VACCINE TRANSPARENCY AND ACCOUNTABILITY

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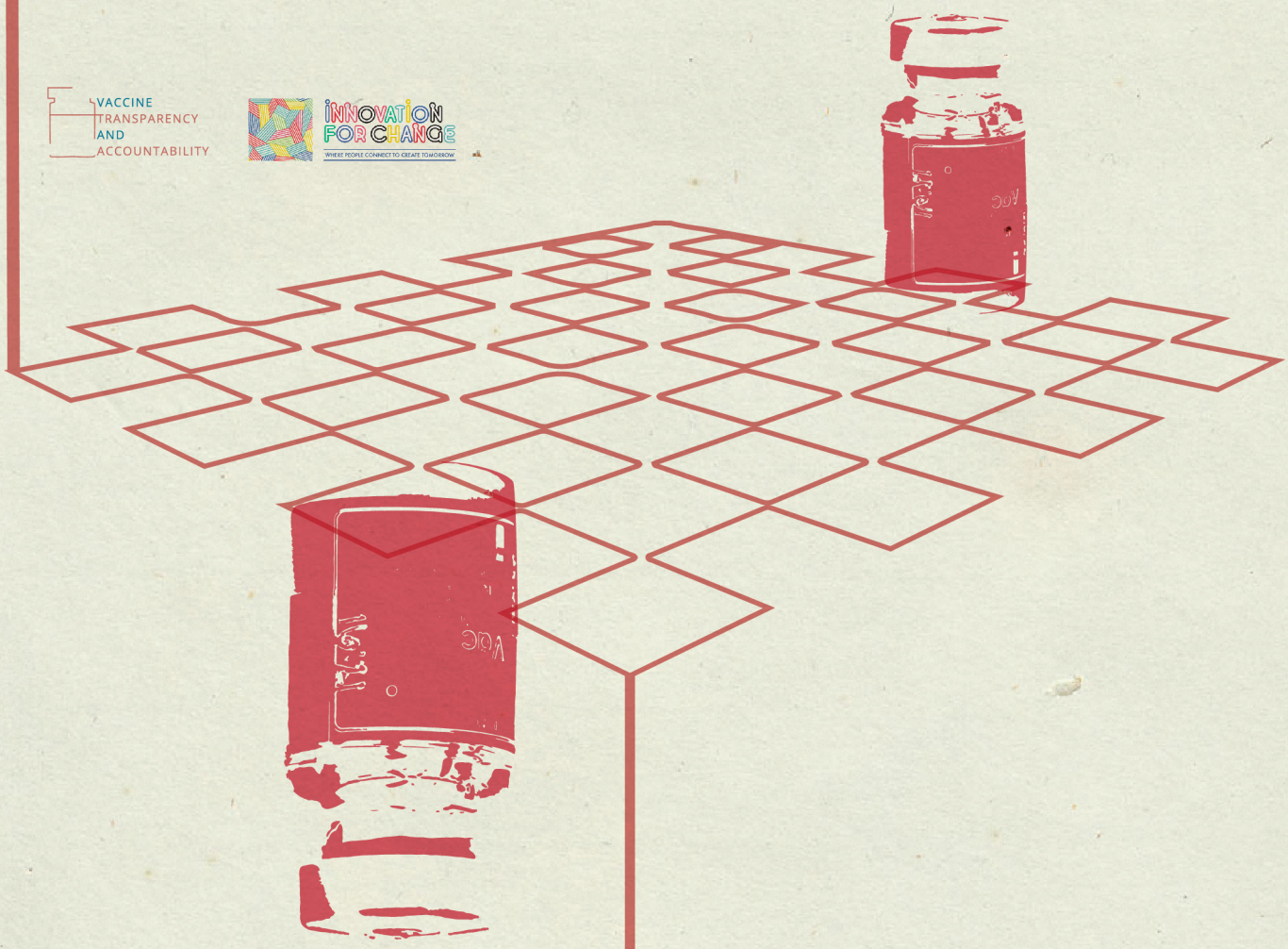

INDONESIA'S VACCINE STRATEGY:

Half-Hearted in Transparency and Accountability

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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 and vaccination in Indonesia

Indonesia's first COVID-19 case was announced on 2 March 2020. According to the Ministry of Health (MoH, locally known as Kemenkes), by the time Indonesia's vaccination program began on 13 January 2021, there were 907,929 reported cases of COVID-19 and 25,987 reported deaths, or a 2.9% case fatality rate (CFR) (Ditjen P2P, 2021).[1] According to Indonesia's Task Force to Handle the COVID-19 Pandemic (Satgas),[2] as of 8 February 2023, there were 6,731,959 confirmed cases and 160,852 deaths, or a 2.4% CFR (Satgas, 2023).

Of Indonesia's total population of 275,361,267 (Dukcapil Kemendagri, 31 August 2022),[3] national COVID-19 vaccination programs have targeted 234,666,020 people, or 85.22% (Vaksin Kemenkes, 2023). This targeted number comprises medical staff, public servants, vulnerable groups, teens (12-17 years old), kids (6-11 years old), and the general public. According to Satgas data as of 21 February 2023 (Table 1), around two years after the vaccination programs rolled out, 86.84% of the national target had received a first dose, 74.51% a second dose, 29.83% a third dose, and 1.05% a fourth dose (Satgas, 2023). Considering that the main reference for achieving herd immunity is the percentage of the total population who have received primary doses (doses 1 and 2), the figure to date of 63.5% is still well below the government's target of 85.22%. An important note on the target is that initially, as announced in January 2021, the MoH targeted only 181.5 million people for the vaccination programs, or roughly 70% of the population (Kemenkes, 28 January 2021). This was based on its conservative assumption that it did not need to target non-vulnerable adult groups. Later data from the MoH showed the number increased to also include vulnerable groups, teens, and kids in the target, reflecting advancements in vaccine development and trial results. The vulnerable groups according to the MoH are those living in areas

[1] Case Fatality Rate (CFR) is a measure of severity of a particular disease, in this case COVID-19, by defining the total number of deaths as a proportion of reported cases of a specific disease at a specific time (see O. Sabur, 17 February 2021).

[2] The Satgas is a task force that consists of representatives of line ministries and agencies, coordinated by the National Agency for Disaster Management (BNPB), to enable closer coordination of all line ministries and agencies that take necessary actions to handle the COVID-19 pandemic. The political background in the early days of the pandemic was that the response from the MoH was unsatisfying, downplaying the scale of the pandemic (see Lindsey & Man, 2020). Instead of using a health affairs legal framework, to be led by the Minister of Health, President Joko Widodo decided to use a disaster legal framework, led by the BNPB.

