How much does it cost to respond to the COVID-19 crisis?

Background paper | 4 May 2020

Executive summary

The COVID-19 pandemic and its effects have now reached every country. There are two major impacts on low-and-middle-income countries. First, the direct health impact, with the peak of the disease in many of the most fragile countries expected at some point in the next 3 to 6 months. Second, the impact of the global economic recession and the domestic measures taken to contain the spread of the virus. This will cause rising unemployment and push more people into extreme poverty, may exacerbate fragility and violent conflict and is projected to cause a doubling in the number of people facing acute (life threatening) food insecurity. The impact of national measures to contain the spread of the virus and of the global recession may be larger than the direct impact of the disease in many countries.

It is better and cheaper to front load responses to the pandemic, including its economic dimensions, than waiting and then reacting when the full impacts are visible. Containing the virus is a collective endeavor and a global public good, and limiting the secondary impacts on the poorest countries is in the national interest of richer countries.

This note tries to estimate the cost of an effective COVID-19 response, focusing on 32 low income countries[1] with a combined population of 740 million people. There are a significant number of other countries also in need of assistance, including refugee hosting countries, and small island states, as well as others. This paper is therefore a partial and minimal preliminary assessment.[2]

Based on our analysis, the cost of protecting the most vulnerable 10% of people in the world from the worst impacts is approximately $90bn – or about 1% of the current global stimulus package put in place by OECD and G20 countries (estimated at over $8 trillion).

Some people may be sceptical that additional resources can be generated in the current circumstances. That is not our experience: after the financial crisis of 2008-09 fund raising for UN coordinated humanitarian appeals increased by more than 40% by 2010. That was a result of human generosity and empathy – but also a calculation of national interest in the donor countries.

There are two broad categories of response costs:

1) **Substantial increase in humanitarian programming: $30.95 bn,** including for

a) **Immediate health response and containment — $16.55 bn**, including accelerating the development of diagnostics and therapeutics for low- and middle-income countries, a 20% increase in government health expenditure, and an international humanitarian health response (for example to finance testing, PPE and other essential supplies for countries which cannot afford them).

[1] Afghanistan, Benin, Burkina Faso, Burundi, Central African Republic, Chad, Congo DR, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Korea DPR, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Niger, Rwanda, Sierra Leone, Somalia, South Sudan, Syrian Arab Republic, Tajikistan, Tanzania, Togo, Uganda, Yemen, Zimbabwe

[2] This is currently our best estimate, understanding there is considerable uncertainty. Going forward more comprehensive updates of this note will be produced.

b) **Additional humanitarian assistance — $14.4bn**, representing a 50% increase in humanitarian funding requirements compared to the $28.8 billion initially projected for 2020[3]. This figure represents the increased costs of humanitarian response for around 12 months from April 2020. Further analysis will be required to estimate the cost of humanitarian response in 2021.

Official Development Assistance (ODA), currently amounting to more than $150 billion a year, will need to be increased to fill most of these costs. That amounts to a one-off 20 percent increase in ODA over the next 12 months.

The most up-to-date version of the UN coordinated Global Humanitarian Response Plan (GHRP) for COVID-19, which will be published on 7 May, is likely to be costed at between $6-7 billion for the remainder of 2020. In this latest version, additional, vulnerable countries will be included, and the emerging, additional needs from countries are factored into their respective Humanitarian Response Plans.

The GHRP includes a portion of the costs of both the immediate health response and containment ($16.55 billion), and additional humanitarian assistance ($14.4 billion) that countries require to deal with the secondary impacts of COVID-19. The requirements of the GHRP are likely to grow in future versions of the Plan as the economic impact plays out and more countries require humanitarian assistance.

2) **Fiscal stimulus to protect livelihoods — $58.8bn**, representing 10% of GDP of low-income countries delivered through targeted cash transfers to reduce the numbers of vulnerable people who would otherwise need humanitarian assistance. This could largely be done through International Financial Institutions (IFI)s, if more favourable terms can be agreed upon for the relevant countries.

Not included in these estimates are costs for the acceleration of vaccines, their manufacturing, purchase and delivery to these countries which is estimated to cost $8.3bn.

