

THE REALITY OF COVID-19 VACCINATION IN BANGLADESH:

QUESTION OF INFORMATION
ACCESSIBILITY, EQUITY,
ACCOUNTABILITY, AND
TRANSPARENCY



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VACCINE EQUITY, TRANSPARENCY, AND ACCOUNTABILITY IN ASIA:
Realities and Dilemmas

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PART I: INTRODUCTION

1.1. State and trends of COVID-19 vaccination in Bangladesh

The COVID-19 pandemic in Bangladesh worsened economic, social, and political problems. With a population of 169.4 million people when vaccines were first introduced, vaccination was deemed the only long-term solution for COVID-19 prevention. When the first three confirmed COVID-19 cases were found in Bangladesh on 8 March 2020 (Arifeen, 2021), the country set strict self-isolation rules. The Institute of Epidemiology, Disease Control, and Research (IEDCR), a research institute under the Ministry of Health and Family Welfare (MoHFW), began looking into COVID-19 cases and tracking down contacts to stop the disease from spreading.

The Cabinet Secretary of the Government of Bangladesh (GoB) issued a special “general leave”¹ from 26 March to 30 May 2020 before extending it seven more times (Shammi et al., 2021). The GoB used the word “lockdown” for the first time in June 2021, indicating the strict nature of the restriction and the surging rate of COVID-19 cases. At first, the government announced that it had put the country on complete lockdown for seven days (Kashem, 2021); but every week, it extended the lockdown for seven more days. In June 2020, the GoB divided the country into three zones — “red”², “yellow”³, and “green”⁴ — based on the severity of the outbreak in each zone (The Daily Star, 2020). Still, more than 11 million people left Dhaka to return to their home districts, making the disease more likely to spread nationwide (Shammi et al., 2020).

Bangladesh is one of the largest refugee-hosting countries in the world; COVID-19 caused catastrophic consequences in these camps (Hopman et al., 2020). The GoB and foreign aid organisations took preventive measures to address this in Cox’s Bazar refugee camps. Despite the precautions, the first two cases of COVID-19-infected refugees were identified on 20 May 2020 (Anwar et al., 2020b).

The GoB’s goal, as of October 2020, was to vaccinate 14 million people, or 80% of the

¹ It was considered a public holiday; all public and private sector services were halted except for emergency services, such as hospitals, medical and diagnostic centres, fire and civil defence, and police stations. Grocery stores and bazaars remained open but maintained significantly fewer crowds during this period (Mamun ²⁰²⁰).

² The most infected areas were flagged as red zones: “Outside the capital, areas with ten confirmed cases per 100,000 people were categorised as Red Zone” (Hoque, 2020).

³ Areas with 3-19 cases per 100,000 people were categorised as yellow zones.

⁴ Areas with fewer than three cases per 100,000 people were categorised as green zones.

population, in two years (Kashem et al., 2020); however, the goal was subsequently reduced to 70% (Nizam Uddin Ahmed, personal communication, 5 January 2023). The National Deployment and Vaccination Plan (NDVP) for COVID-19 under the Expanded Programme on Immunization (EPI) relied heavily on advice from the WHO's Immunization and Vaccine Development (IVD) team from the World Health Organization (WHO), which has worked closely with senior government officials and important partners in Bangladesh. The GoB began developing the NDVP with a budget of USD 196.7 million. The NDVP outlines the GoB's strategy for procuring, distributing, implementing, and keeping track of the COVID-19 vaccine(s), including criteria for prioritising access. The WHO National Immunization Technical Advisory Group's recommendations are incorporated into various policies and gazette directives that support these initiatives. The NDVP's planned priority of vaccine access aligns with the framework for inoculation recommendations developed by the WHO's Strategic Advisory Group of Experts on Immunization (SAGE). With help from the Bangladesh Asia Pacific Vaccine Access (APVAX) facility, the GoB put the NDVP into place in 2021 (BanglaNews24.com, 2020). The vaccination program is divided into three phases that rest on the GoB, the MoHFW, the Directorate General of Health Services (DGHS), and the EPI in Bangladesh.

Bangladesh started administering COVID-19 vaccinations on 27 January 2021, but its mass vaccination drive began on 7 February 2021, with more than 328,000 people registered at that time (Kamruzzaman, 2021) in over 1,000 vaccination centres. As of May 2022, over 250 million doses had been administered, and over 115 million people had received two doses of the vaccine ("Bangladesh's COVID-19," 2022). As of May 2022, over 250 million doses had been administered, and over 115 million people had received two doses of the vaccine ("Bangladesh's COVID-19," 2022). By early June 2021, less than 4% of Bangladesh's population had received two doses; one year later, the number had exceeded 68%.

According to the COVID-19 Vaccine Tracker⁵, a total of nine types of vaccines were approved in Bangladesh as of 2 December 2022 ("Bangladesh's COVID-19," 2022).

⁵ The COVID-19 vaccine tracker is run by associate professor Nicole E. Basta and Professor Erica E. M. Moodie, at the Department of Epidemiology and Biostatistics in the School of Population and Global Health at McGill University, along with their COVID-19 team of experts in epidemiology, vaccinology, public health, infectious diseases, biostatistics, and related fields. The database draws on publicly available data sources, and it has been updated until ⁴ March 2023.

Table 1: Approved vaccines in Bangladesh

Vaccine name	Vaccine origin	Administered status
COVOVAX (Novavax formulation)	Serum Institute of India (SII)	Not administered
Moderna	Moderna (US)	Administered
Pfizer	Pfizer Manufacturing Belgium NV	Administered
Sputnik V	Generium Joint Stock Company (Russia)	Not administered
Sinopharm	Beijing Institute of Biological Products Co. Ltd (China)	Administered
Coronavac	Sinovac Life Sciences Ltd (China)	Administered
Janssen (Johnson & Johnson)	Janssen Vaccines (Netherlands) ⁶	Administered
AstraZeneca	Oxford University (UK) and AstraZeneca (UK, Sweden)	Administered
Covishield (Oxford/ AstraZeneca formulation)	Serum Institute of India (SII)	Administered

Source: COVID-19 Vaccine Tracker, Bangladesh, 4 March 2023

Even though Bangladesh had met its goal of vaccinating 81.0% of its total population of 169.4 million people by 25 February 2023, there still needs to be more information about what was purchased, how it was distributed, and how much the country spent on the pandemic. According to WHO reports, there were 29,445 deaths and 2,037,738 confirmed cases of COVID-19 between 3 January 2020 and 17 February 2023. A total of 350.5 million vaccine doses had been given as of 13 February 2023 ("Bangladesh: WHO Coronavirus Disease (COVID-19) Dashboard with Vaccination Data," 2023).

⁶ Janssen Vaccines is the parent company of Janssen Pharmaceuticals, a subsidiary of the American company Johnson & Johnson.

Table 2: Number of vaccines administered⁷

Vaccine	Administered			
	First dose	Second dose	Third dose	Forth dose
Oxford-AstraZeneca	20,769,467	19,505,767	160,004,193	1,341
Pfizer	22,604,496	21,482,695	31,698,931	788,983
Sinopharm BIBP	56,689,472	55,075,652	1,610,654	342
Pfizer-BioNTech	18,840,614	8,116,168	0	0
Sinovac	27,591,818	25,594,008	8,121,809	0
Janssen	--	58,1542	0	0
Moderna	3,778,926	3,547,557	8,481,643	0
Total	150,274,793	133,903,389	65,943,550	750,666

Source: Health Information Unit MIS, DGHS, the Ministry of Health and Family Welfare of Bangladesh, updated 25 January 2023

Table 2 shows that only seven types of vaccines have been administered in Bangladesh, whereas nine types of vaccines were approved for use (see Table 1). Bangladesh received BDT12 trillion (approximately USD1.12 billion) from the World Bank (USD500 million) and the Asian Development Bank (ADB) (USD940 million) to buy and ship COVID-19 vaccines in May 2021. However, this money could not be used to purchase Russia’s Sputnik V vaccine, which has yet to be approved by the WHO (The Daily Prothom Alo, 12 May 2021). The WB and ADB prohibit the purchase of vaccines without the approval of the WHO. Even though Sputnik and Covidshield were approved for use, there are no clear reasons why they were not used in Bangladesh.

