VACCINE NEEDS ASSESSMENT

A. COVID-19 Pandemic and Emergency

1. **The global pandemic.** The coronavirus disease (COVID-19)¹ has spread rapidly from the People's Republic of China (PRC) in December 2019 to almost all countries in the world. The World Health Organization (WHO) declared the COVID-19 outbreak as a public health emergency of international concern on 30 January 2020, and as a pandemic on 11 March 2020 following local transmission outside the PRC based on criteria set out in the International Health Regulations (IHR).² New pandemics occur regularly and set into motion international and national measures to contain and mitigate the health and socio-economic impacts. The pandemic is far from over given low population immunity with currently up to half a million new cases and 10,000 deaths per day. COVID-19 mutations are likely to result in increased transmission in 2021. At this stage, it is unknown if the pandemic will result in herd immunity or, like influenza, will continue to mutate and cause new outbreaks.

2. As of 11 March 2021, about 118 million people have been diagnosed with COVID-19 and over 2.6 million have died from it. With limited testing capacity, the total number of infected persons is likely much higher. About 30% of COVID-19 infections are asymptomatic and about 60% are mild, especially among children and young adults. Only about 10% of those infected are serious enough to require hospital admission and of those about 5% will require intensive care, especially the elderly and patients with comorbidity like obesity, diabetes, cancer and cardiovascular diseases. The infection fatality rate is estimated at 0.5%–1.0% and the case fatality rate is about 2.0%–3.0% in capable hospitals.³ Case management remains mainly symptomatic but staff are learning how to better manage COVID-19 patients and several known medicines appear to reduce complications and speed up recovery.

3. The rapid increase in inpatients caused hospitals across the globe to be overwhelmed and hospital staff to become distressed, necessitating public measures such as social distancing, face masks, and lockdown measures. Lockdown measures caused major damage to the service sector and led to unemployment and poverty. Education and social life have been disrupted. The pandemic has triggered a global surge in vaccine development. Within less than a year, the first vaccines have become available and vaccination has started. This will help to reduce the COVID-19 burden and contribute to achieving herd immunity by 2022.

4. **The pandemic in Afghanistan**. Following events in PRC, the Government of the Republic of Afghanistan and WHO stepped up surveillance and prepared for initial response in January 2020. The first case of COVID-19, a migrant in Herat, was confirmed on 22 February 2020, followed by a first wave in May–June 2020 and a second wave started in late 2020. Most cases are reported from Kabul and other cities, likely reflecting more viral transmission in addition to more testing in urban areas. In June 2020, the Ministry of Public Health (MOPH) reported that it could only manage 2,000 COVID-19 tests per day (5%–10% of samples received). Testing capacity has improved, but underreporting is assumed, with only 314,516 people having been tested for COVID-19 out of the population of about 38.9 million (as of 11 March 2021). As of 11 March 2021, the government reported 55,917 cases and 2,451 deaths of COVID-19.⁴ The pandemic has spread nationwide with limited surveillance,

³ WHO. 2020. Estimating mortality from COVID-19. Scientific Brief. 4 August.

¹ COVID-19 is a zoonosis caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), one of three known corona viruses mainly transmitted by respiratory droplets and contact and causes respiratory disease epidemics with or without systemic complications. Unlike its predecessors, its virulence (disease producing power) is much higher due to high capacity to transmit between humans despite much lower pathogenicity than its siblings.

² World Health Organization. 2007. International Health Regulations (2005).

⁴ United Nations Office for the Coordination of Humanitarian Affairs and WHO. 2021. <u>Afghanistan—Strategic</u> <u>Situation Report: COVID-19.</u> No. 92. Kabul (11 March 2021).

control, and treatment capacity. A study by MOPH conducted in 2020 found that one-third of the population was likely to have been infected by COVID-19.

5. Since March 2020, the government has stepped up control measures with increased testing of persons including migrant workers returning from abroad, banning of public gatherings, public awareness campaigns, social distancing and handwashing, and closing of land borders and airports. Cities were put on lockdown as needed, and returning migrants were quarantined. By July 2020, the government initiated food distribution.

