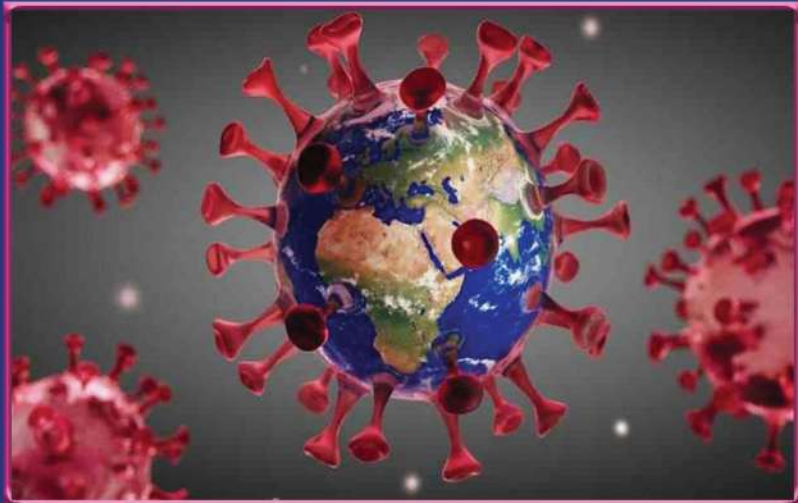


Coronavirus Scenarios in Iraq Outbreak - Vaccination - Ending Lockdown



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An Overview of RCD

Al-Rafidain Center for Dialogue is a qualitative center in Iraq that brings together to its platform the political, economic and academic elites, leading the visions and influencing both the decision-making process and the public opinion. It is an independent intellectual center (a think tank), seeking to encourage dialogues in politics, culture and economy among Iraqi elites to reinforce democracy, foster social peace and help the state institutions to develop itself by providing expertise and strategic visions. Thus, the Center represents a salon for an objective and neutral dialogue whose outputs are employed to put pressure on decision-makers and shape public opinion towards building a State of Institutions, within the framework of democracy, supremacy of law and respect of human rights.

The Center was founded on first of February 2014 in the holy city of Najaf as a virtual group in the cyberspace that included a limited number of politicians, academics and intellectuals. The idea later evolved which led to its legalization by registering the Center in NGO section of General Secretariat of the Iraqi Council of Ministers.

Today, RCD brings together more than 700 Iraqi members from all political trends, academic disciplines and religious branches, which resembles a miniature of Iraq, in

which everybody agrees upon adopting dialogue as a fundamental pillar to face problems and generate strategic solutions attuned to the Center's vision to build a prosperous country. In addition, 30 employees from different disciplines work in the Center's administrative divisions.

The Center managed, in a short period, to make a number of achievements through harnessing the different potentials and employing the outputs in favour of the Iraqi issue, benefiting from the new electronic communication with elites who are at the centre of decision-making, surpassing barriers of geography, time and security imperatives that may hinder the dialogue.

The Centre did not only communicate virtually, but also set up a range of activities on the ground, including a number of seminars, conferences, workshops and dialogue sessions in several fields. These include, but not limited to, developing the banking sector and stock market, promoting national reconciliation between the parties and mediating in crises between the central and regional governments. They also include improving the services sector, getting rid of the administrative bureaucracy and routine, achieving water and food security, as well as investigating other contentious issues such as constitution, petrol, foreign relations, Popular

Mobilization, border-crossing points, investment, social care, etc.

The RCD Forum is a true milestone within the Centre's activities; it is the first-ever broadest and most organized forum in Iraq. It aims at enriching the dialogue between decision-makers regarding issues of concern to the country, promoting discussions about them and sharing experiences with academic experts.

The Center's vision

The Center is the station where views of elites and decision-makers of all political, religious and national spectrums meet, providing a positive interactive environment that widens the common space between these views and helps building a prosperous country.

The Center's mission

Encouraging and developing objective and meaningful dialogues among Iraqi elites and decision-makers, thereby enhancing democracy as well as achieving social peace and sustainable development in Iraq.

The Center's Objectives

The Center seeks to achieve a number of objectives including:

- Achieving the social peace and ensuring its continuity by encouraging constructive dialogue and intellectual exchange among Iraqi elites within a national comprehensive rules and frameworks.

- Promoting a sense of national responsibility in society by shaping the public opinion towards a sustaining democracy, and maintaining a balanced relation and mutual trust between the elites on one hand, and the state bodies and institutions on the other hand.

- Helping the government institutions and bodies to develop solutions for the problems facing their work by presenting the studies, consultations and strategic visions of specialised researchers.

- Broadening the base of female members among political and social entities by providing an objective environment that guides the dialogue in a way that benefits the public interest of the country and citizens.

Strategies

To achieve its objectives, the Center adopts the following strategies:

- Holding conferences, seminars and specialized forums in political, social, economic and cultural fields, as well as providing media coverage for these activities and their outputs.

- Publishing original language and translated books, magazines, newspapers, publications and researches in Arabic and other languages, both paper-based and electronically.

- Developing agreements and partnerships with high-ranking universities and colleges in Iraq and abroad, to organize joint scientific events that help achieving the Center's objectives.

