

TURKOVAC: Can Turkish COVID-19 Vaccine Bring Hope to Africa?

What Advantages Turkey Can Offer to Africa

[Summary](#)

The TURKOVAC vaccine and other benefits that Turkey will create can help African countries address some of their difficulties and get the immunizations they desperately need. Furthermore, Turkey can enable vaccine availability to African countries that aim to develop the COVID-19 vaccine using a variety of ways, including vaccine production technologies. It might also collaborate on a plan to assist covid-19 vaccines to be produced locally. Negotiations will be required for the manufacturing and delivery of the vaccine on the continent, particularly with donor countries, pharmaceutical businesses on the continent, funders, and, essentially, everyone now involved in the supply of vaccines to Africa.

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Introduction

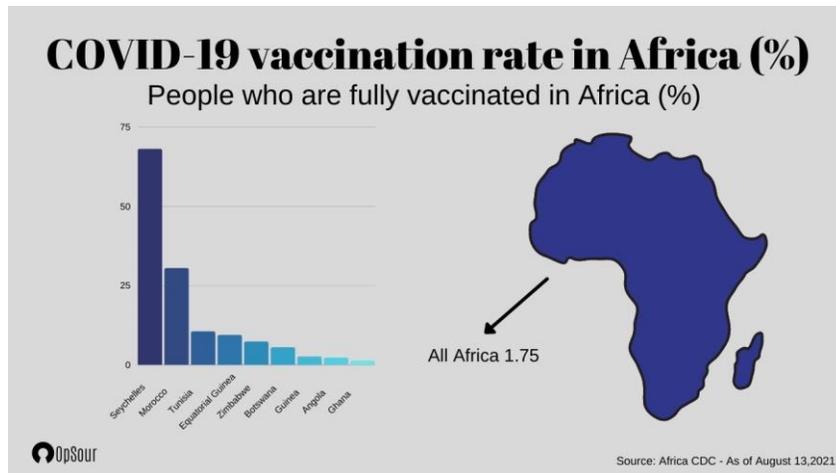
The outbreak of the novel coronavirus pandemic was expressed from every angle. The first case of the novel coronavirus was discovered in late December 2019 in Wuhan, China. On January 30, 2020, the World Health Organization (WHO) declared it a [Public Health Emergency of International Concern](#), and on March 11, 2020, the WHO Director-General declared it a [“Pandemic.”](#) The pandemic resulted in a significant loss of people and supplies, as well as devastating economic implications leading to collapse and recession in the [geo-economic world order, which was essential even as early as the 1930s](#). Parallel to this, the geopolitical world has gotten more uncertain as power equations have shifted. It was a total destruction for both the people and the countries. The covid-19 pandemic has not only badly impacted poor countries, but wealthier countries have also been unable to offer the essential medical services to the affected population. Globalization has shown that infectious diseases and pandemics are interconnected with all countries, as they can occur anywhere at any time, regardless of country, race, religion, or financial capacity.

Vaccine (In)-Justice

The COVID-19 pandemic continues to be damaging to human health and their [socio-economic](#) lives in the African continent, as it has in many places. The Covid-19 situation has unveiled the hidden injustice especially in Africa. Drugs and vaccines became incapable of reaching millions of individuals who supposed to be prioritised, creating a form of [“vaccine apartheid”](#) in the continent. Thus the need for African continent to have vaccines that are easily available in order

to save the lives and health of its vulnerable inhabitants to help sustain and maintain its socio-economic progress.

