

# 12 Apr 2020: UPSC Exam Comprehensive News Analysis

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*Nothing here for today !!!*

## B. GS 2 Related

### Category: HEALTH

#### 1. 'Data is key to control of this pandemic'

##### Context:

- The article contains excerpts from the interview of Dr. Soumya Swaminathan, Chief Scientist at the World Health Organisation.

##### Details:

##### Gene sequencing of SARS-CoV-2:

- Gene sequencing** is important given that it provides **critical information about the viral evolution, transmission dynamics** and provides useful insights for **drug development**.
- There are currently over 4,500 viral sequences deposited in the **GISAID platform**, with around 10 Indian strains.
  - Global initiative on sharing all influenza data (GISAID) platform**, launched in May 2008, serves as an alternative to the previous public domain sharing model. It provides a **publicly accessible database designed for scientists** to improve the sharing of influenza data.
  - In 2010, Germany became the official host of the GISAID platform.
- Given the fact that all **viruses undergo mutations** as they transmit from person to person, variability has been observed in the strains.
- However, no mutation has been observed so far on any of the important sites of the virus, such as the **spike protein** or in the **RNA polymerase or protease enzymes**, which are **relevant for drug targeting and vaccines**.
- This is important given that the strategies now being used to develop both therapeutics or vaccines are not threatened by any changes in the virus.

##### Lockdown as a strategy:

- Physical distancing and lockdown, does help** bring down the transmission of the virus in the population. However, it was observed that inspite of the lockdown measures, transmissions within households was still occurring.
- Hence lockdowns alone cannot be effective unless combined with other health measures.
- There is the **need for extensive testing** to test everyone with symptoms, and taking those who were positive to a separate facility where they could be kept and treated, and the exposed persons

to a separate quarantine facility. The public health system will need to **detect, isolate, treat and track cases**.

- **Public health interventions** that are shown to be effective like hand-washing, disinfecting surfaces, covering the face and mouth when coughing, and usage of masks need to be implemented together.
- **People will need to change behaviour** by continuing to follow physical distancing, improve personal hygiene.
- Given the fact that the fight against COVID-19 is going to be for a long time, there is the need to think of **sustainable strategies for the post-lockdown scenario**.

#### Need for more testing:

- Given the fact that **data is the key to the control of this pandemic**, there is the need to expand the number of people who are being tested.
- However, given the shortage of testing kits, a viable strategy would be **sentinel surveillance**, which involves testing a proportion of people with influenza-like illness (ILI) or Severe Acute Respiratory Infections (SARI).
- **Serological testing** can give an idea of the extent of the population exposed and also the geographic spread of the virus.
  - **RT-PCR test detects the virus and the antibody tests**, which use blood, **detect the body's response to the virus**. A positive result in the antibody test tells that the person was exposed to the virus.
  - The real-time RT-PCR kits are used to detect an ongoing infection. Unlike RT-PCR kits, the antibody testing kits can indicate if a person has ever been infected by the virus.

#### Drug development:

- The **Solidarity trial being coordinated by WHO** is comparing **Hydroxychloroquine, Remdesivir and Lopinavir/Ritonavir with and without interferon beta**, as a treatment protocol for COVID-19.
- The aim is to develop new therapies by finding an antiviral drug, monoclonal antibody treatment or an **adjunct therapy** that helps modulate the body's response to the virus.
- Though, there is currently no drug with proven efficacy against COVID-19, some drugs are being used for severe cases which are not entirely based on scientific evidence of clinical trials.

### Category: INTERNATIONAL RELATIONS

#### 1. 'Indian labourers in GCC countries in dire need of help'

##### Context:

- Issue of **Indian labourers in Gulf Co-operation Council countries**.

### Background:

- Currently, there are nearly **8 million Indian immigrants in GCC**, of which nearly 2.1 million are from Kerala. Uttar Pradesh, Bihar, Bengal and Punjab also have high number of emigrants in this region.
- **Most of these migrants are low and semi-skilled labourers** who are at the bottom of the pyramid in their host countries.