6. An analysis of studies up to August 2020 suggests that the global COVID-19 seroprevalence was about 3.4%, with overall a high prevalence in high income countries such as Sweden (15.0%).⁵ However, a seroprevalence survey conducted by MOPH in late 2020 showed that 31.5 % of population of Afghanistan has been infected, with 53.0% in Kabul. In neighboring Iran, the COVID-19 seroprevalence had already reached 17.1% by April 2020, with 72.6% in Rasht City.⁶ An Indian seroprevalence study reported an increase in COVID-19 seroprevalence of 10.0% in a 3-months period.⁷ This suggest that functional immunity may be reached by the end of 2021.

7. In March 2020, Afghanistan had 10,400 public hospital beds including around 3,100 designated COVID-19 beds with few intensive care units. Limited hospital services quickly became overwhelmed, services lacked equipment and supplies, and doctors protested and some resigned. In Herat province, 570 health staff had become infected with COVID-19. Forty out of 314 ventilators in Afghan public hospitals were reportedly not working, and oxygen was in short supply. With the help of development partners and the private sector, testing capacity, and the supply of hospital equipment, personal protective equipment, oxygen, and other commodities have improved. While the government and development partners are working to improve health services and take socio-economic measures, a fast and substantial vaccination program is critical to flatten and reduce the caseload curve of the health system.⁸

B. COVID-19 Vulnerability

8. **Stability and security**. The country is highly vulnerable to the COVID-19 pandemic. Afghanistan is classified as a fragile and conflict-affected situations (FCAS) country and is facing challenges with political fragmentation and divided control across the country. About one-third of the country is difficult to access for security reasons. Demand for health services has more recently declined as a result of this. Conflict-related events and battle related deaths have increased.⁹

9. **Socio-economic vulnerability**. Afghanistan's gross domestic product (GDP) is estimated to have contracted by about 5.0% in 2020 compared to a 3.9% growth in 2019 as a result of COVID-19 control measures. The government's fiscal deficit has increased further.¹⁰ A large part of the population works in the informal sector and depends on mobility for daily income. The World Bank estimated that the poverty rate increased drastically in 2020, with 61%–73% of people living below the national poverty line of about \$1 per day; a significant

⁵ A. Rostami et al. 2020. <u>SARS-CoV-2 Seroprevalence Worldwide: a Systematic Review and Meta-analysis.</u> *Clinical Microbiology and Infection.*

⁶ H. Poustchi et al. 2020. <u>SARS-CoV-2 Antibody Seroprevalence in the General Population and High-risk</u> <u>Occupational Groups Across 18 Cities in Iran: a Population-based Cross-sectional Study</u>. *The Lancet. Infectious Disease*.

⁷ M. Murhekar, et al. 2021. <u>SARS-CoV-2 Antibody Seroprevalence in India, August–September, 2020: Findings</u> from the Second Nationwide Household Serosurvey. *The Lancet. Global Health.*

⁸ United Nations Development Programme—Afghanistan. 2020. <u>Afghanistan COVID-19 Impact: Short Term</u> <u>Disruptions and Policy Considerations</u>. Kabul (15 April).

⁹ S. Mirzazada et al. 2020. <u>Impact of Conflict on Maternal and Child Health Service Delivery: a Country Case Study of Afghanistan</u> *Conflict and Health*. (14) 38.

¹⁰ International Monetary Fund. 2020. *World Economic Outlook: The Great Lockdown*. Washington, DC.

increase from 55% in 2016/2017.¹¹ There is also a high-level of food insecurity (45%) which is likely to have increased further in 2020.¹² Details are in the summary poverty reduction and social strategy linked document.¹³

10. **Connectivity and displacement**. Afghanistan has busy land-links in the region and air connectivity with the Middle East, India, and elsewhere for Haj and for educational, medical, business and employment opportunities. About 2.6 million refugees and 2.2 million economic migrants live abroad, mainly in Pakistan and Iran, contributing up to 17% of GDP.¹⁴ The outbreak resulted in the return of some half million migrant workers. Afghanistan has also about 2 million internally displaced persons, often living in crowded and unhygienic camps.¹⁵

11. **Health services coverage**. The sector's capacity to respond to the COVID-19 emergency is substantial. Essential primary care and hospital services are provided by nongovernment organizations (NGOs) in 31 provinces, and by MOPH in three provinces. This model is supported by the Sehatmandi project through the Afghanistan Reconstruction Trust Fund (ARTF) with leadership of the World Bank. This has management advantages but also risks discontinuation of services. The NGOs are facing serious staff constraints in rural areas due to a shortage of graduates, local conditions, and brain drain. In a few locations, NGOs have pulled out due to security concerns. But according to third party evaluations, overall coverage of health services is about 70% which is high given constraints.¹⁶ The National Expanded Program on Immunization (NEPI) is largely implemented through these NGOs that will also conduct COVID-19 vaccination, in addition to public and private services which are mainly located in the cities.

