

Supporting the COVID-19 response in Asia and the Pacific—The role of the Asian Development Bank.

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Abstract and Policy Implications

The COVID-19 pandemic has affected all countries of the Asia Pacific region over the last few months with far reaching economic, health and social consequences. To counter the impact, governments have accelerated their health spending and announced large macroeconomic stabilization and stimulus policy packages. As with past disasters and crises in the region, the Asian Development Bank has reacted with a number of targeted support interventions since the very early stages of the outbreak. In mid- April 2020, the Bank then put forward a comprehensive COVID-19 Response Package totalling \$20 billion to support its member countries which rests on four pillars.

The last few months have proven that multilateral development banks like the Asian Development Bank have the ability to respond quickly and to mobilize significant resources for a global emergency like COVID-19. Whilst this financial supported is urgently needed at this point, attention will need to be paid on how debt sustainability for low- and middle-income countries can be ensured in the coming years. Given the unprecedented scale of and uncertainty around the COVID-19 pandemic, it may offer a window of opportunity to redesign the way developmental finance is coordinated and the way it is delivered. This also includes a chance to "build back better" and to focus on a sustainable, resilient and green recovery.

1. Introduction

On 31 December 2019, the Wuhan Municipal Health Commission in Hubei province, People's Republic of China (PRC), reported a cluster of pneumonia cases of unknown aetiology (Wuhan City Health Committee 2019). What seemed initially to be a localized health emergency in Wuhan has since then evolved in a global health pandemic later named COVID- 19 with severe consequences in almost all countries across the world. This short paper will focus on its impact in the Asia Pacific region. It will give a brief overview of the economic and social consequences of COVID-19 in this region and discuss the response provided by the Asian Development Bank (ADB)¹, a multilateral development bank (MDB) headquartered in Manila.

2. The economic and social impact of COVID-19 in Asia Pacific

The COVID-19 pandemic has spread into and affected almost all countries of the Asia Pacific region over the last few months. Exceptions are selected islands states in the Pacific such as Vanuatu, Samoa or Kiribati that proactively and early cut off all cross-border travel connections

¹ Please see Box 1 for some background information.

to the surrounding countries and by doing so, successfully managed to stop the virus entering the country. Whilst they have avoided the direct health impact so far, it has not spared them from the other consequences that can currently be witnessed across all Asian and Pacific economies and come as a result of the often far reaching policies aimed at containing the virus by limiting movement and encouraging social distancing. The effects included sharp declines in consumption and investment, disruptions in trade and production, a drastic drop in tourism and adverse effects on health systems and societies.

Box 1: ADB: An important development partner in the Asia Pacific region

ADB was founded in 1966 as an MDB headquartered in Manila, Philippines. The bank was setup as financial institution that would be Asian in character and foster economic growth and cooperation in what was then one of the poorest regions in the world. Since then, both the bank and the region have changed dramatically.

The Asia Pacific region has gone through a tremendous growth trajectory, with several countries having transitioned to middle- and high income status. At the same time, unfinished development agendas remain in the region such as poverty and vulnerability, persistent inequality, effects of climate change, growing environmental pressures, and large infrastructure deficits. Overall, the region is still home to around 40% of the world's extreme poor (ADB 2018: 4).

ADB has evolved from its initial focus on promoting food production and rural development to a bank supporting development projects across all sectors although with a continuing focus on infrastructure and energy which currently still makes up almost half of its lending portfolio (ADB 2020b). The number of member countries has grown from 32 to 68 and the capital base expanded from \$4.6 billion in 1968 to \$147 billion in 2019. Operations are currently undertaken in 47 of its so-called Developing Member Countries (DMCs). Under its most recent strategy, Strategy 2030, ADB has committed itself to undertake strong efforts to eradicate extreme poverty and expand its vision to achieve a prosperous, inclusive, resilient, and sustainable Asia and the Pacific (ADB 2018).

Having worked in the region for over 50 years, ADB has a reputation of understanding the needs of its DMCs and to use its comparative advantage of providing financing for public infrastructure and public goods and complementing its loans with essential technical expertise and best practice approaches to development. The Bank provides non-concessional and concessional loans, grants, technical assistance (TAs) and other financial modalities such as guarantees or equity investments. Its combined sovereign and non-sovereign operations reached \$37.7 billion in 2019. This included \$21.6 billion in loans and grants, \$237 million for TAs as well as \$11.9 billion from cofinancing partners (ADB 2020b: 13).