⁷ https://old.dghs.gov.bd/images/docs/vpr/20230125_vac_all.pdf?fbclid=IwAR0E87hbLcqvqJrF6PnAim7j4EyAG3wx9g473eRco4i3V176KdGzc4TrPSw

1.2. Countries that assisted with vaccine supplies

The US, other bilateral partners, and the global COVAX facility⁸, have given free vaccines to Bangladesh (U.S. Relations With Bangladesh - United States Department of State, 2022). However, the GoB also bought vaccines from Chinese and Indian manufacturers through bilateral agreements and the COVAX Cost Sharing Facility. On 5 November 2020, the GoB, the Serum Institute of India (SII), and Bangladesh’s Beximco Pharma signed a tripartite agreement, wherein SII sent 30 million doses of the Oxford-AstraZeneca vaccine to Bangladesh through Beximco. Each dose cost USD4 (Rahman, 2021). However, the SII only provided seven million doses within the first two months of 2021, and India provided 3.2 million doses of the Oxford-AstraZeneca vaccine as a gift. Bangladesh was anticipated to receive five million doses monthly, but no shipments were made between March and April 2021 (“Bangladesh’s COVID-19 Vaccine Stock to Run Out in One Month,” 2021). Due to a vaccine ban at the SII in March 2021, it was unclear if people would get vaccines from there. Because there was no alternative source, the ongoing vaccination program in Bangladesh was stopped, and the GoB decided that no more first doses of the Oxford-AstraZeneca vaccine would be given after 26 April 2021 (“Bangladesh Running Out of Vaccines,” 2021).

On 27 April 2021, Bangladesh’s medicines regulator said that the Sputnik V vaccine from Russia could be used in an emergency. Although 40 million doses were ordered from Russia, they still had yet to arrive in Bangladesh as of March 2023 (Paul, n.d.). On 29 April, Bangladesh’s drug regulator also approved the Sinopharm BIBP vaccine from China for emergency use, after which Bangladesh ordered 15 million doses of the vaccine. Moreover, 500,000 doses were also given as gifts. China tried to use this help to get what it wanted; it warned Bangladesh not to join the Quad Alliance and said that Dhaka’s membership in the “anti-Beijing club” would cause “substantial damage” to bilateral relations (“Bangladesh receives,” 2021).

The overwhelming majority of the people of Bangladesh have received vaccines from China. By June 2022, approximately 87.7% of all vaccines administered were from China (Sinopharm and Sinovac), compared to 6.8% from the US (Moderna, Pfizer, and J&J), and 5.4% from India (SII) (“Who Won the Vaccine Diplomacy in Bangladesh? CGS,” n.d.). Bangladesh spent USD741 million to buy vaccines from China against an overall budget of USD940 million for vaccine purchases (Zahir, 2022). According to Health Minister Zahid Malek, the government spent about BDT400 billion (USD3.7 billion) on COVID-19 vaccines and the vaccination program. The health minister said, “we have given 10.2 million doses of vaccines in one day, which is a record [...] So far, we have administered approximately 220 million vaccines [...] Out of this, I have given 12.5 million doses of the first, 8.5 million doses of the second, and 5 million doses of the booster dose.” (The Daily Prothom Alo, 10 March 2022).

⁸ COVAX is led by the Coalition for Epidemic Preparedness Innovations (CEPI), GAVI, the World Health Organization (WHO), and UNICEF. Its goal is to speed up the development and production of COVID-19 vaccines and ensure that all countries worldwide have fair and equal access.

1.3. Research methodology

Two focus group discussions (FGDs) were held in Dhaka and Chottogram, where most indigenous peoples and Rohingya refugees live. Also, to get first-hand information, eight key informant interviews (KIIs) were held with medical professionals, rights activists, lawyers, journalists, and people from government institutions. The information gathered from the KIIs aided in understanding the GoB's practical implementation of the vaccine rollout campaign, and the problems that arose despite the Government's efforts to immunise its citizens.

The FGD and KII participant details are provided below:

Table 3: Respondents of the Dhaka FGDs

Name	Affiliation	Date
Mr. Shafiqul Alam	Bureau Chief, AFP	3 Dec 2022
Anonymous 1	Journalist, The Daily Star	3 Dec 2022
Dr. Mehjabeen Moushumi	Duty doctor, CCU, Dhaka Medical College, and Hospital	3 Dec 2022
Dr. Lokman Hossain	Uttra Adhunik Medical College Hospital	3 Dec 2022
Mr. Saimum Reza Piash	Senior Lecturer, BRAC University	3 Dec 2022

Table 4: Respondents of the Chottogram FGDs

Name	Affiliation	Date
Dr. Sujan Barua	District Health Superintendent, Chottogram	27 Dec 2022
Dr. Bidduth Barua	Deputy Director, Chottogram Medical University; Founder, Chottogram Field Hospital	27 Dec 2022
Dr. Md Abdur Rob	Medicine Specialist, Chottogram General Hospital	27 Dec 2022
Mr. Abu Azad	Staff Correspondent, The Business Standard	27 Dec 2022
Mr. Imam Hossain Raju	Staff Reporter, Dainik Purbokone, Chottogram	27 Dec 2022
Ms. Runa Ansery	Divisional Broadcast Journalist, Deepto TV	27 Dec 2022

Table 5: Respondents for KIIs

Name	Affiliation	Date
Dr. Kamran Mehedi	Senior Program Officer, Center for Vaccine Innovation & Access (CVIA) at PATH	2 Jan 2023
Dr. Tajul Islam A Bari	Infectious Diseases Division, International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)	2 Jan 2023
Dr. Nizam Uddin Ahmed	Executive Director, Shastho Shurokkha Foundation; Vice Chair, GAVI CSO Steering Committee	5 Jan 2023
Dr. Iftekharuzzaman	Executive Director, Transparency International Bangladesh	27 Dec 2023
Anonymous 2	Journalist, The Daily Prothom Alo	27 Dec 2023
Dr. Md. Tanvir Hossen	Deputy Program Manager, Expanded Programme on Immunization	7 Jan 2023

PART II: ON INFORMATION ACCESSIBILITY

Since 2011, Bangladesh has used the District Health Information Software 2 (DHIS2) to manage health data electronically⁹, rather than on paper. The technological shift in information management was also seen when the country released two websites to keep its citizens updated with COVID-19 vaccine information. These government-led websites were the COVID-19 Vaccination Dashboard for Bangladesh (15 February 2023) and the Shurokkha website and app¹⁰. The first gives the most up-to-date information on vaccination status. It includes the vaccine brand, number of doses given, gender of the recipient, divisions and districts covered, and the trend in vaccine administration over time.

The second website tells people how to get vaccinated, who is eligible, how to register, and their vaccination status. Although these websites have been important national public health information sources, many people in Bangladesh lack Internet access and awareness of these web platforms. There were approximately 52.58 million Internet users in Bangladesh in January 2022 (Kemp, 2023), meaning that 112.58 million people (United Nations projections, Bangladesh population 1950-2023, 2022) were offline. Also, Islam et al. (2021) found that people only knew a little about vaccines in December 2021 and that their attitudes suggested they were unwilling to get the COVID-19 vaccination.