### Details:

- In the wake of the COVID-19 spread, the situation of Indian immigrants is very precarious.
  - Nurses, small businessmen, labourers have been **infected in significant numbers**.
  - In Kuwait 530 of its 993 confirmed cases are Indians. Indian localities have been quarantined. In Dubai, more than 500 Indians have been infected. Similar situations have been reported from Qatar too.

### Concerns:

#### Health profile of the migrants:

- The **mostly low and semi-skilled labourers have often reported multiple ailments** like diabetes, blood pressure, cholesterol and even kidney, liver problems and cancer.
- Since medicines are very expensive in Gulf countries, migrants often procure their medication from India and stockpile for three to four months. With the **current restrictions** in place, there are **reports of acute shortage of medicines** among the Indian community.

#### Access to healthcare:

- Most Indian migrants in the GCC countries are at the bottom of the pyramid in their host countries and have **limited access to healthcare**.
- The **Gulf countries lack broad-based healthcare facilities** to accommodate a high number of patients.
- The migrants are struggling for their safety and survival.

#### Lifestyle of the migrants:

- Most of the migrant labourers are single men living in **congested labour camps**, using common toilets, rooms etc. Their **living conditions do not allow social distancing**.
- In such scenarios, the risk of spread is even higher, making the migrants very **vulnerable to the pandemic**.

#### Way forward:

- The Indian migrant labourers in GCC countries are in need of **urgent assistance**.
- The immediate task for the Indian government is to chart out a strategy for the **safe evacuation of emigrants**, with a particular emphasis on those immigrants without visa documents and their dependants who are mostly elderly, women, children and unemployed persons. Subsequently, the governments should work on their **rehabilitation in the home society**.

- There have also been calls from Indian associations particularly in Dubai, to hire and convert Indian schools into isolation wards. India can **help the GCC countries with their efforts against COVID-19** with higher efforts directed towards the Indian population.

**Kerala's case:**

**Replacement migrants:**

- Approximately 21 lakh keralites work outside the country. The mass exodus of Keralites over the years has led to a situation where Kerala needs migrants from other parts of the country.
- Around **30 lakh inter-State migrants have migrated to Kerala for work opportunities**. They are referred to as the replacement migrants.

**Disruption due to the pandemic:**

- Under the current lockdown situation, the internal migrants have been protected and guarded in Kerala. Kerala is providing accommodation, medication and food for these migrants.
- Some of the replacement migrants are expected to leave when the lockdown is eased. It also remains to be seen whether the workers who had left before will return.
- Given some incidents of protests in guest workers' pockets there seems to be an increasing **resentment against immigrant labourers in Kerala**.
- In the post-pandemic grim scenario, if there is a **reverse migration of the Kerala migrants** that might also have an impact on the prospects of internal migrants in Kerala.
- Given the fact that these migrant workers are strong building blocks of Kerala's society, the **prevailing uncertainty is not good for Kerala**.

## C. GS 3 Related

**Category: ECONOMY**

**1. States must evolve norms to help labourers return: Gadkari**

**Context:**

- Union Minister for Micro, Medium and Small scale Enterprises (MSME) Nitin Gadkari's views on **economic revival post the national lockdown**.

**Details:**

**Issue of migrant labourers:**

- The lockdown has had an **adverse impact on the economy and has been particularly severe on the migrant labourers**. There are nearly 20 lakh migrant labourers in shelters across the country. Some have been able to reach their native places while most are stranded in shelters houses. Their **economic and social security** is at risk.

**Post lockdown scenario:**

- **The MSME sector** employs nearly 11 crore people and is **labour intensive**. The flight of labour and the prevailing restrictions have brought the entire sector to a standstill.

- The **reverse migration of labourers from cities** is a serious issue in any post lockdown plan for economic revival.

#### Way forward:

##### Facilitating return:

- The State governments will have to **evolve guidelines and arrange for the logistics** to allow the return of the migrant labourers while balancing the need for public health.
- **Confidence-building measures** will have to be undertaken by the government and the factory owners in order to incentivize the return of migrant labourers.
- Considering the **Disaster Management Act now in place**, the District Collector will be playing a key role in facilitating the return.