[3] https://www.unocha.org/global-humanitarian-overview-2020

Detailed estimate:
How much does it cost to respond to the COVID-19 crisis?

1. Substantial increase in humanitarian programming

a. Immediate cost of containing the virus $16.55bn

The immediate cost to prevent and contain the virus and provide healthcare to those who need it is significant.

Diagnostics are a critical component of the COVID-19 response. However, the current global market for molecule-based testing supplies is highly constrained, with countries competing for limited supply. According to the Gates Foundation, these tests also strain limited lab capacity and may take months to return results in Low- and Middle-Income Countries (LMICs). A new generation of early detection antigen-based rapid diagnostics that can be administered and processed at point-of-care or at home—and are digitally connected to facilitate more robust public health responses—holds great promise, especially for LMICs. To achieve rapid development and scale-up of antigen-based rapid diagnostics tests (RDTs) that can increase global testing capacity within the next 6 months, governments and other stakeholders could:

- **Commit $500 million through financing instruments to incentivize manufacturers to scale production capacity.** Manufacturers will primarily require instruments that de-risk demand for RDTs in order to make investments to scale capacity to the required levels. This can be through volume guarantees to manufacturers or grants to fund advance purchase orders from a centralized global procurer for LMIC markets. This can be supplemented with loans from development finance institutions (DFIs) where necessary.

- **Commit at least $1 billion in additional funding for procurement of rapid diagnostics for LMICs.** Based on early modeling, and given the pandemic's trajectory, as many as 600 million to 1 billion tests may be needed in the coming year in sub-Saharan Africa alone. For these tests to be produced, procured, and delivered at the volumes required, donor governments should send a clear signal to the market by committing at least $1 billion of additional funds to procuring new rapid diagnostic tests on behalf of LMICs.

Therapeutics: According to the Gates Foundation, a lack of coordination could pose significant challenges to the timely and successful development of COVID-19 therapeutics. Existing, registered antiretrovirals and other drugs could potentially prove effective for the treatment of active COVID-19 cases. With therapeutics, as with COVID-19 vaccines, the biggest enemies in the face of the pandemic are inefficiency and wasted time, money, and capacity that could slow efforts to bring one or more effective new drugs to market, and/or prevent those drugs from reaching those who need them most, wherever they live. To support an accelerated therapeutics strategy that alleviates suffering, saves lives, and helps prevent further spread of the disease, governments and other stakeholders could:

- **Commit $2-2.75 billion through the COVID-19 Therapeutics Accelerator**, alongside other coordination mechanisms, to speed the identification and advancement of promising COVID-19 therapeutics through the product development pipeline. The total near-term funding needed to

cover R&D for therapeutics is estimated at $2-2.75 billion[4]. This resource need is best supported through public sector grants, which allow the flexibility to accelerate normal development timelines while maintaining global access goals based on highest need and impact. For therapeutics, it would support rapidly bringing to approval 2-3 repurposed compounds this year and at least one novel compound and one compound for post-exposure prophylaxis within the next 2 years.

- **Provide $250M-$500 million to incentivize increased therapeutic manufacturing capacity.** This can be through forgivable loans[5], volume guarantees, or grants for advance purchase orders from a centralized global procurer for LMIC markets. This would support early scale-up of manufacturing, at-risk, to 100 million courses of treatment of accelerated compounds, covering the immediate needs in HIC and LMIC markets.

Response: The healthcare response needs to be scaled-up and strengthened, as even developed countries' healthcare systems are coming under tremendous strain. The response will be channeled through existing government systems and humanitarian actors.

