

17th June, 2024

1. On the size of Council of Ministers

GS 2 (Legislature)

- **Why in News:** The Union Council of Ministers, led by Prime Minister Narendra Modi, was sworn in on June 9, 2024. The current Council includes the Prime Minister, 30 Cabinet Ministers, 5 Ministers of State with independent charge, and 36 Ministers of State.
- **Council of Ministers (COM)**

■ Constitutional Provisions

◆ Article 74 - Council of Ministers to aid and advise the President

- There shall be a Council of Ministers with the Prime Minister at the head to aid and advise the President, who shall, in the exercise of his functions, act in accordance with such advice.

◆ Article 75

- **Appointment of Ministers:** The Prime Minister is appointed by the President, and the other Ministers are appointed by the President on the advice of the Prime Minister.
- **Collective Responsibility:** The Council of Ministers is collectively responsible to the Lok Sabha (House of the People).
- **Term of Office:** Ministers hold office during the pleasure of the President.
- **Salaries and Allowances:** The salaries and allowances of Ministers are determined by Parliament.

■ Composition of the Council of Ministers

- ◆ The COM consists of a **Cabinet minister, MoS with independent charge, MoS and a Deputy Minister.**
 - **Cabinet Ministers** - They are the senior-most ministers and are part of the decision-making process at the highest level.
 - **Ministers of State (Independent Charge)** - These ministers handle specific portfolios under the oversight of a Cabinet Minister. They report directly to the Prime Minister.
 - **Ministers of State** - They assist Cabinet Ministers in their duties and responsibilities and may be assigned specific tasks within their ministries.
- ◆ The **Constitution does not classify the members of the COM into different ranks.** All this has been done informally, following the British practice.

■ Roles and Responsibilities

- ◆ India is a parliamentary democracy with the President as its nominal head. The real executive powers lie with the COM.
- ◆ **Policy Formulation**
 - The Council of Ministers is responsible for formulating policies and programs for the country.
 - They discuss, deliberate, and decide on various issues affecting the nation.
- ◆ **Administration**
 - Each minister is responsible for the administration of the portfolio assigned to them.
 - They ensure the implementation of government policies and programs.
- ◆ **Legislation**
 - The Council of Ministers plays a crucial role in the legislative process.
 - They introduce bills, participate in debates, and ensure the passage of laws in Parliament.
- ◆ **Advising the President**
 - The Council of Ministers advises the President on various matters.
 - The President acts on the advice of the Council of Ministers in the exercise of his functions.
- ◆ **Executive Decisions**
 - The Council of Ministers takes executive decisions on various issues, including economic policies, defense, foreign affairs, and internal security.

On the size of council of ministers

What has been the composition of the Council of Ministers at the Centre and in States since India became a democracy? What were the instances when the council became too large and unwieldy? How were the laws brought in to rein in this trend?

EXPLANER

The story so far: The Union Council of Ministers (COM) headed by Prime Minister Narendra Modi was sworn in on June 9, 2024. The present COM consists of the Prime Minister, 30 Cabinet Ministers, 5 Ministers of State (MoS) with independent charge and 36 MoS.

Who constitutes the Council of Ministers? India is a parliamentary democracy with the President as its nominal head. Article 74 of the Constitution provides that there shall be a COM headed by the Prime Minister. The real executive powers lie with the COM. A Minister should be a member of either the Lok Sabha or the Rajya Sabha and if not, should become one within six months of his/her appointment. A similar swing provision in States with a COM headed by the Chief Minister (CM).

The COM consists of a Cabinet Minister, MoS with independent charge, MoS and a Deputy Minister. The Constitution does not classify the members of the COM into different ranks. All this has been done informally, following the British practice. Cabinet Ministers are higher in rank and handle larger portfolios while MoS assist the Cabinet Ministers and work under them. MoS with independent charge directly report to the Prime Minister for their respective ministries.

What is the constitutional limit? The first COM at the time of independence had only 15 Ministers headed by Prime Minister Jawaharlal



Number game: Prime Minister Narendra Modi, left, with his Council of Ministers at the Rashtrapati Bhavan in New Delhi on June 9.