In the past, the Bank has played a vital role in providing financial support and coordination effort during disasters and crises in the region. Examples include the Asia Financial Crisis 1997-98, the Indian Ocean Tsunami 2004-05, the Pakistan Earthquake 2006-07 or the Global Financial Crisis in 2008-09.

Projections about the overall economic impact of the COVID-19 outbreak in terms of decline in gross domestic product (GDP) have continuously been adjusted. ADB has closely monitored the situation and already released three sets of estimates (ADB 2020a). The first was published on 6 March 2020 and suggested a global impact ranging from \$77 billion to

\$347 billion representing 0.1% to 0.4% of global GDP. Back then, it was expected that two-thirds of the global impact would be located in the PRC, where the outbreak had been concentrated in the first few weeks. When ADB's second set of updated estimates was released on 3 April 2020, published estimates were already significantly higher, ranging from over \$2.0 trillion to \$4.1 trillion (i.e. 2.3% to 4.8% of global GDP) with most of the impact now accruing to economies outside the Asia Pacific region. Developing Asia, a group of 45 countries in the Asia-Pacific region, would still bear 22%–36% of the decline, depending on the scenario used. In its latest update of May 2020, ADB put the impact of COVID-19 between \$5.8 trillion to \$8.8 trillion (6.4% to 9.7% of global GDP). Developing Asia is now projected to grow by only 0.1% in 2020. This will be the lowest regional growth outcome since 1961.

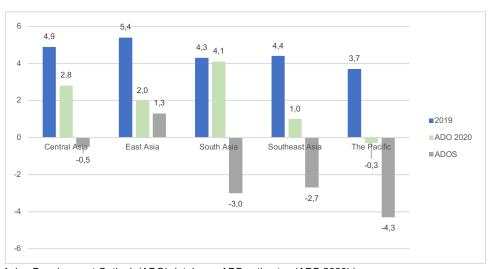


Figure 1: Projected GDP impact in the Asia Pacific region

Source: Asian Development Outlook (ADO) database; ADB estimates (ADB 2020h).

Note: ADO = estimates for 2020 according to ADO database as of April 2020, ADOS = estimates for 2020 according to ADO database supplement as of June 2020.

To counter the effects of the economic downturn, governments accelerated their health spending. ADB estimates that health interventions for Asia alone will cost between \$82 billion to \$115 billion (ADB 2020a: 12). Countries also announced a variety of macroeconomic stabilization and stimulus policy packages. Measures include payroll support to keep jobs, cash transfers and distribution of supplies to the poor, extension of loans as well as tax assistance to businesses.³ The total volume of these policy support packages is estimated to amount to \$3.4 trillion, equivalent to 14.1% of GDP in the developing Asian economies. By subregion, East Asia recorded the largest package (15.6% of GDP), followed by Southeast Asia (11.4% of GDP), South Asia (11.1% of GDP), the Pacific (7.2% of GDP), and Central and West Asia (6.6% of GDP) (ADB 2020e). These will help to counteract some but likely not all of the adverse impacts of the COVID-19 pandemic that will be affecting, disproportionately, the poor and vulnerable.

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² ADB's latest estimate is more than double the World Bank's 16 April 2020 estimate of a 2%–4% decline in global GDP, and higher than the IMF's April 2020 World Economic Outlook estimate of 6.3% decline in global GDP.

³ ADB has set-up a COVID-19 Policy Database for a more detailed overview of governments' responses across the region that categorizes policies by differences in operational details and/or financial statement effects. The database identifies three key channels: (i) providing liquidity; (ii) encouraging credit creation by the financial sector; and (iii) direct funding to households, businesses, and/or state/local/ regional governments (ADB 2020e).

The COVID-19 crisis is likely to cause the first increase in global poverty since 1998 but significant uncertainty about the ultimate impact remains (Kharas and Hamel 2020). Calculating global poverty is never an easy task. Even under "normal" circumstances, one would rely on different assumptions about growth forecasts and how such economic growth will impact the poor. In the midst of a global pandemic of an unknown scale, understanding the different variables and their relationships has become even more challenging. All of this goes to say that estimating how much global poverty will increase because of COVID-19 still contains a lot of uncertainty as evident in the range of scenarios available (e.g. World Bank 2020, ADB 2020a, World Economic Outlook 2020).