- Establishing research communities for scientific, intellectual and cultural studies, and forming standing or temporary specialized committees that encourage the scientific research activity, thus contributing to the achievement of the Center's goals in issues concerning Iraq and the Middle East region.

- Holding dialogue and understanding workshops among the conflicting parties, whether their conflict is ethnic, racial or political; to develop mechanisms of understanding the other as an introduction to discover the national commonalities, making it a launching pad for a meaningful dialogue to achieve social integration.

Introduction

The world, especially Iraq, continues to face unprecedented and unique crisis that triggered dangerous ramifications on economic and social levels all over the world, namely coronavirus. It is an animal-origin virus, capable of inducing several mutations, making it transmissible to human. There are also environmental factors that contribute to the rapid spread of the virus such as population density, climate change, travel, and some countries' traditions in co-existing with animals as well as the lack of hygiene, especially when cooking or storing foods. All these have led to the prevalence of viruses more broadly than before, especially in 2003 and 2012, during which there were only two syndromes, (MERS and SARS) respectively. At the time, the infection rate was limited among humans and animals. However, COVID-19 has spread more rapidly among people¹.

Studies about the pandemic have focused on its repercussions on different aspects of people's lives, including social, economic, cultural and psychological aspects. They also provided special analyses in this regard. However, the achievements about the future of the world post-coronavirus are still limited and almost non-existent when it comes to Iraq. Thus, it was necessary to highlight

the future of Iraq's situation during 2021, may it be a good year getting out of the crisis and its repercussions.

Developments of Pandemic Outbreak in Iraq

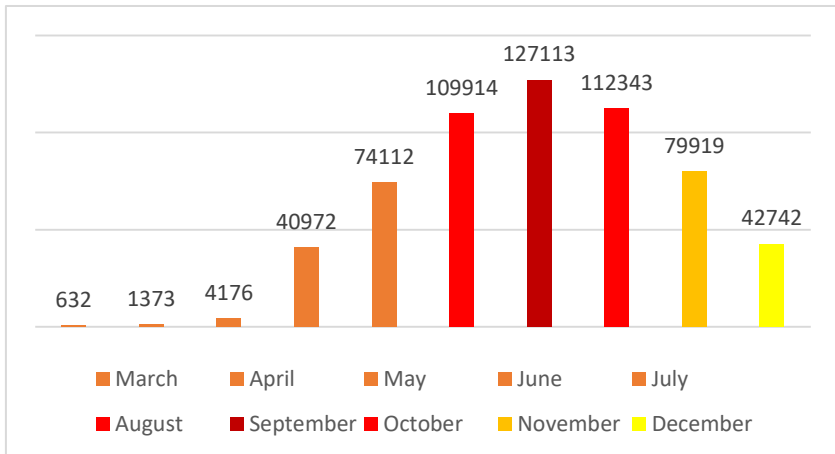
On 11 March 2020, the World Health Organization announced that the novel coronavirus has become a pandemic, which is a new variant of the crown viruses that appeared for the first time on 31 December 2019. The virus causes diseases in respiratory system, varying from a common cold to serious symptoms that can cause death².

The virus is one of the toughest global health crises ever in our modern day. The General Secretary of UN has described it as "the biggest humanitarian crisis since the World War II³," as it spread all over the continents except the South Pole. The U.S. Johns Hopkins University has announced that the total number of novel coronavirus confirmed cases around the world is 55,624,562, while the total number of deaths is around 1,338,100, with 35.9 million cases recovered. These numbers are until 20 November 2020⁴.

Until 30 December, the total number of coronavirus confirmed cases was around 12,813. The two following figures show development of cases in Iraq by month,

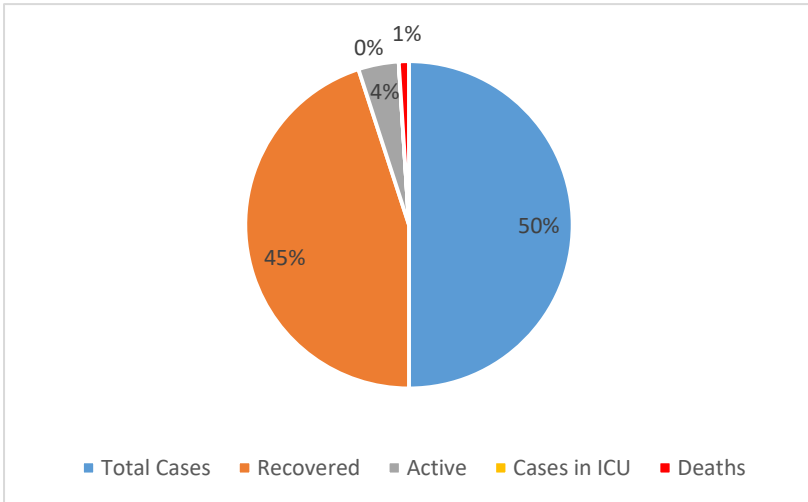
recovery rate, active cases and deaths in Iraq until 31 December 2020.

Figure (1): Development of coronavirus cases in Iraq by month during 2020



Source: prepared by researchers based on Iraqi Ministry of Health data.

Figure 2: The rate of recovered, active and death cases in Iraq until 31 December 2020.