- **Government health costs $5.6bn:** According to the World Health Organization (WHO), across low-income countries average health spending was only $ 41 per person in 2017, which translates into a total healthcare budget of $29bn. Diversion of existing limited healthcare budgets can be very costly and should be avoided. For example, analysis by WHO suggests that under the worst-case scenario, in which all insecticide-treated net (ITN) campaigns are suspended and there is a 75% reduction in access to effective antimalarial medicines, the estimated tally of malaria deaths in sub-Saharan Africa in 2020 would reach 769,000, twice the number of deaths reported in the region in 2018. This would represent a return to malaria mortality levels last seen 20 years ago. Due to movement restrictions or diversion of resources, routine vaccinations risk being suspended or delayed. UNICEF says 117 million children in 37 countries may not get immunized on time. 24 countries[6], including several that are already dealing with large measles outbreaks, have decided to delay immunization because of the coronavirus pandemic. Immunization campaigns that are expected to take place later in 2020 in an additional 13 countries may not be implemented. Measles cases surged over recent years and claimed more than 140,000 lives in 2018, mostly of children and babies. Researchers at the London School of Hygiene and Tropical Medicine suggest that for every excess Covid-19 death attributable to an infection acquired during a child vaccination visit, there would be 128 future deaths prevented from the time of vaccination to 5 years of age by sustaining the routine childhood vaccination programmes. If, conservatively, the additional costs are equivalent to 20% of the current healthcare budget, this is equivalent to $5.6bn. This does not include any sanitation interventions.

- **Sustain basic Water and Sanitation (WASH) investment $3.8bn:** One of the most cost-effective strategies for increasing pandemic preparedness, especially in resource-constrained settings, is

[4] Source: Estimates from BMGF team of $350-750 m in 2020 ($250-500 M for repurposed compounds; $100-250 M for early development of novel compounds) and up to $2 B from 2021 to 2020 ($1B for one novel compound + $1B for one monoclonal antibody for post-exposure prophylaxis).
[5] A forgivable loan would not need to be repaid in the case that constructed manufacturing capacity was not used.
[6] Bangladesh, Brazil, Bolivia, Cambodia, Chad, Chile, Colombia, Djibouti, the Dominican Republic, the Democratic Republic of Congo, Ethiopia, Honduras, Kazakhstan, Kyrgyzstan, Lebanon, Maldives, Mexico, Nepal, Nigeria, Paraguay, Somalia, South Sudan, Ukraine, Uzbekistan.

investing in core public health infrastructure, including water and sanitation systems. Good WASH and waste management practices, that are consistently applied, serve as barriers to human-to-human transmission of the COVID-19 virus in homes, communities, health care facilities, schools, and other public spaces. The Water and Sanitation Program. a multi-donor partnership which is part of the World Bank Group's Water Global Practice[7] has calculated that the annual cost to achieve basic WASH in Sub-Saharan Africa by 2030 would be 0.64% of GDP. If we apply this to the GDP of the LICs ($588bn) this amounts to $3.8bn.

- **International health response $2.4bn:** The updated COVID-19 Global Humanitarian Response Plan's first Strategic Objective is focused on containing the spread of the pandemic and decreasing morbidity and mortality. This includes interventions to (i) detect through surveillance and laboratory testing all suspect and improve the understanding of COVID-19 epidemiology, (ii) provide safe and effective clinical treatment for individuals who are at the highest risk for poor outcomes and ensure that older patients, patients with comorbid conditions and other vulnerable people are prioritized, where possible, and (iii) Ensure the continuity of the essential health services and related supply chain for the direct public health response to the pandemic as well as other essential health services. There are additional health requirements for humanitarian actors not included in the GHRP.

b. Increase in humanitarian need $14.4 bn

Existing humanitarian response will become more expensive: The cost of sustaining ongoing humanitarian responses (which were set out in the UN Global Humanitarian Overview for 2020 published last December) necessitated by conflict, climate change, natural disasters and other events will rise, for example, due to increasing food prices and reduced transportation links.

Covid-19 will lead to rising humanitarian needs: Existing humanitarian needs are likely to be exacerbated in, *inter alia,* the following ways:

(i) **Rise in conflict:** Economic factors (low income, slow growth, and especially severe economic downturns) are well known to be correlated with the outbreak of conflict, with some evidence strongly suggesting that the causal direction runs from economic conditions to conflict. Inequality and dependence on natural resources are sometimes also drivers of increases in the risk of conflict.

(ii) **Doubling food insecurity:** Food security may rise due to reduced access to food. Trade restricting affect the free flow of food and agricultural inputs, and lockdowns are driving up prices (in Ghana the prices of some basic food products have risen by 20-30%). Lock downs restrict economic activity reducing income. In India emerging research shows that the average Below Poverty Line (BPL) household will lose 61% of their regular income in April, and 45% of BPL households were expecting to lose 75% or more of their income. In Bangladesh household incomes have declined an average of 75 percent. Four in 10 respondents had three days' worth of food at home or less. Analysis by the World Food Programme shows that, due to the Coronavirus, an *additional* 130 million people could be pushed to the into severe food insecurity. In a worst-case scenario, WFP say we could be facing "multiple famines of biblical proportions within a few short months."