An analysis by Sumner, Hoy and Ortiz-Juarez (2020) estimated the potential short-term economic impact of COVID-19 on global monetary poverty through contraction in per capita household income. The authors worked with three scenarios – low, medium, and high global contractions of 5, 10 or 20% and calculated the impact of each of these scenarios on the increase in poverty headcount using the international poverty lines of \$1.90, \$3.20 and \$5.50 per day.

Figure 2: Estimates of the short-term impact of COVID-19 on global poverty headcount according to different international poverty lines

Contraction in per capita income	\$1.90	\$3.20	\$5.50
5%	80m	130m	124m
10%	180m	280m	250m
20%	420m	580m	520m

Source: Estimates based on Sumner, Hoy and Ortiz-Juarez (2020)

How this will trickle down on a per country level depends on various factors. So far, the places where the virus seems to be having the biggest effect on poverty is related primarily to two factors: i) the impact of the virus on economic activities and ii) the number of people living close to the international poverty line. In Asia, whilst poverty in most countries is likely to increase, it is expected to surge dramatically in middle-income developing countries such as India, Pakistan, Indonesia and the Philippines where many people just recently moved out of poverty (Mahler et al. 2020). Consequently, and despite the large amount of financial support provided by individual governments, supplementary funding by development partners will be needed.

3. ADB's COVID-19 Comprehensive Response Package

Since the very early stages of the COVID-19 outbreak, ADB has made a number of targeted interventions to help its member countries take rapid action. On 18 March 2020, ADB announced a \$6.5 billion package to address the immediate needs of its DMCs as they respond to the COVID-19 pandemic. The initial package included approximately \$3.6 billion in sovereign operations for a range of responses to the health and economic consequences of the pandemic, and \$1.6 billion in non-sovereign operations for micro, small, and medium-sized enterprises, domestic and regional trade, and firms that are directly impacted. ADB also announced to mobilize about \$1 billion in concessional resources through reallocations from ongoing projects and assessing possible needs for contingencies. Last but not least, it also made available \$40 million in TA and quick-disbursing grants (ADB 2020d).

In the weeks that followed, it became clear that this initial package will not be enough to address the evolving impacts of the crisis in the Asia Pacific region properly and to avoid severe recessions in many economies, large-scale declines in development expenditure and substantial backtracking in social development gains. This would put a risk the gains made in poverty reduction in the region over the last decades.

As a result, on 13 April 2020 – less than four weeks after the initial response – ADB put forward a COVID-19 Response Package which would increase the total size of its response to about \$20 billion. This included making available additional regular ordinary capital resources (OCR)⁴ of up to \$13 billion to finance countercyclical expenditure packages of governments and to allocate additional grant and TA resources.

Approved at the same time as the funding package, ADB has also made a number of changes to policies and business processes that will allow to respond quickly and effectively to the crisis. These include measures to streamline internal business processes, widen the eligibility and scope of various support facilities, and make the terms and conditions of lending more tailored.

ADB's response can be divided into four pillars:

A. Quick disbursing grants for immediate needs

These include rapid support grants for emergency purchase of personal protective equipment and supplies for strengthening public health measures done in close collaboration with a wide range of partners such as the World Health Organization (WHO), UNICEF, and others. A large part of these activities are channeled through a \$48.3 million regional TA (TA to Address the Outbreak of Coronavirus Disease 2019⁵) which is also supported by partners such as the PRC Poverty Reduction and Regional Cooperation Fund and the Republic of Korea e-Asia and Knowledge Partnership Fund. Another important vehicle has been the Asia Pacific Disaster Response Fund (APDRF) which provides quick-disbursing grants of up to \$3 million each to meet immediate expenses. Established in 2009, this Fund was set up to assist ADB's DMCs in meeting immediate expenses to restore life-saving services to affected populations following a declared disaster and in augmenting aid provided by other donors in times of natural crisis. The scope of this Fund has been adjusted to also include health pandemics such as COVID-19. Until the end of June 2020, ADB has provided \$18.5 million of grants to various countries in the Asia Pacfic region under APDRF.