##### Providing relief:

- Given the distraction due to the crisis, there will be the need for **handholding by the state** by measures such as giving a **boost for the Credit Guarantee Trusts** and offering affordable **working capital** for the firms.

##### Changes post lockdown:

- Even post the lockdown; it won't be business as usual. The industries will have to be **COVID-19 ready in terms of shop floors and business processes** and the industry's culture will have to change accordingly.

##### Bridge plan:

- The Ministry is also preparing bridge plans for the MSME sector including **encouraging rural craft and providing funding for village-based industry**.
  - Under **project Spoorti**, around 400 clusters with 2 crore corpus each have been identified for its implementation.

##### Long term plan:

- The present crisis provides important lessons for India to ensure the production of essential commodities within the domestic territory.
- There is the need for **strengthening of domestic manufacturing capabilities**, emphasising on **import substitution** units within the country.

## Category: SCIENCE AND TECHNOLOGY

### 1. Coronavirus: two vaccines enter human trials, 60 in pre-clinical stage

#### Context:

- Governments, top private players, academics and not-for-profit organisations are working to find a **COVID-19 vaccine**.

#### Details:



- According to the **Coalition for Epidemic Preparedness Innovations (CEPI)** the global COVID-19 vaccine R&D landscape includes 115 vaccine candidates, of which 78 are confirmed as active.
- According to the “**DRAFT landscape of COVID-19 candidate vaccines**” released by the **World Health Organization (WHO)**, two vaccines are currently being tested on humans.

#### **Non-replicating viral vector vaccine:**

- A non-replicating vector vaccine can be developed either **using a virus that is killed or a part of the virus**.
- Since it is not a complete virus or uses a killed virus, it **cannot replicate inside the host**.
- The antigens present in the vaccine **trigger human immune system** to produce antibodies, which help fight the disease.

#### **Messenger RNA vaccine:**

- In RNA vaccines, the **messenger RNA from the pathogen** is used.
- The messenger RNA gets **translated into antigenic protein** recognised by human immune cells and antibodies are produced.
- Given the fact that mRNA is a **highly unstable molecule**, it poses handling challenges. So the mRNA is encapsulated in a small ball of fat or lipid nanoparticle (LNP). This LNP acts as a delivery vehicle that helps the mRNA cross the host cell membrane and once inside the mRNA is released.

#### **Vaccines from India:**

- The vaccines being developed in India contains the **DNA plasmid vaccine** developed by Gujarat based Zydus Cadila and **Live Attenuated Virus vaccine** developed by the Serum Institute of India.

#### ***DNA plasmid vaccine:***

- DNA vaccines are made by **taking genes from the pathogen and inserting it into the host's body with a vector**. The **host cells produce the protein of the viral gene** and this is recognised as a foreign antigenic protein by the host's immune system.
- DNA vaccines are comparatively **easy to make, transport, store and are cheaper**.

#### ***Live attenuated virus vaccine:***

- It is created by **reducing the virulence of a pathogen or weakening it**, but still keeping it alive to trigger an immune response from the human body.

## **D. GS 4 Related**

*Will be here soon...*

## E. Editorials

### Category: HEALTH

#### 1. COVID-19 and immunity

##### Context:

- The article analyses the **relation between the immune response and related complications** in COVID-19.

##### Background:

- COVID-19 has affected over 1.5 million globally and killed more than 100,000 people.
- **The nCoV-19 is not different from other influenza viruses, or even the coronaviruses responsible for the common cold. The Human immune system has a predictable response. However, it is the degree to which this response is tolerated by the human body that determines mortality rates.**

##### Details:

##### Mode of infection:

- Viral particles enter the body **through the nose, eyes or mouth.**
- Breathing carries some of these particles to the lower respiratory tract where the **spike proteins of the coronavirus lock into epithelial cells** that line the respiratory tract as well as those in the air sacs in the lungs.
- SARS-CoV-2's spike proteins **gain entry into the cells by unlocking the ACE2 protein.**
- The viruses **hijack the cell's machinery**, replicate and multiply and infect adjoining cells.

