

## 04 Apr 2021: UPSC Exam Comprehensive News Analysis

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### A. GS 1 Related

## Category: GEOGRAPHY

### 1. How Asian desert dust enhances Indian summer monsoon

#### Context:

- Study on the **role played by dust in influencing Indian summer Monsoon**.

#### Background:

##### **Critical role played by dust:**

- Dust plays a very important role in influencing climatic events. Dust swarms can **influence moisture transport, increase precipitation and rainfall**. Dust is known to influence monsoons, and hurricanes.
- Dust are known to even **fertilize rainforests** and help in vegetation growth.

##### **Relationship between desert and monsoon rainfall:**

- Deserts across the globe play important roles in monsoons.
  - The dust aerosols from **deserts in West China such as the Taklamakan desert and the Gobi Desert** can be transported eastward to eastern China and can influence the East Asia summer monsoon.
  - The small **deserts in southwest United States** are known to influence the North African monsoon.

#### Details:

- The new study details how dust coming from the deserts in the West, Central and East Asia plays an important role in the Indian Summer Monsoon.
- The new study notes that it is not just the dust from the Middle East [West Asia], but the **Iranian Plateau also influences the Indian Summer Monsoon**. The hot air over the Iranian Plateau can heat the atmosphere over the plateau, strengthen the circulation over the deserts of the Arabian Peninsula and increase dust emission from the Middle East [West Asia].

##### **Impact of dust on rainfall pattern:**

- Dust swarms from the desert when lifted by strong winds can **absorb solar radiation and become hot. This can cause heating of the atmosphere**, change the air pressure, wind circulation patterns, influence moisture transport and increase precipitation and rainfall.

##### **Reverse effect:**

- The **Indian Summer Monsoon also has a reverse effect and can increase the winds in West Asia to produce yet more dust**.
- A strong monsoon can also transport air to West Asia and again pick up a lot of dust, which the researchers have termed as a positive feedback loop.

##### **Anthropogenic aerosols:**

- With respect to the impact of anthropogenic dust from vehicles, mining, construction on monsoons, while some studies have found that the anthropogenic aerosols emitted from the Indian subcontinent can decrease summer monsoon precipitation, other studies have found that absorbing aerosols such as dust can strengthen the monsoon circulation.
- The concerned study used the carbon model to simulate the impact of anthropogenic aerosols on India and the results showed that **anthropogenic aerosol can strengthen Indian summer monsoon rainfall.**

#### Significance of studying dust:

- Many studies have shown that the dust emission scheme is extremely sensitive to climate change and the understanding of the concerned mechanisms and effects of dust will help understand the monsoon systems in the face of global climate change.

#### Way forward:

##### **Need to study minor components:**

- Different deserts have different chemical compositions and this can influence the dust's properties.
  - **Dust from the Middle East [West Asia] has more absorbing ability of solar radiation than dust from North Africa** and this difference in absorbing ability might influence monsoon systems.
- Given the emerging evidence of the unique characteristics of dust from different deserts as against the previous understanding that dust from deserts across the globe have the same components, there is the need to study the minor components of desert dust aerosols.
- This would involve the use of high spatial resolution remote sensing to identify source regions and create a better dust emission map.

##### **Understanding the impact of anthropogenic activity:**

- There is the need to study **new drying lakes** and understand how dust from them can play a role in the monsoons.

## **B. GS 2 Related**

### **Category: INTERNATIONAL RELATIONS**

#### **1. Biden lifts Trump's sanctions on international court officials**

##### Context:

- U.S. President Joe Biden has lifted sanctions imposed by previous President Donald Trump on two top officials of the **International Criminal Court (ICC)**

##### Background:

- **ICC was probing alleged crimes by U.S. troops in Afghanistan.**

- The U.S. sanctions had targeted ICC officials for pressing with investigations into the U.S. for alleged war crimes. The U.S. sanctions had specifically targeted ICC chief prosecutor Fatou Bensouda and the court's head of jurisdiction, Phakiso Mochochoko.
- Sanctions included travel ban, freeze on assets of the concerned individuals. The subsequent round of sanctions also made giving the pair "material support" a potentially sanctionable offence.
- The Trump administration was openly hostile to the tribunal for pursuing prosecutions of Americans for actions in Afghanistan and Israelis for actions against the Palestinians.

For more information on this issue refer to:

### UPSC Comprehensive News Analysis of 12th June

#### Details:

- U.S. Secretary of State Antony Blinken has stressed that the U.S. still strongly disagreed with some actions by the court and has stressed that the concerned cases would be better **addressed through diplomacy rather than through the imposition of sanctions**.