[3] According to a mid-year official announcement from a directorate in the Ministry of Home Affairs, the interim projection data from the Indonesia Statistical Agency (Badan Pusat Statistik, 2022) showed 275.77 million people as of November 2022.

with high rates of COVID-19 infections (Kemenkes, 29 December 2020).

Table 1: Indonesia's vaccination progress in numbers (as of 21 February 2023)

	Number of people	% of population
Total population	275,361,267	
Vaccination target	234,666,020	85.22%
Vaccination		% of target (% of population)
Vaccinated dose 1	203,790,100	86.84% (74.01%)
Vaccinated dose 2	174,850,887	74.51% (63.50%)
Vaccinated dose 3	69,996,580	29.83% (25.42%)
Vaccinated dose 4	2,460,686	1.05% (00.90%)

Source: https://covid19.go.id/. The percentage is the author's calculation based on figures from the Satgas webpage as of 21 February 2023.

The vaccination program began on 13 January 2021, with President Joko Widodo the first to get the first jab publicly (Agence France-Presse, 13 January 2021). Two weeks earlier, the MoH announced a national COVID-19 vaccination program in all 34 provinces (Kemenkes, 3 January 2021).[4] The program was designed in two periods: (1) January - April 2021, targeting medical staff in all provinces, public figures, civil servants and state apparatus staff (police, military, and public transportation workers and stewards), and the elderly; and (2) February 2021 onward, covering vulnerable groups and the general public (Kementerian Kesehatan, 15 February 2021). To achieve these targets, Indonesia targeted 0.7-1 million people per day (Kemenkes, 15 June 2021), though the data confirm it fell far short of the target. As of 25 July 2022, the MoH had also missed its target of completing the primary doses in June 2022 (H.D. Situmorang, 18 January 2022), reaching only 97.10% and 81.55% of the first and second dose targets, respectively (D.E. Nugraheny, 25 July 2022).

Before the vaccination program, the MoH claimed to have secured 400 million doses, and it was optimistic about securing 468.8 million doses to vaccinate 181.5 million target individuals. By February 2022, it had acquired 500 million doses (Satgas COVID-19, 9 February 2022). In its initial announcement on 29 December 2020, the MoH shared with the public that these included Sinovac from China (100 million doses), Novavax from the US (100 million), AstraZeneca from the UK (100 million), Pfizer from the US and Germany (100 million), and vaccines of unknown type and quantity from COVAX/GAVI, the global vaccine access scheme (Kemenkes, 29 December 2020).

[4] Since September 2022, there has been an addition of four new provinces in Indonesia: three in Papua (South Papua, Central Papua and Papua Highlands), and another in West Papua (Southwest Papua). Including these, Indonesia has 38 provinces. However, the vaccination data of these four new provinces have not been shown independently, as they are still included in figures for the original provinces.

Behind these numbers were bilateral and multilateral diplomatic efforts, led by the Minister of Foreign Affairs, to secure international supply for Indonesia's needs (The Jakarta Post, 13 July 2021; see also Killian & Noviryani, 2021). For instance, Indonesia received a donation of 2.5 million doses of the AstraZeneca vaccine by July 2021 from Australia (Foreign Minister Australia, 7 July 2021), and by November 2021, it had received 10 million doses of the same (Foreign Minister Australia, 10 November 2021). Indonesia also secured commitments from other countries, including the US, Japan, and Singapore. The US government granted four million doses of the Moderna vaccine via the COVAX Facility.[5] Japan sent one million doses of AstraZeneca (The Jakarta Post, 13 July 2021). However, China remains the largest supplier of vaccines to Indonesia (see Table 2).

Table 1: Indonesia's vaccination progress in numbers (as of 21 February 2023)

Total	171,364,570
CoronaVac 1 dose (for medical staff and grant) (China)	4,107,780
COVID-19 Bio Farma (China)	104,368,200
AZ (Covax, B2B, grant) (UK)	20,136,284
Moderna (US)	7,871,318
CoronaVac 2ds (China)	29,697,878
Sinopharm (grant) (China)	720,766
Pfizer (US, Germany)	4,462,344

Source: Bio Farma Press Release 22 September 2021 (Bio Farma, 22 September 2021)

Indonesia also set policies and regulations for handling the pandemic. The four most notable such measures were: (1) the Government Regulation in Lieu of Law (Perpu Nr. 1 of 2020), the overarching policy on management of the pandemic; (2) the Presidential Regulation on Vaccine Procurement and Vaccination Programs (Perpres Nr. 99 of 2020); (3) the Presidential Gazette on the Establishment of the National Team for the Acceleration of the Development of COVID-19 Vaccines (Kepres Nr. 18 of 2020); and (4) the Minister of Health Regulation on Vaccination Programs Implementation (Permenkes Nr. 10 of 2021).

The first policy, the Government Regulation in Lieu of Law on State Financial Policy and Financial System Stability for Management of COVID-19 Pandemic and/or in Dealing with Threats that Endanger the National Economy and/or Financial System and Stability (Perpu Nr. 1 of 2020), laid the policy groundwork to control the pandemic, mainly through financial and extra-economic tools, including government spending on vaccine procurement and vaccination programs. The second policy, the Presidential

[5] The COVAX Facility is a global collaboration initiative to accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines. Its ultimate goal is to guarantee fair and equitable access for every country in the world. https://www.who.int/initiatives/act-accelerator/covax.

Regulation[6] on COVID-19 Vaccine Procurement and Vaccination Programs (Perpres Nr. 99 of 2020), provided a legal basis for the COVID-19 vaccine procurement process, acceleration of the procurement process, and vaccination programs, with comprehensive instruction to the line ministries to take convergence actions to support from upstream to downstream. The third policy, set by Presidential Gazette Nr. 18 of 2020, established a national team for the acceleration of the development of COVID-19 vaccines. This inter-ministerial policy essentially mobilised Indonesia's capacity and resources in developing a COVID-19 vaccine domestically, supervised by the Coordinating Minister of Economic Affairs. The fourth policy was the implementing policy for vaccine procurement and vaccination programs, the Health Ministerial Regulation on the Implementation of Vaccination in the framework of Combating the COVID-19 Pandemic. The regulation reiterated the responsibility of MoH authorities in the vaccine procurement process, in determining the amount and which vaccines to be procured through Bio Farma, the state-owned pharmaceutical holding company.