Government Measures

The virus emerged in Iraq on 24 February 2020 when an Iranian student, studying in the holy city of Najaf, tested positive. Afterwards, a crisis unit has been formed, whose first decision was shutting down commercial exchanges in mid-March and closing five land borders with Iran completely, as well as banning entry from 11 countries and imposing a travel ban on Iraqis to these countries, except official delegations and diplomatic corps. This was followed by shutting down facilities such as shopping malls, cinemas,

places of worship, cafes, restaurants, swimming pools, staterooms, parks, clubs and social forums until further notice. The unit decided to allow shops to open for providing necessary supplies for living and imposed round-the-clock curfew on 17 March. In addition, the unit suspended school and university attendance and reduced the number of employees in the government institutions by half on a rotating basis except for the security and health services.

On 21 April, the restrictions were reduced and the government allowed people to go out during daytime hours except Friday and Saturday, on which there was a round-the-clock curfew. The government re-imposed a total lockdown twice during the holiday of Eid al-Fitr for 15 days and Eid al-Adha for 10 days, in order to limit gatherings. Then, the government reduced the restrictions more broadly in mid-August, imposing a partial curfew on all days from 10pm to 5am. It also lifted most of coronavirus preventive restrictions, such as resuming sport activities and flights as well as reopening land borders to trade⁵.

On the other hand, the Ministry of Health has worked to integrate 20 additional centres for treating coronavirus infected people, with a capacity of 11,000 bed. In addition, a number of field hospitals has been established with

different capacities to receive moderate to severe cases in coordination with the two holy thresholds of Husseinia and Abbasid as well as the Popular Mobilization Units⁶.

Table 1: Iraqi Government measures in response to the pandemic

Closure Procedures	The complete lockdown from mid-March, including the closure of government institutes and schools, allowing only activities that enable people to access basic needs. Partial lockdown starting from 21 April, allowing shops and public institutions to work with 25% of its capacity.
Travel Ban	Banning travel internally and externally using airplanes, except for limited cases to get back Iraqi citizens who are married abroad.
Closure of cities	The local authorities has initiated closures of cities in the provinces and Kurdistan Region more than once, particularly during Eid al-Fitr and Eid al-Adha, especially in the holy cities (Najaf and Karbala)
Supporting Health Institution	Providing urgent aids to the health directorates in all provinces by federal ministries. Establishing field hospitals by army and Popular Mobilizations. Increasing the production of oxygen by Ministry of Industry's plants, in addition to the production of masks in the beginning of the crisis.
Supporting the affected groups	The government has provided a financial grant of IQD 30,000 to each person.

Source: Hassan Latif Kazem, The Economic and Social Consequences of Corona Pandemic in Iraq, Arab Centre for Research and Policy Studies, Doha, October 2020, Page No. 5.

Direct Economic Consequences

The pandemic and its consequences have had a negative impact on the Iraqi citizen's standard of living, and

thus on the family income, especially those whose members work in the private sector, and in most of economic and development activities. This was evident on the GDP indicator in the first and second seasons of 2020, comparing to the equivalent seasons of 2019 (See table 2). The GDP has been impacted greatly due to the crisis. However, the biggest impact was on the oil production reduced in the second quarter of 2020 by 71%, comparing to the first quarter of the same year, due to decline in oil price from USD 64.7 per barrel on average in the first quarter to USD 23.4 in the second quarter. On the other hand, the non-oil activities have reduced by 16% during the two mentioned quarters.

Table 2: The GDP at current prices of the first and second seasons of 2020 comparing to 2019

Details	First Season 2020 (IQD Trillion)	First Season 2019 (IQD Trillion)	Growth Rate	Second Season 2020 (IQD Trillion)	Second Season 2019 (IQD Trillion)	Growth Rate
Crude oil activity	27.6	20.5	-25.7	30.1	8.8	-70.7
Rest of activities	33.0	33.2	0.6	38.4	32.1	-16.3
GDP	60.6	53.1	-12.3	68.6	40.5	-40.2
Oil barrel price (USD)	60.5	45.9	-24.1	64.7	23.4	-63.8

Source: Prepared by researchers based on the Directorate of National Accounts data, the GDP report for the first and second seasons of 2020.

Perhaps what counts for the financial policy during the crisis (until mid-December 2020) is its ability in maintaining the stability of the exchange rate, as well as avoiding the inflationary rise in the prices paid by citizens in return of getting goods and special services to meet their family needs. All this in spite of the fact that the largest proportion of Iraqi families spending has been focused on four divisions of the Iraqi consumer's basket of goods and services according to the social and economic survey for 2012 as follows:

- First division: foods and non-alcoholic beverages (29.6%)
- Fourth division: housing (25.4%)
- Seventh division: Transportation (15.2%)
- Fifth division: household installations, equipment, and maintenance (6.5%).

The following table shows that the overall record in Iraq for October 2020 was around (105.5%), comparing to around (104.8%) in October 2019, namely (0.7%) rise, which represents the annual rate of inflation.

We present the following analysis of changes in annual consumer's prices, comparing between October of 2020 and 2019.

1. The division of foods and non-alcoholic beverages increased by (0.2%) due to the rise of a number of totals that are: meats by (1.3%), yogurt, cheese and eggs by (3.6%), oils and fats by (1.6%), sugar and sugary products by (0.5%).
2. Tobacco division decreased by (0.6%).
3. Clothes and shoes division decreased by (0.8%) due to a decline in the prices of clothes group by (0.9%) and shoes by (0.3%).