12. The maternal and child health and health services indicators in Afghanistan have been improving in the past 15 years (Table 1) but remain worse than in other countries in the region. Since 2014, there has been some slippage due to increasing security problems and declining financial assistance. The poor are less able to access health services given travel restrictions and transport costs. As hospitals have limited inpatient capacity, these services will quickly become overwhelmed if the virus spreads rapidly. Currently, there is little information on impact of COVID-19 on the delivery of essential health services. A COVID-19 vaccination program will likely result in decline of routine child immunization coverage.

13. **Health sector financing.** Total health expenditure was \$2.5 billion in 2018, or about \$67 per capita. About 75% of this is out of pocket spending, mostly on private services. About 55% of the people use public services. Domestic health financing has increased to 11% of total government spending, but given a small budget this amounts to about 15% of total health spending. The Afghanistan's aid for the public health sector has declined from about \$400 million to \$250 million between 2014 and 2018. It is estimated that in 2020 as a result of COVID-19, public health sector financing has doubled, thereby raising concern about absorptive capacity and sustainability.¹⁷

¹⁶ Royal Tropical Institute. 2019. Afghanistan Health Survey 2018.

¹¹ World Bank. 2020. <u>Afghanistan Development Update, July 2020: Surviving the Storm.</u> Washington, DC; and Government of Afghanistan, Central Statistics Organization. 2018. <u>Afghanistan Living Conditions Survey, 2016–</u> <u>17</u>. Kabul.

¹² Central Statistics Organization. 2018. *Afghanistan Living Conditions Survey 2016–2017*. Kabul.

¹³ Summary Poverty Reduction and Social Strategy (accessible form the list of linked documents in Appendix 2).

¹⁴ D. Garrote-Sanchez. 2017. International Labor Mobility of Nationals: Experience and Evidence for Afghanistan at Macro Level. Washington, DC: World Bank. About 6.5 million migrants have returned to Afghanistan since 2000. The outflow of migrants from 2006 to 2015 was about 600,000 or 7% of the total labor force. ¹⁵ OCHA. 2020. Humanitarian Needs Overview: Afghanistan

¹⁷ WHO. <u>Global Health Expenditure Database</u> (accessed 25 February 2021).

Indicator	2005	2010	2015	2018
1.Maternal mortality ratio (modelled estimate, per 100,000 live births)	1,140	954	701	638ª
2.Under-five mortality rate per 1,000 live births	108.5	88	70.4	62.3
3.Prevalence of underweight, weight for age (% of children under 5)	32.9 ^b	Na	24.3°	19.1
4.Pregnant women receiving any prenatal care (%, at least 1 visit)	30.3 ^d	59.6	58.6	Na
5.DPT immunization rate (% children 12-23 months)	58	66	65	66
6.Contraceptive prevalence rate (any method, % of women ages 15-49 years)	13.6	22.8	22.5	Na

Table 1: Afghanistan Health and Health Services Indicators

Na = not available

^a 2017, ^b 2004, ^c2013, ^d 2006

Source: World Bank. 2020. World Development Indicators for Afghanistan: <u>Maternal Mortality Ratio</u>; <u>Mortality Rate</u>, <u>Under 5</u>; <u>Prevalence of Underweight</u>, <u>Weight for Age (% of Children Under 5)</u>; <u>Pregnant Women Receiving Prenatal</u> <u>Care (%)</u>; <u>Immunization</u>, <u>DPT (% of children ages 12-23 months)</u>; <u>Contraceptive Prevalence</u>, <u>Any Methods (% of women ages 15-49)</u> (accessed 24 January 2021).