##### Immune system's response:

- **Viruses have antigens**, and the spotting of this **activates the immune system** of the body into action by **producing antibodies.**
- The signals generated to trigger a class of chemicals called **cytokines and chemokines**, which **alert the immune system** to deploy different kinds of cells that specialise in destroying viral particles.

##### Intensifying immune response:

- Given the fact that SARS-CoV-2 virus can **penetrate deeper into the human body**, the subsequent immune response and duration of it is also longer.



- Cytokines and chemokines trigger **inflammation in the cells**. In the nose and upper regions of the respiratory system, inflammation **produces mucus** and a runny nose to trap viral particles. The inflammation of the sinuses causes headache, and the inflammation of the hypothalamus glands results in fever.
- The inflammation **triggers a fluid build-up in the lungs**. The fluids also contain the residue of a **host of specialised cells, including T cells that damage many of the body's own cells** as well as the viral particles.
- As more air sacs are infected, the lungs find it harder to perform their core job of extracting oxygen from the air, and eventually, this aggravates **breathlessness**.
- The inflammation and fluid build-up can lead to pneumonia.
- **Massive levels of cytokines can cause extensive lung damage** and a condition called Acute Respiratory Distress Syndrome. It can cause organ damage to not only the lungs but also the **kidneys and heart**.
- If the infection is acute, it can also lead to a **depletion of the frontline white blood corpuscles** tasked with fighting the infection and making the **body vulnerable to other secondary infections**, which may lead to death.

#### Correlation between Immune response and mortality:

- It is the reaction of the body in trying to combat the virus that ends up being fatal to the humans.
- Mortality statistics globally suggest that **men are twice more likely than women to succumb to a COVID-19 infection**. This can be attributed to the fact that **women have a better-regulated immune response than men** in pathogenic infections.
  - **Estrogen** is said to be an immune-system modulator and the ability to deal with a pregnancy primes women to better deal with infections.
- The different kinds of drugs, deployed to treat serious COVID-19 infection work in some way to moderate the immune system's aggressive defence.

#### Vulnerability of the elderly:

- The elderly, especially those with existing health conditions such as diabetes and cardiovascular disease, have an **inherent malfunctioning in the immune system**.

#### Vulnerability of the children:

- So far there have been few deaths reported in children from COVID-19.
- Given that children's immunity systems are still maturing and learning to adapt to different kinds of infectious agents, the **relative immunity to COVID-19 needs better understanding**.

## 2. To ease lockdown, what are the options?

#### Context:

### Background:

- India went into a 21-day lockdown period as an emergency measure to combat the COVID-19 pandemic.
- The **shutdown would help stagger the progress of the epidemic**, allowing **health systems to build capacity** to manage the crisis that would inevitably unfold.
- Several States are planning for an extension of the lockdown period.

### Details:

- Though an extension to the current lockdown appears as the best way to go, there is also the need to ensure that some **basic public health parameters are put in place to guide the eventual lifting of the lockdown**.
- There needs to be a gradual withdrawal from the lockdown. The major aspects needing attention during the gradual lockdown involves the following:
  - **Increased testing**
  - **Identifying hotspots** and isolating them.
  - Continued social distancing
  - **Remaining vigilant** to new threats like fresh import of cases and resurgence of local transmission.

For more information on this refer [8th April 2020 Comprehensive News Analysis](#)

### National Coronavirus Response: A road map to reopening

- The American Enterprise Initiative (AEI), in its document, “National Coronavirus Response: A road map to reopening” has outlined four **phases in the strategy against the epidemic**.

#### Phase 1:

- Phase 1 includes steps to **slow the spread of the epidemic**. It involves measures such as the **restrictions on movements and lockdown**.