4. Housing division decreased by (0.6%) due to a decline in maintenance and house services group by (1.1%), fuel group by (1.6%), water and electricity supply group by (0.3%) and rent group by (0.4%).

5. The division of household Installations, equipment and maintenance decreased by (0.9%) due to a decline in the prices of furniture and installations by (0.8%) and domestic appliances by (1.0%).

6. Health division increased by (4.8%) in the annual rate of change.

7. Transportation division increased by (1.6%) in the annual rate of change.

8. Communication division increased by (0.3%) in the annual rate of change.

9. Entertainment and cultural division increased by (1.9%) in the annual rate of change.

10. Education division increased by (7.8%) in the annual rate of change.

11. Restaurants and hotels division decreased by (1.0%) in the annual rate of change.

12. Goods and services division increased by (7.9%) in the annual rate of change.

When comparing the same indicator of October 2020 to October 2019, it shows that there is an increase by (0.7%), which represents the annual inflation rate. As to the

core inflation rate, calculated after excluding some goods with unstable prices, including fruits and vegetables under foods division as well as petroleum and cooking gas within the housing division⁷, it was (0.9%), which reveals the success of the financial authority in controlling the inflation despite the pandemic conditions. However, there is a negative aspect related to the lack of liquidity in economy and the government inability to fulfil its financial obligations towards employees and contractors. Therefore, employees' salaries were delayed in several occasions, while contractors' receivables owed by the government have been suspended.

Table 3: Consumer price index in Iraq for October 2020, comparing to October 2019 (2012=100)

	Division/Main Group/Subgroup	Weight	Index		Change rate%
			October 019	October 020	
01	Foods and non-alcoholic beverages	29.605	98.7	98.9	0.2
011	Foods	28.256	98.5	98.8	0.3
012	Non-alcoholic beverages	1.349	102.2	101.5	-0.7
02	Tobacco	0.615	121.1	120.4	-0.6
03	Clothes and shoes	6.472	102.3	101.5	-0.8
031	Clothes	5.286	103.4	102.5	-0.9
032	Shoes	1.186	97.2	96.9	-0.3
04	Housing, water, electricity, gas	25.359	113.1	112.4	-0.6
05	Household Installations, equipment and maintenance	6.524	96.6	95.7	-0.9
051	Furniture and installations	2.551	93.1	92.4	-0.8
053	Domestic appliances	3.973	98.8	97.8	-0.1
06	Health	4.142	125.2	131.2	4.8
07	Transportation	15.185	97.2	98.8	1.6
08	Communication	3.109	109.1	109.4	0.3
09	Culture and entertainment	1.998	92.8	94.6	1.9
10	Education	0.922	144.1	155.4	7.8
11	Restaurants and hotels	1.527	112.6	111.5	-1.0
12	Various goods and services	4.542	109.0	117.6	7.9
Overall Index		100	104.8	105.5	0.7
Index after exclusion		100	105.2	106.1	0.9

Source: Central Statistical Organization, Index Numbers Section, (Reports of Consumer Price Index in Iraq), different numbers, Baghdad.

Outbreak Scenarios and Risks of Health System Collapse

The available data indicates that 63% of population got primary health care in 2017, compared to 73% in 2014 and 62% in 2016⁸. GDP percentage spent on healthcare in Iraq is very low comparing to other countries; estimated in Iraq at about 3.1%, while it was 4.2% and 9.5% in the Arab and international countries respectively for the period of 2005-2017⁹.

Subsequent governments have neglected the health sector as the lack of funding has led to catastrophic results, foremost among which was the lack of infrastructures, including hospitals and primary healthcare centres that lack sustainability and human and financial resources. This has created huge gaps in health, preventive and treatment services. Moreover, it has imposed financial burdens on the poorer and vulnerable groups due to the fees charged to the patients and the increase in personal expenditure rate on healthcare, which is more than 70% of healthcare costs borne by patients and their families¹⁰.

On the other hand, after 2003, the phenomena of disparities and inequalities in accessing health services has emerged, as the country provided possibilities of treatment to certain groups outside Iraq. In addition, there was a great

disparity in health services quality, whether between the public and private sector, or on a regional basis between rural and urban areas and among the different provinces¹¹.

The health sector did not meet the requirements of International Health Regulations, especially those responding to the health risks and diseases. An evaluation was carried out in 2019 for monitoring the availability of therapeutic and life-saving medications for a list of 531 medicinal product. It shows that 12% of the primary medications was entirely available in health institutions, including life-saving medications and the ones used in treating common cases. However, half of medications was not available in hospitals and health centres throughout 2018¹². The sustainable development goals report 2020 also indicates that the density rate of health workers per 10,000 inhabitants was low and did not change as intended during the period of 2016-2019. For instance, the density rate of physicians per 10,000 inhabitants was 9 in 2019 (see the following table). In contrast, the number of physicians is 52 in Austria, 49 in Norway, 43 in Switzerland, Germany and Sweden, 30 in the UK, 26 in the USA, 26 in Japan and 19 in Turkey, according to data of 2019¹³.