[7] Guy Hutton and Mili Varughese, The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene

Partially as a result of the global financial crisis in 2008-09, humanitarian requirements grew by 54% in 2009 compared to 2008. In December 2019, the UN projected a requirement of $28.8 billion for its response to humanitarian needs in 2020. This is likely to rise by at least 50% as a result of the secondary impacts of COVID-19, an amount equivalent to $14.4 billion. This figure represents the increased costs of humanitarian response until the end of 2020. Further analysis will be undertaken to estimate the cost of humanitarian response in 2021, which will be presented in the next Global Humanitarian Overview in December 2020. This excludes, and is in addition to, the therapeutic costs outlined above.

The most up-to-date version of the UN coordinated Global Humanitarian Response Plan (GHRP) for COVID-19, which will be published on 7 May, is likely to be costed at between $6-7 billion for the remainder of 2020. In this latest version, additional, vulnerable countries will be included, and the emerging, additional needs from countries are factored into their respective Humanitarian Response Plans.

The GHRP includes a portion of the costs of both the immediate health response and containment ($16.55 billion), and additional humanitarian assistance ($14.4 billion) that countries require to deal with the secondary impacts of COVID-19. The requirements of the GHRP are likely to grow in future versions of the Plan as the economic impact plays out and more countries require humanitarian assistance.

2. Costs to sustain livelihoods $58.8bn

The secondary economic impact of COVID-19 is becoming increasingly clear and include:

Severe economic recession: Based on an assumption that both the pandemic and the required containment measures peak in the second quarter of 2020 for most countries in the world, and recedes in the second half of this year, the IMF predicts that global growth in 2020 will fall to -3 percent. This is a downgrade of 6.3 percentage points from January 2020, a major revision over a very short period. This would make the Great Lockdown the worst recession since the Great Depression, and far worse than the 2008-09 Global Financial Crisis. Assuming the pandemic fades in the second half of 2020 and that policy actions taken around the world are effective in preventing widespread corporate bankruptcies, extended job losses, and system-wide financial strains, the IMF projects global growth in 2021 to rebound to 5.8 percent. This recovery in 2021 will only be partial, as the level of economic activity is projected to remain below the level the IMF had projected for 2021, before the virus hit. The cumulative loss to global GDP over 2020 and 2021 from the pandemic crisis could be around $9 trillion, greater than the economies of Japan and Germany, combined.

Extensive job losses According to the International Labour Organization, two billion people work in the informal sector (mostly in emerging and developing economies) and are particularly at risk of falling deeper into poverty due to the coronavirus crisis. One estimate suggests **195 million full-time jobs** or 6.7 per cent of working hours globally could be lost in the second quarter of this year.

Sharply increasing poverty: There is considerable uncertainty about the extent to which poverty will increase. World Bank economists believe the pandemic will push somewhere between 40 million and 60 million people into poverty, defined here as the percentage of the world's population living on less than $1.90 per day. The World Bank's "best estimate" is an increase of 49 million people. Sub-Saharan Africa is expected to be the region most affected. In contrast, according to researchers at King's College

London and the Australian National University, COVID-19 poses a real challenge to the UN Sustainable Development Goal of ending poverty by 2030 because global poverty could increase for the first time since 1990 and, depending on the poverty line, such an increase could represent a reversal of approximately a decade in the world's progress in reducing poverty. **In some regions the adverse impacts could result in poverty levels similar to those recorded 30 years ago**. Under the most extreme scenario of a 20 percent income or consumption contraction, the number of people living in **poverty could increase by 420–580 million, relative to the latest official recorded figures for 2018.**

The global response

During the 2008 Global Financial Crisis, fiscal stimulus by the G20 amounted to about 2 percent of GDP, or over $900 bn in today's money. According to the IMF, emergency lifelines provided globally to the current crisis include higher spending and foregone revenues ($3.3 trillion), public sector loans and equity injections ($1.8 trillion), and guarantees ($2.7 trillion). The G20 advanced and emerging economies are at the forefront of this response, with **actions totaling $7 trillion, and when other OECD countries are included, this increases to $8 trillion.** The UN Secretary-General said that addressing the economic crisis will require a global response reaching double-digit percentages of the global economy.

