

# 26 Apr 2020: UPSC Exam Comprehensive News Analysis

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*Nothing here for today!!!*

## B. GS 2 Related

### Category: INTERNATIONAL RELATIONS

#### 1. For BRICS, challenges and opportunities

##### Context:

- Potential of [BRICS](#) to emerge as an important global governance institution.

##### Background:

- The COVID-19 pandemic has highlighted a **crisis of globalization and global governance**.

- There seems to be a **lack of common vision**, especially in the political domain, and **lack of coordination and collaboration**, leading to a void in global governance.
- COVID-19 seems to have become another stage for **political rivalry** that has reinforced some international disputes and conflicts.

#### **Details:**

#### **Opportunities for BRICS:**

- In the current hour of **COVID-19** crisis, **BRICS can emerge as an important global governance institution** due to the following reasons.
  - BRICS looks better than other global governance institutions amidst the ongoing COVID crises. There is no blame-game or pointing fingers within BRICS, rather, there is a vision for intensifying cooperation, including in sectors like healthcare and social welfare.
  - Unlike G7 which is mostly used by the leading western powers to strengthen their position in the competition with the non-west and to restore a rules-based international order, BRICS is based on entirely different values, and **adheres to the goals and objectives of the UN Charter and the idea of equality**.
  - Contrary to initial estimates of lack of effectiveness of the BRICS grouping, BRICS has **progressed on developing a common position** on the most important matters of the global economy and security and it also got institutionalised with the setting up of the BRICS New Development Bank in 2015.
  - Currently, BRICS is under Russia's Presidency, which is scheduled to hold the 12th BRICS Summit, in St. Petersburg. Russia has repeatedly emphasized on the need for **BRICS member nations to expand foreign policy coordination, primarily at the UN**. Speaking at a summit in Brasilia on November 14, 2019, Russian President Vladimir Putin reiterated the same.

#### **Challenges:**

- **Disagreements between its members** and lack of a common vision are major concerns in the grouping.
- **Slow progress with respect to implementation** of initiatives is a concern for BRICS.

#### **Way forward:**

##### **Accelerate implementation:**

- The five member nations of BRICS need to pay more attention to speeding up the implementation of the projects and decisions that are agreed on. Work should be accelerated on establishing the **BRICS Center for Research and Development of Vaccines**, the decision to set up which was taken back in 2018 at the Johannesburg summit.

##### **Increase coordination and collaboration:**

- BRICS should work towards an **early warning mechanism** for outbreaks of infection, the **development of diagnostic and preventive measures** for the disease, as well as **joint epidemiological exercises**.
- The **New Development Bank** could provide **financial anti-crisis assistance** to members to fight the pandemic.

## **C. GS 3 Related**

## 1. First merger of two black holes with unequal masses detected

### Context:

- Detection of merger of two unequal black holes.

### Background:

#### Black hole:

- A black hole is a region of spacetime where **gravitational forces are so strong** that no particles or even electromagnetic radiation such as light can escape from it.
- The gravity is so strong because **matter has been squeezed into a tiny space**. This can happen when a star is dying.
  - **The general theory of relativity** (GTR) is the geometric theory of gravitation published by Albert Einstein in 1915 and the current description of gravitation in modern physics.
  - The theory of general relativity predicts that a sufficiently compact mass can deform spacetime to form a black hole.

#### Gravitational waves:

- **Gravitational waves are 'ripples' in space-time** caused by violent and energetic processes in the universe.
  - Albert Einstein predicted the existence of gravitational waves in 1916 in his general theory of relativity.
- Einstein's mathematics showed that massive accelerating objects (such as neutron stars or black holes orbiting each other) would disrupt space-time in such a way that 'waves' of undulating space-time would propagate in all directions away from the source. These cosmic ripples would **travel at the speed of light**.
- The strongest gravitational waves are produced by cataclysmic events such as colliding black holes, supernovae (massive stars exploding at the end of their lifetimes), and colliding neutron stars.