#### Significance:

- The move marks the undoing of the past administration's aggressive moves targeting international institutions and officials.
- The removal of the sanctions is the **latest signal that the Biden administration is intent on returning to the multilateral fold**.

## Category: HEALTH

### 1. What is driving the second wave in India?

#### Context:

- Second wave of the pandemic in India.

#### Background:

- Interestingly no surge was seen between mid-September 2020 to end-February this year despite perfect conditions for the virus to spread.
- The onset of the festival season since the pandemic peaked in mid-September in India, winter, no restrictions on movement, large gatherings and not-so-good adherence of mask wearing and other non-pharmaceutical interventions did not cause any spike in cases across the country.

#### Details:

- There has been a steady increase in the daily fresh COVID-19 cases. The **rate of increase in cases** in India during March has been faster than at any other time during the pandemic.
- The seven-day average test **positivity rate** has been increasing.
- The **reproduction number (R0)** — how many people each infected person will infect on average — has risen to above 1.5 and has been steadily increasing over the last two–three weeks.

- Large cities including Mumbai and Pune, which had recorded large infection rates during the first wave, are witnessing a surge.

#### Possible reasons for the surge:

- **Three important factors — the virus, the host, and the environment — constitute the epidemiological triad for the surge** in cases in many States.

#### **Virus:**

- New variants of concern might be in circulation, which is probably more infectious, and some can be an immune escape as well.
- There has been the **introduction of other variants** due to international travel in some parts of the country, which can be more infectious than the earlier strain. **An imported variant (UK variant) has been identified in a few States.** A double mutant variant has also been identified in at least a few States.
- However, notably variants, imported and homegrown, are have so far not been linked epidemiologically to the surge

#### **Host:**

- The host factors include **waning antibodies, not following COVID-19 appropriate behaviour and incomplete vaccination.**

#### **Environment:**

- The environmental factors include **super-spreader events and poor compliance with preventive measures.** The misconception that vaccination prevents even infection might also be contributing to rising cases.
- The Health Ministry has cited the general laxity among people regarding COVID-19 appropriate behaviour, including mask wearing, and lack of containment and management strategy at the ground level as reasons for the surge in cases.

## C. GS 3 Related

*Nothing here for today!!!*

## D. GS 4 Related

*Nothing here for today!!!*

## E. Editorials

### **Category: INTERNATIONAL RELATIONS**

#### **1. Reversing a ban**

#### Context:

- S. President Joe Biden has allowed a Trump-era H-1B visa rule to expire.

### Background:

#### U.S. immigration policy under President Trump:

- In June 2020, the U.S. administration under former President Donald Trump, **halted the issuance of non-immigrant work visas of several types, including the skilled worker visa, or H-1B**. In a move aimed at **tightening immigration policy**, the stated aim of the policy was to stop foreign workers from cornering American jobs.
- Immigration reforms in favour of protecting U.S. jobs for Americans was a major policy thrust for the former U.S. President Donald Trump.
- S. under President Trump had also announced a 60-day halt on legal migration, effectively a ban on “green card” issuance.

#### *Fallout of the visa ban:*

- America Inc., employing around millions of non-immigrant foreign workers has been steadfast in its opposition to the skilled worker visa ban, given the **critical role played by the immigrant workforce in U.S. based companies**.
  - Google CEO Sundar Pichai had lashed out at the policy, noting that Immigration had contributed immensely to America’s economic success, making it a global leader in tech. SpaceX founder and Tesla CEO Elon Musk and Apple CEO Tim Cook have also expressed similar anguish against the policy.
- Analysts have predicted that **around 2,19,000 workers around the world might have been prevented from taking up work in the U.S.** as a result of Mr. Trump’s visa ban. Thus the skilled worker ban has had an **impact on the potential remittance flow to developing countries**.
- Experts have termed the policy measure to be driven more by politics rather than economics given the lack of any significant economic benefits arising from the skilled-worker visa ban.

### Details:

- The original order was valid until December 31, 2020, it was extended by the Trump administration to be valid until March 31, 2021. Now, the current U.S. President, Joe Biden, has allowed the ban on H-1B visa issuance to expire.
- In allowing the H-1B visa ban to expire, Mr. Biden is walking a fine line between restoring the inflow of skilled workers into the U.S., a source of productivity-increase for its labour force, and not being seen as overly aggressive in unwinding Trump-era immigration crackdowns give the support for protectionist policies within the U.S. electorate.

### Significance:

- The end of ban on work visa would potentially bring **relief to a large number of Indian nationals, especially IT workers**.
  - Until now, the U.S. issued 85,000 H-1B visas annually, of which 20,000 went to graduate students and 65,000 to private sector applicants, and **Indian nationals would garner approximately 70% of these**.