2.1. Information accessibility regarding vaccines

Bangladesh is still the leading country that receives vaccines through COVAX, and UNICEF is a critical partner in supporting these imports. UNICEF also provides technical assistance for the COVID-19 Vaccination Dashboard for Bangladesh. Until 2 December 2022, the COVID-19 Vaccine Dashboard “offered transparent, readily available, and thorough information on COVID-19 vaccine development and approvals around the globe, including Bangladesh” (“Bangladesh – COVID-19 Vaccine Tracker,” n.d.). The COVID-19 Vaccination Dashboard for Bangladesh has all the information about how vaccines are given out in Bangladesh (“COVID-19,” n.d.). The information in this dashboard comes from the Health Emergency Control Center, using DHIS2. The dashboard shows the doses that people get. Every vaccine has a batch number.

Bangladesh” (“Bangladesh – COVID-19 Vaccine Tracker,” n.d.). The COVID-19 Vaccination Dashboard for Bangladesh has all the information about how vaccines are given out in Bangladesh (“COVID-19,” n.d.). The information in this dashboard comes

⁹ DHIS2 is the most common software used to build health programs for individuals or a national Health Management Information System (HMIS).

¹⁰ <https://surokkha.gov.bd/>

from the Health Emergency Control Center, using DHIS2. The dashboard shows the doses that people get. Every vaccine has a batch number.

The EPI oversees all vaccine rules, including COVID-19 vaccines.¹¹ The EPI is required to keep documents about the distribution of vaccines. WHO and UNICEF established the “Vaccine Logistics Committee,” under the control of the EPI, as the disease’s spread accelerated (UNICEF, 2021). This EPI used the Surokkha app, leaflets, community announcements, mosque loudspeakers, vans, and press conferences to get the word out about mass vaccinations, even though it did not have many people to help (Md. Tanvir Hossen, personal communication, 7 January 2023).

The Directorate General of Health Services¹² (DGHS) is the primary source of official vaccine information. Since the campaign’s inception on 7 February 2021, the DGHS has issued press releases about vaccination (Paul, n.d.). At first, the information was limited to the centre’s name, the total number of dosage recipients, and the proportion of male and female vaccine recipients. On 25 May 2021, information about the vaccine name became available. The distribution of AstraZeneca-Covishield, SinoPharm, and Pfizer, the centres where they were provided, and the total number of people vaccinated there were accessible in granular and open data form. On 27 January 2021, Bangladesh’s Department of Information and Communication Technology (ICT) publicly launched a web portal named Surokkha in English and Bengali to carry out the initial registration procedure for two doses of COVID-19 vaccines. The health department devised a vaccination plan and a web-based registration process.

When Bangladesh started giving out the Oxford AstraZeneca COVID-19 vaccine on 27 January 2021, more than 328,000 people signed up (Kamruzzaman, 2021). Users of the Shurokkha website could register to receive the new coronavirus vaccine. However, this website can only note vaccines, collect information about vaccinations, and give certificates in English and Bengali. It has no information about how vaccines are bought, when they expire, or how much they are used. Despite claims that the app version would go live in the Google Play Store on 4 February 2021, users faced

¹¹ The EPI was started as a test project in Bangladesh on 7 April 1979. It is now the most successful government project in the country. The Directorate General of Health Services (DGHS) of the MoHFW ensures that the routine public immunisation schedule and immunisation campaigns are safe and current. Development partners like UNICEF, the WHO, and GAVI help the EPI with important parts of the vaccine program, such as service delivery, vaccine advocacy and communication, surveillance, vaccine supply, quality, logistics, and program management. With help from UNICEF, the government buys vaccines for EPI. The government also works with the WHO and other development partners to plan and run the immunisation program. It is critical to strengthen the “Vaccine Logistics Committee”, through which the EPI oversees vaccine distribution, as well as the EPI headquarters’ ability to establish and manage vaccine programs across the country for both routine vaccinations and those related to COVID-19.

¹² Bangladesh’s MoHFW includes the DGHS. This agency oversees health program implementation, management, policy planning, and administration. The ministry also receives technical support from DGHS. In 1958, Pakistan created the DGHS Directorate, which became the Directorate General in 1980. Two Additional Director Generals help the Director General run the DGHS, and line directors, deputy directors, assistant directors, medical officers, other officers, and support staff assist him in all of his duties.

difficulty downloading it for the first few weeks (The Daily Prothom Alo, 28 January 2021).

After registering at the Surokkha website, the appropriate vaccine centres first send registrants' information to the assigned hospitals. Depending on their daily capacity, the centres will text people to schedule appointments for vaccination using the DGHS software.

According to DGHS Director General Professor Nasima Sultana, however, people who register might not receive the shot on the registration day (The Business Standard, 5 February 2021). As registrations ramped up, the nation's vaccine waiting list grew exponentially. One of the leading daily newspapers reported that approximately 7.5 million people were in line for the vaccine, and 17.2 million people had registered but were still on the waiting list for vaccinations, an increase of ten million in just 12 days (Rahman, 2021). The FGDs in Dhaka and Chottogram suggested that the situation worsened when India stopped shipping to Bangladesh, putting 1.3 million people at risk of not getting their second dose. Due to a widespread crisis in Dhaka and other cities in August 2021, many people who needed the COVID-19 vaccine could not get it. Many people at various vaccination centres waited for hours despite receiving text messages from the relevant authorities regarding vaccination on the day in question. Others claimed they could not enter their centres due to excessive crowding and mismanagement. Contrary to the announcement by the DGHS, the majority of vaccination centres in several districts ceased administering the second dose in mid-August 2021, citing a shortage of the necessary vaccines.

The government opened in-person registration for Bangladesh's planned village-level COVID-19 vaccination to mitigate the digital divide. Potential vaccine recipients were asked to bring their national identity cards to the vaccination centres for registration and then be vaccinated immediately ("Walk-in vaccination centres in rural Bangladesh are likely," 2021). A similar program was offered to Dhaka slum residents. According to the FGD participants in Chottogram, the registration process for the vaccination program there was online, favouring privileged sections of society. As a result, people with Internet access could only register with the help of others. Dr. Iftekharuzzaman also mentioned the survey results from Transparency International Bangladesh (TIB), which showed that 74.4% of people who got a vaccine had to get help from someone else to sign up. In comparison, 25.6% could register online alone (Personal communication, 27 December 2022). At some vaccination centres that began in-person registration, this was cancelled due to complaints about service disruption (Bangladesh Stops on the Spot Registration at COVID-19 Vaccination Facilities, 2021). A big part of the problem is that online sites like Shurokkha could be more user-friendly. At the same time, village residents have union information centres, but people in urban slums or low-income neighbourhoods do not. "There is injustice in receiving a vaccination", said Professor Bay-Nazir Ahmed, formerly in charge of disease control at the Department of Health (The Daily Prothom Alo, 27 February 2021).

2.2. Informed consent and vaccine ethics

Consent forms are included in Bangladesh's guidelines for health professionals. However, consent forms in Bangladesh still need to improve, including by providing basic information on the document signatory's consent. The consent clause only has five short terms, which limits the administrator's responsibilities. For instance, one of the terms states, "I accept that the vaccine-related information has been explained to me face-to-face and online." Normal parts of written consent forms that discuss the risks, benefits, and effects of vaccines are not in the terms. The consent form also calls for the writer to say they have no known allergies, meaning nobody checks their medical history before administering the vaccine.