The African continent has the world's lowest rate of covid-19 immunisation. The low vaccination rate in Africa is caused by a number of [obstacles and gaps](#) that include inadequate availability of COVID-19 vaccinations as pressing concern for African countries. Others are reported issues including a lack of funding, a lack of trained professionals, and public reluctance to be vaccinated. Despite the fact that it is widely acknowledged that the continent requires equitable access to vaccines, many rich countries and institutions that proclaim the superiority of humanity and human rights have not heeded this, thus pushing the countries in need to wait for months as the virus continues spreading. While more than [4 billion](#) COVID-19 shots are provided globally, the introduction of the vaccine to [less than 2%](#) of Africa's 1.3 billion population illustrates inequity in vaccine access. Approximately [24 million people, or 1.7 percent of the African continent's](#) population, have received full vaccinations. Despite the fact that the UN-backed COVAX (Global Vaccine-Sharing Initiative) has started measures to properly distribute vaccines for Africa, particularly low- and middle-income countries, only about 2% of the continent has been vaccinated to date. COVAX intends to provide [520 million doses to Africa by the end of 2021](#). The World Health Organization estimates that the continent will require up to [183 million doses to fully vaccinate 10%](#) of its people by the end of September, and [820 million more doses to vaccinate](#) 30% by the end of 2021. To vaccinate 60 percent of Africa's population (i.e., a recommended basic prerequisite for herd immunity), the continent would require around [1.5 billion doses](#) of the vaccine for approximately 1.3 billion inhabitants, with at least two doses for each vaccine candidate. More than half of the vaccine doses obtained on the African continent to date have come from either direct retrieval or donation.



Given the great socioeconomic burden that the present pandemic has imposed on many African countries, fair access to vaccines, as well as massive financial investments and

resources, are required to develop mass production of vaccines on the continent. The continent's high vaccination uptake could aid in the restoration of normalcy in several countries. Therefore, it will be critical to bring together numerous local and international organisations, as well as political leaders, in order to generate adequate resources to aid in the distribution of vaccines across the continent.

The vaccine distribution gap between developed and developing countries is enormous and growing by the day. Turkey, which values human rights and has been in the forefront of the [fight against vaccine nationalism since its inception](#), can play a significant role in preventing inequity in vaccine distribution with the TURKOVAC vaccine it develops.

Africa Is Facing Difficulties in Every Aspect

More than a year has passed since, on March 11, 2020, the World Health Organization (WHO) declared COVID-19 a pandemic. As of August 12, 2021, [the number of confirmed COVID-19 cases in Africa](#) amounted to 7,136,140 which represented around 3.5 percent of the infections around the world. Over 179,000 deaths have been reported (179,986). This results of 2.5%, and accounts for 4.2% of [deaths](#) reported globally. The COVID - 19 pandemic in Africa brought economic destruction in addition to mass deaths, as governments lost control of their economies,

losing income tied to taxes, foreign direct investment, remittances, and tourism. Vaccination against COVID-19 is regarded as a key step in reducing casualties and additional economic hardship. According to the World Bank, for every month that vaccines are delayed in reaching the African continent, [13.8 billion US dollars are lost in GDP](#). It is believed that COVID-19 vaccination will aid in the fight against the pandemic and help in recovering what has been lost in the process. However, this will not be achievable unless vaccines are made available in all parts of the world. Access to medications and vaccines for diseases that have killed millions of Africans in the past has been uneven in African countries. Because of this historical experience, African countries are concerned about what COVID-19 vaccinations can offer.

The COVID-19 Process and Turkey's Assistance

As in the past, numerous countries' responses to emergency relief needs throughout the COVID-19 process were documented once again, with Turkey's extensive supports and pragmatic efforts. As Mevlana Jalaaluddin-i Rumi (renowned Anatolian Sufi sage) said that, ["There is hope after despair and many suns after darkness."](#) aid packages were distributed by the Turkish government to [157 countries, including 12 international organisations](#), based on their needs, promoting global solidarity and unity.

Since the outbreak of the pandemic, the Turkish government has endeavoured to provide whatever aid it can to Africa without imposing any political restrictions, with the goal of benefiting African states. In this context, it helped 44 African countries with [medical equipment and financial donations, and purchase permission support](#). While the approximate [value of the aid to the region](#) is 12 million dollars, the amount of financial aid has reached 6 million. With its global solidarity action in the COVID-19 intervention attempts, Turkey has once again proved that it is one of the most charitable countries.

TURKOVAC Vaccine for Equitable Access to Vaccine

The impact of the COVID-19 pandemic on national health and economy ushered in a new age of vaccine research, development, and production. There are 89 different [COVID-19 vaccine](#) candidates being developed by pharmaceutical companies throughout the world, 228 vaccination studies, and 12 vaccine companies that have achieved approval. [Five](#) of the twelve vaccines are widely used around the world and they include BioNTech, Sputnik v, Moderna, AstraZeneca, and Sinovac. However, when it comes to fair access to vaccine, Sub-Saharan African countries are having a difficult time and lagging behind in realising potential to reduce disease burden through immunisation.