1.2. Research methodology

This research has been carried out through first-hand collection of information from persons involved in vaccine procurement and distribution, and also uses published data, press releases, and independent press sources. However, after attempting to reach out to a handful of people at the MoH — especially within the Directorate General of Disease Prevention and Control (DG P2P) — and at PT Bio Farma and the House of Representatives Committee on Health Care, only a few people agreed to be interviewed: two from parliament, one public health expert, three from media and civil society organisations, and a midwife. Government members contacted were unwilling to talk, citing reluctance to engage with someone working on personal research.

Table 3: List of respondents

	Name	Association	Date of interview	Method of interview
1	Nihayatul Wafiroh, PhD (F)	Deputy Chair, House of Representatives (DPR) Commission on Health	25 Nov 2022	Direct interview
2	Latifatul Hasanah, MPH (F)	Expert staff, House of Representatives (DPR) Commission on Health	29 Nov 2022	WhatsApp chat
3	Irma Hidayana, PhD (F)	Co-founder and co-leader, LaporCovid19; Public Health Postdoctoral Teaching Fellow, St. Lawrence University	1 Dec 2022	Zoom interview
4	Ahmad Arif (M)	Journalist, KOMPAS; activist; co-founder, LaporCovid19	18 Feb 2023	Phone interview
5	Elly Burhaini Faizal (F)	Journalist, The Jakarta Post	18 Feb 2023	Zoom interview
6	Wana Alamsyah (M)	Activist, Indonesia Corruption Watch	21 Feb 2023	Direct interview
7	Anonymous midwife (F)	Midwife and civil servant, Banggai Laut regency	23 Feb 2023	Phone interview

Regarding Bio Farma, the person I reached out to responded that neither they nor anyone in the management team is talking to unofficial parties on this matter, as they are under the audit of the Supreme Audit Agency (BPK). According to this person, the company has disclosed the necessary information through the public domain, and further information on procurement and distribution has been part of the ongoing audit process. The person said that they do not want to create another line of information from what has been disclosed through press releases and audits. Attempts to track insight from inside the company on this matter were also not successful.

Therefore, this report relies mostly on official publications of government agencies, especially press releases, with the help of media[7] coverage to construct the data and analysis. Government press releases can be seen as a proxy to understand the government's position on certain issues, although this certainly has limitations. Press releases contain data in writing that can be directly quoted for the purpose of examination; they do not, however, provide information on why certain numbers and vaccines are picked or determined, or why other information is missing.

[6] A presidential regulation is similar to an executive order in other legal systems.

[7] Among these were Kompas.com, Tempo.co, and Thejakartapost.com, as well as a growing number of online news outlets such as CNN Indonesia, Detik.com, VivaNews.com, CNBCIndonesia.com, and Tirto.id.

PART II: ON INFORMATION ACCESSIBILITY

In the second half of 2020, more public information on the vaccines' potential availability and their specifications, including information on Indonesia's efforts and ability to produce them domestically, was aired. Two policies highlight the kind of information about the vaccines that was aired and discussed in the public arena: the Presidential Regulation (Perpres Nr. 99 of 2020) and the Presidential Gazette (Kepres Nr. 18 of 2020). Although the Presidential Regulation on Vaccine Procurement and Vaccination Programs (Perpres Nr. 99 of 2020) does not specify the responsibility of the institutions mandated by the Perpres, ie. the MoH, the Food and Drug Control Agency (BPOM), and Bio Farma, to disclose information about vaccines, it is still their responsibility to do so according to Indonesia's Public Information Transparency Act (Law Nr. 14 of 2008).

As the authority controlling all vaccine testing or trial, sales, and distribution, BPOM plays a pivotal role in determining the amount of public information about them. This agency has taken a proactive approach to disclosing information on the specifics of vaccines for which it grants an emergency use authorisation (EUA), which can be followed through the BPOM's press releases and news coverage. Normally, it shares information through press briefings or press conferences attended by the head of the BPOM, coupled with press releases. This regularity of this disclosure, which includes some technical specificity and carries the perceived expertise of people within the agency, has built public trust in the reliability of such information (E.B. Faizal, personal communication, 18 February 2023). This trust was heightened after Indonesia's Islamic Scholar (known as Ulama) Council, the MUI, backed the BPOM by declaring the vaccines as religiously permissible or halal; the significant majority of Indonesia's population is Muslim, and this was a significant endorsement for many of them.

The MoH also typically echoes BPOM statements, quoting them in its own media statements and press releases. As the institution that is responsible for procuring COVID-19 vaccines through Bio Farma, the MoH provides information on the availability of vaccines to cover the national target. In the early months of the vaccination programme, the MoH disclosed information on where vaccination sessions would take place, and how many people or doses each session would involve, through media releases and the "*Peduli & Lindungi*" (Care and Protect) application. Such information on vaccination centres, aside from the ones in community health centres or hospitals, then spread through social media, by word of mouth, through mosque loudspeakers informing and encouraging citizens, or person-to-person and door-to-door information from neighbourhood and social association committees (E.B. Faizal, personal communication, 18 February 2023).

The Satgas was formed, and developed a webpage[8], amid the growing number of cases in the early days of the pandemic. The task force was established partly because of public outcry over the slow response from the MoH (The Jakarta Post, 17 March 2020a). For instance, a coalition of civil society organisations in Jakarta urged President Widodo to dismiss Health Minister Terawan Agus Putranto from his position due to an "absence of sensitive, responsive and effective leadership" in handling the COVID-19 outbreak in the country. The coalition further stated, "the risks faced by Indonesia at the moment cannot be handled without a health minister who understands public health policies" (The Jakarta Post, 17 March 2020b).

The Satgas regularly conducted press conferences and issued press releases with updates on case numbers and actions taken by government agencies, and it tried hard to gauge public confidence toward central government measures to mitigate the pandemic's harms amid public ignorance, low awareness, denial, and misinformation about the spread of the pandemic to some parts of the country (The Jakarta Post, 11 October 2020). The Satgas faced public criticism over the slow actions taken by government agencies on certain issues, and it tried to counter misinformation that spread through social media (The Jakarta Post, 20 December 2020).

The Satgas launched a Twitter account, @satgascovid19id, which it used to spread its messages to the public.[9] It strengthened its messaging by regularly posting graphics that contained useful data, information, or persuasive messages. One graphic that is widely spread and forwarded contains updated case data that is formatted to resemble the Indonesian identity card. Journalists also used this as an addition to their reporting coverage (E.B. Faizal, personal communication, 18 February 2023).

