pandemic will then get out of control. The resulting state of fear and uncertainty will render it impossible to sustain any kind of economic activity, even if official shutdown were to be relaxed. The loss of output that would then occur due to fear and uncertainty is additional to the initial loss of output caused by the shutdown. The only way to avoid this additional loss is to bring the pandemic under control as quickly as possible through strict observance of physical distancing. Entitlement support can help in this regard by making physical distancing acceptable to the people whose livelihoods are going to be lost.

The third and final channel involves productivity of labour. Even if businesses were keen to reopen, regardless of the state of fear and uncertainty, a depleted and emaciated labour force, stalked by hunger, is not the kind of resource that will help restore normal levels of production. Reduced productivity of labour will result in loss of output even if demand is somehow restored and uncertainty disappears. Entitlement support can help avoid this loss by sustaining the labour power of people who would have to remain out of work for a certain period owing to physical distancing.

Entitlement support should not, therefore, be seen as an unfortunate cost of the pandemic. It should instead be embraced with a positive outlook – both for the direct contribution it can make to protecting human capability during the crisis and for its role as an indispensable tool for efficient handling of the crisis itself, as an integral part of the three-pronged strategy proposed in this paper.

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[1] It is sobering to note that on the very day (31 May, 2020) the Government of Bangladesh allowed significant relaxation of economic shutdown, with a view to reviving the economy and restoring livelihoods, the country recorded the highest daily levels of both new infections and COVID-related deaths. See, https://www.thedailystar.net/coronavirus-deadly-new-threat/news/highest-number-covid-19-deaths-reported-day-40-die-total-infected-crosses-47000-1906948.

[2] There are other measures too, such as regular handwashing, wearing masks in closed environments and maintaining a healthy life style, which are also important for containing infection. We are focusing here on physical distancing through economic shutdown because of its enormous economic impact.

[3] For reliable evidence on the properties of the novel coronavirus and COVID-19, see Verity *et al.* (2020) and WHO (2020). It must be remembered, however, that the evidence is it itself evolving and some of the parameters reported below may change over time.

[4] An alternative possibility is that the virus might mutate into a variety that is far less lethal so that we can live with it (like the coronaviruses that cause common cold). But we cannot bank on that happening.

[5] For a lucid discussion of the concept and relevance of herd immunity in the context of the current discourse on coronavirus, see O'Grady (2020).

[6] Whichever path is chosen, success depends on controlling a parameter called the virus's basic reproduction number denoted as R0, which stands for the average number of persons that can be infected by a single infected person. As R0 falls, so does the rate of infection; and when it becomes less than 1, it heralds the gradual demise of the virus, as fewer and fewer people will be infected over time and eventually the virus will find no way out. For a simple exposition of the meaning and significance of R0, see Fisher (2020).

[7] The total number of estimated deaths depends on the peak value of fatality rate, which in turn depends on two parameters: the value of infection rate obtaining at the time the threshold of herd immunity is reached and the infection fatality rate (the percentage of infected people who die because of infection). Since the novel coronavirus is so new, scientists do not yet have firm estimates of either of the two parameters. Based on the evidence available so far, their best estimate is that somewhere between 50 and 70 percent of the population will have to be infected if herd immunity is to be achieved through the natural path. The value of infection fatality rate is also uncertain

(Lloyd 2020), but a conservative estimate would be around 0.6 percent, based on the experience of Wuhan, China. By applying this fatality rate to the lower end of the infection rate associated with herd immunity (50 percent), it can be estimated that at least half a million people will die in Bangladesh (168 ml × 0.5 × 0.006) if the epidemic is allowed to run its natural course.

[8] The effect of distancing is thus akin to that of low population density. Technically, it amounts to reducing the basic reproduction number R0.

[9] The term 'distress mortality' is used here as a shorthand expression for all kinds of distress caused by lack of entitlements, including pangs of hunger, morbidity and mortality.

[10] In this and the ensuing analysis, "final' means the point at which the epidemic comes to an end. As discussed earlier, this will happen when the threshold of herd immunity has been reached either through community transmission or with the help vaccination.

[11] The way the curves have been drawn suggests that as the stringency of distancing rises the fall in infection mortality more than compensates for the rise in distress mortality so that overall mortality falls. But this need not be the case. The rise in distress mortality could in principle exactly offset or even overwhelm the fall in infection mortality, in which case the M_N curve will be either horizontal or upward sloping instead of being downward sloping. But none of this will alter the substance of our argument. For our argument to hold, all that is needed is that the gap between the two curves widens with the stringency of distancing.

[12] The centrality of public health support has been stated eloquently by Eichengreen (2020): "In the fight against the Covid-19 pandemic, economists, economic policymakers and bodies such as the G7 should humbly acknowledge that "all appropriate tools" imply, <u>above all</u>, those wielded by medical practitioners and epidemiologists." (Emphasis added)

[13] See, https://www.msnbc.com/all-in/watch/nobel-prize-winner-we-should-be-testing-30-million-for-covid-19-daily-81912389636

[14] The situation prevailing on May 31, 2020: "A total of 11,876 samples were tested in 52 labs across the country in the last 24 hours." See, https://www.thedailystar.net/coronavirus-deadly-new-threat/news/highest-number-covid-19-deaths-reported-day-40-die-total-infected-crosses-47000-1906948..