The importance of International and multilateral cooperation for disease prevention and control has been acknowledged as a critical approach and tool that can push the global health agenda. In this context, Turkey has made tremendous efforts to mobilise the international mechanism and has taken the lead on all platforms in the equitable distribution of vaccinations to developing countries.

Given the likelihood of Africa as a continent to obtain and use the vaccine, the current concern is: how can Turkey supply vaccines to Africa? We can find an answer to this question in Turkish [President Recep Tayyip Erdogan's speech at the G20 Leaders' Summit held via video conference in 2020](#), as well as in Turkish Foreign Minister Mevlut Cavusoglu's piece on Africa Day. *“Developed vaccines should be made available in a way that is the common property of humanity, not to further deepen existing injustices,” the president said in his statement. In this regard, the G-20 platform should develop and implement procedures to assure cost-effective and equitable access to the vaccination for all. With this insight, Turkey approaches its 16 vaccine researches. “I hope we will offer the vaccine that Turkey will produce to the service of all*

humanity," he said. Months after this speech, President of Turkey Recep Tayyip Erdogan's repeated use of the phrase "We will put it at the service of all humanity" for the vaccine TURKOVAC, developed by the Presidency of Turkish Health Institutes and Erciyes University, can be interpreted as speech that will raise hopes for the continent. The appeal for fair access to vaccines by Turkish President Recep Tayyip Erdogan presents the prospect of putting a stop to vaccine nationalism and assisting disadvantaged countries in evaluating vaccines as soon as possible. President Recep Tayyip Erdoan's video address to the [2020 Global Vaccine Summit in London](#), underlining their readiness to act in collaboration with the Global Vaccine Alliance Initiative (GAVI) and other stakeholders, demonstrates his readiness for global vaccine supply cooperation.

Turkey works on 12 coronavirus vaccine candidates supported by TUBİTAK and TUSEB
Turkey's Covid-19 vaccine types, institution and clinical stage

Type	Institution	Clinical Stage
Inactive	Kocak Pharma	Pre-Clinic
Inactive	Erciyes University	Pre-Clinic
Inactive	Selcuk University	Pre-Clinic
DNA	Ege University	Pre-Clinic
Live attenuated vaccine	Acıbadem University	Pre-Clinic
viral vector vaccine	Erciyes University	Pre-Clinic
viral vector vaccine	Ankara University	Pre-Clinic
Protein Subunit	Izmir Biyotıp and Genom Centre	Pre-Clinic
Protein Subunit	Bogazici University	Pre-Clinic
VLP	Middle East Technical University	Pre-Clinic
VLP	Bezmi Alem University	Pre-Clinic
mRNA	Selcuk University	Pre-Clinic

Source: WHO

Turkovac, Turkey's first inactive domestic vaccine produced against COVID-19, [began a phase-3](#) research on June 22. ["Our goal is to get results like September-October."](#) Turkish

President Erdogan said of the Turkovac vaccine. The statement represents a big advancement. [The Turkish Minister of Foreign Affairs stated in an essay published](#) on the occasion of Africa Day: *“Turkey's efforts to develop a vaccine against COVID-19 continue. We are determined to complete our vaccination studies in the autumn and to offer them to the service of all humanity, especially African countries.”* The discussion provides a possible avenue for African countries to gain equitable access to the TURKOVAC vaccination. All of Turkey's actions can be viewed as a watershed moment in achieving a long-term impact on equitable access to vaccines as part of the battle against the pandemic.