A department head at Bangabandhu Sheikh Mujib Medical University (BSMMU), who requested anonymity, told the media, "A standard consent form has much information about the medicine or vaccine. However, the consent form I signed did not include it. Nobody informed me of these risks when I registered." (Corona Vaccine Consent Form in the Country Is Incomplete, 2021). In the same way, a pharmacology professor at BSMMU said that the consent form needs to be changed immediately because it does not say anything about vaccinations (The Prothom Alo, 31 January 2021).

In speaking about the inadequacies of the consent form, Saidur Rahman said, "a form of immunity is given in the consent form". Vaccines' risks and side effects should be made explicit. A person can only consent after being adequately informed regarding the subject matter; it cannot be assumed that someone knows because they agree to the terms of the vaccine, which say that they have been told about the vaccine both online and in person. Rather, it needs to be clarified while registering online and on the form, and there needs to be more clarity regarding who gives face-to-face explanations (Modol, 2021).

2.3. Information accessibility on vaccine costs and procurement processes

Government data about vaccines, like which ones were bought, how they were bought, prices, expiration dates, and batch numbers, were not available, were kept secret, and could only be accessed by filing a Right to Information (RTI) application under the Right to Information (RTI) Act of 2009. It can take months or years to get data through an RTI. Most information about where the vaccines were bought, how much they cost, when they expire, and other details are spread out in many different publications; the researchers obtained it from anonymous sources. Even though government representatives attended meetings on vaccinations, their distribution, and their procurement, the outcomes of these sessions and a press release prevented journalists from reporting on them. Journalists had to confidentially gather information from unnamed sources (Interview 2, personal communication, 7 January 2023).

In response to a reporter's question about vaccine prices and total expenditures, the Health Minister said that the vaccines are bought under non-disclosure agreements (NDAs), so their costs cannot be shared (Correspondent, n.d.). In the end, the MoHFW did say how many vaccinations had been bought, and all of them had been bought with the approval of the Prime Minister, the CCGP, the Finance Department, and the

Ministry of Law (What was the cost of buying corona vaccine, what the health minister said, n.d.). However, even this information has not appeared on the government's website.

2.4. Information accessibility on waste management of COVID-19 vaccines

Bangladesh had poor medical waste management even before the pandemic, and at least 14,500 tons of medical waste were produced nationwide in April 2020 due to COVID-19 (Al Amin, 2020). Vials, syringes, sharps (needles), plastic packets (sometimes containing sharps and syringes), Personal Protective Equipment (PPE), and packaging materials (plastic, cardboard, and paper) were the primary waste types produced (Akter et al., 2021).

The Medical Technologists-Expanded Programme on Immunization (MT-EPI) conducted training in 495 of Bangladesh's Upazila (sub-districts) on how the vaccination program would be conducted, under the auspices of the GoB, including on "Waste Removal and Things to Do after Session" (Rayhan et al., 2022). The "MT-EPI Handbook on COVID-19 Vaccination" contains the details on vaccination waste disposal. However, this handbook remains unavailable, as does information about vaccine expiration or wastage (Dr. Tajul Islam A Bari, personal communication, 2 January 2023).

PART III: ON ENSURING EQUITY

Table 6: Three phases of COVID-19 rollout in Bangladesh

Phase	Stage	Population (%)	Population (number)
1	I.a.	3	5,184,282
	I.b.	7	12,096,657
2	II	<20	<34,561,877
3	III	<40	<69,123,754
	IV	<80	<138,247,508
TOTAL			138,247,508

Source: Government of Bangladesh, Ministry of Health and Family Welfare (MoHFW), Directorate General of Health Services (DGHS), 2021; National Deployment and Vaccination Plan for COVID19 Vaccines in Bangladesh, 3 February 2021. Dhaka.

Bangladesh tried to follow the SAGE Values Framework for COVID-19 during its vaccination rollout ("WHO SAGE Values Framework for the Allocation and Prioritization of COVID-19 Vaccination," 2020). However, it could only achieve a subset of the target framework due to the scarcity and nature of the vaccines (Dr. Tajul Islam A Bari, personal communication, 2 January 2023). As time went on, Bangladesh got better at storing vaccines and was able to make up for the shortage.

In May 2020, the GoB published a National Preparedness and Response Plan for COVID-19. Bangladesh was among the first countries to submit a comprehensive NDVP. At first, the GoB focused on high-risk groups, such as health workers directly involved in the COVID-19 response, frontline workers, and patients with weak immune systems. Later, it slowly expanded to other groups, such as the elderly, adults with comorbidities, education sector employees, and transportation workers (Kashem et al., 2020).

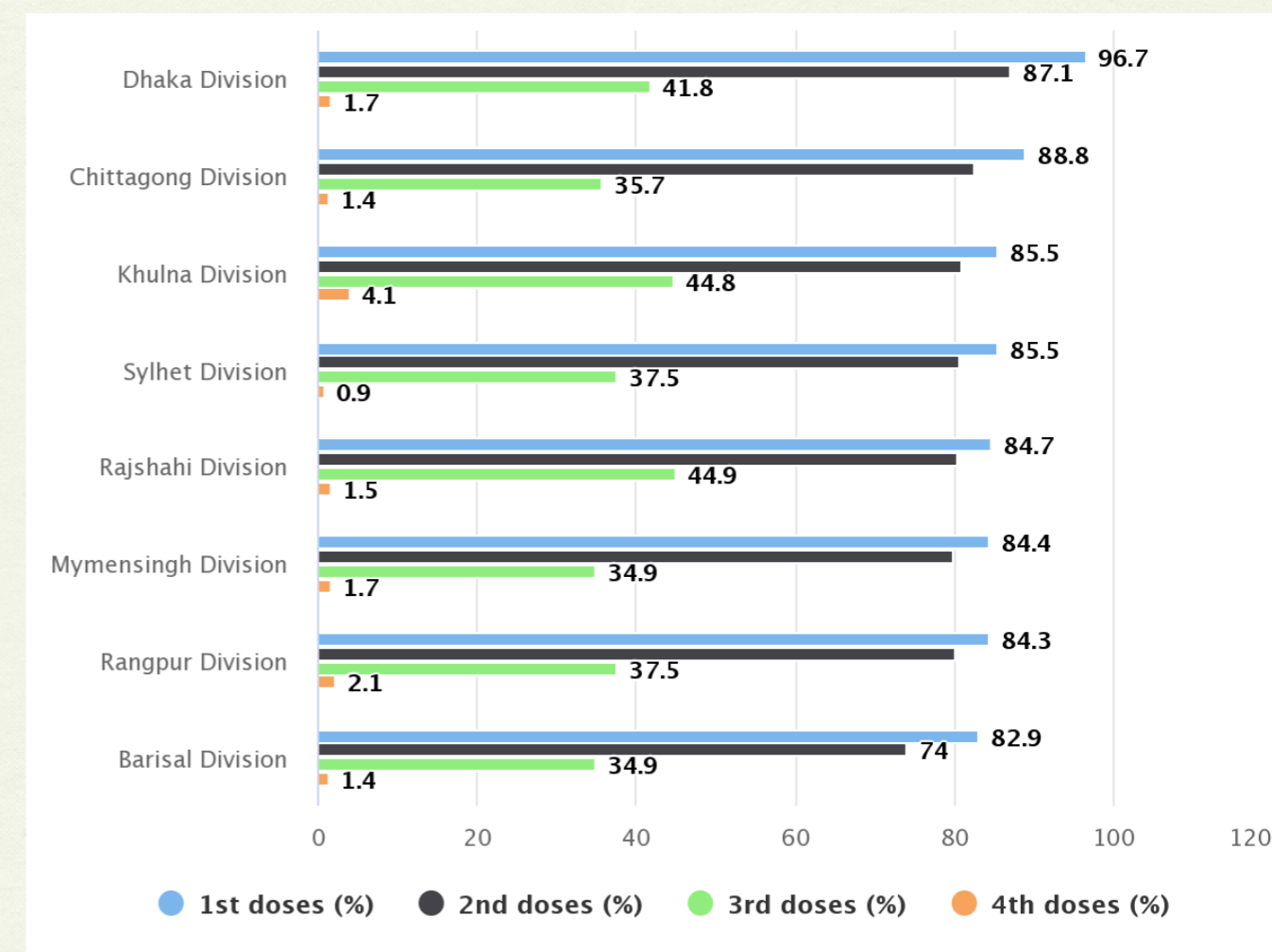
Table 6: Three phases of COVID-19 rollout in Bangladesh