Nehru: After the first general elections in 1952, Nehru indicated around 30 Ministers into his COM. Over the years, the size of the COM had gradually increased to around 80-90. Interestingly, it is the United Front governments led by Deve Gowda (Jan 1996) and I.K. Gujral (Sept 1997) that were sworn in with just 21 and 34 Ministers respectively. In 1999, when Atal Bihari Vajpayee became Prime Minister, his COM had 73 Ministers.

The National Commission to review the working of the Constitution under the Chairmanship of Justice Venkataswami set up in February 2000, had suggested a ceiling of 8% of the total strength of Lok

Secretary (PS) also has its origin in the British system. In India, the post of PS was first created in 1952. They have not been a regular feature in the Council of Ministers themselves and the last PS at the Centre was appointed in 1994. However, various States have continued with their appointment to circumvent the limit on COM placed by the 13th Amendment. High Courts of Punjab & Haryana, Rajasthan, Bombay, Calcutta, Telangana, Karnataka etc. have quashed or questioned the appointment of PS in the States under their jurisdiction for indirectly violating the maximum limit on COM. The Supreme Court in July 2007 had also declared a law passed by Assam in 2004 for the appointment of PS as unconstitutional. The most recent instance to the order of the High Court of Punjab & Haryana in January 2024 that restricted the PS appointed in the State from functioning as Ministers or availing facilities provided to Ministers.

Appointing MoS to the position of Ministers under the guise of PS to circumvent constitutional limits should be strictly prohibited and discontinued.

It is also pertinent to note that States like Odisha, Goa and smaller States in the northeastern region with a current estimated population ranging from seven to forty lakhs have a minimum of twelve Ministers. However, Union Territories of Delhi and J&K with estimated population of over 2 crore and 1.5 crore, can have only a maximum of seven and nine Ministers respectively. The administration of public order, police and land in Delhi is one with the Delhi government. Similarly, public order and the police of Jammu and Kashmir will be with its government. Nevertheless, considering the population of these Union Territories, the 8% limit for their COM may be reconsidered.

Repealing it is a former PM's offer. For currently sworn-in chief ministers, there are no provisions for removal.

THE GIST

The present Council of Ministers consisted of the Prime Minister, 30 Cabinet Ministers, 5 Ministers of State (MoS) with independent charge and 36 MoS.

The first COM at the time of independence had only 15 Ministers headed by Prime Minister Jawaharlal Nehru. When the council started expanding through the 13th Constitutional Amendment in 2007, the total number of Ministers including PMCM in the COM amounted to 10% of the total strength of Lok Sabha and State Legislative Assemblies.

A theory issue even after the first number of members to the government of Parliamentary Secretaries in various States. Courts have stepped in multiple times to restrain States from appointing PS to circumvent the constitutional limit set for the number of Ministers.