Global Cooperation for Equitable Access to Vaccine

Due to the low-resource nature of many countries on the African continent, governments may not be able to afford COVID-19 vaccines. From this point of view, funding to African countries through health organizations such as the WHO will facilitate access to the vaccine. Although there are commitments from countries and organizations to help developing countries, more support is needed to ensure large-scale purchase of the COVID-19 vaccine by African countries. Therefore, cooperation from both the private sector and the public sector can increase accessibility to the COVID-19 vaccine in African countries. The [COVAX](#), established at the initiative of the [World Health Organization \(WHO\)](#) and led by the global vaccine alliance [Gavi](#), should provide a collaborative and anti-monopolistic mechanism for fair access to COVID-19 vaccines. In this regard, the end of the monopolies of pharmaceutical companies with the [TURKOVAC](#) vaccine to be delivered to the continent is not only in the interest of African nations, but also in the interest of people around the world, including in rich countries. COVID-19 will continue to be a global health problem if the necessary help from global stakeholders is not received to ensure that vaccines are delivered fairly to the continent. In addition, if adequate vaccine access to African

nations does not occur, it will have serious consequences for African governments, both economically and politically, and will leave African nations behind the international community.

African governments know that the economic and social damage of this pandemic will continue to increase until it is fully reconnected to the regional and global economy, regardless of how COVID-19 continues in their countries. That's why governments in Africa should own, support local scientists and partner with the TURKOVAC team to grow vaccine research and supply across the continent. Unless specific interventions and aid are initiated for the continent, Africa's burden of disease will last longer than expected. The successful fight against the outbreak can be achieved through strong cooperation between countries in addressing any disparities in Vaccine access. Therefore, it is important to help the African continent acquire COVID-19 vaccines by balancing all the power dynamics that will affect access and distribution. Assuming the responsibilities of continental governments in this regard will further accelerate global cooperation.

Vaccine hesitations and solutions

So far, [activities to counteract the COVID-19 outbreak on the African continent](#) have included tests, border shutdowns, school closures, physical distance recommendations, the use of face masks, hand cleanliness in public areas, and public health campaigns about the presence of COVID-19. However, the public's dissemination of a large amount of misinformation has resulted in the reluctance of the COVID-19 vaccination. While many have denied the existence of COVID-19 to yet, others have viewed it as a political [corruption](#) strategy.

The possible [causes of covid-19 vaccine hesitancy in Africa](#) can be seen from a variety of angles. Some of them included the assumption that the COVID-19 vaccination was political or biological weapon, as well as a lack of trust in the pharmaceutical sector, and that the vaccine was

a "sign of the devil." Some of them argued that COVID-19 was created as bio-weapon by foreign actors. Some say using the vaccine in Africa make the people in the continent to be treated as guinea pigs in vaccine experiments. The assumption that 5G technology is linked to the spread of COVID-19 has led to scepticism and distrust of vaccines. As a result, these misunderstandings had a negative impact on research that could be acquired through the potential COVID-19 vaccination and the overall COVID-19 pandemic response.

The problem of vaccine hesitancy creates an important question in any Covid-19 vaccination campaign: Will Africans agree to be vaccinated? Vaccine apprehension is complex and context-dependent; it changes with time, place, and vaccine. There are certain global lessons to be derived from views and behaviours related to vaccine willingness to the vaccines made available in Sub-Saharan African countries and elsewhere prior to the COVID-19 pandemic. [During an outbreak of bacterial meningitis in Nigeria in 1996](#), for example, Pfizer attempted the antibiotic medication Trovan (trovafloxacin), which was still in the testing stage for over 200 children. As a result of these tests, 11 children are said to have died, and scores more are said to have been wounded. As a result, vaccine apprehension in Nigeria and many other countries derives not only from conspiracy ideas or a scepticism of science, but also from personal experiences. Concerns have been raised concerning the long-term effectiveness and potential negative effects of some prominent vaccination candidate platforms due to their relative originality. Public unwillingness to vaccinate is recognised as an increasing problem across Africa, fueled by distrust of the health system and political institutions. Prior to the Covid-19 outbreak in 2019, the World Health Organization identified vaccination hesitancy as one of the top ten [global health hazards](#).

Community participation and community stakeholder engagement, including to the traditional leaders, chiefs, and religious leaders, are among the strategies used to encourage covid-

19 vaccination in Africa. Community health workers, freelance pharmacists, patent medication sellers, and civic-based organisations all play a role in this setting.

Can Turkish scientists' TURKOVAC vaccination put an end to the above-mentioned reservations? Although there have been no attempts to harm Turkey's image on the continent, it has always adhered to the principle of transparency in its ties with the continent. Turkey plays an essential role not only in combating the pandemic, but also in fostering engagement with civil society and viable political groupings. This will help us to anticipate minimising the impact of the aforementioned hesitations.