No.	Group
1	Government health workers
2	Non-government health workers
3	Freedom fighters (Mukti Bahini)
4	Member of the law enforcement forces
5	Members of the force involved in preventative measures
6	Essential staff for state management
7	Elected public representatives
8	Media personnel
9	Employees of the city corporations and municipalities
10	Religious representatives
11	Employees involved in burial services
12	People involved in essential care
13	Employees in sea-rail-airports
14	Government employees from the ministry level to upazilas
15	Bank employees

Source: All your questions regarding the COVID-19 Vaccine, Bangladesh Rural Advancement Committee, 2020.

Daily national newspaper Prothom Alo said that migrant workers, medical students, residential students at government universities, and law enforcement officers would get priority vaccinations (The Prothom Alo, 21 January 2021). For this purpose, different ministries were tasked with preparing a recipient list (Tasneem et al., 2021). However, sanitation workers, trash collectors, cleaners, and other informal workers who were exposed to the virus were left behind. This is a clear example of unfairness.

Chart 1: Percentage of vaccination coverage by administrative division as of 2 February 2023



Source: DHIS2, 2023.

As seen in Chart 1, people in all eight divisions received at least the first dose of the vaccines,¹³ but declining rates of coverage for subsequent doses. The GoB websites only provide data on the total number and percentage of people in a division who received a dose; there is no specific information about how many vaccines were given to vulnerable groups.

Bangladesh achieved progress in providing at least one dose of a vaccine to its population. However, some suggest that vaccines were not given to vulnerable people (Transparency International Bangladesh, 2022). Although a policy brief from the Centre for Peace and Justice showed survey data suggesting positive trends in vaccine outreach to marginalised populations in June 2021, with 81% of respondents familiar with the government-run immunisation campaign that began in February

¹³ The administration of Bangladesh is divided into eight divisions.

2021 (“Voices from the Margins Building Evidence for Inclusive Policy Responses to COVID-19 in Bangladesh — Bangladesh,” 2022), only 60% of respondents believed that their immunisation was adequate.

Even though the survey found encouraging trends in vaccination outreach, it also found issues related to the online registration procedure, the insufficiency of the mass immunisation programme, and stigma (Centre for Peace and Justice, 2021). The respondents of the Centre for Peace and Justice survey were worried about how vaccines would work and their potential side effects, causing people to be hesitant about getting vaccinated. Moreover, rural areas’ lack of technological access delayed the registration process. The Health Minister told people in the local government that people were encouraged to get vaccinated by sending letters and giving instructions over the phone (Al-Masum Molla, 2021). The GoB took the initiative to involve community healthcare centres and union digital centres; however, its efforts were insufficient to reach remote areas (Tasneem, 2021).

The most common reason people were unwilling to be vaccinated was “distrust” of the vaccine (BRAC Institute of Governance and Development, 2021). Several studies have shown that people in urban slums are not interested in becoming vaccinated (Centre for Peace and Justice, 2021; BRAC Institute of Governance and Development, 2021). Another issue was the lack of inclusion of marginalised communities, specifically in remote areas. Because of their marginalisation, these community members often must comply with orders or strict national policies without being able to participate in or fully consent to the policy-making and implementing process. They lack information about why specific guidelines or policies are made. Also, it was noted that people in these communities were more likely to believe false or misleading information because of how they thought about the government in general. All of these issues arose during the pandemic.

On the other hand, it was clear that these communities relied heavily on their local leaders and communication methods to get policy and information and act on it. (Centre for Peace and Justice, 2022). Many people did not know they had to follow such a policy because it needed to be explained better. Other studies suggest that disinformation about the COVID-19 vaccination — including the idea that vaccines alter humans’ DNA — negatively impacted people’s perceptions (Nizamuddin Ahmed, personal communication, 7 January 2023).

In 2021, the MoHFW sought assistance from NGOs and foreign organisations to reach out to people living in remote areas. For instance, PATH helped the MoHFW to conduct a vaccination campaign in the hard-to-reach Kurigram district, where they vaccinated 65,000 people in two days (Kallen, 2022). Also, the WHO gave technical advice, built up Bangladesh’s ability to coordinate, and helped build up the Rohingya community’s readiness for a safe and effective vaccine rollout (“WHO Coronavirus Disease (COVID-19) Dashboard,” 2020).

Because of the COVID-19 situation in India, there was a shortage of the Oxford-AstraZeneca vaccine for the vaccination campaign in Bangladesh. The government allocated COVAX assistance to immunise the Rohingya community living in Cox’s Bazar.

The GoB did not initially include the Rohingya population in the national vaccination campaign when it was started in early February 2022, because of the vaccine crisis in India; however, later on, the GoB signed a revised version of the NDVP that included the Rohingya population as a target group, using the same progressive strategy as for the host community (WHO- South-East Asia, Bangladesh, 2021).