Table 4: Density rate of health workers per 10,000 inhabitants for 2016-2019

Details	2016	2017	2018	2019
Total Physicians	8.4	9.4	9.1	9.3
Dentists	2.4	2.8	3.1	3.7
Pharmacists	4.0	3.3	3.3	2.6
Nursing staff	19.4	20.3	20.6	22.5
Health professionals	19.0	19.0	19.4	23.4
Laboratory Staff	2.6	2.6	2.8	3.1
Health assistants	0.2	0.2	0.1	0.3

Source: Central Statistical Organization, Sustainable Development Goals Report, Human Resources Statistics Department, Baghdad, 2020, Page No. 24.

In conclusion, the health system continues to face serious challenges in meeting the needs of patients, whether those infected with the crown virus, or others, due to the lack of human, material and financial resources as well as health buildings, especially hospitals and health care centres.

Scenarios of Potential Vaccine Availability

The vaccination process is expected to contribute gradually (and not rapidly) to a better public health in all countries, through preventing the infection of virus, reducing the number of infected people and reaching the so-called “herd immunity.”

The vaccine is a substance given to human to stimulate the immune system to eliminate the factor causing the disease and its toxics inside the body¹⁴. In fact, the application of a vaccine on a certain disease in a society contributes to saving treatment costs. It is also necessary to choose the vaccine carefully, ensure its safety and monitor it even after its manufacture¹⁵.

According to the US New York Times, there is 58 potential vaccines under development in medical laboratories around the world. However, only seven vaccines received approval until 6 December 2020, the most important of which is perhaps the U.S. Pfizer, German BioNTech, Oxford, Moderna, as well as the Russian Sputnik and some Chinese vaccines¹⁶.

U.S. Department of Health has announced that an anti-corona vaccine is expected to be available in the U.S. between March and April 2021 to cover the required

quantity to vaccinate all Americans¹⁷. The UK has announced that vaccination was initiated in mid-December 2020. Rest of countries are also expected to take a similar step with the availability of the proper vaccines approved by the relevant institutions. The U.S. Foreign Policy magazine has reported that while some rich countries have purchased millions of doses of the potential vaccines, the poorer countries still await. The European Union and five other countries have purchased 2.2 billion doses of potential coronavirus vaccines, while Canada has purchased 5 times more vaccine doses than needed for its population¹⁸.

The report also refers to the fact that some vaccines require two doses, which means that the poorer countries may have to wait until 2024 to get the vaccine¹⁹. In addition to the financial capacity to purchase it, transporting and distributing the vaccine require high efficiency, such as non-regular storage requirements needed for the vaccine, which doubles the burdens of poorer countries and shrinks its capacity to perform a safe vaccination process.

The European Commission has announced its approval of a contract with Pfizer and BioNTech to purchase 300 million doses of the vaccines. It had also made three other deals with the Swedish-British “AstraZeneca” and the U.S. “Johnson & Johnson” (Up to 400 million doses from each

group) and the French-British “Sanofi-GSK” (Up to 300 million doses)²⁰.

According to the director of public health Riyadh al-Halafi, the first batch of Pfizer vaccine will arrive in Iraq in March 2021, including 600 thousand doses, enough to vaccinate 300 thousand person with two doses. In addition, “Pfizer offered Iraq to purchase 9 million doses with USD 12 per dose.” At the same time, an agreement with the Global Vaccine Alliance was signed by Iraq whose share will be 20% of its population. This means that it costs 208 million dollars to purchase Pfizer coronavirus vaccine for around 8 million of population²¹.

The Ministry of Health has made a statement regarding its measures to import coronavirus vaccine, saying, “Since the beginning of the pandemic and once the companies announced that they would produce vaccines, we initiated communications with these companies and held meeting after another with them, directly or through circuit television. As a result, an agreement has been made with the Global Vaccine Alliance to get a quantity of vaccines that covers 20% of Iraqi population.” According to the statement, the ministry is communicating with “AstraZeneca and other Chinese companies, waiting the approval of any of these vaccines by international

organizations to initiate negotiations with them. Moreover, our ministry has sent several letters to the Ministry of Foreign Affairs to notify embassies of the countries producing the vaccines to inform us about the stages of vaccine production, so that we can communicate with the relevant companies to get the vaccine²².”

However, the process of selecting the vaccine is subject to specialized, professional and financial medical considerations. In the case of Iraq, the financial considerations play an important role given the economic situation and government’s fiscal space. Apparently, the government has decided and agreed to purchase Pfizer in a very limited quantity.

Table 5: vaccine price comparison

Vaccine/Manufacturer	U.S. Pfizer and German BioN	AstraZeneca and Oxford Vaccines	Moderna Vaccine	Sputnik V	Sinopharm
Country of origin	90%	70%	94.50%	91.40%	97%
Efficiency	2	2	2	2	1
Unit price (dollar)	(**) 20	4	33	10	72
Preservation and storage (Celsius)	70 below zero	Normal fridge temperature	20 below zero	Normal fridge temperature	Normal fridge temperature
Total costs (40 million population) Million USD	1600	320	2640	800	2880
Technical risks	High due to the need of storage at 70 degrees below zero	Low	Low	High due to suspicions of quality and efficiency	High due to suspicions of quality and efficiency

(*) Average price per unit x Population number

(**) The price adopted is the one announced by the company, not the price of Ministry of Health referred to in the statement of Public Health director.