[15] This test was developed by the *Gonoshaysthaya Kendro* initially as an antibody test but was subsequently modified to serve as an antigen test as well, and is currently undergoing validation assessment.

[16] The information related to the G-Rapid Dot Blot test reported in this paragraph was obtained through personal communication with the scientists involved.

[17] See, https://homegrown.co.in/article/804276/coronavirus-india-first-indian-testing-kit-detects-covid-19-in-2-5-hours.

[18] The reach and scope of entitlement support is discussed in section V, where we estimate that nearly half the population will need entitlement support for a prolonged period.

[19] Organizational improvement encompasses many dimensions – for example, (1) training a large cadre of health assistants and/or and lab technicians nationwide to do millions of tests per month, (2) improving operating procedures with respect of health and safety during sample collection, optimal processing and analytical protocols that need to be maintained to ensure reliable results, (3) monitoring and evaluation of training, supply chain and quality, (4) ensuring compliance with testing, (5) governance structure, and (6) contact tracing.

[20] It is obvious that Bangladesh has yet to meet either of the two conditions at the time of completing this paper (June 1, 2020). The rate of infection is still rising – the peak is nowhere in sight. And the proportion of population being tested is still pitifully low (as noted in section III). And yet one observes with consternation that the government decided to relax economic shutdown significantly starting from May 31, 2020, as if the first phase is over. Though well-intentioned, this pre-mature reopening of the economy could cost the country dearly. It will not only cost more lives as infection spikes ever more strongly, increased fatality might eventually oblige the government to reimpose shutdown even more harshly than before, thus prolonging the agony. Instead of treading such a dangerous path, the government should focus on fulfilling the first two conditions, so that safe re-opening can be possible in about three months from now.

[21] For an intuitive justification for adopting the two-sector approach towards COVID-response, see Krugman (2020). A more technical analysis is provided by Guerrieri *et al.* (2020).

[22] The broad definition includes not just production but also transportation and distribution networks constituting the supply chain of the food sector, as well as ancillary services such as public administration, public utilities and financial intermediation, including both banks and microfinance institutions, that are needed to support both production of food and its supply chain. All these activities must be allowed to operate in a relatively unencumbered manner even in the first phase.

[23] For evidence based on large-scale rapid surveys, see PPRC-BIGD (2020) and Ahmed *et al.* (2020).

[24] Apart from timing, the treatment of smaller and larger enterprises will also have to differ in terms of content. For smaller enterprises, the grant element will have to have precedence over loan, while for the larger enterprises the opposite will have to be the case.

[25] It might be argued that the very first package – aimed at the export sector, mainly the garments industry – was actually a kind of entitlement support in disguise since the purpose of the support was to enable the firms to pay salaries to their workers. But it is not at all clear why, in any comprehensive scheme for entitlement support, protecting the entitlement of garment workers should receive priority over protecting the entitlements of other segments of the society, especially workers in the informal sector.

[26] This is in sharp contrast with the approach adopted by some other countries, for example, India. While there has been well-deserved criticism of some aspects of the response by the Indian government, at least they got the sequence right. The first economic package it announced was focussed entirely on protecting the entitlements of people who had to stop working because of the shutdown. This was followed by a package aimed mainly at small and medium enterprises.

[27] As noted in section IV, the core of the 'essential' sector is the food sector broadly defined to include production, import, transportation and distribution of food as well as ancillary services such as public administration, public utilities and financial intermediation which are necessary for efficient functioning of the food sector.

[28] For a comprehensive discussion of economic support, including enterprise support, that are needed in the context of Bangladesh, see Osmani (2020).

[29] This is based on author's calculation from the raw data of HIES 2016.

[30] Author's calculation from the raw data of HIES 2016.

[31] The government has recently prepared a list of 5 million beneficiaries, as part of its COVID response, for providing one-time cash support of Tk. 2500 each, which has already been disbursed. But this list was meant to cover only the informal sector workers in urban areas, whereas we are proposing a comprehensive list for the country as a whole covering all sectors and both urban and rural areas. As discussed below, the list will have to cover nearly 20 million households, accounting for half the population of the country.

[32] For details of the policy package, see Osmani (2000).

[33] Furthermore, there is no reason to believe that the government will be able to carry out this massive operation more efficiently than those who are already involved in the process.

[34] See, for example, the discussion on this topic in Banerjee and Duflo (2019).

[35] *The Daily Star*, April 18, 2020: https://www.thedailystar.net/frontpage/news/theft-subsidized-food-rogue-dealers-political-links-blame-1894459.

[36] On paper, the combined financial value of official packages announced so far comes to about 4 percent of GDP. But, as a measure of fiscal burden, this figure is misleading, because the lion's share of the packages will be delivered in the form of loans, mostly at subsidised interest rates although there are some unsubsidised loans as well. Only the cost of subsidy involved in these loans ought to be counted as the fiscal burden. The government will of course have to make budgetary provisions for the loans to be disbursed; and this will require considerable budgetary readjustment and perhaps expansion of total expenditure in the forthcoming fiscal year. But, for the purpose of counting the fiscal burden from a medium-term perspective, the loan amounts must be left out, especially since most of them are very short-term loans, to be repaid in less than two years.