B. COVID-19 Pandemic Response Option under ADB's Countercyclical Support Facility

A significant part of ADB's response has been focused on providing general support to countries in their macroeconomic response. To channel this support, ADB introduced the so-called COVID-19 Active Response and Expenditure Support (CARES) Program funded through the COVID-19 pandemic response option (CPRO) under its Countercyclical Support Facility (CSF) to provide rapid-disbursing budget support. Again, an existing instrument – the CSF – was adjusted to respond to the new requirements given the rapid spread of COVID-19

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⁴ Loans from ordinary capital resources (OCR) is one of ADB's main channels to provide financing to its DMCs. Regular market-based OCR loans are generally made to DMCs that have attained a higher level of economic development while concessional OCR loans are made to lower-income DMCs.

https://www.adb.org/projects/54079-001/main#project-overview

across borders, ensuring that all DMCs have the necessary resources to act quickly and finance critical development expenditures. Access to CSF was expanded to all DMCs under the CPRO option and CSF terms and conditions were made less onerous. Per end of June 2020, country specific CPRO response packages have already been approved by ADB's Board for fifteen countries for a total of \$9.1 billion with additional cofinancing from partners totalling \$5.1 billion. More CPROs are due to be processed in the coming weeks.

Uzbekistan 500 1500 Thailand Tajikistan **=** 50 Kyrgyz Republic **=** 50 Kazachstan 1000 1500 Philippines Pakistan 500 Mongolia 100 Maldives Nepal 250 1500 Indonesia 1500 India Georgia 100 Bhutan Bangladesh 500 200 400 600 800 1000 1200 1600 1400

Figure 3: CARES Programs approved by ADB's Board until 30th June 2020 (in \$ million)

Source: ADB 2020e;

C. Concessional loans and grants under existing modalities

In addition to the new CPRO option, ADB has also been providing financial support under its existing – and partly amended – modalities such as expanding the scope of the Contingent Disaster Financing (CDF) under its policy-based lending options to also include health-related emergencies. Under CDF, loan processing and essential DMC policy dialogue and reforms are completed before a natural hazard occurs, with disbursements made upon satisfaction of pre-agreed disbursement conditions. Such an arrangement normally enables ADB to engage in up-front and in-depth policy dialogue on disaster resilience and preparedness in collaboration with DMCs, and quickly provide necessary budgetary resources following a disaster. This was now also made applicable for health emergencies to help DMCs enhance their future financial and institutional preparedness, and to enable DMCs that have taken proactive measures to establish CDFs to leverage them for COVID-19 response.

Other financial support can be provided under the established windows of market-based or concessional OCR loans or grants, e.g. through additional financing for existing health or social protection projects, e.g. in Mongolia, the Philippines or the Greater Mekong subregion. The total volume of approved projects under this pillar has reached around \$1.0 billion per end of June 2020.

D. Financial support for the private sector

The economic and financial consequences of the COVID-19 pandemic on the private sector are expected to be profound and widespread. Non-sovereign support will especially be required to (i) provide short-term working capital to companies involved as frontline responders to the pandemic; and (ii) extend financing more broadly as the private sector faces lower demand, constrained supply chains, and reduced access to finance from banks and the capital markets. ADB's private sector support in view of COVID-19 can be split into project-specific and revolving programs. Additional funds and amendments have been made to existing programs such as the Microfinance Risk Participation and Guarantee Program (MFP), the Supply Chain Finance Program (SCFP) and the Trade Finance Program (TFP) to help local banks and companies address the new needs in light of the economic downturn which is affecting existing supply chains and reduce liquidity in the trade finance market.

A significant increase in demand has been recorded under the TFP, whose aggregate limit was increased from \$1.35 billion to \$2.15 billion to support projects that respond directly to, or address the economic impacts of, the COVID-19 pandemic. Further amendments were made for this program, e.g. the expansion of the safeguard categories and the use of local currency for loans and guarantees issued under the program. Since 1st of April 2020, the TFP supported more than 2,000 transactions valued at approximately \$1.8 billion and as such has been an important provider of liquidity in the Asia Pacific financial market (ADB 2020i).