C. Initial Government COVID-19 Response

14. In March 2020, the MOPH, with relevant ministries, agencies, and partners, formulated the national emergency response plan (NERP) for coronavirus. The plan's goal is to reduce the COVID-19 spread, infection, and loss of life. Based on an assessment of the country's vulnerabilities and different COVID-19 scenarios, short-, medium- and long-term priorities were identified. The NERP details the core elements and the resource requirements to prevent, detect, and respond to the COVID-19 emergency. The initial NERP cost estimates for the health sector based on the high transmission scenario was \$936 million.¹⁸ About \$800 million in financing has been realized to date, about \$360 million as health sector projects and \$440 million as budget support. This already implies a doubling of the domestic health sector budget.

15. A high-level COVID-19 committee chaired by the President of Afghanistan provides national oversight and guidance. Multisectoral committees assess and address all dimensions of the COVID-19 emergency ranging from tax measures to handing out food and clothing. MOPH leads several technical sub-committees to oversee response in the health sector. MOPH and the National Statistics and Information Authority monitor the COVD-19 pandemic spread across the country, identify hotspots, adjust response, and prioritize resource allocations. The plan's health sector roll-out is summarized in Table 2.

Community MOPH has orchestrated COVID-19 public awareness campaigns and comm	nunity
	iuiiity
preparedness outreach across all urban and rural populations to ensure adoption of best	
and risk practices by government agencies, individuals, households, and communitie	es to
mitigation reduce and mitigate the spread of the disease. Local leadership is essential	
Enhanced Based on IHR, MOPH has intensified the national surveillance and response	e
surveillance system in health facilities, communities and at all ports of entry with addition	
and response staff, training, equipment and supplies, digital reporting, and mobile provinci	ial
response teams. The participation and support of local leadership is essent	ial.
Enhanced COVID-19 testing capacity has been enhanced with certified COVID-19	
laboratory laboratories at central and provincial levels and international quality assurar	nce.
testing Laboratories have been rehabilitated, equipped and supplied and staff have	been
trained. Private sector laboratories were also engaged. Testing capacity ren	nains
insufficient in many of the provinces due to a staff shortage.	

Table 2: National Emergency Response Plan Implementation in the Health Sector

¹⁸ Islamic Republic of Afghanistan, Ministry of Public Health. 2020. *National Emergency Response Plan for Coronavirus 2020*. March. Kabul.

Quarantine	Quarantine facilities have been used and proposed for Kabul and other major
facilities	cities in view of crowded conditions whereby self-isolation is not feasible.
COVID-19	Existing hospital facilities have been adapted to COVID-19 case management
treatment	wards and ICUs but are facing staff burn-out and shortages of supplies, and are
facilities	struggling to maintain isolation and waste management procedures.
Logistics	To ensure timely COVID-19 responsiveness, logistics planning, procurement and
support	monitoring systems have been enhanced. In view of the emergency situation, fast
	tracked procurement procedures are being applied using airfreight. Costs are
	being contained by combined international procurement using the United Nations.

COVID-19 = coronavirus disease, ICU = intensive care unit, IHR = International Health Regulations, MOPH = Ministry of Public Health,

Source: Ministry of Public Health. 2020. National Plan for COVID-19 Vaccination in Afghanistan. Kabul.

D. COVID-19 Vaccination Plans

16. At this point, not a single country has managed to fully control COVID-19, and it is not certain if COVID-19 will subside, or will return like influenza. In the meantime, the cost of the pandemic is enormous, and hits hardest in vulnerable and fragile countries like Afghanistan with a large poor population and food dependency. Effective vaccination would reduce the COVID-19 disease burden, achieve functional immunity, and thereby speed up socio-economic recovery.

17. The MOPH NEPI has released the National Plan for COVID-19 Vaccination in Afghanistan (NPCVA) following wide consultation at global, national, provincial, and local levels.¹⁹ It has been reviewed by the National Technical Committee and a final version has been released in early February. The Minister of Health chairs the Health Programme Oversight Committee responsible for implementation of NPCVA and coordinates the various national technical working groups (e.g., surveillance, vaccine procurement, cold chain, training, communication, quality assurance), NEPI, the National Regulatory Authority, and others. Similar coordination mechanisms exist at regional and provincial levels.