- The Indian corporations are also expected to benefit from the move given that the move would also ensure the availability of a large talent pool to IT companies with U.S. operations. This would also **benefit Indian IT companies with U.S. operations.**

## Category: ECONOMY

### 1. Maintaining the inflation target at 4%

#### Context:

- The Finance Ministry's announcement that the **inflation target for the five years between April 2021 and March 2026 will remain unchanged at 4%**, with an upper tolerance level of 6% and a lower tolerance level of 2%.

#### Background:

##### **Inflation targeting monetary policy framework:**

- India had switched to an inflation target-based monetary policy framework in 2015, with the 4% target kicking in from 2016-17.

##### **Inflation concerns:**

- Moody's Analytics had recently termed **India's inflation trends "worrisome"**. It noted that the volatile food prices and rising oil prices had driven **India's consumer price index (CPI)-based inflation past the 6% tolerance threshold several times in 2020** and that core inflation trends were rising again.
- Though retail inflation has remained below 6% since December 2020, it accelerated from 4.1% in January 2021 to 5% in February.

#### Details:

- With inflation headwinds remaining a concern, especially with oil prices staying high, there was some speculation that the Central government, whose topmost priority now is to revive growth in the COVID-19 pandemic-battered economy, may ease up on the inflation target by a percentage point or two thus **allowing the Reserve Bank of India (RBI) to cut interest rates even if inflation was a tad higher with an aim to revive growth.**
- However, the government has desisted from increasing the retail inflation target and has left the inflation target untouched.
- The set retail inflation target will drive the country's monetary policy framework and influence its decision to raise, hold or lower interest rates.

#### Significance:

- **The inflation targeting monetary policy framework has worked reasonably well** in keeping inflation in check over the last five years. Experts have attributed the few recent instances when the upper target was breached to the exceptional nature of the COVID-19 shock.

- The RBI has also previously sought a continuance of the 4% target with the flexible tolerance limits of 2%. The **Central bank has asserted that accepting inflation levels beyond 6% would hurt the country's growth prospects.**
- The inflation target **helps ensure consumer friendly policies** given that appropriate measures would be taken to keep retail prices within acceptable levels.
- The move marks a continuance of the policy adopted by many developed countries which have adopted an inflation-rate focus as an anchor for policy formulation for interest rates rather than past fixations with metrics like the currency exchange rate or controlling money supply growth. Emerging economies have also been gradually adopting this approach.

For related information refer to the following article:

**Re-evaluating inflation targeting**

## F. Prelims Facts

### 1. Researchers foresee trends in diphtheria incidence

- **Diphtheria is a serious infection caused by strains of bacteria called *Corynebacterium diphtheriae*** that make toxin (poison). It can lead to difficulty breathing, heart failure, paralysis, and even death.
- The diphtheria toxin causes inflammation of heart muscle (myocarditis) and this can lead to death if not treated with diphtheria antitoxin and proper antibiotics.
- **Diphtheria is a vaccine preventable disease** – the toxoid vaccine elicits an immune response against the toxin which is encoded by a tox gene of the pathogen.
- **The increasing diversity of the bacterium species, emergence of variant toxin genes and progression of antimicrobial resistance** may lead to an increase in the incidence of diphtheria.

### 2. New light

- **Bose–Einstein condensation (BEC)—the macroscopic ground-state accumulation of particles with integer spin (bosons) at low temperature and high density**—has been observed in several physical systems, including cold atomic gases and solid-state quasiparticles.
- The optical Bose-Einstein condensate, is conceived as one large 'super photon' made up of many light particles.
- A new study has reported a hitherto unknown phase transition in an optical Bose-Einstein condensate called the overdamped phase. This study may be relevant for **encrypted quantum communication**.

### 3. 'Gas firms hurt by low prices fixed by govt.'

- Rating agency ICRA has noted that the Natural gas production remains a loss-making proposition for most fields for the Indian upstream producers as government-dictated gas price remains at its lowest level since the acceptance of the Rangarajan panel recommendations on gas pricing.
- **The C. Rangarajan panel was constituted to propose a gas pricing formula in India.**

## G. Tidbits



### 1. Water Conservation by crop diversification

- The Haryana state government has announced an incentive of Rs. 7000 per acre to farmers for promoting crop diversification from paddy to alternate crops such as maize, cotton, millet, pulses, vegetable, gram etc.
- This initiative would incentivize farmers to shift from the water intensive paddy cultivation towards lesser water intensive crops and would provide an impetus to water conservation attempts. The shift to other crops would also be an effective intervention to curtail the decreasing productivity of the fields owing to mono cropping.