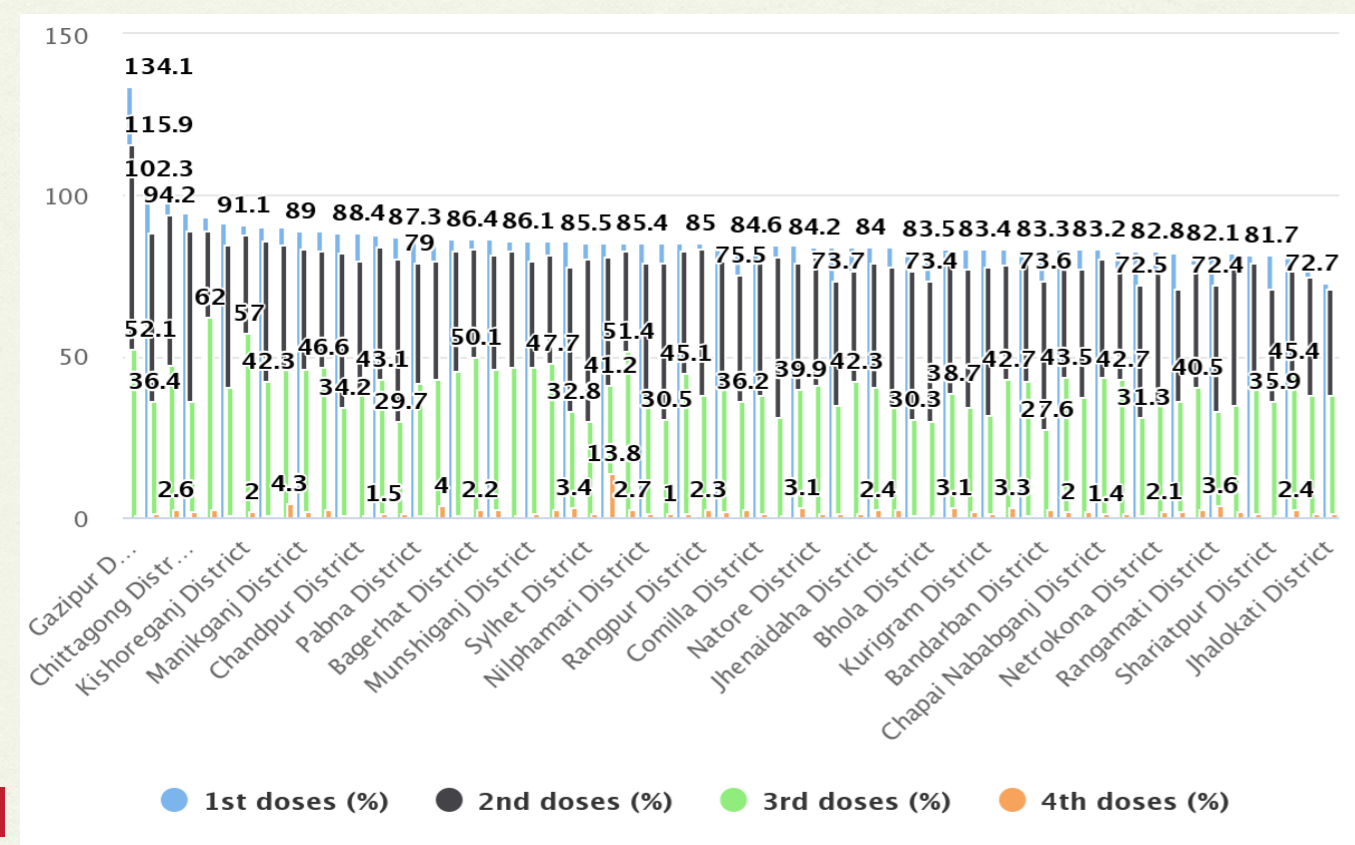
Bangladesh was one of the first countries to vaccinate refugee children and adolescents. In June 2020, more than 110,000 Rohingya refugee children and adolescents residing in Cox’s Bazar camps received their first dose of COVID-19 vaccination (UNHCR Press Release, 2022). According to an IOM report (Khandaker, 2022), the Bangladesh National Committee on COVID-19 Vaccination said the COVID-19 vaccine would be given to the Rohingya living in Cox’s Bazar as part of the NDVP in July 2021, with priority given to those 55 years or older. Approximately 33,386 refugees in this age group received two vaccines during the first phase of the vaccination campaign in August-September 2021 (IOM, UN Migration, 2021). On 1 December 2021, the GoB initiated the second phase of COVID-19 vaccination for all Rohingya refugees 18 years and older (IOM UN Migration, 2021). In collaboration with the WHO and others, between August 2021 and February 2022, the GoB ensured that 88% (379,320) of the Rohingya population over 18 received the vaccine.¹⁴ A third vaccination campaign, held in May 2022, aimed to vaccinate anyone under 18 without a first or second dose; during this time, another 44,766 people received their shots in only eight days. According to the WHO, 83% of people aged 18 and over have already received two doses of the vaccination (WHO, South-East Asia, Bangladesh, 2022). This data shows that Bangladesh took the initiative in vaccinating its displaced populations.

The transgender¹⁵ (popularly known as Hijra in Bangladesh) community also faced difficulty registering for the COVID-19 vaccine. The Hijra community has been left out as its members do not have birth certificates or national identity cards (NID). The DGHS stated in August 2021 that authorities would arrange vaccines for the Hijra community if any organisation or community directly approached the MIS of the DGHS (Deepto, 2021). NGOs played a significant role in vaccinating the transgender community; they went door to door with vaccines to immunise these people, who were not able to get vaccines from the vaccine centres because they were not able to register for the COVID-19 vaccine due to complexities related to birth certificates or national identity cards. The FGD in Chottogram, on the other hand, suggested that steps were taken to vaccinate the Hijra community. (Focus Group Discussion, Chottogram, 20 December 2022)

¹⁴ People under the age of 18 were yet to get the first or second dose of the COVID-19 vaccine.

¹⁵ “Transgender” refers to a person who transitions their identity from man to woman or woman to man.

Chart 2: Percentage of first, second, third, and fourth doses of vaccines administered, by district, as of 2 February 2023



Source: DHIS2, 2023.

The information helps to show how doses were administered. The COVID-19 vaccination dashboard for Bangladesh in Chart 1 shows how many people got their doses out of the total population in each division. Chart 2 depicts the percentage of vaccine coverage in each of Bangladesh’s districts.

In August 2022, Bangladesh started its vaccination campaign for school children ages 5-11 (Sakib, 2022). Children under five years old are yet to be included. In Bangladesh, 33,192 out of an estimated 3-3.3 million children did not receive vaccines. However, the number of zero-dose children¹⁶ is lower than other lower-income and higher-income countries of South Asia. The GoB has proposed a research study to resolve the issue (Md. Tanvir Hossen, personal communication, 7 January 2023).

Ensuring vaccine equity in Bangladesh has faced challenges. However, the GoB and other actors took the initiative to vaccinate Rohingya communities living in camps in Bangladesh and people in hard-to-reach places. The information from the KIs and FGDs shows that the first and second doses of the vaccine were also given to vulnerable people, also known as the “floating population”.

¹⁶ “Zero-dose children” refers to children who failed to receive any routine vaccination (Cata-Preta et al., 2021).

However, some news reports and Dhaka FGDs participants’ primary data suggest that vaccine inequity towards marginalised groups has worsened due to inefficiencies and negligence in the planning and execution of vaccination programs at the national level. For instance, on 7 February 2021, the nation started immunising against COVID-19, but vaccinations for pregnant and nursing mothers did not begin until 2 August 2021, following the recommendation of the National Immunization Technical Advisory Group established by the MoHFW’s Health Care Department.

PART VI: ON ENSURING SELF-RELIANCE, TRANSPARENCY, AND ACCOUNTABILITY

The Bangavax vaccine, formerly known as “Bancovid”, has made headway but still needs to be rigorously tested on people to allow Bangladesh to manufacture vaccines. Bangavax is an mRNA vaccine, and testing on monkeys showed that it is safe and 100% effective in that context (Globe Biotech Publishes Bangavax Results of Tests on Monkeys, 2021). It has also been successfully tested against 11 COVID-19 variants, including the Delta variant. In November 2021, Globe Biotech Limited received ethical authorisation from the Bangladesh Medical Research Council (BMRC) and the Director General of Drug Administration (DGDA) to conduct the first human trial. Subsequently, the WHO added the Bangladeshi vaccine to its candidate list.

The BMRC, the DGDA, and the MoHFW approved Phase I clinical trials on 17 July 2022 (Globe Biotech Publishes Bangavax Results of Tests on Monkeys, 2021). It is important for Bangladesh to follow India’s lead in developing vaccines and increasing the world’s supply and production, to balance the public’s interest with the exclusive right to make, use, distribute, import, or sell vaccines for profit without the patent owner’s permission. Some companies, like AstraZeneca, have yet to sign licensing agreements with other countries to make vaccines there. With the help of AstraZeneca contracts, the SII can work on making vaccines and increase their production and supply worldwide.