Source: prepared by researchers based on press releases and the announcements made by states, companies and experts regarding prices and challenges.

Options to Tackle Coronavirus

Returning to pre-pandemic normalcy may take longer than expected, as the distribution of the vaccine does not mean that the pandemic will recede, since the “herd immunity” or “herd protection” is achieved when immunity against the disease is formed by a huge percentage of society, making it unlikely for the disease to be transmitted from a person to another. Thus, the society becomes completely protected. For instance, if 80% of population were immune against the virus, 4 out of 5 people, who face an infected person, will not be infected by the disease (and will not spread the disease anymore.) This way, the spread of contagious diseases is controlled, depending on how effective the infection is. Normally, 50-90% of population needs to be immune to achieve the herd immunity²³. Thereby, immunity is not limited to those who are immune. However, reaching this level of immunity takes time. Speculations indicate that we cannot know how efficient and successful the vaccine is in reducing the spread of the virus and keeping it under control. In addition, increasing the productive energy of effective vaccines will take time. Moreover, the distribution inside countries will be a challenge for the health policy and its level of transparency.

According to New York Times, a serious problem will hinder the process of controlling coronavirus, even after developing a vaccine to the virus. The problem is how to deliver the vaccine worldwide while keeping it in a very low temperature, knowing that it should be kept in a temperature of down to -70°C from the moment of packaging to when it is ready to be injected in the arms of patients²⁴. This is a serious challenge in Iraq whose health institutions have no ability to provide such facilities.

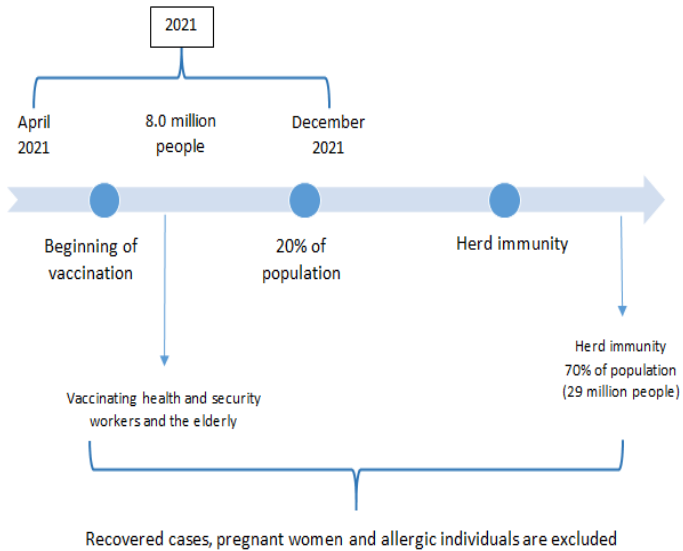
Post-Vaccine Scenarios

According to the government statement, the available quantity of vaccine will be sufficient for 20% of population after its agreement (at the time of preparation of this study in the end of 2020) with the Global Vaccine Alliance upon 8 million doses. This means that Iraq is unable to reach herd immunity by the end of 2021, which hinders the transition to end the pandemic preventive measures, reopen the economy and reduce social distancing requirements.

Based on the above, if vaccine distribution process happens as declared, it will not achieve herd immunity that requires around 29 million population in Iraq, despite excluding some groups who cannot safely get the vaccine based on the medical recommendations. Therefore, the delay in the vaccination process means further violation and

neglect of safety and health procedures, thereby threatening the vulnerable groups who may be infected. (See table 3)

Figure (3): Vaccination Scenarios in Iraq 2021

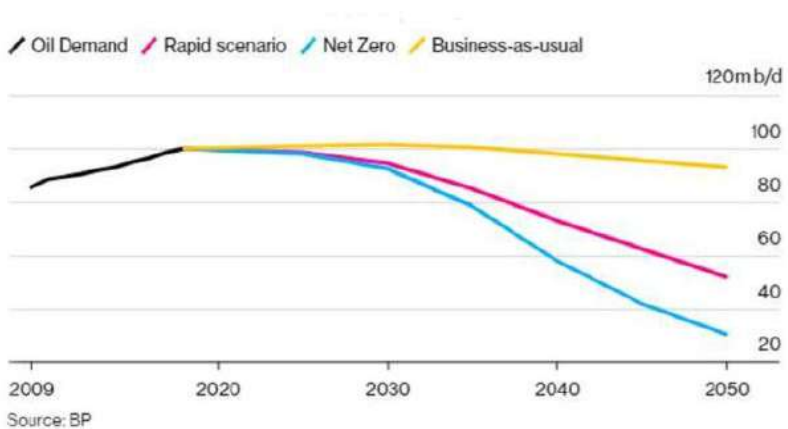


Source: prepared by the researchers.

Post-Pandemic Oil Prices

The British Gas and Oil Corporation (BP) confirmed that the global oil consumption might never return to levels seen before the coronavirus crisis, as the era of oil demand growth is over, due to suspicions that the oil use may already have peaked because of the pandemic, stricter government policies and changes in consumer behavior. BP's energy outlook shows consumption slumping 50% by 2050 in one scenario, and by almost 80% in another. In a "business-as-usual" situation, the demand would recover but then flatline near 100-million barrel a day for the next 20 years²⁵.