#### LIGO detectors:

- The **Laser Interferometer Gravitational-Wave Observatory (LIGO)** is an observatory to detect cosmic gravitational waves and to develop gravitational-wave observations as an **astronomical tool**.
- The observatories help detect gravitational waves by **laser interferometry**.
- Currently, 2 LIGO observatories are active in the U.S. LIGO-India is a planned advanced gravitational-wave observatory to be located in India as part of the worldwide network. This is being planned at **Hingoli District, Maharashtra**.
  - **INDIGO or IndIGO** is a consortium of Indian gravitational-wave physicists.

#### Details:

- The gravitational wave observatories at LIGO scientific collaboration have detected a **merger of two unequal-mass black holes**. The event has been named as **GW190412**.
- This is the first such observation involving two black holes of unequal masses coalescing.

- The detected signal's waveform has special extra features in it when it corresponds to the merger of two unequal-sized black holes as compared to a merger of equal-sized black holes.

## Category: ENVIRONMENT AND ECOLOGY

### 1. Stop villainising bats, say scientists, conservationists

#### Context:

- Speculations over the animal origin of n-CoV19.

#### Background:

- Unverified news and social media posts linking bats to the COVID-19 outbreak have led to widespread antipathy and increasing **incidents of the public destroying bat roosts** and smoking them out.

#### Details:

#### Origin of n-CoV-19:

- The exact origin of SARS-CoV-2 is still unknown.
- The recent Indian Council of Medical Research study has conclusively affirmed that the bat coronaviruses (BtCoV) found in two species of Indian bats are not the same as SARS-CoV-2 and cannot cause COVID-19.

#### Concerns:

#### Human activities:

- All **wild animals harbour viruses**.
- **Humans encroaching upon wildlife habitats** put humans at risk of encountering new viruses. The **destruction of wildlife habitats** and the subsequent movement of animals out of their habitats lead to the spread of viruses from animals to humans.
- The ongoing **ecological destruction**, increasing **intensification of livestock farming** and **wildlife trade** can all contribute to such pandemics.

#### Targeting bats:

- Bats are believed to host a number of viruses.
- Killing bats and destroying their habitats can be more harmful as this can lead to bats spreading out their habitat and spreading the viruses.

#### Significance of bats:

- Bats perform **vital ecosystem services** such as **pollination, pest control**, and hence provide intangible economic benefits.

#### Way forward:

#### Conservation efforts:

- Conservationists have been urging the governments to **strengthen the legal framework to protect bats**. The government needs to reconsider and reinforce the laws governing bat conservation.
  - India is home to 128 bat species and only 2 of these are protected by law in India.

#### Recognizing human factor:

- There is a need to emphasise the role of human activities in disease outbreaks. There is a need to **modify human practices** to prevent the emergence of new pathogens.

#### Additional information:

- **Chiropterologists** are people involved in the scientific study of bats.

#### Category: ECONOMY

### 1. Quick nod likely for China investments

#### Context:

- Revision of [FDI](#) policy in the face of COVID-19 crisis.

#### Background:

- To **avoid opportunistic takeovers** during the coronavirus outbreak, India revised its FDI policy, mandating **all foreign direct investment from countries sharing a land border to take prior government clearance, ending the automatic route**.

[Check CNA dated 19th April, 2020](#)

- The Chinese Embassy in New Delhi had called the new screening policy discriminatory and there were concerns that the process could delay deals and investment timelines.
  - **China has major existing and planned investments in India** estimated at \$26 billion.

[Check CNA dated 21st April, 2020](#)

#### Details:

- In the light of concerns with respect to the new screening rules and financial stress in the economy, the Centre plans to **fast-track the review of some investment proposals** from neighbouring countries.
- A senior Indian government source has stated that the government will try to **approve any investment proposal in a non-sensitive sector** within 15 days when the stake being bought is not significant.
  - Sectors such as telecom, financial services and insurance were likely to be deemed more sensitive than others such as automobiles and renewable energy.
  - Sectors which are already **under severe financial distress** and do **not concern national security** could also receive faster approvals.
- The government sources have clarified that the revised FDI policies will also apply to greenfield investments, as well as investments from Hong Kong.