#### Phase 2

- The **region by region reopening** happens in Phase 2.
- **States or regions can move to phase 2 when they can safely diagnose, treat, and isolate COVID-19 cases and their contacts. The progress towards phase 2 would be based on capability built up rather than based on time limits.**
- Schools and businesses can reopen, and much of ordinary life can begin to resume in a phased approach. However, some **physical distancing measures and limitations** on gatherings will still need to be in place.

- For vulnerable populations, continuing to limit time in the community will be necessary.
- **Public hygiene** will have to be improved, and deep cleaning of shared spaces should become more routine.
- People may be asked to wear face masks while in the community to reduce their risk of asymptomatic spread.
- **Testing should become more widespread and routine** to identify, isolate and treat the infected people.

#### Phase 3

- During phase 3, **physical distancing restrictions may be lifted** after establishing immune protection.
- This means safe and effective tools for mitigating the risk of COVID-19 are available, including **therapeutics and safe and effective vaccine**.
- The improvement in health-care system capabilities will lessen the reliance of nations on physical distance as a primary tool to control the epidemic.

#### Phase 4

- This phase involves **preparing for the next pandemic**.
- Nations will need to be prepared to face any new infectious diseases threat, and governments will have to **invest in research and development, expansion of public and private health-care infrastructure and workforce**.

#### Conclusion:

- The world post-COVID-19 might well turn out to be a vastly different place to what it was before the SARS-CoV-2 virus swept across the globe.
- The **lessons from this epidemic like hand and surface hygiene, personal hygiene and physical distancing** must never be forgotten.

## F. Tidbits

### 1. Apple, Google plan software to slow the spread of Virus

- Apple Inc and Alphabet Inc's Google will be working together to create **contact tracing technology** that aims to slow the spread of the coronavirus.
  - Under the plan, users' phones with the technology will emit unique Bluetooth signals.
  - People who test positive for the virus can opt to send an encrypted list of phones they came near to Apple and Google, which will **trigger alerts to potentially exposed users** to seek more information.

- Public health authorities would need to sign off that an individual has tested positive before they can send on the data.
- The collaboration could accelerate usage of apps that aim to **get potentially infected individuals into testing or quarantine more quickly and reliably**. According to health experts, such tracing will play a vital role in managing the virus once lockdown orders end.
- But for the software to be effective, it would require millions of people to opt in the system, trusting the **technology companies' safeguards**, as well as smooth **oversight by public health systems**.

## G. Prelims Facts

### 1. Over 30 crore poor get 28,256 cr. under PM Garib Kalyan Yojana

- As part of the **1.70 lakh crore rupees relief package under the Pradhan Mantri Garib Kalyan Yojana**, the government had announced **free foodgrains and cash doles to women and poor senior citizens and farmers** to protect the vulnerable sections from the impact of the lockdown.
- More than 30 crore poor people have received financial assistance through Direct Benefit Transfer
- Of the total disbursement, 13,855 crore rupees has gone towards payment of the first instalment of **PM-KISAN**.
- **The National Social Assistance Programme (NSAP)** disbursed about 1,400 crore rupees to about 2.82 crore **old age persons, widows and disabled persons**.

### 2. CM fund contributions to not qualify as CSR spend

- The Ministry of Commerce has stated that the Chief Minister's Relief Fund' or 'State Relief Fund for COVID-19' is not included in Schedule VII of the Companies Act, 2013, and therefore any contribution to such funds shall not qualify as admissible Corporate Social Responsibility expenditure.
- The circular has said **donations to the State Disaster Management Authority** to combat COVID-19 can be counted as admissible **CSR expenditure**.
- Since donation to the PM CARES Fund qualifies under CSR expenditure, there have been calls to amend the Schedule VII of the Companies Act to permit the States to access CSR funds.

## H. UPSC Prelims Practice Questions

Q1. Which of the following statement/s is/are correct?

1. Enforcement Directorate is part of the department of economic affairs, Ministry of Finance.
2. Enforcement Directorate is responsible for enforcement of the Foreign Exchange Management Act, 1999 (FEMA) and certain provisions under the Prevention of Money Laundering Act.