Figure (4): BP's Crude oil demand outlook until 2050



The International Energy Agency anticipates that the global oil demand growth would begin to slow in the beginning of 2025, with the improvement of fuel efficiency and the increased reliance on electric vehicles. According to the agency's annual report, oil demand is expected to increase by a million barrel a day on average annually until 2025, reaching 106 million barrel a day in 2040. The agency says that there will be an actual slowdown after 2025, but this will not lead to an ultimate peak in oil use, citing the increasing demand on trucks, ships, airplanes and petrochemicals sectors. Yet, oil use in jitney cars is thought to peak in the end of 2020 as drivers shift to the electric cars. The Energy Agency estimates that there will be around 330 million electric cars used by 2040, which is higher than previous year's estimation of 300 million vehicles. The agency believes that the substantial increase in oil production will come from the United States, the world's largest producer, in addition to Iraq and Brazil²⁶.

Table 6 illustrates the International Energy Agency's oil price forecast for 2021, expecting that the Brent crude price would settle at USD 46.59 per barrel while Texas crude to USD 44.24 per barrel. This means that the expected crude oil prices will not go back to the levels seen before coronavirus. However, these prices will get better than they were in 2020, especially when putting the vaccine to use

and after being taken by individuals. This is in addition to the resulting reduction of closure procedures and social distancing, the restoration of road, sea and air traffic to its former status and resuming different activities.

Table (6): Crude Oil Prices 2018-2021 (dollar per barrel)

Crude Oil	2018	2019	2020	2021
Texas (dollars per barrel)	65.07	56.99	38.96	45.78
Brent (dollars per barrel)	72.21	64.34	41.43	48.53
Gasoline (dollars per gallon)	2.73	2.60	2.17	2.27
Diesel (dollars per gallon)	3.18	3.06	2.55	2.62
Heating fuel	3.01	3.00	2.47	2.68
Natural gas (dollars per 1000 cubic feet)	10.46	10.46	10.51	10.65
Electricity (cents per kilowatt)	12.87	13.01	13.12	13.24
Coal (dollars per 1000 btu)	2.06	2.01	1.94	2.05

Source: EIA, Short-term Energy Outlook, US Energy Information Administration, Forecast Highlights.

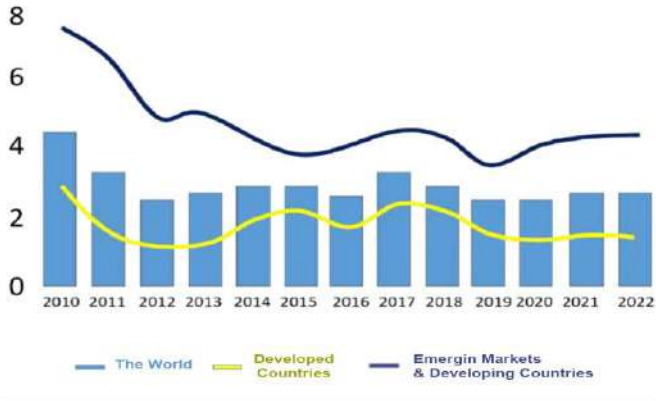
(https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf)

Opening Economy and GDP Effects

The global economy is expected to recover partially in 2020, due to the continuous support through financial policy and by increasing the available liquidity in economy. This simple recovery depends on the recovery of small number of emerging markets and developing countries who started to recover from the big and acute recessions. This growth is expected to be sufficient to achieve great progress in dealing with poverty and reducing it.

The global economic growth rate is expected to recover by 2.5% in 2020 with the decline of advanced economies rate by 1.4% and the recovery in emerging markets and developing countries economies growth by 4.1%.

Figure (5): Global Economic Growth Outlook %



Source:

<https://blogs.worldbank.org/ar/voices/globaleconomic-growth-outlook-five-charts-fragile-handle-care>

As far as the Iraqi economy concerned, GDP growth rates for 2020 can be estimated based on the estimates of the first and second seasons of the year, during which the GDP was estimated at around (197563) billion IQD. It has thus reduced by 25% more than in 2019. Based on the expected international crude oil prices by the International Energy Agency and the estimates of researchers, the GDP of

2021 can be anticipated, estimated at (211419) billion dinars, achieving an expected growth rate of 7% in 2020.

Table (7): GDP forecast for 2020 and 2021

Year	Exchange rate	Oil (Billion ars)	Non-oil (Billion ars)	GDP (Dinars)	GDP (Dinars)	GDP Rate (%)
2019	1182	114031	148886	262917	222	-
2020	1182	59538	138025	197563	167	-24.8
2021	1450	67873	143546	211419	146	7.0

Source: prepared by researchers

As to the impact of changes in GDP for 2021 on expected poverty rates in Iraq, it is necessary to recover some recent historical data of poverty rates estimation illustrated in the following table:

Table (8): Poverty indicator in Iraq for 2007, 2012, 2014, 2018

Year	Poverty Line (Dinar)	Poverty Percentage (%)	Number of poor people
2007	76896	22.4	6648768
2012	105500	18.9	6465123
2014	105500	22.5	8101125
2018	110880	20.5	7370430
2020	111000	31.7	12680000

Source: prepared by researchers based on the Central Statistical Organization, Living Conditions Directorate

In a recent study prepared by Ministry of Planning in conjunction with World Bank and UNICEF, titled “Estimates of the impact of COVID-19 on global poverty in Iraq” and published on July 2020, the poverty rate was estimated at (31.7%)²⁷. According to the researchers estimates, the number of poor people is around (12680) thousand population.