What Advantages Turkey Can Offer to Africa

There are several hurdles to vaccinating a population, ranging from finance and equitable access in global immunization to logistical challenges of delivering, storing, and deploying vaccinations. The majority of Africa is anticipated to obtain vaccine supplies through the Global Vaccine Alliance (GAVI), the World Health Organization (WHO), and the COVAX project, which aims to guarantee vaccines reach low-income countries. COVAX, a global project aiming at distributing COVID-19 vaccinations to impoverished countries, has substantially underperformed, providing only a small part of the [2 billion doses](#) required by the end of this year. Shipping COVID-19 vaccines to African countries needs careful preparation and extraordinary coordination among a wide range of stakeholders, given financial shortfalls, inadequate healthcare systems, and a lack of supply chain infrastructure across much of the African continent.

Aside from the problems of garnering public trust in vaccines, logistics and distribution issues are critical. In this regard, [Turkish Airlines \(THY\)](#), in addition to possessing a significant worldwide transport and logistics network, may be among the important organisations that will be required in the shipment of vaccinations to the African continent, depending on its carrying

capacity. Turkish Airlines holds the distinction of being the foreign airline that travels to the most [African locations, including 60 cities](#). To guarantee that vaccines are distributed properly throughout the countries. Leaders and other authorities must work with enterprises such as TURKOVAC vaccine manufacturers and Turkish Airlines.

The shipping and supply of vaccines to African countries accounts for half of the COVID-19 battle. Even if certain donor countries pay vaccines for low-income countries, the establishment of a vaccination programme in continental countries will be required. It is critical that plans for where, how, and by whom the vaccination will be delivered are accessible. Good planning and demand planning are especially crucial when millions of vaccine doses are required to ensure that infrastructure can deliver vaccinations successfully. Vaccines should be kept cold when supplied to African countries, then to medical centres, and finally to regions and communities. This is a significant concern in Sub-Saharan Africa, where just [28 percent of healthcare facilities](#) are expected to have access to reliable energy or refrigerated delivery vehicles.

[COVID-19 vaccines approved in various countries include](#) the Pfizer-BioNTech vaccine (which must be stored at ultra-cold -70 C), the Moderna vaccination (which must be stored at -20 C), and the Oxford-AstraZeneca vaccine (which requires storage at normal cooling temperatures, 2-8 C). Countries that receive specific types of vaccinations will need to plan for ultra-cold chain transmission and storage at -70 degrees Celsius. As a result, many countries will need to create ultra-cold chain infrastructure in order to use such products.

Countries that prefer the TURKOVAC vaccination should begin preparatory research by assessing existing supply chain capabilities and gaps prior to the vaccine's launch. These preparations should include storage conditions, fair distribution for the country (including cold chain storage), vaccine effectiveness, and planning for multiple dosage compliance. Keeping

vaccinations refrigerated will be critical. African countries should be educated of major in Turkey's storage and immunisation expertise, and Turkey should act as a proxy for African countries to investigate methods to improve their own blood in this regard.

Another concern is health worker capacity, which is critical for effective implementation. There is less than the amount of health workers per capita that Africa have at this time. Additional medical staff will be required to ensure that the covid-19 vaccine implementation is not jeopardised. The presence of Turkish state hospitals in nations such as Somalia and Sudan will provide facilities for vaccination for these two countries. Given the prior successful health projects and knowledge of [TIKA \(Turkish Cooperation and Coordination Agency\)](#) and numerous [Turkish NGOs](#) that also operate on the African continent, it might be considered an essential initiative that should be used. However, a large-scale vaccination campaign will present new hurdles in terms of distribution, administration, and follow-up. Concerning immunisation, African countries' Ministries of Health should do their share to safeguard the system with [Turkish embassies in 43 African countries](#), the [Turkish Red Crescent](#), and Turkish NGOs with experience in the field of Health Services.