Required response in low and lower- and middle-income countries

The Secretary-General said that a stimulus package to help developing countries with the same objectives also requires a massive investment. A 10 percent stimulus package for the low-income countries would be **$58 billion.** As a reference aggregate, GDP for the lower middle-income countries is $6.702 trillion. A 10 percent stimulus package for them would be $670bn. The package should aim to avoid increases in poverty in the short run becoming permanent, and not just temporary, through protecting assets. In low income countries (LICs) where government-led systems exist, and have demonstrated that they can be effective and scaled up, the International Financial Institutions (IFIs) have the ability, headroom and comparative advantage to support direct stimulus and relief to the most vulnerable. However, the affordability of that financing to LICs will need to be enhanced, not least since many of the LICs are in debt distress. Options include debt servicing relief, SDR allocations, capital increases, differential pricing by the IFIs, freeing up unused resources from long standing MDB Trust Funds and further front loading of disbursements from MDB concessional windows. A more flexible approach to fiscal space will also be necessary, consistent with that taken by G20/OECD countries for their own economies. Given the scale of the crisis, a "business as usual" approach will not suffice.

Another way of looking at this would be as follows: To end extreme poverty by 2030, the UN estimates that the total cost *per year* would be about $175 billion. Spending 1/3 of that as a *one off* preserves the progress made to date in low-income countries. We can think about providing 500 million people, who are at risk of sliding into poverty, the poverty line of $1.90/day for 6 months, which would cost $171bn.

Delivery modality: the critical role of cash assistance and mobile technology

Domestic stimulus and relief efforts to date, in particular in richer countries, have used direct cash transfers as a significant part of the response[8], with social protection measures to mitigate impacts now in place in 133 countries[9]. Any global economic recovery package will need to be delivered largely through financial assistance, targeting different groups than 'usual' groups, with more focus on urban informal workers. Wherever possible this assistance should be channeled through a government-led social protection system. As of 23 April a total of 151 countries (an increase of 18 in one week) have planned, introduced or adapted 684 social protection measures in response to COVID-19, one third of

[8] https://www.devex.com/news/cash-transfers-lead-the-social-assistance-response-to-covid-19-96949
[9] http://www.ugogentilini.net/

which are delivered through cash transfers[10] In Pakistan, for example, the Government announced a $935 million package (Rs 150 billion) of support for the poorest 12.5 million households.[11] 78 countries are implementing cash transfers for the first time in response to COVID-19.

But we know that in many of the countries such systems are non-comprehensive or weak, will need to be complemented and backed up by other systems, including by development and humanitarian actors. Humanitarian actors currently deliver $4.7 billion each year in cash and vouchers to crisis-affected people. Private sector financial service providers will play a critical delivery role in most contexts, either delivering in partnership with government or humanitarian actors[12] or, in some cases, as the primary delivery actor. The number of people with access to mobile money is expanding rapidly in the poorest countries, with active accounts in Sub-Saharan Africa increasing 15% from 2017 to 2018, to a total of 181 million. GSMA estimates that 21% of adults across Sub-Saharan Africa have a mobile money account (active or inactive), rising to 66% in Kenya, Rwanda, Tanzania and Uganda[13]. 73% of adults in Somalia use mobile money, with a 83% penetration rate in urban areas. In Kenya, 72 percent of people living on less than $1.25 a day were using mobile money within three years of the launch of M-Pesa[14]. GSMA expects that by the end of 2020 there will be 725 individual mobile money users across Sub-Saharan Africa.[15] The amount of each individual transfer will need to be determined on a context-by-context basis. The cash amount transferred to every individual or household will be determined in government-led contexts by the ministry in charge of social protection, although IFIs and donors could recommend that the recovery package reflects national poverty lines. In contexts where humanitarian actors are already delivering cash at scale a Minimum Expenditure Basket (the average cost of meeting basic needs over a month) will exist, and transfers should be pegged to this (70-80%).