As an attempt to anticipate the poverty rates in Iraq for 2021, after the partial relief from the crisis, we would like to refer to the recent study about the pandemic impact on the global poverty prepared by United Nations University²⁸. The study shows that a decline of income or consumption by (X)% leads to a rise of poverty line (Z) through the following equation:

$$Z / (1 - X)$$

Based on the same methodology and the GDP expectations of 2021, the researchers have estimated the poverty indicators as follows:

Table (9): Poverty scenario for 2021 under the exchange rate conditions

Exchange rate status	Poverty Line (Dinar)	Poverty percentage (%)	Number of poor people (population)
In case of no change in exchange rate (119 Dinar/Dollar)	137900	25.5	10.504
In case of change in exchange rate (1450 Dinar/Dollar)	168000	31.1	12.810

Source: Prepared by researchers.

Nevertheless, the delay in economy opening procedures could aggravate the conditions of poor people. Besides, the government will follow procedures announced in the draft of union budget law for 2021, including a change in Dinar exchange rate, reduction in employees' salaries, increase in gasoline prices, and increase in taxes on goods. All these (except salary reduction) may lead to significant rise in goods and services prices, affecting the living standards negatively, especially for the poorer groups.

Since Iraq relies on importation to meet half of its nutritional needs, these procedures would lead to a rise in non-locally produced foods, influencing the living standards of people, especially the vulnerable and poor groups. According to the World Food Program, 40% of families

depends on consuming the cheaper goods as a strategy to adapt with corona pandemic. This is a negative strategy followed by people to cope with crises, which means an increase in the price importance affecting their conditions.

According to the representative of World Program in Iraq Abdirahman Meygag, around “three million person in Iraq suffer from lack of food consumption, including 731000 displaced persons suffering from food insecurity.” The decline in oil prices and corona pandemic have led to a negative impact on food security status in the country, besides the devaluation of Iraqi Dinar aimed at covering the financial shortfall. Moreover, because most of basic foods were imported, this decision influenced the increase of some basic foods prices, which in return effected the food security on a family level. This is an additional challenge in view of the widespread pandemic and that many people lost their jobs and incomes²⁸.

Eighth: Options to Tackle Coronavirus

Returning to pre-pandemic normalcy may take longer than expected, as the distribution of the vaccine does not mean that the pandemic will recede, since the “herd immunity” or “herd protection” is achieved when immunity against the disease is formed by a huge percentage of society, making it unlikely for the disease to be transmitted

from a person to another. Thus, the society becomes completely protected. For instance, if 80% of population were immune against the virus, 4 out of 5 people, who face an infected person, will not be infected by the disease (and will not spread the disease anymore.) This way, the spread of contagious diseases is controlled, depending on how effective the infection is. Normally, 50-90% of population needs to be immune to achieve the herd immunity²⁹. Thereby, immunity is not limited to those who are immune. However, reaching this level of immunity takes time. Speculations indicate that we cannot know how efficient and successful the vaccine is in reducing the spread of the virus and keeping it under control. In addition, increasing the productive energy of effective vaccines will take time. Moreover, the distribution inside countries will be a challenge for the health policy and its level of transparency.

According to New York Times, a serious problem will hinder the process of controlling coronavirus, even after developing a vaccine to the virus. The problem is how to deliver the vaccine worldwide while keeping it in a very low temperature, knowing that it should be kept in a temperature of down to -70°C from the moment of packaging to when it is ready to be injected in the arms of patients³⁰. This is a serious challenge in Iraq whose health institutions have no ability to provide such facilities to deal

with the complex crisis that happened in Iraq. The government should have designed a responsive policy according to the structure of traumas resulted from the crisis, in a comprehensive understanding to what the Iraqi economy is going through. It should have focused on the following themes:

Health response: to face the risks that may result from the virus outbreak, knowing that the government has not stood firm on imposing a ban, increasing expenditure on health and strengthening the health system capacity to face the health crisis.

Economic response: to prevent economic recession under a negative growth rate and increased unemployment. It would have been possible to postpone fiscal consolidation related to low oil prices and addressing indirect effects until recovery from pandemic. The risks of financial instability could have been reduced, through reducing interest rates below 2% with further injection of liquidity in banking system. Since inflation rate was low during the pandemic months, the liquidity and cash transfer could lead to revitalizing effects in the economy. Although the fixed exchange rate system can lead to some difficulties in the fiscal stimulus package, changing it at this point would aggravate the conditions of poor people, vulnerable groups

and low-income individuals whose savings would be eroded. Moreover, this would generate inadequate environment for investment improvement.

Social Response: The government could have used cash transfer to support poor families and private sector, especially informal sector's small and medium-size enterprises that suffer under the pandemic conditions. Moreover, this response could have been designed in a way that targets workers in informal sector (around 90% of all workers) that does not provide social safety net.

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Outbreak – Vaccination – Ending Lockdown



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