For more information on this issue refer to:

## D. GS 4 Related

*Nothing here for today!!!*

## E. Editorials

### Category: HEALTH

#### 1. Why pathogens travel in search of a host

##### **Context:**

- The increasing incidence and threat of [zoonotic diseases](#).

##### **Details:**

- Scientific research has claimed that the **SARS-CoV-2 is zoonotic in nature**.
  - Zoonosis is an infectious **disease that can be transmitted from animals to people** or, more specifically, a disease that normally exists in animals but that can spread to humans and cause illness.
- The first possible source heard of in relation to the COVID-19 epidemic was the wet market in Wuhan, China.
  - Given the similarity of SARS-CoV-2 to bat SARS-CoV-like coronaviruses, it is likely that **bats serve as reservoir hosts for many viruses**.
  - The **Malayan pangolins** illegally imported into China also contain coronaviruses similar to SARS-CoV-2.
- The SARS-CoV-2 seems to have **undergone recombination or mutation**. The changes in the genome occurred as a part of the **natural evolutionary process**.

##### **Concerns:**

##### **Increasing incidence:**

- According to the **United Nations Environment Programme (UNEP)**, **60% of all infectious diseases in humans are zoonotic**, and about 75% of all emerging infectious diseases are zoonotic in nature.
  - Ebola, bird flu, Middle East Respiratory Syndrome (MERS), Rift Valley fever, severe acute respiratory syndrome (SARS), West Nile virus, Zika virus disease, and COVID-19 are among the zoonoses that have emerged or re-emerged recently.
- Growing evidence suggests that outbreaks or epidemic diseases **may become more frequent**.

Also read: [Pandemic - RSTV In Depth](#)

##### **Virus as the main pathogens:**

- **Emerging pathogens are more likely to be viruses**, than any other kind — bacteria, parasites, fungi — and are more likely to have a broad host range. Viruses are comparatively **difficult to treat**.



### Extensive mutation:

- In pristine ecosystems, all biological systems including human bodies have an inherent capacity for both resilience and adaptation to new hosts. But the current pace of change may be too fast for systems to adapt and achieve resilience.
- The pathogens, which are programmed to survive, **undergo extensive mutation and recombination** and in the process exploit multiple hosts.

### Increasing antibiotic resistance of pathogens:

- The increasing antibiotic resistance is a major concern in the fight against these pathogens.
- Human immune systems are equally unprepared for **drug-resistant diseases**.

### Risk of plant transmission:

- Apart from the animal-to-human transmission, there is also the **threat of transmission of diseases from the plant kingdom** as well.
- Human immune systems are equally unprepared for drug-resistant diseases that jump from plants to humans.
- Apart from affecting human health, it could also **disrupt food supply**.

### Causes:

#### Habitat destruction:

- The major drivers for zoonotic disease emergence seem to be **changes in the environment**, usually as a result of human activities ranging from **land use change, increasing wildlife trade and destruction of wildlife habitats**.
  - Bat-associated viruses' emergence could be due to the loss of habitats of bats. The **Ebola outbreak in West Africa** was reportedly the result of forest losses leading to closer contacts between wildlife and human settlements.
  - **Forest fragmentation in North America led to increased risk of Lyme disease** in humans.
- **Human-induced environmental changes** modify wildlife population structure and reduce biodiversity, resulting in new environmental conditions that favour particular hosts, vectors, and/or pathogens.

#### Livestock farming:

- Recent times have witnessed the **intensification of livestock farming**.
- The inevitable interaction between humans and livestock with wildlife exposes the human species to the risk of spillover of potential pathogens. For many zoonotic diseases or zoonoses, **livestock serve as an epidemiological bridge between wildlife and human infections**.
  - The emergence of **avian influenza** was linked to **intensive poultry farming**.
  - Japanese encephalitis was linked to irrigated rice production and pig farming in South East Asia.
  - The **Nipah virus** was linked to the **intensification of pig farming** and fruit production in Malaysia.

#### Climate change:

- **Changes in weather patterns** and **extreme weather events** affect the distribution areas of disease, pathogens and pests.
- **Increased temperature** will lead to increased incidence of diseases.