When it comes to project-specific support, private sector loans under the COVID-19 response have been approved for various projects accumulating to \$100 million over the first six months of 2020. These include, amongst others, a CNY130 million (\$18.6 million) loan signed in February 2020 to Jointown Pharmaceutical Group Co. Ltd., the largest private pharmaceutical distributor in PRC with its headquarter in Wuhan, the capital of Hubei province and the epicentre of the COVID-19 outbreak. Another project is the \$20 million loan to China Gas Holdings Ltd. to support natural gas and liquefied petroleum gas deliveries to households, hospitals, industry, and services crucial to the ongoing response and the post-pandemic recovery in Wuhan and other affected areas in Hubei province (ADB 2020f and 2020g).

4. Early reflections & prospects

At the beginning of this year, very few of us could have foreseen what 2020 would bring. The short-term implications of this global challenge are evident everywhere, but the long-term consequences of the pandemic — e.g. what the overall health, economic and social impacts will be or how it will reshape development institutions, occupations, and priorities — are still difficult to imagine. At the end of July 2020, it is far too early to have the answers to these questions or to understand the impact of COVID-19 in its entirety. Still, we will make an attempt for some early reflections:

Whilst affecting countries around the globe, the COVID-19 pandemic will have disproportionate effects on low-income countries which already have weaker economic fundamentals, less fiscal space, and higher debt. The crisis will aggravate existing development challenges, and while governments have started to respond, the capacity of these countries is often tightly constrained. This calls for the international community to unlock ambitious support packages to prevent the loss of lives, contain the risk of aftershocks, and ensure investment in a sustainable recovery.

The last few months have shown that an impressive amount of resources can be mobilized for a global emergency like COVID-19. MDBs like ADB have proven their ability to respond quickly and have committed a combined amount of \$240 billion to fight the impacts of COVID-19 across the globe (S&P 2020: 2). Efforts have also been put in the coordination of the MDBs' responses. ADB has focused a significant part of its response on rapid-disbursing budget support for countries in the Asia Pacific region with its CARES programmes. These have been met with large demand from its DMCs. By doing this, ADB has also paved the way for other financing partners to come in and provide additional budget support, either parallel at the same time or at a later stage. Partners include amongst others the Agence française de développement (AFD), the Japan International Cooperation Agency (JICA) or the Asian Infrastructure Investment Bank (AIIB) which has set up its own COVID-19 Crisis Recovery Facility and has been providing budget support for the first time as a response to the crisis (AIIB 2020).

Whilst this financial supported is urgently needed at this point in time and is likely to be required beyond the next couple of months, it also begs the question of how countries can ensure their debt remains sustainable and how they do not risk sliding into a debt crisis down the line. Many governments are currently benefiting from borrowing costs that are at historical lows. In addition, G20 finance ministers announced a Debt Service Suspension Initiative in April 2020 allowing low-income countries to freeze official bilateral debt repayments due in 2020 to its member nations and members of the Paris Club, a group representing major credit countries. Nevertheless, attention will need to be paid to establish credible medium- to long-term fiscal plans that also put emphasis on improving revenue mobilization.

The COVID-19 pandemic may be providing us with a window of opportunity to redesign the way developmental finance is coordinated and the way it is delivered through encouraging deeper collaboration amongst those receiving, those providing and those facilitating the flows and implementation. This also includes a chance to put a strong and much needed focus on a sustainable, resilient and green recovery that goes beyond getting economies and livelihoods quickly back on their feet. Instead, international development cooperation and recovery policies should aim to incentivize investment and behavioural changes that will reduce the likelihood of future shocks and increase society's resilience to them when they do occur. Key elements for assessing whether recovery packages can "build back better" include alignment with long-term emission reduction goals, factoring in resilience to climate impacts, slowing biodiversity loss and increasing circularity of supply chains. MDBs with their experience, resources and networks are in a perfect position to support and coordinate these efforts. Or as ADB's President Masatsugu Asakawa put it: "The decisions we make now will create systems, institutions, and assets, and define development directions that will last well into the future" (ADB 2020j).

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The views expressed here are solely those of the authors in their private capacity and do not in any way represent the views of ADB.