It also posts information about cases and fatalities on its webpage. Nowadays, the webpage still does its initial job of collecting sub-national data and disclosing the data in a coherent manner, alongside information about other disasters in the country. The webpage also includes vaccination data, but since the MoH is gaining public confidence in its handling of cases, especially vaccination, the MoH webpage is much more detailed in this regard.[10] It includes a daily update on vaccinations that is disaggregated by dose number, age group, and vulnerability (defined as those who live in high case areas), as well as whether doses are given to medical or public servant staff or a member of the general public. The information is fairly detailed, but it does not specify the vaccine brands used (or the quantity used). The same goes for the BPOM, which is responsible for vaccine authorisation decisions but does not provide a dedicated page for information about vaccines authorised. It does disclose information about brands of vaccines, but this is scattered in the press releases that follow events such as vaccine arrival or other business events.

[8] https://covid19.go.id/

[9] https://mobile.twitter.com/satgascovid19id. The bio information shows the account started in September 2020.

[10] https://vaksin.kemkes.go.id/

The distribution of vaccines from Bio Farma to healthcare facilities is managed by the MoH. According to the MoH Decree on Technical Guidance for Vaccination Programs (KMK Nr. 4638 of 2021), there are required steps for planning, requesting, and distributing vaccines; it has also assigned a hierarchy to orders from different levels of governments (central > provincial > regency/municipal) to guide and control the distribution and administration of vaccines in healthcare facilities and other public facilities. Given the spread of local health agencies (*dinkes*), hospitals, and health care facilities down to the district level (*kecamatan*) in village areas, or down to the village level (*kelurahan*) in urban areas, for citizens to access vaccines, they need to follow announcements from healthcare facilities, or from social groups or companies that organise vaccination sessions.

Early in the vaccination rollout, information was spread through public announcement facilities such as mosque and church loudspeakers, as well as through mobile announcements from village or district administrations. In some neighbourhoods, community leaders visited people to give information. In urban areas, information was spread through conventional media channels and social media platforms. The organisers of vaccination sessions were not strict on domicile addresses (Y. Astuti, 26 June 2021); people could get their jabs with ID cards for the first jab and their vaccine certificate for the second jab.

Later, the MoH launched the "*Peduli & Lindungi*" smartphone application, which informs people where vaccination sessions are available nearby, allows them to register for vaccination there, and stores information on the date and type of the person's prior vaccine dose(s). It provides detailed information on where that type of vaccine is available and how many doses are available there for each program hour. After the jabs, the app also generates a printable digital certificate. It enables access to a wide range of information on COVID-19, cure services information, telemedicine, and vaccination programs. App users primarily live in urban areas or are travellers; people who live in villages or do not travel by public transport did not feel the need to use the app, and they were also less likely to get vaccinated (A. Amindoni, 15 September 2021).

In village areas, where the Internet is still limited, vaccination programs rolled out through older-style mass mobilisation programs[11] involving local administration officials, local health agencies, religious groups, the army, police, and other groups (Sumber Klampok, 11 March 2022). Various local-style campaigns took place to persuade and encourage people to get vaccinated (Setda Kota Cirebon, 18 August 2021).[12] However, these were conducted amid a massive flow of fake news about the pandemic and vaccines (The Jakarta Post, 7 December 2020), and those who were influenced by such misinformation felt less social pressure to get vaccinated.

[11] For example, the village administration used a small truck with a loudspeaker to announce the vaccination program in Sumberklampok village, Kerogak District, Buleleng Regency, Bali.

[12] Cirebon Municipality, in West Java Province, paired the vaccination with a package of groceries to attract more people to get vaccinated.

This group is among the vulnerable groups that are susceptible to being infected by COVID-19. The gap between the target and achieved vaccination rates show that these groups are still big in Indonesian society.

Agencies made efforts to disclose public information, with limitations. There was a massive effort to reach out to citizens, from the central government to the village level. This included the deployment of public servants to many regions to accelerate the vaccination rate, including military officers, police officers, other public servants, and social associations. Information about vaccine specifications and vaccination sessions was widely reported in social and mass media and broadcasting channels. In short, there has been an abundance of information about vaccines and vaccination programs released by the authorities, with the help of the press, broadcasters, social media, academia, and other societal agents, with the exception of some information related to the distribution or utilisation of the vaccines by type or brand, and their financial values.

PART III: ON ENSURING EQUITY

Indonesia does not use the "vaccine equity" terminology with regard to the COVID-19 pandemic (at least in the government agencies' reports, press releases, and statements covered by this research). Instead, government officials and reports only use the term "target" or "vaccination target" to refer to those who are the aim of vaccination programs.

At the beginning of the vaccination programme in January 2021, the government set a lower target. As noted above, this number was based on a conservative calculation that excluded certain age groups and certain medical pre-conditions, due to limited test results and preliminary information on vaccine side effects (I. Hidayana, personal communication, 1 December 2022; E.B. Faizal, personal communication, 18 February 2023). All the early tests for EUAs were conducted with the intended target of those above 18 years old and physically healthy. Therefore, at the time this target was announced, the public protested as it fell short of targeting 70% of the population to be vaccinated, which was understood as necessary to achieve herd immunity (N. Wafiroh, personal communication, 25 November 2022; I. Hidayana, personal communication, 1 December 2022; The Jakarta Post, 22 December 2020; A. Syakriah, 22 December 2020).

Excluded from the vaccination target were those in certain age groups, such as the elderly, and those with certain medical pre-conditions. The government seemed to have no solution for how these groups could be protected from possible infection. Civil society groups, observers, and politicians urged the government to do something to include these groups (N. Wafiroh, personal communication, 25 November 2022; I. Hidayana, personal communication, 1 December 2022; The Jakarta Post, 22 December 2020; Syakriah, 22 December 2020). Only much later, vaccine producers conducted more vaccine candidate tests to include other groups, and the BPOM gained the confidence to include these groups in the national target of the vaccination programme. The current target of 234 million people includes the elderly, children, teens, and those with medical conditions who were initially excluded.

To achieve the target, the national government pushed regional governments (i.e., 34 provincial, 416 regency, and 98 municipality governments), which in turn pushed district (*kecamatan*), village (*desa*) and urban village (*kelurahan*) administrations to intensify the vaccination program. For instance, on 3 February 2022, the Ministry of Home Affairs — considered the contact point between local governments and the central government — issued a circular letter to local governments to take several steps (Kemendagri, 3 February 2022).

The first was for the regional governments (provincial, regency, or municipality) to take the local administration-based approach. Different local governments seemed to do so with different styles. The government of Bali, for instance, delegated authority

to villages (*kampung*) (Fajar Bali, 30 July 2021), while Jakarta delegated authority to neighbourhoods (Rukun Warga) (A. Faisal, 1 March 2021). The second was for the local governments to build vaccination centres at places such as parks, malls, community centres, terminals, and so on, to be accessible to the public. This approach was typically done in urban areas, such as in Bogor Municipality (Bogor Utara, 4 November 2022), and done in addition to the administrative-based vaccination centres at community health centres (*puskesmas*) (Anonymous midwife, personal communication, 23 February 2023).