- ◆ **Budget**
 - The Council of Ministers is responsible for preparing and presenting the Union Budget, which outlines the government's revenue and expenditure for the fiscal year.
- ◆ **Collective Responsibility**
 - The Council of Ministers is collectively responsible to the Lok Sabha.
 - If the Lok Sabha passes a vote of no confidence against the Council, all members, including the Prime Minister, must resign.
- **Constitutional limit on COM**
 - **Initial Composition**
 - ◆ **Post-Independence:** The first Council of Ministers (COM) in 1947, led by Prime Minister Jawaharlal Nehru, consisted of only 15 ministers.
 - ◆ **Post-First General Elections (1952):** Nehru expanded the COM to around 30 ministers.
 - **Gradual Expansion**
 - ◆ Over the years, the size of the COM gradually increased to approximately 50-60 ministers.
 - **National Commission's Suggestions**
 - ◆ **National Commission to Review the Working of the Constitution (2000):** Chaired by Justice Venkatachaliah, the commission suggested a ceiling of 10% of the total strength of the Lok Sabha/Legislative Assembly for the number of ministers at the Centre/State level.
 - **91st Constitutional Amendment (2003)**
 - ◆ **Ministerial Ceiling:** The amendment limited the total number of ministers, including the Prime Minister/Chief Minister, to 15% of the total strength of the Lok Sabha/State Legislative Assembly.
 - ◆ **Minimum Requirement:** No minimum requirement at the central level, but **smaller states must have at least 12 ministers.**
 - ◆ **Union Territories:** For NCT of Delhi and Jammu & Kashmir, the maximum limit is 10% of the total strength of its Assembly.
- **Discrepancies in constitutional limits imposed by 91st amendment**
 - **Appointment of Parliamentary Secretaries (PS) in various States**
 - ◆ States appoint PS to bypass the limit on the number of ministers imposed by the 91st Amendment.
 - ◆ The office of Parliamentary Secretary (PS) originates from the British system. The post was first created in 1951.
 - ◆ PS positions have not been regular in Central governments, with the last appointment made in 1990.
 - **Judicial Interventions with respect to PS**
 - ◆ High Courts of Punjab & Haryana, Rajasthan, Bombay, Calcutta, Telangana, and Karnataka have questioned or quashed PS appointments.
 - ◆ Supreme Court Ruling (July 2017) declared a 2004 Assam law for appointing PS as unconstitutional.
 - ◆ Himachal Pradesh High Court (January 2024) restrained six PS from functioning as ministers or availing ministerial facilities.
 - **Variations in Ministerial Limits**
 - ◆ **Smaller States**
 - States like Sikkim, Goa, and northeastern states have a minimum of twelve ministers despite populations ranging from seven to forty lakhs.
 - ◆ **Union Territories**
 - **NCT of Delhi** - Maximum of seven ministers for a population of over 2 crores.

- Out of the 100 attending delegations, 80 countries and four organizations supported the final joint communiqué from the **Path To Peace Summit**, which focused on finding ways to end the Russia-Ukraine war that has been ongoing since February 2022.

● Swiss Peace Summit

■ About

- ◆ The Swiss Peace Summit, also known as the Summit on Peace in Ukraine, is an international conference aimed at addressing and finding solutions to the ongoing conflict between Russia and Ukraine.
- ◆ Held at the Bürgenstock resort in Switzerland, this summit gathers representatives from various countries and organizations to discuss and promote peace initiatives.

■ Objective

- ◆ The primary goal of the Swiss Peace Summit is to facilitate dialogue and negotiations aimed at ending the war between Russia and Ukraine, which has been ongoing since February 2022.

■ Participants

- ◆ The summit brings together a wide range of participants, including representatives from numerous countries, international organizations, and peace advocacy groups.
- ◆ In the recently held summit, 80 countries and four organizations supported the final joint communiqué.

● Key outcome of Swiss Peace Summit

■ Joint Communiqué:

- ◆ A final joint communiqué was issued, supported by 80 countries and four organizations out of the 100 attending delegations.
- ◆ This document outlines the collective consensus and recommendations for achieving peace between Russia and Ukraine.

■ Territorial integrity of Ukraine should be respected

- ◆ According to the communiqué, the territorial integrity of Ukraine should be the basis for any peace agreement to end Russia's war.

■ Important themes featured in the final statement

- ◆ The three themes of nuclear safety, food security and prisoner exchanges featured in the final statement.
- ◆ It said that:
 - Any threat or use of nuclear weapons in the context of the ongoing war against Ukraine is inadmissible;
 - Food security must not be weaponized in any way.
 - Ukrainian agricultural products should be securely and freely provided to interested third countries
- ◆ It emphasized that:
 - All prisoners of war must be released by complete exchange;
 - All deported and unlawfully displaced Ukrainian children, and all other Ukrainian civilians who were unlawfully detained, must be returned to Ukraine.

■ Commitment to Peace

- ◆ Participants expressed a strong commitment to ending the war, emphasizing the need for continued dialogue and diplomatic efforts to resolve the conflict.

■ Humanitarian Aid

- ◆ The summit underscored the importance of providing humanitarian aid to those affected by the conflict, including displaced persons and civilians in war-torn areas.