In October 2020, India asked the World Trade Organization’s 164-member TRIPS Council to temporarily lift the vaccine patent in order to make and sell it in India and beyond. It said the waiver would help in making vaccines and fighting the pandemic by letting countries with the production infrastructure make drugs, related technologies, and medical products like treatments, diagnostic tests, and therapeutic equipment. In this case, countries like Bangladesh claim they have the production capacity and are interested in developing the COVID-19 vaccine. Khatun (2021) says that if Bangladesh’s technological skills improved, it could increase its pharmaceutical products to meet domestic and international demand by making COVID-19 vaccines. If this happens, there is a high possibility of making enough Bangavax vaccines to meet demand. However, bureaucratic approval processes for vaccine development would also need to move faster.

Since the government has access to approximately 24 crores (240 million) vaccine doses from various sources, it plans to purchase these vaccines for around BDT17,000 crore (USD170 billion) during the 2022-2023 fiscal year. The amount exceeds the BDT14,200 crore (USD142 billion) budgeted for vaccinations during the fiscal years 2021–2022. It includes transportation costs and other costs, such as those related to giving the injections. To purchase 10.5 crores (105 million) doses from two Chinese drug manufacturers under the COVAX facility, the Finance Ministry released BDT6,299 crore (USD741 million) of the BDT7,990 crore (USD940 million) it received from the ADB

(Asian Development Bank, 2021). The funds come from various development partners in the form of loans. According to Finance and Health Ministry representatives, the allocation will be subject to a recalculation once the 2020–21 fiscal year is closed.

Bangladesh has been getting vaccines from other countries like China and India up until now. Nevertheless, the methods by which vaccines are purchased and the lack of transparency have frequently been raised as causes for concern. In one instance, despite apparent warnings that Pfizer vaccines procured from US were to expire on 30 November 2021, the GoB launched a mass vaccination programme from 1-10 December 2022; since then, there has been conflicting news of a few incidents, with one claim that the expired vaccines were returned (Dr Md. Tanvir Hossen, personal communication, 7 January 2023), and an opposing claim that the WHO had permitted the prolonged use of the vaccines till 28 February 2023 (Dr Tajul Islam A Bari, personal communication, 2 January 2023).

In January 2021, the MoHFW was allocated BDT 71,931,450 (USD672.3 million) under the “Coronavirus Outbreak Response Fund” for the implementation of a vaccination program aimed at the prevention of coronavirus, including purchase, transportation, and storage. Among these was the allocation for the purchase of vaccines: BDT62,843,680 (USD58.74 million). Instructions were given to follow the Public Procurement Act 2006 and the Public Procurement Rules 2008 concerning the expenditure of this money. However, in the case of vaccine purchases, there needs to be more attention paid to following the said Act and other relevant laws in this government procurement.

Several rules about how the government buys things were broken when the Covishield vaccine was bought from the SII. The procurement rules say that the procurement plan and contract amendment notice must be posted on the Central Procurement Technical Unit (CPTU) website if the price of the works, goods, and related services is BDT10 million (USD1 million) or more. The GoB failed to post the GoB’s plan to buy the Covishield vaccine or the notice that the GoB is signing the contract with SII on the CPTU website, as required per section 16 (11) of the procurement rules. In addition, Rule 75(3) states that negotiations can be done with a single bidder in the case of a direct purchase. Nevertheless, no bargain was observed in the purchase of this vaccine.

A third party, Beximco, was inexplicably made responsible for bringing vaccines into Bangladesh. As a result, Bangladesh had to buy vaccines at a higher price (USD5) than countries in the European Union (USD2.19), India (USD2.8), the African Union (USD3), and Nepal (USD4). In other countries, such as Nepal, the vaccine was purchased directly from the SII through the Government Pharmaceutical Corporation in Sri Lanka. In Bangladesh, an additional one dollar (about BDT84) was paid to a third party for transporting and storing the vaccine, resulting in a third party profit of about BDT77 (about USD0.70) per dose of vaccine. Thus, it profited BDT38.37 crore (USD38.37 million) by supplying the first five million doses of the vaccine; if it supplies three crores of vaccine doses as per the contract, its total profit will be BDT2.31 billion (about USD21.59 million). If the government of Bangladesh had purchased the vaccine directly from the SII, money would have been saved per dose, and another 68 lakh vaccines could have been contracted.

Additionally, there have been political conflicts and remarks about unethical procurement agreements. The Vice Chairman of Beximco Pharma is a member of the ruling party in Parliament and the Prime Minister of Bangladesh's Private Industry and Investment Advisor. Beximco Pharma's director is also a Member of Parliament. Since the Representation of the People Order, 1972, Article 12(k), states that Members of Parliament cannot have a business relationship with the Government over any business projects, this has created a bitter controversy. However, Beximco Pharma is still buying vaccines from SII as part of a tripartite agreement. None of these troubling events were publicly shared or officially handled with due care.

According to the TIB report, the cost of buying vaccines is expected to be between BDT1.3-1.7 trillion (approximately USD1.21-1.58 billion), less than half of the BDT4 trillion (USD3.7 billion) announced by the Health Minister. TIB criticised the MoHFW for not being more transparent about how much it costs to buy and distribute vaccines (BBC, 12 April 2022). In a press conference, the health minister called TIB's information baseless and said that TIB had provided misleading information to tarnish the country's image (TIB's Report on Health Sector Is Wrong: Health Minister, 2021).

Bangladesh got the COVID vaccine in four ways — through gift, donation, direct purchase, and shared purchase. On 23 August 2022, the MoHFW received 10 million doses of Pfizer vaccines from COVAX (USA Embassy Dhaka, 2022). The US vaccine donations total 85 million doses, or over two-thirds of all COVID-19 vaccines, to Bangladesh until August 2022. The US also supports Bangladesh's national COVID-19 vaccination campaign in other ways. To support Bangladesh's 64-district COVID-19 vaccination rollout, around 51,000 healthcare providers and workers were trained on vaccine safety (The Dhaka Tribune, 2022). The US gave 18 freezer vans, 750 freezer units, and 8,000 vaccine carriers to move 57 million vaccine doses to remote areas so that 47 million people could get vaccinated. US COVID-19 development and humanitarian aid to Bangladesh exceeds USD140 million. By contrast, China gave 500,000 Sinopharm vaccines to Bangladesh on 12 May 2021, and another 600,000 Sinopharm vaccines later (The Daily Prothom Alo, 2021).

Meanwhile, Bangladesh is getting 4.8 million doses of the Oxford-AstraZeneca vaccine from Saudi Arabia and Poland, free of charge. France gave two million doses of the vaccine to Bangladesh. Lithuania said in a statement that it would send about 445,000 doses of the Pfizer vaccine to Bangladesh, but changed course in March 2022 after Bangladesh abstained from voting on the UN General Assembly resolution holding Russia responsible for the attack on Ukraine (Lithuania Cancels Decision to Donate Covid Vaccines to Bangladesh After UN Vote on Russia, 2022). Lithuania, cherished by the West, punished Bangladesh to this extent; it also said it will stop delivering vaccines to Bangladesh as part of the UN's COVAX vaccine distribution program. From January 2021 to May 2022, UNICEF provided over 190 million COVID-19 vaccines to Bangladesh in one year under COVAX. According to the organisation, Bangladesh has received the most vaccinations under COVAX.

Bangladesh's costs for its vaccination programme was substantially higher than other countries. Despite being one of the least developed countries, Bangladesh

pays BDT1,500 (USD14) per dose for COVID-19 vaccines, significantly higher than its neighbours (Morol, 2020). Bangladesh had to pay USD5 for vaccines, more than the European Union (USD2.19), India (USD2.8), the African Union (USD3), and Nepal (USD4). By April 2022, Bangladesh had received 296.4 million doses of vaccines, of which 92 million came directly from China and India. Subsequently, purchased dosages increased in cost. When DGHS Director General Abdul Basar Mohammad Khurshid Alam was told about the high prices for an emergency health need, he said that the relevant ministry had negotiated the price of vaccines (The daily prothom Alo, December 2021). The Director General also refused to disclose the contents of the vaccine purchase contracts. Another issue was the involvement of third parties like Beximco Pharma, which, as discussed above, if excluded could have saved money on transportation and storage costs. In hindsight, if the GoB had procured the vaccines directly from the SII, it undoubtedly could have procured more vaccines with the money saved.