Third, vaccination was to be carried out on a mobile basis, especially in areas that are difficult to reach, or where people were reluctant to go to the vaccination centre. For example, in South Nias Regency, the local Health Agency (*Dinkes*) proactively visited and distributed the vaccine in cool boxes to three of the seven community health centres in archipelagic villages, including some with no electricity, which threatened the durability of the vaccine (H.Y. Halawa, 16 February 2021). A similar approach was taken by Pangkajene Kepulauan Regency's Health Agency (Pangkep Kabupaten, 1 November 2021).

Fourth, vaccination was to be carried out door-to-door targeting the elderly, another proactive approach that was crucial for vulnerable groups. This approach was taken in Aceh (K. Surry, 21 February 2022), Maluku (P.F. Mayaut, 5 May 2021), and Kutai Barat of East Kalimantan (Diskominfo Kaltim Province, 19 January 2022). The same approach was taken to reach differently-abled people with mental health issues in Temanggung of Central Java (Jatengprov, 10 September 2021).

Local governments and vaccination teams or committees on the ground also used other strategies, such as: providing grocery packs (*sembako*), as in Cirebon City (Setda Kota Cirebon, 18 August 2021) and Jember (PPID Desa JemberKab, 5 March 2022); handing out social assistance (A.A. Muhamad, 18 April 2022; Sumberagung, 2022); and providing door prizes for people willing to take part in vaccinations, such as in Yogyakarta (Kedaulatan Rakyat, 28 January 2022).

Furthermore, to accelerate the vaccination rate, the Ministry of Finance took a number of fiscal policy actions. For example, in June 2021, it instructed local governments to refocus their spending to minimise the impacts of the pandemic by, among other things, rolling out vaccination programmes at the local level (I.A. Pribadi and Katriana, 5 July 2021). At the regency level, in the first months of the vaccination programs for the general public, vaccinations took place in community health centres (*puskesmas and pustu*), which were targeted to vaccinate 70% of the population in their administrative unit or coverage area (some *puskesmas* cover more than one village), as long as their vaccine stock was sufficient. Later, additional vaccination centres were set up in public areas to reach out to as many people as possible to achieve the 70% target, with additional staff (paramedics, midwives, and non-medical staff) deployed as vaccinators after taking an online course (Anonymous midwife, personal communication, 23 February 2023).

For local governments, such changes to their spending, as instructed by the Ministry of Finance, had serious implications for their operations. On the one hand, they needed

to sacrifice other important activities; on the other hand, they needed to do this to receive funding and keep their administrations in motion. Therefore, their energy, time, and attention had to be switched to the vaccination programme in their areas, to meet the target set by the central government: 70% of the population in every administrative unit must be vaccinated to achieve herd immunity. Otherwise, their spending performance would be weakened, with potential longer-term repercussions (PMK Nr. 94 of 2021).

The above-mentioned approaches to expanding vaccination reach have achieved significant progress. Given the approaches are carried out in an open and inclusive manner, there are not many issues of targeting certain groups of society, except diffable groups, elderly, and teachers, and the efforts have largely succeeded in certain areas (Kemenkes, 30 September 2021). There were efforts taken to reach out to indigenous groups, such as Baduy communities in Banten (Kemenko PMK, 21 October 2021). No reference data exists to check the result of reaching out to Baduy, but a source confirmed their participation was low due to the lack of strategic communication approaches (A. Arif, personal communication, 18 February 2023). Local community health centres with assistance from KKI Warsi, a non-governmental organisation based in Jambi, took a similar approach to other indigenous groups, such as Suku Anak Dalam (N. Mairiadi, 17 December 2021), Batin Sembilan in Jambi (W. Septiawan, 9 August 2021), and Ammatoa Kajang in South Sulawesi (Ars Pontianak Post, 6 November 2022).

To meet the vaccination target, Indonesia committed to procuring vaccines from various producers through Bio Farma, intensified efforts to develop a vaccine, and secured international commitments from countries such as Australia, Singapore, Japan, China, the US, the UK, the Netherlands, France, and Greece (Kemenko

Table 4: Government of Indonesia vaccine purchase orders as of May 2021

Vaccine	Amount (doses)	Timeframe
Sinovac	147 million	Up to November 2021
Novavax	50 million	July to December 2021
Novavax (multilateral COVAX GAVI)	54 million	Up to December 2021
AstraZeneca	20 million	Up to December 2021
Pfizer	50 million	July to December 2021
Pfizer (bilateral from COVAX Gavi)	60 million	
Sinopharm (for *Gotong Royong*)	15 million	
TOTAL	**398 million**	

Source: Press Release of the Coordinating Ministry of Economic Affairs 19 May 2021 (Kemenko Perekonomian, 19 May 2021

Given that there is no systematic data disclosure, interested parties can only piece together information: the above number is close to the number disclosed on 22 January 2021, as many as 426.8 million doses estimated to cost around IDR66.5-73.3 trillion (USD4.2-5.1 billion) (Kemenko Perekonomian, 19 May 2021); however, these numbers cannot be reconciled with vaccine arrival data, which is not regularly updated. The latest comprehensive vaccine arrival data released by the government was in October 2021, which specified 66.78 million doses of Sinovac, 33.46 million doses of AstraZeneca, 8.45 million doses of Sinopharm, eight million doses of Moderna, 22 million doses of Pfizer, and 500,000 doses of Janssen (Satgas COVID-19, 26 October 2021). After October 2021, there were occasional announcements of vaccine arrival for a single brand, by different government agencies, but most of this was presented as piecemeal data, not systematically conveying the round of arrivals by batch number or the total number that had arrived. Therefore, it is hard to reconcile the publicly available data with the initial data when the vaccination programme began.