Lessons gathered since the beginning of the COVID crisis have proven that adequate preparation and effective collaborations with supply chain partners can be crucial success factors for governments attempting to secure critical medical supplies in health-related emergencies. Prioritization will be critical to ensuring the successful implementation of the COVID-19 vaccine plan for Africa, including mapping out logistics requirements and identifying potential bottlenecks throughout the entire supply chain, including transportation, storage, cold chain requirements, distribution, and vaccination. Equality of access to vaccination should be a driving element

throughout the planning process. Turkey has several benefits in terms of providing proper vaccination application in African continent countries, from supply to logistics.

Conclusion

COVID-19 imposes a tremendous strain on the African economy by killing over a hundred thousand people across the continent, wreaking havoc on its economies, and plunging millions into poverty. Before the outbreak in 2020, [494 million individuals in Sub-Saharan Africa](#) were predicted to be impoverished. According to a Pew research, that number has climbed by [40 million after the pandemic](#).

Given that vaccination will become a fundamental need for global economic participation and progress, Africa will require a substantial immunisation effort to link the continent to the global economy. Given the existing circumstances, lower-income countries in Sub-Saharan Africa lack the resources to manufacture vaccines. As a result, based on the current vaccine delivery strategy, African countries have no choice except to take specific vaccines that are available to them. What is evident is that the African continent is not being treated equitably when it comes to satisfying its own public health needs. Providing a safe and effective COVID-19 vaccine to every African swiftly and for free is the most effective strategy to save lives and livelihoods, keep children in school, cut unemployment rates, and revive economies. Because of the high expense of procuring and administering vaccines, as well as the poor state of African economies, many African countries will rely on foreign partners and the goodwill of the international community when it comes to distributing vaccines

Given Africa's history of battling prior and ongoing epidemics, vaccinations have always arrived on the region after thousands of lives had been lost. Similarly, most African countries have been trapped in a global vaccine conflict over access to existing COVID-19 vaccine sources.

Despite the fact that numerous countries and organisations around the world have frequently raised the concerns of equitable access, distribution, and donation of COVID-19 vaccines, this has not occurred to the extent that was wanted until now. More must be done in this regard to assist African countries in obtaining safe, effective, and affordable covid-19 vaccines as soon as possible. The TURKOVAC vaccine and other benefits that Turkey will create can help African countries address some of their difficulties and get the immunizations they desperately need. Furthermore, Turkey can enable vaccine availability to African countries who aim to develop the COVID-19 vaccine using a variety of ways, including vaccine production technologies, through the following steps. It might also collaborate on a plan to assist covid-19 vaccines be produced locally. Negotiations will be required for the manufacturing and delivery of the vaccine on the continent, particularly with donor countries, pharmaceutical businesses on the continent, funders, and, essentially, everyone now involved in the supply of vaccines to Africa.

Recep Tayyip Erdogan, the Turkish President, has stated on numerous occasions that Turkey encourages and supports multilateral collaboration in the worldwide response to COVID-19. Turkey's efforts and contributions to ensuring equitable access to vaccines offer a comprehensive perspective on ongoing practical collaboration. It is very positive that the Republic of Turkey will share the vaccines it will make with Africa, but international institutions must facilitate the delivery of the COVID-19 vaccine to Africa and other countries. During the process, the [Africa Centers for Disease Control and Prevention \(Africa CDC\)](#) will be appropriate to negotiate access to overcome the hurdles by partnering with Turkey under the leadership of the [African Union](#). First, Turkey must do additional research and develop a strategy for shaping goals and collaboration that will improve vaccine access for the continent. This is necessary because successful vaccination distribution throughout different populations and countries with vastly

varying economic, racial/ethnic, and cultural origins necessitates meticulous planning and evaluation. This is a high priority in order to address the critical gaps and challenges that Africa faces.

The international community must contribute significantly to alleviate the economic and financial load, as well as to fund vaccines. Many factors, including transportation, storage, and logistical challenges, a lack of finance and staff resources for immunisation, and vaccine hesitancy, will drive vaccination activities across the continent. To enhance planning and coordination of activities, global and regional collaboration in emerging economies with vaccine purchase, distribution, storage, and delivery must be quadrupled. The success of these projects is dependent on the efficacy of regional and international cooperation on health issues. At the same time, international health players ([WHO](#), [WTO](#), [World Bank](#), [UN/UNDP](#), and so on) need more and better cooperation and financial initiatives.