■ International Cooperation

- ◆ The summit facilitated international cooperation and solidarity, with countries and organizations pledging to work together to promote peace and stability in the region.

● India's stand at the summit

■ India attended the summit

- ◆ India had joined the summit to explore the way forward to a negotiated settlement of a very complex and pressing issue.
- ◆ India was represented by the Secretary (West) in the Ministry of External Affairs.

Ukraine peace summit ends with hope

Participants stress the need to get Russia to the talks table. President Volodymyr Zelenskyy hails the diplomatic 'success' of the event, adding that the path is open for a second peace summit. Many leaders are also worried about Beijing aligning with Moscow and staying out of the Swiss conference.

Smriti Sharma

BURGENSTOCK

The two-day Summit on Peace in Ukraine at the Bürgenstock resort in Switzerland ended on Sunday with participants hoping for an end to the war between Russia and Ukraine. Eighty countries and four organisations of the 100 attending delegations supported the final joint communiqué that emerged out of the Path To Peace Summit looking at ways to end the Russia-Ukraine war raging on since February 2022.

"The ongoing war of the Russian Federation against Ukraine continues to cause large-scale human suffering and destruction, and to create risks and crises with global repercussions," said the declaration that focused on the three agendas of nuclear safety, global

food security and humanitarian issues.

"All prisoners of war must be released by complete exchange. All deported and unlawfully displaced Ukrainian children, and all other Ukrainian civilians who were unlawfully detained, must be returned to Ukraine," the declaration emphasised.

"Diplomatic success"

Ukrainian President Volodymyr Zelenskyy hailed the diplomatic "success" of the event, and said the path was open for a second peace summit, with a view to ending the war with a just and lasting settlement.

But he said a closing press conference that "Russia and their leadership are not ready for a just peace".

Swiss President Viola Amherd claimed that the communiqué is "a strong

signal from the international community for peace based on international law and the UN Charter".

In their deliberations during the opening ceremony and plenary sessions, most of the Western blue leaders struck a similar note in underlining that Ukraine was the victim here, and peace cannot



Ukraine's President Volodymyr Zelenskyy, along with other world leaders, at the summit in Bürgenstock on Sunday. *are*

mean surrender, referring to Russian President Vladimir Putin's latest conditions to begin negotiations for peace.

Russia's absence

The elephant in the room though remained Russia's absence with Mr. Putin not invited by host Switzerland, leading to questions about the effectiveness of

the process of mediation talks.

Many leaders are also worried about China aligning with Russia and staying out of the Swiss summit instead of pulling its leverage on Kremlin to end the conflict.

President Alexander Stubb of Finland, in an interview with the Finnish Broadcasting Company, made it amply clear.

Meanwhile speaking to The Hindu, Austrian Chancellor Karl Nehammer hoped that the Summit for peace would find new friends and partners in the future, including India. He welcomed India's diplomatic participation in the Bürgenstock Summit as a beginning and important first step.

(With Agencies France-Press inputs)

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- Ukraine President Volodymyr Zelenskyy had asked Prime Minister Narendra Modi to attend the summit.
- However, India, which has strategic ties with Moscow and a strong dependence on Russia for defence supplies, decided to send a Secretary-level official for the summit.
- Ever since the war began, India has also been buying Russian oil at discounted prices to cushion the inflationary impact of rising oil prices.

■ Decided not to sign the joint communique

- ◆ India decided to not sign the joint communique by saying that only those options acceptable to both parties can lead to abiding peace.
- ◆ It underlined that enduring peace can be achieved only through dialogue and diplomacy.

■ Reasons behind the Indian position of not becoming a signatory to the joint communique

- ◆ Russia- one of the two warring parties —declined to attend the summit in Burgenstock in central Switzerland.
- ◆ With Russia not attending the Swiss summit on peace in Ukraine, there can not be a lasting peace on this issue.

■ Other countries which did not sign the final communique

- ◆ Besides India, Saudi Arabia, South Africa, Thailand, Indonesia, Mexico and UAE were among countries participating at the summit on peace for Ukraine but did not sign a final communique.
- ◆ Brazil, which was listed as an observer on the list of attendees, also did not feature as a signatory.