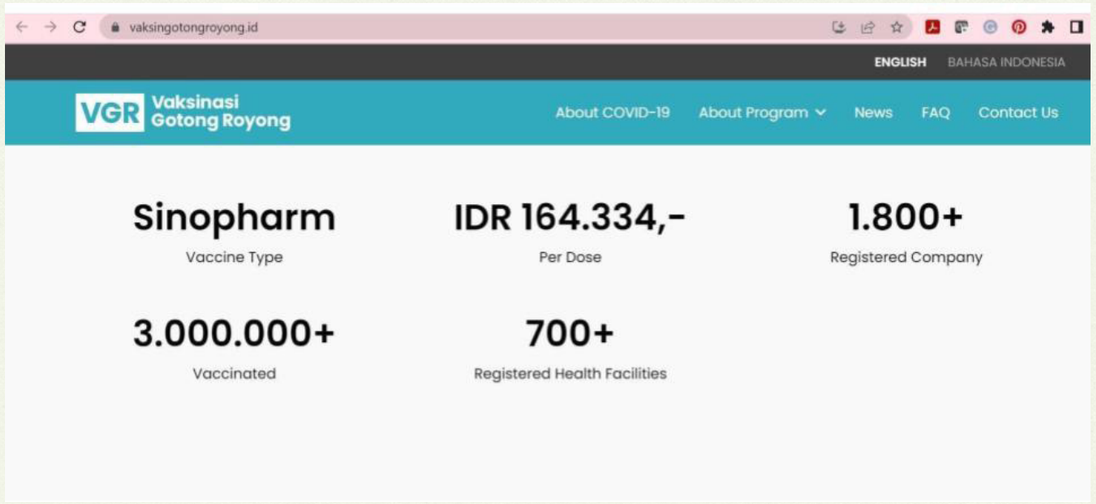
3.1. Private-sector collaboration in vaccination

Private-sector collaboration (*vaksinasi gotong royong*) is the vaccination program carried out by private entities such as hospitals or medical clinics. The idea was first raised by the Indonesia Chamber of Commerce and Industry (KADIN) business groups, as well as government cabinet members with former KADIN ties, who aired their willingness to help Indonesia to achieve its herd immunity target.

The engagement of these circles cannot be separated from the current administration's wider governing strategy, which is business-friendly and investment-oriented. The government engaged KADIN and its youth group (HIPMI) for both political support and strategic political marketing. Civil society groups, academia, and commentators looked at this kind of engagement in the vaccination programmes as one-sided (E. Primayogha, 13 July 2021; I. Hidayana, personal communication, 1 December 2022; A. Arif, personal communication, 18 February 2023).

The progress of this private-entity collaboration in vaccination is shown in Figure 1. The numbers confirm the utilisation of the procured doses, as of 22 February 2023, was still one-third of the targeted 10 million for the program as registered by KADIN as of 19 May 2021 (Kemenko Perekonomian, 19 May 2021). However limited, this private entity collaboration vaccination has expanded access to vaccines in the country to those who do not want or qualify for public vaccines (such as foreigners).

Figure 1: *Vaksinasi Gotong-Royong* (private-entity collaboration vaccination) status as of 22 February 2023



Source: https://www.vaksingotongroyong.id/

Any attempt to ramp up vaccination moving forward will be a challenge. Although the number of infections is reportedly still high, there is a widespread sense among the public that the pandemic is in the past (E. B. Faizal, personal communication, 18 February 2023). Along with misinformation about vaccines, and scepticism and opposition toward the government, this makes it difficult to increase the number of people vaccinated beyond the existing number (Satgas COVID-19, 4 June 2021; E. Dyah, 21 June 2021). This is even more the case for private-entity collaboration, which is not free.

Indonesia's measures might be best characterised as relying mainly on government initiatives and mechanisms, with non-governmental agents playing supplementary roles in both vaccination and its promotion. The results have been mixed. The figure of vaccine coverage by province so far as shown on the MoH vaccines webpage (as of 22 February 2023), taking the second dose as the reference, suggests there are still disparities between more and less populous provinces. Half of the provinces are still below the target of 70%, though all age groups are fairly close to or above the 70% target. For other categories, such as indigenous groups, there is no data.

One thing lacking was the participation of community groups in promoting vaccination programmes (N. Wafiroh, personal communication, 25 November 2022). In Baduy indigenous communities, for instance, only a small percentage of community members were vaccinated in their remote *kampung*, as vaccination was conducted there without the engagement of supporting groups from outside (A. Arif, personal communication, 18 February 2023). The best option for the government to ensure the success of such a programme now is to allow any support, be it religious or faith-based groups, or other groups that could mobilise, educate, and convince people to take the jabs (N. Wafiroh, personal communication, 25 November 2022; A. Arif, personal communication, 18 February 2023). Some people might listen and follow more government-led initiatives, but some might have different preferences. It may now be too late for such an approach, but this may still be worth exploring with various adjustments, given the changed status of the disease from pandemic to endemic (E.B. Faizal, personal communication, 18 February 2023).

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

As noted in the issuance of the Perpres Nr. 99 of 2020, the government has tried to secure vaccine supplies since at least the third quarter of 2022 (The Jakarta Post, 13 July 2021). It achieved significant results in terms of commitments from foreign producers (Killian & Noviryani, 2021; S. Strangio, 22 April 2021), especially China, which provided a significant number of vaccine supplies due to the long-term trading relationship between the two countries (The Jakarta Post, 13 July 2021; W. Alamsyah, personal communication, 21 February 2023; E.B. Faizal, personal communication, 18 February 2023).

After securing a supply commitment, Bio Farma — the government-designated agency — has to obtain an EUA for any COVID-19 vaccine, based on MoH specifications regarding quantity and timeline, before purchasing it (Perpres 99 of 2020). According to Indonesian laws, the agency that is responsible for authorising the COVID-19 vaccine is the BPOM.

4.1. Vaccine self-reliance

The BPOM granted EUAs for 13 types of COVID-19 vaccines (see Table 5), of which three are claimed as developed domestically (numbers 11-13 in Table 5), and only nine can be used as boosters (two of them local vaccines).[13] Numbers 1-5 are the ones that obtained EUAs early, and they have been used more widely than the rest in the list (A. Firdaus, 17 October 2022). Although domestically-produced vaccines obtained political and popular support, their EUAs were only applied for and granted later in 2022, when distribution was slowing down (BPOM, 30 September 2022; BPOM, 21 November 2022).[14] None of the three has been listed in the Emergency Use Listing (EUL) of the WHO, though Indovac applied for it in September 2022 (Bio Farma, 13 September 2022); no announcement on a determination had been made as of February 2023. All 13 types of vaccines have been confirmed by the MoH through Decrees (in December 2020,[15] June 2021,[16] and later in 2022 for the three locally developed vaccines). Deputy Minister of Health Dante Saksono Harbuwono said, "We expect that domestic vaccines will spearhead booster vaccination so that we will become self-resilient and will not be dependent on other countries" (P.G. Bhwana, 23 October 2022).

According to the BPOM, when reviewing the EUA application and conducting a full clinical trial, the BPOM obtains assistance from the National Committee on Drugs and Vaccines for COVID-19, the Indonesia Technical Advisory Group on Immunization (ITAGI), and the association of clinicians (BPOM, 17 November 2021).