Options:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Answer: b**

**Explanation:**

- The Directorate of Enforcement (ED) is a law enforcement agency and economic intelligence agency responsible for enforcing economic laws and fighting economic crime in India. It is part of the Department of Revenue, Ministry of Finance, Government Of India.
- The Directorate of Enforcement was established in the year 1956 with its Headquarters at New Delhi. It is responsible for enforcement of the Foreign Exchange Management Act, 1999 (FEMA) and certain provisions under the Prevention of Money Laundering Act.

**Q2. Which of the following is/are not a predominant kharif crop/s?**

1. Rice
2. Maize
3. wheat
4. Mustard
5. Barley
6. Ragi
7. Cotton
8. Groundnut

Options

- a. 1,2,6 and 7
- b. 1,3,6 and 7
- c. 3,4 and 5
- d. 3,4,7 and 8

**Answer: c**

**Explanation:**

- The agricultural crop year in India is from July to June. The Indian cropping season is classified into two main seasons-(i) Kharif and (ii) Rabi based on the monsoon. The kharif cropping season is from July –October during the south-west monsoon and the Rabi cropping season is from October-March (winter). The crops grown between March and June are summer crops.
- The kharif crops include rice, maize, sorghum, pearl millet/bajra, finger millet/ragi (cereals), arhar (pulses), soyabean, groundnut (oilseeds), cotton etc. The rabi crops include wheat, barley, oats (cereals), chickpea/gram (pulses), linseed, mustard (oilseeds) etc.

**Q3.Which of the following statement/s is/are correct?**

1. The State election commissioner is appointed by the Governor.
2. The state election commissioner can be removed by the Governor.

Options:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Answer: a**

**Explanation:**

- The superintendent, direction and control of the preparation of electoral roles for and conduct of, all elections to the Gram Panchayat and Zilla Panchayat are vested in the State Election Commission consisting of a State Election Commissioner. The State Election Commissioner is appointed by the Governor of the state.
- As per Article 243K of the Indian constitution, the State Election Commissioner shall not be removed from his office except in the like manner and on the like ground as a Judge of a High Court.

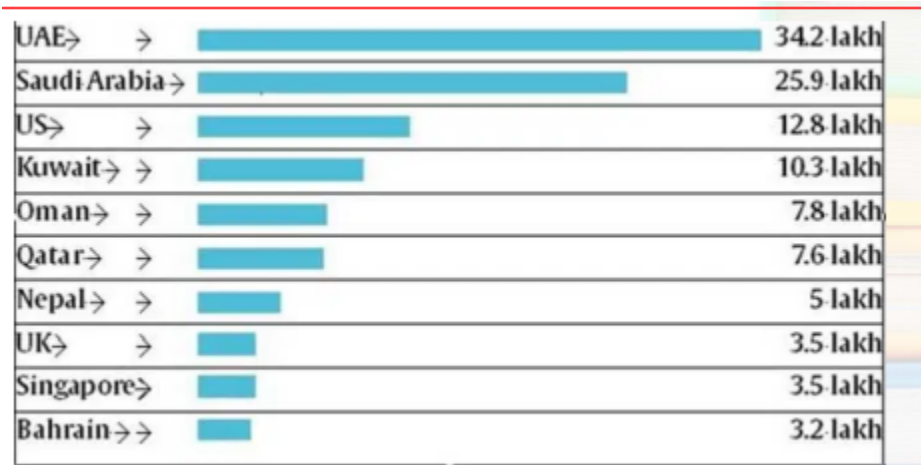
**Q4.The largest expatriate Indian population is based in which of the following country?**

- a. United States of America
- b. Kuwait
- c. United Arab Emirates
- d. United Kingdom



Answer: c

Explanation:



## I. UPSC Mains Practice Questions

1. Elaborate the significance of Science and technology especially the relatively new frontiers of biotechnology, Artificial intelligence, big data and Quantum mechanics in the fight against the COVID-19 pandemic. (10 marks, 150 words)
2. Discuss the prominent emigration phases of the Indian Diaspora. Also discuss the contribution and significance of the Diaspora to India. (10 marks, 150 words)