### 2. 5 security men killed in Sukma encounter

- Five security personnel were killed and more than 12 injured in an encounter with Maoists in Sukma district of Chhattisgarh.
- The Maoist attacked the over 400 security personnel on combing operation in south Bastar. The region is said to be a Maoist stronghold.

### 3. Centre praises Rajasthan's achievements in ration card scheme

- The Centre praised the achievements of Rajasthan in the implementation of the “one nation, one ration card” scheme to enable migrant workers and their families to access the benefits of the public distribution system (PDS) from anywhere.
- Rajasthan is the 12th State to successfully undertake the necessary reforms to implement “one nation, one ration card” scheme

### 4. The big push for digital currency in China

- China has been undertaking pilot trials of its new digital currency, with reported plans of a major roll-out by the end of the year. China is among a small group of countries that have begun pilot trials; others include Sweden, South Korea and Thailand.
- Officially titled the Digital Currency Electronic Payment (DCEP), the digital RMB (or Renminbi, China's currency) is a digital version of China's currency.
- The DCEP can be downloaded and exchanged via an application authorised by China's central bank.

#### Difference compared to e-wallets:

- Unlike the e-wallet platforms like Paytm in India, the Digital RMB does not involve a third party. This is legal tender guaranteed by the central bank, not a payment guaranteed by a third-party operator. There is no third-party transaction, and hence, no transaction fee.
- Unlike e-wallets, the digital currency does not require Internet connectivity. The payment is made through Near-field Communication (NFC) technology.
- Also, unlike non-bank payment platforms that require users to link bank accounts, this can be opened with a personal identification number.

## H. UPSC Prelims Practice Questions

**Q1. Which of the following statements is/are correct with respect to Bose-Einstein condensate?**

1. It is observed at very low temperatures very close to absolute zero ( $-273.15^{\circ}\text{C}$ )
2. It is characterized by relatively higher density.
3. It is also sometimes referred to as the fifth state of matter.

**Options:**

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1,2 and 3

**Answer: d**

**Explanation:**

- Bose-Einstein condensate (BEC)—the macroscopic ground-state accumulation of particles with integer spin (bosons) at low temperature and high density—has been observed in several physical systems, including cold atomic gases and solid-state quasiparticles.
- In condensed matter physics, a Bose-Einstein condensate (BEC) is a state of matter (also called the fifth state of matter) which is typically formed when a gas of bosons at low densities is cooled to temperatures very close to absolute zero ( $-273.15^{\circ}\text{C}$ ).
- A Bose-Einstein condensate is a group of atoms cooled to within a hair of absolute zero. When they reach that temperature the atoms are hardly moving relative to each other; they have almost no free energy to do so. At that point, the atoms begin to clump together, and enter the same energy states.

**Q2. Which of the following statement/s is/are correct with respect to Diphtheria?**

1. It is caused by strains of bacteria called *Corynebacterium diphtheria*.
2. It can lead to death if not treated with diphtheria antitoxin and proper antibiotics.
3. It is a vaccine preventable disease.

**Options:**

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1,2 and 3

**Answer: d**

**Explanation:**

- Diphtheria is a serious infection caused by strains of bacteria called *Corynebacterium diphtheriae* that make toxin (poison). It can lead to difficulty breathing, heart failure, paralysis, and even death.
- The diphtheria toxin causes inflammation of heart muscle (myocarditis) and this can lead to death if not treated with diphtheria antitoxin and proper antibiotics.
- Diphtheria is a vaccine preventable disease – the toxoid vaccine elicits an immune response against the toxin which is encoded by a tox gene of the pathogen.
- The increasing diversity of the bacterium species, emergence of variant toxin genes and progression of antimicrobial resistance may lead to an increase in the incidence of diphtheria.

**Q3. Which of the following pairs is wrongly matched?**

- a. Mojave desert: Africa
- b. Patagonian desert: South America
- c. Great Sandy: Australia
- d. Taklamakan desert: Asia

**Answer: a**

**Explanation:**

- Mojave desert is in North America

**Q4. Which of the following statement/s is/are correct with respect to the International Criminal Court?**

1. It is based in Hague, Netherlands
2. It has the jurisdiction to prosecute individuals for the international crimes of genocide, crimes against humanity and war crimes
3. The Rome Statute serves as the court's foundational and governing document.

**Options:**

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1,2 and 3

**Answer: d**

**Explanation:**

- All the above statements are correct.

## I. UPSC Mains Practice Questions

1. The Finance Ministry's announcement of keeping the inflation target unchanged at 4% for the coming five years is a welcome move. Comment. (10 marks, 150 words)(GS-3,Economy]
2. Discuss the role played by dust in influencing climatic phenomenon with special emphasis on Indian summer Monsoon. Illustrate with appropriate diagrams. (10 marks, 150 words)[GS-1,Geography]