Table 5: List of vaccines granted emergency use authorisation (EUA)

Vaccine	Country origin and production	Primary/booster, doses	Key technological feature
1 Sinovac	China Sinovac BioTech	Primary (2 doses)	Inactivated Sars-CoV-2
2 AstraZeneca	US, UK, India AstraZeneca - Oxford University - Serum Institute of India (SII): SK Bioscience Co. Ltd., Korea (COVAX Facility) Siam BioScience Thailand	Primary (2 doses) & booster, homologous Ages 18+	Non-replicating viral vector (ChAdOx 1).
3 Sinopharm	China Beijing Institute of Biological Product (BIBP)	Primary (2 doses) & booster, heterologous Ages 18+	Inactivated Sars-CoV-2
4 Moderna	US AS Moderna Inc COVAX facility	Primary (2 doses) & booster, heterologous Ages 18+	Messenger RNA (mRNA)
5 Pfizer	US BioNTech & Pfizer	Primary (2 doses) & booster, homologous Ages 18+	Messenger RNA (mRNA)

[13] This information comes from various press releases of the BPOM, which typically issues press releases for each vaccine. Therefore, this calculation is based on the tracking of various press releases for each vaccine.

[14] Indovac and AWcorna were granted EUAs on 24 September 2022 (BPOM, 30 September 2022). Inavac was granted an EUA on 17 November 2022 (BPOM, 21 November 2022).

[15] KMK Nr. 12758 of 2020 on Vaccine Type Determination for COVID-19 Vaccination Program included seven producers (PT Bio Farma, AstraZeneca, China National Pharmaceutical Group Corporation (Sinopharm), Moderna, Novavax Inc, Pfizer Inc. and BioNTech, dan Sinovac).

[16] KMK Nr. 4776 of 2021 on Vaccine Type Determination for COVID-19 Vaccination Program added three, bringing the total to 10 producers (CanSino Biologics, Genexine, Johnson and Johnson).

6 Covavax	India Novavax, Serum Institute of India Pvt. Ltd., India (SII)	Primary (2 doses) Ages 18+	Recombinant glikoprotein, adjuvant Matrix-M1
7 Sputnik V (Gam-COVID-Vac)	Rusia Gamaleya Research Institute of Epidemiology and Microbiology PT Pratapa Nirmala	Primary (2 doses) Ages 18+	Non-replicating viral vector, adenovirus (Ad26-S dan Ad5-S)
8 Johnson & Johnson (Janssen COVID-19 Vaccine)	US Janssen Pharmaceutical Companies	Primary (1 dose) & booster, heterologous (primary to Sinovac and Sinopharm) Ages 18+	Non-replicating viral vector, adenovirus (Ad26)
9 Convidencia	China CanSino Biological Inc., Beijing Institute of Biotechnology	Primary (2 doses)	Non-replicating viral vector, adenovirus (Ad5)
10 Zifivax	China Anhui Zhifei Longcom Biopharmaceutical, PT Jakarta Biopharmaceutical Industry (JBio).	Primary (3 doses) & booster, heterologous (primary to Sinovac and Sinopharm) Ages 18+	Recombinant protein sub-unit
11 Indovac	Indonesia, US PT Bio Farma, Baylor College of Medicine, USA	Primary (2 doses) & booster, homologous Ages 18+	Active substance Receptor-Binding Domain (RBD) recombinant of protein S
12 AWcorna	Indonesia, China PT Etana Biotechnologies Indonesia, Abogen-Yuxi Walvax, China	Primary (2 doses) Ages 18+	Messenger RNA (mRNA)
13 Inavac	Indonesia Airlangga University of Surabaya with PT Biotis Pharmaceuticals Indonesia (PT Biotis) in Bogor	Primary (2 doses) & booster, heterologous Ages 18+	Inactivated virus

Source: Press Releases of the BPOM in various dates

The list above shows that Indonesia opened its vaccine market fairly wide. Four of the vaccines it uses are made by or have cooperation with American companies, five are made by or have cooperation with Chinese companies, three are made by or have cooperation with European companies, and two are made by or have cooperation with Indian companies. The vaccines made in China were the most used. The reason for this seems to have been the willingness of China's vaccine producers to transfer the technology and join production with an Indonesian entity, especially Bio Farma (Suwanti, 30 September 2020; A.M. Pratama, 28 August 2020; Satgas COVID-19, 31 May 2021).

Aside from relying on international supply, Indonesia also succeeded in producing vaccines: Indovac, AWcorna, and Inavac. As a state-owned pharmaceutical holding company, Bio Farma was established in 1890 and has produced a number of vaccines. The BPOM assisted domestic pharmaceutical companies such as PT Bio Farma, PT Biotis, PT Etana, and PT JBio through regulatory assistance, training, and technical guidance on compliance with good manufacturing practices to meet international standards for vaccine production (BPOM, 10 January 2022).

Bio Farma and BPOM efforts and commitment first resulted in the declaration that Indonesia had developed IndoVac. This vaccine was developed over the past two years by Bio Farma, and launched by President Widodo on 13 October 2022, when he used it to get his first booster (Setkab, 13 October 2022). In developing the vaccine, Bio Farma claimed to have brought seven schools of medicine into the country,[17] in partnership with Baylor College of Medicine, in the US. IndoVac is claimed to be locally developed and produced, from drug substance to drug product (Baasyir, 2022). IndoVac contains the active substance Receptor-Binding Domain (RBD) recombinant of protein S of the SARS-Cov-2 virus.

Since obtaining an EUA on 28 September 2022, IndoVac has been in the process of obtaining a booster vaccination licence from its clinical trial. At the same time, Bio Farma is also in the process of registering IndoVac for an emergency use listing (EUL) from the WHO, to enable it to be exported, especially to lower-middle-income countries (BPOM, 30 September 2022). To gain public confidence, IndoVac was used as the second booster dose for President Widodo on 22 November 2022 (D.N. Lidya, N. Ihsan, 24 November 2022).

The BPOM also issued an EUA for the AWcorna vaccine, which was locally developed by a private entity, PT Etana Biotechnologies Indonesia (PT Etana), in partnership with China's Abogen-Yuxi Walvax. According to the BPOM, the efficacy of the AWcorna vaccine against the wild type of virus that has not mutated is 83.58%, while the efficacy of the AWcorna vaccine against the Omicron variant is 71.17% in preventing moderate cases.

[17] These were: Universitas Indonesia, Universitas Diponegoro, Universitas Andalas, Universitas Hasanuddin, Universitas Padjadjaran, Universitas Udayana, and Universitas Gadjah Mada.