5. Gandhi Sagar Wildlife Sanctuary: India's Second Home for Cheetahs

GS 3 (Environment)

● Why in News:

- The Madhya Pradesh government has completed its preparations for the reintroduction of the cheetahs in the Gandhi Sagar Wildlife Sanctuary, which will be the second home for cheetahs in India, after the Kuno National Park (KNP).

- Under the **ambitious cheetah reintroduction project**, 8 Namibian cheetahs were released into enclosures at KNP in MP's Sheopur district on September 17, 2022. Later (in February 2023), 12 more cheetahs were brought from South Africa

● About the Gandhi Sagar Wildlife Sanctuary:

■ Location:

- ◆ The sanctuary (notified in **1974**) is spread across (an area of 368.62 sq km) the districts of Mandsaur (187.12 sq km) and Neemuch (181.5 sq km) in **western MP**, right on the border with Rajasthan.
- ◆ **The Chambal River** cuts the sanctuary into two almost equal halves and the **Gandhi Sagar dam** (constructed on the river in 1960) lies within the area of the sanctuary.

■ Ecosystem:

- ◆ Due to the rocky terrain and shallow topsoil, the **savanna ecosystem** - comprising open grasslands interspersed with dry deciduous trees and shrubs, belongs to the sanctuary.
- ◆ However, the riverine valleys of the sanctuary are **evergreen**.

- **Why is Gandhi Sagar an ideal habitat for cheetahs?** According to MP's wildlife officials, **the sanctuary makes for perfect cheetah habitat**, as it looks like **Maasai Mara** - a national reserve in Kenya known for its savanna wilderness and wildlife.

● Preparations for the Introduction of Cheetahs in Gandhi Sagar:

- Currently, **an area of 64 sq km has been developed for the cheetahs**, at a cost of Rs. 17.72 crores.

Another home for cheetahs

Gandhi Sagar Wildlife Sanctuary in western MP is set to become the second home for cheetahs in India. It has been described as 'perfect' cheetah habitat, but introducing the feline predator will come with its challenges

ANAND MOHAN J
BOPPAL, JUNE 16

THE GANDHI SAGAR Wildlife Sanctuary will be the second home for cheetahs in India, after the Kuno National Park. The Madhya Pradesh government has announced that it has completed its preparations for the ambitious project.

The final call on when the cheetahs will be imported from Namibia and South Africa will be made after the monsoon, during which the cats may be vulnerable to infection, especially with their winter coats on.

What makes Gandhi Sagar an ideal habitat for cheetahs?
The sanctuary is spread across an area of 368.62 sq km, in the districts of Mandsaur (187.12 sq km) and Neemuch (181.5 sq km) in western MP on the border with Rajasthan.

It sits atop a flat rocky plateau, with the Chambal river cutting the sanctuary into two almost equal halves. The Gandhi Sagar dam, constructed on the river in 1960, lies within the area of the sanctuary and does part of its work. The 75 sq km large in area and 100 sq km in length is a natural habitat for cheetahs.

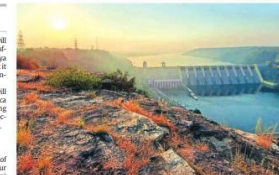
Due to the rocky terrain and exposed cheetah, the topsoil is shallow. This is behind Gandhi Sagar's savanna ecosystem comprising open grasslands interspersed with dry deciduous trees and shrubs. The river valleys, however, are evergreen.

MP's wildlife officials say that Gandhi Sagar makes for 'perfect' cheetah habitat. The landscape has much promise. It looks like Maasai Mara in national reserve in Kenya known for its savanna wilderness and wildlife including lions, giraffes, zebras, hippos, elephants, and cheetahs. Gandhi Sagar has the best habitat for the cheetahs in India after Kuno, a senior official told the Indian Express.

Officials, in fact, see the potential of expanding the cheetah habitat in Gandhi Sagar to an area of around 2,000 sq km. But that will depend on the cooperation between Rajasthan's Bhainsrodgarh sanctuary, as well as the territorial divisions of Mandsaur and Neemuch.