### Changes in human behaviour:

- Changes in human behaviour, including **increased travel**, migration, **urbanisation**, and dietary and medical preferences, can also result in disease emergence and increased transmission.

### Way forward:

#### Ecosystem integrity:

- Ecosystem integrity underlines human health and development.
- **Preserving ecosystem integrity** can help regulate diseases by supporting a diversity of species so that it is more difficult for one pathogen to spill over, amplify or dominate.
- There is a need for a strong global stewardship of **nature and biodiversity**.

#### ‘One Health’ policy:

- According to the [World Health Organization](#), ‘One Health’ is an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to **achieve better public health outcomes**.
- This principle would be critical in controlling zoonoses and vector-borne diseases, combating antibiotic resistance. The concept would help manage risks and optimize interventions.

#### Preparing for future epidemics:

- The current COVID-19 pandemic underscores how unprepared humans are in fighting zoonotic diseases.
- There is a need to develop **sharper, reliable early warning systems** for diseases and increase Research and Development in the health sector which could ensure better **diagnosis and treatment techniques**.

## Category: POLITY AND GOVERNANCE

### 1. What are the concerns around the AarogyaSetu app?

#### Context:

- The launch of AarogyaSetu app.

#### Background:

- The AarogyaSetu app, **developed by the National Informatics Centre**, under the Ministry of Electronics & Information Technology, is the main **contact tracing technology** being endorsed by the Central Government.
- It has become one of the most downloaded apps globally, and has crossed the 75 million mark.

#### Details:

#### Working of the app:



- The app is designed to keep track of other AarogyaSetu users that a person came in contact with, and alerts him or her if any of the contacts tests positive for COVID-19.
- The app **uses the phone's Bluetooth and GPS capabilities**. The app will keep a record of all other AarogyaSetu users that it detected nearby using Bluetooth, and also a GPS log of all the places that the device had been at 15-minute intervals.
- While registering, the app collects a set of personal information such as name, sex, age, phone number, current location and travel history that is uploaded to government servers, which then **generates a unique digital identity** for that user.
- When the Bluetooths of two AarogyaSetu users identify each other out, this unique digital identity is exchanged along with the time and location of the meeting.
- When an app user tests positive, all unique digital identities in his or her records get an alert on the risk they face and instructions on self-isolation and next steps.

#### **Challenges:**

- The success of the AarogyaSetu app is **people dependent**. It **needs widespread usage and self-reporting** to be effective.
- The total number of users of the app is bound to be only a small subset of smartphone owners in India, and there are bound to be variations in the levels of self-reporting.
- **Digital divide** is a major concern in India.

#### **Privacy concerns:**

##### **Lack of a privacy law in India:**

- Currently, there is **no legislation** that spells out in detail how the online privacy of Indians is to be protected. AarogyaSetu app users accept the privacy policy provided by the government without any **legal protection**.

##### **Vague privacy policy:**

- The **privacy policy of the app is vaguely worded**.
- As per the policy, “persons carrying out medical and administrative interventions necessary in relation to COVID-19” will have access to the data.
- There seems to be no clear cut regulation on use of the data which could lead to inter-departmental exchanges of people's personal information.

##### **Breach of confidentiality:**

- The **unique digital identity in AarogyaSetu is a static number**, which increases the probability of identity breaches. A better approach would be the usage of constantly-changing digital identification keys.

##### **Excess data being collected:**

- AarogyaSetu uses both Bluetooth and GPS reference points. Other apps such as TraceTogether use only Bluetooth. The **abundance of data** collected may be potentially problematic.

##### **Way forward:**

- The best practices could be adopted from other similar apps in use worldwide like **Google and Apple's joint contact tracing technology** and **TraceTogether app of Singapore**.