With these two locally developed vaccines — one with a US-based institution, and another one with a China-based company — the Chief of the BPOM, Penny S. Lukito, said she was convinced that the target of being locally self-reliant on the pharmaceutical sector had been on the right track all along by pursuing the transfer of technology (BPOM, 30 September 2022).

In addition, the BPOM also granted emergency use authorisation to another "*Merah Putih*" (i.e., Indonesian) vaccine, Inavac, which is based on the inactivated virus and as of 1 November 2022 can be used for adults above 18 years old (A.A.N. Hidayat, 4 November 2022). Inavac was developed by Airlangga University of Surabaya (East Java), in collaboration with PT Biotis Pharmaceuticals Indonesia (PT Biotis) in Bogor. Inavac has been wholly developed from the domestic partnership of the university and the pharmaceutical company.

According to Minister of Health Budi Gunadi Sadikin, the reason Indonesia could be successful in domestically developing a vaccine is that there are 17 genome labs throughout Indonesia that can intel 6,000-8,000 genomes a month (F.H. Harsono, 7 January 2023). Having such facilities strengthens the country's ability to conduct surveillance on variants of viruses that enter the country and, coupled with the experience of developing other vaccines, makes Indonesia fairly responsive in this regard.

4.2. On vaccine transparency and accountability

As indicated earlier, the procurement of the vaccine was conducted in a diplomatic effort led by the Ministry of Foreign Affairs and supported by government agencies. However, this "diplomacy", and the reasoning behind securing some vaccine producers and not others, are shrouded in almost complete darkness. Only information on why, for example, vaccines made in China make up the lion's share of what has been secured is in the public domain. Financial information on the procurements, such as cost, is not published. Only once, in August 2020, one of the cabinet members mentioned prices (A.M. Pratama, 28 August 2020) — that the raw substance of Sinovac was USD8 per dose in 2020 and decreased to USD6-7 in 2021. However, as it was only an oral statement quoted by the press, it is hard to verify.

The lack of transparency on the financial aspect of the vaccine procurement is consistent with the approach taken by the Perpu Nr. 1 of 2020, the legal basis for most of Indonesia's efforts to handle the pandemic. The Perpu Nr. 1 of 2020 stipulates, for instance, that costs incurred by government agencies are "state spending", whereas vaccine procurement and vaccination is part of the economic cost of salvaging the economy from the crisis and therefore not the country's loss (Article 27, clause (1)). Furthermore, the Perpu stipulates that government agents and members of committees outlined in this Perpu cannot be prosecuted under either civil or criminal law if carrying out their tasks in good faith and in accordance with the provisions of laws and regulations (Article 27, clause (2)), and it exempts all actions and decisions taken based on the Perpu from the object of a lawsuit that can be submitted to a state administrative court (Article 27, clause (3)).

Another issue that has become a concern to CSOs is the private-entity collaboration vaccination. It is believed there are rent-seeking motives (E. Primayogha, 13 July 2021; I. Hidayana, personal communication, 1 December 2022; A. Arif, personal communication, 18 February 2023). For CSOs, the scheme raised the issue of which vaccine would be distributed through this commercial mechanism given the government's initial commitment to procure all the vaccines with the state budget. This tension was reflected in the changing of the contents of the MoH regulation (PMK Nr. 10 of 2021) up to three times in a relatively short period of time.

Despite the lack of transparency in vaccine procurement, and the blanket immunity from potential legal actions provided by the Perpu, some degree of accountability could still be provided by the State Finance Law[18] and the Supreme Audit Agency (BPK) Law.[19] These two laws might still be able to shed some light on the vaccine procurement and the vaccination programs through the presentation in the consolidated Government Annual Financial Statement (LKPP) and its subsequent BPK audit report. The case of vaccine procurement and taxation facilities for importing them already appeared in LKPP 2020 (audited) and LKPP 2021 (audited). LKPP 2022 will be finished by February 2023, to be audited by the BPK in 2023. The same goes for Bio Farma procurement and vaccine research and development; as a state-owned company, it will be audited by the BPK this year.

[18] Law Nr. 17 of 2003 on State Finance Law (UU Nr. 17 of 2003).

[19] Law Nr. 15 of 2006 on Supreme Audit Agency or BPK (UU Nr. 15 of 2006).

PART V: CONCLUSION

Indonesia achieved a high vaccination rate, reaching 74% of the population with two doses. However, given the character of the pandemic and the current cases, vaccination equity needs to be increased. The government-dominated initiatives to implement vaccination programmes may be somewhat efficient, but given that the government has not met its target of 85% of the population vaccinated, adjustments such as involving more non-government agents are needed. Likewise, donor countries should consider delivering their vaccines and medical equipment not only to the government, but also to capable civil society groups or universities.

In the past two years, the Government of Indonesia has adjusted its policy to increase vaccine equity, including measures that push the urban population to get vaccinated to enable them to take aeroplanes and trains and enter malls and buildings. Such measures are commendable for increasing the vaccinated urban population, but they leave the rural population susceptible to the disease.

Based on the government's vaccine procurement data, the Chinese vaccine Sinovac makes up almost 50% of all vaccines procured in 2021, the first year of the vaccination programs (Table 4). With Sinopharm included, the number of vaccines from China exceeds 50%. It is worth examining the conditions leading to this, such as that China's Sinovac was willing to transfer knowledge to and engage in joint production with Indonesia's Bio Farma. This study has not been able to fully examine the issue, as no one from the respective offices and state-owned companies is willing to talk about it.

The development of three locally developed and produced vaccines in Indonesia so far is impressive. It supports the country's ambition to be self-reliant and not overly dependent on foreign countries' vaccine production. Although the locally produced vaccines came to the market quite late, their market share will certainly change going forward. Indonesia has been helped by companies in the country that have invested in the field for quite some time, some universities that have also developed expertise and research and development facilities, and the existence of 17 genome labs that can intel 6,000 to 8,000 genomes a month.

Having a state-owned company like Bio Farma, which has built its ability to do research and development on vaccines, and which also does commercial deals on vaccines, drugs, and medicines, has helped the big procurement in a relatively short period of time. The public information on vaccination programmes from the MoH and the Satgas is valuable for public monitoring and learning, and can be considered as good practice, as it is quite detailed and regularly updated.

With COVID-19 declared to have endemic status on 22 December 2022, a retrospective accountability measure might need to be performed, looking at the past two and a half years' practices of vaccine procurement and the vaccination programmes. As legal accountability has been put aside by the Perpu 1 of 2020, non-legal accountability measures need to be taken up. The BPK audit report over the government financial report, the LKPP, needs to be disclosed for public examination, for instance. Other reviews for such vast and colossal efforts will also retain their relevance for learning, if not for social accountability.

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