Expanding the core area will rely "mainly on the states of Rajasthan and Madhya Pradesh to come up with a unified management plan," officials said.

How have officials prepared for introduction of cheetahs in Gandhi Sagar?
But before the introduction of cheetahs,



The Gandhi Sagar Wildlife Sanctuary (AP) <https://www.bhaskar.com/article/INDIA-2>

the sanctuary will need to be "prepared" for their arrival. Currently, an area of 64 sq km has been developed for the cheetahs, at a cost of Rs. 17.72 crores.

Wildlife officials have been busy constructing a self-reliance enclosure (or home) which, according to them, would "ensure a suitable and secure habitat for the cheetahs upon their arrival." This enclosure is 1 sq km in area, with four equal partitions.

Moreover, wildlife officials are currently in the process of conducting a comprehensive status assessment of herbivores and predators in the sanctuary to gauge the existing ecological dynamics.

The Chairperson of the Cheetah Steering Committee was tasked to oversee and evaluate the overall readiness of the sanctuary to "ensure that the sanctuary is adequately equipped and prepared to support the successful integration and conservation of cheetahs within its natural landscape".

What is the biggest challenge in making Gandhi Sagar a viable cheetah habitat?
In one word, food. For cheetahs to successfully survive in Gandhi Sagar, the first step is to prey base augmentation, i.e., increase the number of animals that the wild cats can prey upon.

Male cheetahs shirk from coalitions comprising three to five members, whereas females form solitary lives unless they are with their litter. On average, a cheetah coalition is expected to make a kill every three to four days.

According to a Wildlife Institute of India report, "considering the finite growth rate of ungulates to be ~1.3, a population of about 30 ungulates are required for a single cheetah coalition family" (V V Jhala et al., "Assessment of cheetah reintroduction sites and proposed action", 2021). Ungulates are members of a diverse class of animals, primarily consisting of big mammals with hooves (like deer).

"About 1,000 chital, 1,000 blackbuck, and 250 chinkara should be translocated to Gandhi Sagar... the prey base would offer 7-8 cheetah family coalitions," the WII assessment said.

MP's wildlife officials told the Indian Express that "prey animals such as chital (spotted deer) and gazelle (Indian gazelle) have been relocated from Kanha, Sariska and Sanjay tiger reserves to Gandhi Sagar".

But an official says prey have still not been introduced to Gandhi Sagar, much like it has been in Kuno. Officials are now pushing for around 5,000 antelope to be relocated to Gandhi Sagar. This will have its own hurdles, including "stress related mortalities" during the capturing and relocation process.

What are some other challenges that cheetahs will face in Gandhi Sagar?
Just like in Kuno, the leopard population in Gandhi Sagar will pose a threat to cheetahs, with the two feline predators competing for the same prey, and possibly even clashing with each other in wild encounters.

In fact, apart from leopards, the sanctuary has several other co-predators as well, including sloth bears, striped hyenas, gray



The Gandhi Sagar Wildlife Sanctuary (AP) <https://www.bhaskar.com/article/INDIA-2>

wolves, golden jackals, jungle cats, Indian foxes, and marsh crocodiles. Moreover, experts have also stressed on the enhancement of protected areas across the region.

While the forest department stressed that poaching was not a problem, the 2021 assessment found that despite the reasonably good status of the habitat, ungulate densities are extremely low, perhaps due to meat-eating communities residing in the area.

Unlike Kuno, highways and human habitation pass right outside the boundary of the protected area in Gandhi Sagar.

How will Gandhi Sagar be developed over time?
According to the 2021 report, the "first phase of augmentation should target the two wolves of the Chambal river so that cheetah reintroduction can commence there as soon as sufficient prey is available".

Wildlife officials too suggested the same, saying that developments within Gandhi Sagar should initially focus on the "Neemuch side of Chambal". The Chambal river acts as a "barrier to causal movement of wildlife" between the two halves of the sanctuary.

At present, the eastern side (Mandsaur side) sees more human activity. The Gandhi Sagar township, housing employees of the hydroelectric project on the dam, is located on the eastern side of the sanctuary.