Even though Section 38(4)(c) of the Public Procurement Act of 2008 allows for the enforcement of remedial clauses and the inclusion of dispute or claim settlement procedures in contracts, this was not reflected in or included in the purchasing agreements. This raised concerns about problems and the unwillingness to fix them when it comes to buying vaccines during a unique international public health emergency. In addition to pricing issues, people are worried that the agreements between China and Bangladesh to buy vaccines could be used as a diplomatic tool. In the meantime, the government had already negotiated a deal to buy vaccines directly from China at actual market prices. China offered Bangladesh vaccines even before they were widely available. Mr Li Jiming, the Chinese ambassador in Dhaka, described evidence of China-Bangladesh anti-pandemic cooperation in a statement on 10 May 2021: he said that between February and April 2021, China gave Bangladesh 500,000 doses of the Sinopharm vaccine (Huaxia, 2021). Bangladesh Foreign Minister Dr A.K. Abdul Momen also wanted to purchase 40–50 million doses of Chinese vaccines and co-produce them. The vaccines arrived at a crucial political juncture when China warned Bangladesh against joining the so-called "Anti Beijing Club" — the Quad Alliance — or "substantially harm" bilateral ties. Even though Bangladesh quickly responded and reminded China of its independence and the right to make its own foreign policy, China agreed to sell Bangladesh 60 million Sinopharm vaccines (Hassan, 2021). Also, there was a price dispute when Bangladesh's Cabinet Division accidentally said the vaccines cost USD10 per dose, even though China had sold the same vaccines to Sri Lanka for USD15 per dose. The price discrepancies had implications for future diplomatic agendas.

The massive quantity of vaccines purchased from China may have other diplomatic consequences. According to a statement from the DGHS, out of 285,882,959 vaccine doses administered across Bangladesh, 159,514,745 were Chinese vaccines as of 19 July 2022 ("160 mln," 2022). Moreover, Bangladesh's budget for vaccines was USD940 million, and the country spent USD 741 million on vaccines from China. The AstraZeneca vaccine was the first type of vaccine distributed, but this slowed to a trickle from April-July 2021 before starting up again in August 2021. Sinopharm produced the majority of vaccines from that point onward in 2021. Early in 2022, Pfizer products briefly enjoyed a rise in use, but by the end of February, Sinovac

products had taken the lead. In August 2021, Moderna became popular quickly, but the other vaccines mentioned above sold more (Zahir, 2022).

Countries have always used their ability to get, make, and distribute vaccines to show their power at home and abroad. China will be no different (Sazid, 2021). The large-scale vaccine production and the ties of diplomacy have, until now, made Bangladesh dependent on China. A Memorandum of Understanding (MoU) was signed on 17 August 2021 by the Bangladeshi Government, Sinopharm of China, and Incepta Vaccines Ltd. of Bangladesh, under which the local vaccine manufacturer agreed to make five million export-quality doses of the Sinopharm COVID-19 vaccine monthly (The Diplomat, 2021).

Effective management and monitoring of the vaccine processes are two ways to stop problems with the way vaccines are given out. In the absence of either, there will be a gap in vaccine equity and transparency. According to a TIB study, mismanagement was observed in the vaccination programmes scheduled in the vaccination centres (Governance Challenges in COVID-19 Vaccine Delivery - Transparency International Bangladesh (TIB), n.d.).

PART V: CONCLUSION AND RECOMMENDATIONS

Even though the international community needs to work together to maintain vaccine equity, a faster solution could be found if Bangladesh could make its vaccines. People in the country can feel more assured about the availability and affordability of COVID-19 vaccines, thanks to the development of Bangavax, though it remains unknown if the Bangladeshi vaccine will work when tested on people and if it will be used nationwide with the help of strong political leaders committed to making vaccination plans that are both thorough and affordable. Even though there is enough capacity to make vaccines, more technological progress may be needed to ensure that new vaccines can be made if new COVID-19 variants appear.

Before Bangladesh can move forward with its existing vaccination plan, the current vaccine trials will need to be finished. The current plan depends a lot on vaccines made in China and India, which makes it hard to know about unseen political or economic motives. Even though there have been reports of expired vaccines made in China, Bangladesh has ignored them, leading to debates about whether diplomatic goals are more important than public health.

Also, the plans and activities of national vaccine governance are closed to the public, making it harder to put vaccine equity into practice. The government has refused to answer questions about public health. In this context, it is impossible to ignore the possibility of political self-interest and illegal financial gains because there are issues with how executive bodies bring in vaccines and because third parties like Beximco are involved. There are worrying signs that government officials have been involved in these vaccine deals in their personal lives and jobs. Because there are no checks and balances, this evidence raises questions about potential corruption. Because of this, it should not be surprising that the cost of vaccines is higher than expected and that most of Bangladesh's poor people cannot get booster shots.

Bangladesh is the eighth most densely populated country globally; the COVID-19 virus and its variants are highly likely to spread rapidly, and this is precisely what is happening. Nevertheless, workers, minorities, and the poor often must deal with the worst of these terrible effects. Vaccines, particularly booster shots, are in critical demand nationwide for people of all ages. However, the unequal distribution of vaccines has worsened because of inadequate planning and execution of national vaccination programs. There are hardly any accountability mechanisms, and the efforts to solve these problems are minimal.

The best way to deal with COVID-19 is to ensure that vaccines are distributed evenly and efficiently in Bangladesh. This can be accomplished by ensuring that Bangladesh is self-sufficient in vaccine production, that vaccine distribution decisions are clear, and that departments that make mistakes are held accountable. Bangladesh's health

departments have been opaque, casting a negative light on the country's government and giving the impression that they may be using the pandemic to further corruption or strengthen diplomatic ties, contrary to their stated goals. Also, irregularities in how executive bodies and individuals get vaccines should be addressed, as they could hide political self-interest and illegal financial interests.

In order to deal with problems of good governance in the delivery of vaccinations:

- Governmental and institutional efforts should be made to distribute vaccines evenly, fairly, and effectively with utmost diligence and transparency.
- Designated public projects to vaccinate at least 80% of the population of Bangladesh should be planned and executed expeditiously, and information on their progress should be made public.
- Private institutions should be permitted to develop, and assisted in developing, vaccines to encourage vaccine self-sufficiency. The executive and industrial sectors should recognise the importance of necessary technological advancement and act accordingly.
- The supply of vaccines should be ensured according to the priority needs, considering minority communities, area-specific risks, and other morbidity and mortality risks.
- More awareness campaigns regarding COVID-19 vaccines should be promoted and continued until the vaccination target rate is achieved. These campaigns should emphasise the importance of vaccination and its benefits.
- The vaccination registration process and activities need to be improved. Registration through Union Digital Centres and vaccination centres at the grassroots level should be set up. Moreover, the online registration process should be made more accessible.
- All citizens should be able to register through easy and accessible means (e.g. through SMS, Union Digital Centre).
- A grievance mechanism should be introduced in vaccination centres.
- An investigation mechanism should be set up in cases of irregularities and corruption in vaccine distribution. Any vaccine import deals involving foreign countries and third parties should be made public and scrutinised.

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