3. Available and required financing

The International Financial Institutions are making significant financing available:

- The IMF is doubling its rapid-disbursing emergency facilities to $100 billion including $10 billion on highly concessional terms for low-income countries. It also has **$1 trillion** in lending capacity.
- The World Bank has made deployed $14 bn for the COVID response and is taking steps to provide **$160bn** of financing over the next 15 months. In addition, Catastrophe Draw Down Options worth more than $2bn have been paid out.
- Other MDBs have committed to roughly **$80bn** over this period.

However, the above resources do not yet match the requirements of many low-income countries.

Debt relief: The G20 have suspended debt servicing payments for the 77 poorest countries in the world as they wage an economic battle against coronavirus. An estimated $12 billion was due to be paid between 1 May and the end of 2020. This provides significant fiscal space to provide a fiscal stimulus for the governments of the poorest countries. As noted above, other extraordinary and time limited measures need to be considered to make IFI resources more affordable and available to low income and other countries most likely to suffer large increases in extreme poverty.

[10] http://www.ugogentilini.net/?p=849

[11] https://theconversation.com/coronavirus-how-pakistan-is-using-technology-to-disperse-cash-to-people-in-need-134873

[12] Most large-scale government and humanitarian cash transfers are already delivered through private sector financial service providers – banks, mobile money operators and hawalas. These institutions can function as delivery channels for humanitarian and social protection programmes, but also remain an option for direct, at-scale delivery of assistance in some contexts.

[13] https://www.gsma.com/sotir/wp-content/uploads/2020/03/GSMA-State-of-the-Industry-Report-on-Mobile-Money-2019-Full-Report.pdf

[14] http://www.cashlearning.org/downloads/future-of-financial-assistance-report-fullfinal.pdf

[15] https://blogs.worldbank.org/nasikiliza/a-game-changer-the-prospects-and-pitfalls-of-mobile-money-in-somalia

Domestic resource mobilization in low-income countries is on average 15 percent and the capacity to raise any additional resources is limited as a result of the economic slowdown.

Official Development Assistance (ODA), currently amounting to more than $150 billion a year, will need to be increased on a one-off basis to fill much of the financing gap for low-income countries beyond what the IFIs could do. That requires around $30 billion, as a one-time only 20 percent increase in ODA for the next 12 months. The alternative is to deal with the likely spill-over effects over many years to come, which would prove much more expensive.

4. **Additional consideration not included in the above analysis: Vaccination costs $8.3bn**

The crisis will only definitively come to an end if there is an effective and widely available vaccine. There are three sets of costs associated with this:

Vaccine development costs $ 1.1bn: According to the WHO, there are two clinical trials underway and more than 50 vaccine candidates in clinical evaluation. Some of the work is being financed by the private sector. Through investing at scale in the likely candidates now with some public money, the timescale for the availability of a vaccine might be advanced. The Coalition for Epidemic Preparedness Innovations (CEPI) estimates that it will cost $2 billion to develop a vaccine, So far they have raised less than half [$915mn] towards this goal

Vaccine purchase $7bn: One of the commercial organization developing a vaccine is Johnson & Johnson, and if their COVID-19 vaccine effort is successful, the company has said they will sell it on a not-for-profit basis, suggesting a price of $10 per dose. Meeting the vaccination costs for 700 million people in low income countries and/or humanitarian settings would on this basis costs $7 billion. One way to finance this is to fully fund Gavi's replenishment base case scenario of $7.4 billion and establish a supplementary process to fund the procurement of COVID-19 vaccine for Gavi countries, plus potentially some other subset of non-Gavi LMICs. Gavi is a natural channel for procuring COVID-19 vaccine for Gavi countries given its extensive experience in this area. In addition, Gavi could serve as the mechanism by which to procure vaccine for LMIC non-Gavi countries. Fully funding Gavi's base case replenishment scenario is critical to ensuring that it is prepared to support the effort on COVID-19 while protecting existing investments in routine immunizations in LMICs.

Vaccine delivery $0.2bn: The Immunization Delivery Cost - the costs associated with delivering immunizations to target populations, exclusive of vaccine costs – is on average $0.28. This will likely be primarily implemented by humanitarian actors.