List of References

ADB (2018). ADB Strategy 2030 – Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific. Available at:

https://www.adb.org/sites/default/files/institutional-document/435391/strategy-2030-main-document.pdf

ADB (2020a). An Updated Assessment of the Impact of Covid-19. Available at: https://www.adb.org/publications/updated-assessment-economic-impact-covid-19

ADB (2020b). Asian Development Bank - Investing in a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific. Available at:

https://www.adb.org/sites/default/files/institutional-document/191221/investor-presentation-202005.pdf

ADB (2020c). ADB's Comprehensive Response to the COVID-19 Pandemic. Available at: https://www.adb.org/documents/adb-comprehensive-response-covid-19-pandemic-policy-paper

ADB (2020d). ADB Announces \$6.5 Billion Initial Response to COVID-19 Pandemic. Available at: https://www.adb.org/news/adb-announces-6-5-billion-initial-response-covid-19-pandemic

ADB (2020e). ADB COVID-19 Policy Database. Available at: https://data.adb.org/dataset/adb-covid-19-policy-database

ADB (2020f). ADB Approves CNY130 Million Private Sector Loan to Support Coronavirus Response in PRC. Available at:

https://www.adb.org/news/adb-approves-cny130-million-private-sector-loan-support-coronavirus-response-prc

ADB (2020g). ADB Supports China Gas to Ensure Uninterrupted Gas Supplies to Combat COVID-19 in Hubei Province. Available at:

https://www.adb.org/news/adb-supports-china-gas-ensure-uninterrupted-gas-supplies-combat-covid-19-hubei-province

ADB (2020h). Asian Development Outlook – Supplement: Lockdown, loosening, and Asia's growth prospects. Available at:

https://www.adb.org/sites/default/files/publication/612261/ado-supplement-june-2020.pdf

ADB (2020i). COVID-19 Response: ADB Trade and Supply Chain Finance. Available at: https://www.adb.org/site/trade-finance-program/covid-19-response

ADB (2020j). ADB, GCF Commit to Partnership to Boost Green Recovery from COVID-19. Available at: https://www.adb.org/news/adb-gcf-commit-partnership-boost-green-recovery-covid-19

AIIB (2020). AIIB Doubles COVID-19 Crisis Response to USD10 Billion. Available at: https://www.aiib.org/en/news-events/news/2020/AIIB-Doubles-COVID-19-Crisis-Response-to-USD10-Billion.html

Da Silva, J. (2020). Avoiding the collapse of development finance. Available at: https://www.oecd-forum.org/posts/avoiding-the-collapse-of-development-finance

Kharas, H. and Hamel, K. (2020). Turning back the Poverty Clock: How will COVID-19 impact the world's poorest people?. Available at:

https://www.brookings.edu/blog/future-development/2020/05/06/turning-back-the-poverty-clock-how-will-covid-19-impact-the-worlds-poorest-people/

Mahler, D. et al. (2020). The impact of COVID-19 (Coronavirus) on global poverty: Why Sub-Saharan Africa might be the region hardest hit. Available at:

https://blogs.worldbank.org/opendata/impact-covid-19-coronavirus-global-poverty-why-sub-saharan-africa-might-be-region-hardest

OECD (2020). Developing countries and development co-operation: What is at stake? Available at: http://www.oecd.org/coronavirus/policy-responses/developing-countries-and-development-co-operation-what-is-at-stake-50e97915/

Sumner, A; Hoy, C. and Ortiz-Juarez, A. (2020). Estimates of the impact of COVID-19 on global poverty. Available at:

https://www.wider.unu.edu/sites/default/files/Publications/Working-paper/PDF/wp2020-43.pdf

Standards & Poor (2020). How Multilateral Lending Institutions Are Responding To The COVID-19 Pandemic. Available at:

https://www.spglobal.com/ratings/en/research/articles/200609-how-multilateral-lending-institutions-are-responding-to-the-covid-19-pandemic-11506035

World Economic Outlook (2020). A Crisis Like No Other, An Uncertain Recovery. Available at: https://www.imf.org/en/Publications/WEO/Issues/2020/06/24/WEOUpdateJune2020

World Food Program (2020). COVID-19 will double number of people facing food crises unless swift action is taken. Available at:

https://www.wfp.org/news/covid-19-will-double-number-people-facing-food-crises-unless-swift-action-taken

Wuhan City Health Committee (2019). Wuhan Municipal Health and Health Commission's briefing on the current pneumonia epidemic situation in our city 2019. Available at: http://wiw.wuhan.gov.cn/front/web/showDetail/2019123108989