For more information on this issue, refer to:

[CNA dated 21st April, 2020](#)

## F. Prelims Facts

### 1. Witnessing the future through the lockdown

#### National Clean Air Program (NCAP):

- The National Clean Air Program (NCAP) is a time-bound, national strategy to bring down levels of deadly particle air pollution (**PM<sub>2.5</sub> and PM<sub>10</sub>**) by **20-30% by 2024 (compared to 2017 levels)**.
- The overall objective of the NCAP is to have comprehensive mitigation actions for prevention, control and abatement of air pollution besides **augmenting the air quality monitoring network** across the country and **strengthening the awareness and capacity building activities**.
- The initial phase of NCAP will focus on the **102 non-attainment cities**.
  - Cities are considered as non-attainment cities if they were consistently showing poorer air quality than the **National Ambient Air Quality Standards**.

Read more on the [National Clean Air Program](#).

#### Flue gas desulphurisation:

- Flue-gas desulfurisation/desulphurisation (FGD) is a set of technologies used to **remove sulphur dioxide from exhaust flue gases** of fossil-fuel power plants, and from the emissions of other sulphur dioxide emitting processes such as waste incineration.
- Commonly employed methods:
  - **Wet scrubbing**, uses a slurry of alkaline sorbent, usually limestone or lime, or seawater to scrub the predominantly acidic gases.
  - **Wet sulphuric acid process** recovers sulphur in the form of sulphuric acid.
  - **Dry sorbent injection systems** introduce powdered hydrated lime or other sorbent material.

### 2. Rohtang Pass opened 3 weeks in advance

- Rohtang Pass connects the **Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh, India**.
- The pass is on the **eastern Pir Panjal Range of the Himalayas**.
- The pass remains snow-bound for almost six months, from mid-November to mid-May, isolating Lahaul and Spiti districts from the rest of the country.
- The **Border Roads Organisation (BRO)** has opened the Rohtang Pass three weeks in advance, for transporting essential supplies and relief materials to the Lahaul and Spiti districts of Himachal Pradesh amid the lockdown.

### 3. Govt. to study lessons learnt from Spanish Flu

- The **Spanish flu, also known as the 1918 flu pandemic**, was the most severe pandemic in recent history. Lasting almost 36 months from January 1918 to December 1920, it infected 500 million people – about a third of the world's population at the time.
- It was **caused by an H1N1 virus**.
- The Spanish flu was the first of **two pandemics caused by the H1N1 influenza virus**; the second was the **swine flu in 2009**.

## G. Tidbits

### 1. Robot to help hospitals in breaking the chain

- ASIMOV Robotics, a start-up based in Kerala, has developed **KARMI-Bot robot**.
- KARMI-Bot robot could be deployed at the isolation ward for COVID-19 patients.
  - Deployed at the hospital isolation ward, the robot performs a slew of activities from dispensing food and medicines and collection of trash left behind by patients to initiating a video call between doctors and patients. Besides, it can perform ultraviolet-based disinfection and also spray detergents at targets.
- Its main goal is to **limit the interaction between patients and health workers**.
  - This would help **minimize the use of personal protective equipment (PPE) kits** and also help **reduce the risk of disease transmission**.

### 2. Financiers, intermediaries line up funds for MSMEs

- Despite India's **60 million MSMEs** making enormous **contribution to India's employment and its gross domestic product (GDP)**, most of these are operating way below their potential because of a **gap in loans and funding**.
- In the light of micro, small and medium enterprises (MSMEs) being starved of funds to continue their operations, a host of financiers and intermediaries have come forward to meet the demand by capitalising on **digital technology**.
- Arvog, which offers debt, equity and funding, has announced **digital micro loans** amounting to 250 crore rupees to MSMEs.
- Meanwhile, London-based CreditEnable, an **AI-driven SME credit business**, has ramped up its activities in India to help improve access to finance for SMEs during COVID-19.