18. The NPCVA objectives are to (i) protect vulnerable groups from morbidity and mortality due to COVID-19 disease, (ii) interrupt transmission and outbreaks of COVID-19, and (iii) protect critical social and routine health services. The program aims to vaccinate at least 20% of the population by end of 2021, and possibly up to 60% and even more thereafter to possibly reach herd immunity. The National Technical Committee recommends priority to be given to (in order) (i) health workers, (ii) teachers, (iii) security personnel, (iv) prisoners, (v) people with co-morbidities, (vi) people over 50 years, (vii) nomadic people (viii) internally displaced people, (ix) returnees from countries with high prevalence, (x) government employees working with crowds, and (xi) people living in urban slums of big cities and for emergency uses.

19. The NPCVA provides a detailed budget and financing to reach 20%, 40% or 60% vaccination coverage, with estimated costs respectively at \$116 million, \$217 million, and \$319 million. ADB's proposed grant of \$50 million will support procurement and transportation of vaccines and capacity strengthening of the MOPH, and will fully complement assistance of other development partners. The MOPH is coordinating the health sector response with all partners—with WHO, United Nations Children's Fund (UNICEF), and the World Bank taking a co-leading role. The first round of vaccines for 16%–20% of the population will be financed through the COVID-19 Vaccines Global Access (COVAX) facility of Gavi, the Vaccine Alliance (GAVI) mechanism with \$84 million. This funding will also support distribution, strengthening of cold chains, provision of technical assistance, and capacity building. The World Bank is processing a project of \$113 million which includes \$50 million in cofinancing from the Afghanistan Reconstruction Trust Fund that will support vaccine procurement, other areas covered by GAVI, and delivery of vaccines to the population. Key support will also be provided

¹⁹ Ministry of Public Health. 2020. *National Plan for COVID-19 Vaccination in Afghanistan*. Kabul.

by UNICEF and WHO, which will support procurement and distribution of vaccines, training, and service delivery and administration of vaccines to the population; and other partners.20

Table 3: Vaccination Delivery Plan		
Vaccination	Vaccination is to be delivered through the existing immunization services for women and children, which is to be continued. MOPH plans to contract and train 2,000 persons to add to the current 4,454 vaccinators ensuring gender balance with 50% of all vaccinators being women. Special arrangement will be required to ensure the safety of health staff. Innovative options will be considered to improve access (e.g., using mobile clinics), and to overcome vaccine hesitancy (e.g., using incentives).	
Vaccines	Five vaccines have been approved for emergency use that would trigger a strong immune response following two injections 3-6 weeks apart. The vaccines are considered safe for adults and teenagers, and safety and efficacy trials for pregnant women and young children are ongoing. Recent evidence suggests that the vaccines are also effective against current viral mutations. Vaccines differ in terms of level of innovation, testing, storage, and price.	
Cold chain and waste management	The national level, 7 regions, and most of the 27 provinces have storage facilities for vaccines up to minus 20 degrees Celsius. Health centers can store vaccines within the range of 2 to 8 degrees Celsius. This limits the choice of vaccines that can be used. Disposable syringes and needles with safety boxes will be recollected for disposal.	
Communication plan	The NPCVA includes a community engagement and communication plan with a wide range of largely untested methods and a protocol for reporting an adverse event following immunization (AEFI). This should receive professional support as an underrated, and potentially sensitive and costly part of the plan.	
Quality control	The NPCVA has standard plans, protocols and reporting requirements to inform, manage and screen potential recipients of the vaccine, and ensure the quality of vaccines, vaccination, and handling AEFI.	

Table 3: Vaccination Delivery Plan

MOPH = Ministry of Public Health, NPCVA = National Plan for COVID-19 Vaccination in Afghanistan. Source: Ministry of Public Health, National Plan for COVID-19 Vaccination in Afghanistan, and World Health Organization.