## H. UPSC Prelims Practice Questions

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

1. Asia is the most affected region due to malaria.
2. India has set 2030 as the target year for eliminating malaria.

Options:

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

**Answer:**

**Option b**

**Explanation:**

- Malaria is one of the most severe public health problems worldwide. It is a leading cause of death and disease in many developing countries, where young children and pregnant women are the groups most affected.
- Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female *Anopheles* mosquitoes. It is preventable and curable.
- Malaria is caused by *Plasmodium* parasites. The parasites are spread to people through the bites of infected female *Anopheles* mosquitoes, called "malaria vectors." There are 5 parasite species that cause malaria in humans, and 2 of these species – *P. falciparum* and *P. vivax* – pose the greatest threat.
- Malaria occurs mostly in poor, tropical and subtropical areas of the world.
- The WHO African Region carries a disproportionately high share of the global malaria burden. In 2018, the region was home to 93% of malaria cases and 94% of malaria deaths.
- As per the World Malaria Report 2017 of the World Health Organization (WHO), the estimated malaria cases from India are 87% in the South East Asia region.
- Nearly 70 per cent of the malaria cases in India are contributed by five out of 36 States and Union Territories. These include Odisha, Chhattisgarh, Jharkhand, Madhya Pradesh and Maharashtra .
- Over the past 15 years, India has made considerable progress in reducing the malaria burden.
- The Government has unveiled a plan to eliminate Malaria by 2030. The National Framework for Malaria Elimination (NFME) 2016-2030 document lays out the vision, mission, broad principles and practices to achieve the target of malaria elimination by 2030 synchronising with the Global Technical Strategy (GTS) for Malaria 2016-2030 .
  - Global technical strategy (2016-30) announced by WHO and adopted by the World Health Assembly in May 2015 calls for malaria elimination by 2030.

**Q2. Which of the following statements with respect to National Agricultural Cooperative Marketing Federation of India Limited (NAFED) is/are correct?**

1. It functions under the Ministry of Consumer Affairs, Food and Public Distribution.
2. It is the nodal agency to implement price stabilization measures under "Operation Greens".

**Options:**

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

**Answer:**

**Option b**

**Explanation:**

- National Agricultural Cooperative Marketing Federation of India Ltd (NAFED) is an apex organization of marketing cooperatives for agricultural produce in India, under the Ministry of Agriculture, Government of India.
- It is registered under Multi State Co-operative Societies Act.

- NAFED is now one of the largest procurement as well as marketing agencies for agricultural products in India.
- NAFED is the nodal agency to implement price stabilization measures under "Operation Greens".
- NAFED, along with FCI, with the proactive role of state governments, also physically procures oilseeds, pulses and copra under the Price Support Scheme (PSS) which in turn is under the umbrella scheme of PM-AASHA.
- It has established National Spot Exchange for Commodities exchange.

**Q3. The Rohtang Pass is located in which of the following state/UT?**

- a. Himachal Pradesh
- b. Jammu and Kashmir
- c. Ladakh
- d. Uttarakhand

**Answer:**

**Option a**

**Explanation:**

- Rohtang Pass connects the Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh, India.
- The pass is on the eastern Pir Panjal Range of the Himalayas.

**Q4. Which of the following is widely used in the process of desulphurisation of flue gases?**

- a. Acidic substances
- b. Alkaline substances
- c. Neutral substances
- d. Both a and c

**Answer:**

**Option b**

**Explanation:**

- Flue-gas desulfurisation (FGD) is a set of technologies used to remove sulphur dioxide from exhaust flue gases of fossil-fuel power plants, and from the emissions of other sulphur dioxide emitting processes such as waste incineration.
- It generally involves using an alkaline substance to neutralize the predominantly acidic gases like sulphur dioxide.
- Commonly employed methods:
  - Wet scrubbing, uses a slurry of alkaline sorbent, usually limestone or lime, or seawater to scrub the predominantly acidic gases.
  - Wet sulphuric acid process recovers sulphur in the form of sulphuric acid.
  - Dry sorbent injection systems introduce powdered hydrated lime or other sorbent material.

## I. UPSC Mains Practice Questions

1. Discuss the increasing risk posed by zoonotic diseases to the world. Analyze the causes for the increased frequency and intensity of these zoonotic diseases and suggest necessary actions to mitigate such risks. (15 marks, 250 words)
2. BRICS can and should emerge as an important global governance institution, in the light of the crisis in global governance unfolding during the COVID pandemic. Comment. (10 marks, 150 words)