E. International and Development Partners Response

20. The NERP and NPCVA were prepared by MOPH respectively in March and November 2020 in coordination with all relevant ministries, institutions, provinces, and partners. A final version of NPCVA has been released in early February. The NPCVA follows the format of the Vaccine Introduction Readiness Assessment Tool (VIRAT) of WHO and UNICEF, and the Vaccine Readiness Assessment Framework (VRAF) of the World Bank, and is aligned with the WHO Strategic Advisory Group of Experts on Immunization (SAGE) recommendation on global COVID-19 policies and strategies for vaccine development and vaccination programs.²¹ Afghanistan is a member of the COVAX, one of the three pillars of the Access to COVID-19 Tools (ACT) Accelerator²² to accelerate the development and manufacture of COVID-19 vaccines, and to provide a global platform and risk-sharing mechanism for pooled procurement and equitable distribution of COVID-19 vaccines. As a beneficiary of the COVAX Advanced Market Commitment (AMC) mechanism, Afghanistan has the guarantee to access to vaccines for its priority target groups with an aspirational goal of 20% of the population.

21. For the past 20 years, partners in the Afghanistan health sector have successfully managed what amounts to a sector program approach with support of the ARTF. This

²⁰ The Government of India has confirmed a donation of 500,000 doses of the AstraZeneca vaccine manufactured by the Serum Institute of India, which will be used for medical workers and teachers.

²¹ The NPCVA considers WHO Strategic Advisory Group of Experts on Immunization (SAGE) recommendation for the selection of target groups: to protect those vulnerable to morbidity and mortality, to stop transmission by super spreaders, and to maintain essential services.

²² The Coalition for Epidemic Preparedness Innovations (CEPI), GAVI, WHO, and the World Bank.

experience has been used in the preparation of the NPCVA (e.g., logistics, staff training, community engagement, mobile clinics). NGOs contracted as service providers have confirmed their readiness to help roll out the vaccination program. The proposed COVID-19 funding is shown in the linked document.²³

F. **ADB** Assessment and Response

22. On 7 January 2021, the Government of Afghanistan requested ADB for \$50 million for COVID-19 vaccination and capacity building. It requested support for vaccines, in-country distribution, and technical assistance. ADB's support will provide financing to procure vaccines through the COVAX AMC facility with UNICEF support, as well as procurement of vaccines by UNICEF outside of the COVAX AMC facility. It will also procure safety boxes, syringes, and other items required for the administration of the vaccines and finance international and national logistics and related services required for the transportation of vaccines from the place of purchase to designated delivery points. ADB support will further finance transportation support from the national store in Kabul to regional and provincial vaccine store centers and to other designated points of delivery to support the overall COVID-19 vaccine rollout under the NPCVA, including for vaccines procured by other development partners (such as GAVI through the COVAX AMC), and support strengthening the capacity of the MOPH to effectively and efficiently manage vaccine implementation. ADB support fully complements assistance of other development partners and will be needed as early as possible as it will be an important element of the overall implementation of the NPCVA. For ADB financed vaccines, the major challenges for vaccination will be in rural areas, including the provision of vaccination services given staff constraints, access and affordability issues, vaccination hesitancy, and security. These may need to be mitigated or may result in part of the target populations not being reached.

ADB's focus in Afghanistan is on economic growth, employment, and livelihoods 23. through improving the supporting infrastructure and connectivity in the transport sector, energy sector, and in water resource management, irrigation, and agricultural sector development.²⁴ ADB provided a \$40 million emergency assistance grant, under which, 8 hospitals are being constructed and are expected to be completed by April 2021, and urgently needed medicines and medical equipment were delivered and oxygen concentrators distributed to all 34 provinces in the second half of 2020.²⁵ The remaining 12 hospitals will be constructed or rehabilitated by the end of 2021 (adding over 1,150 new beds). ADB has also provided a \$100 million grant through its COVID-19 Active Response and Expenditure Support Program (CARES),²⁶ aimed at reducing the overall social and economic impacts of COVID-19. In doing so. ADB has demonstrated value added in terms of its complementary financing to fill gaps. administrative expertise, regional cooperation expertise, and in-depth understanding of local development processes, and is considered a trusted partner.

²³ Development Coordination (accessible from the list of linked documents in Appendix 2 of the report and recommendation of the President).

²⁴ ADB. 2017. Country Partnership Strategy: Afghanistan, 2017–2021— Achieving Inclusive Growth in a Fragile and Conflict-Affected Situation. Manila. ²⁵ ADB. 2020. Proposed Grant to Islamic Republic of Afghanistan for the Emergency Assistance for COVID-19

Pandemic Response. Manila.

²⁶ ADB. <u>Afghanistan: COVID-19 Active Response and Expenditure Support Program</u>.