Today, the banks of the reservoir see some agriculture and livestock rearing, with the reservoir itself being used for commercial fishing.

- A **soft release enclosure** (or boma, which is 1 sq km in area) has been constructed to ensure a suitable and secure habitat for the cheetahs upon their arrival.
- A **hospital** has also been constructed to cater to the needs of cheetahs.
- In order to gauge the existing ecological dynamics, the wildlife officials are currently in the process of **conducting a comprehensive status assessment of herbivores and predators** in the sanctuary.
- The **Chairperson of the Cheetah Steering Committee** was tasked to oversee and evaluate the overall readiness of the WLS -
 - ◆ To ensure that the sanctuary is adequately equipped and prepared and
 - ◆ To support the successful integration and conservation of cheetahs within its natural landscape.
- **Challenges in Making Gandhi Sagar a Viable Cheetah Habitat:**
 - **Food:** For cheetahs to sustainably survive in Gandhi Sagar, the first step is **prey base augmentation**, i.e. increasing the number of animals that the wild cats can prey upon.
 - **Leopard and other co-predators:** Just like in Kuno, the leopard population in Gandhi Sagar will pose a threat to cheetahs, with the two feline predators possibly clashing with each other for the same prey.
 - **Human habitation:** Unlike Kuno, highways and human habitation pass right outside the boundary of the protected area in Gandhi Sagar.
 - **Inter and intra state coordination:** The potential of expanding the cheetah habitat in Gandhi Sagar to an area of around 2,000 sq km will depend on
 - ◆ The coordination between **Rajasthan's Bhainsrodgarh** sanctuary,
 - ◆ As well as the territorial divisions of **Mandsaur and Neemuch**.
 - **Infection:** The final call on when the cheetahs will be imported from Namibia and South Africa will be made after the monsoons, during which the cats may be vulnerable to infection.



6. INCOIS' New Product to Forecast El Nino and La Nina

GS 1 (Geography)

- **Why in the News:** Hyderabad-based Indian National Centre for Ocean Information Services (INCOIS) has developed a new product to predict the emergence of El Nino and La Nina conditions.
- **About INCOIS:**
 - Indian National Centre for Ocean Information Services (INCOIS) is an autonomous organization established in 1999, under the Ministry of Earth Sciences.
 - It is a unit of the Earth System Science Organization (ESSO).
 - **Objective:** To provide ocean data, information and advisory services to society, industry, the government and the scientific community.
 - **Activities of INCOIS Include:**
 - ◆ Provides round-the-clock monitoring and warning services for the coastal population on tsunamis, storm surges, high waves, etc.
 - ◆ Provides daily advisories to fisher folk to help them easily locate areas of abundant fish in the ocean while saving on both fuel and time used to search for the same.
 - ◆ Short term (3-7 days) Ocean State Forecasts (waves, currents, sea surface temperature, etc.) are issued daily.
 - ◆ Deploys and maintains a suite of Ocean Observing Systems in the Indian Ocean to collect data on various oceanic parameters to understand the processes in the ocean and to predict their changes.

A new way to predict El Niño, La Niña

ANJALI MARAR
BENGALURU, JUNE 16

HYDERABAD-BASED Indian National Centre for Ocean Information Services (INCOIS) has developed a new product to predict the emergence of El Niño and La Niña conditions — they are different phases of El Niño Southern Oscillation (ENSO) — up to 15 months in advance. The product is known as the Bayesian Convolutional Neural Network (BCNN).

What is ENSO?
ENSO is a climate phenomenon which involves changes in the temperature of waters in the central and eastern tropical Pacific Ocean, coupled with fluctuations in the overlying atmosphere. It can alter the global atmospheric circulation, which, in turn, influences weather across the world. ENSO occurs in irregular cycles of 2-7

years and has three different phases — warm (El Niño), cool (La Niña), and neutral. In the neutral phase, the eastern side of the Pacific Ocean (near the northwestern coast of South America) is cooler than the western side (near the Philippines and Indonesia). This is due to the prevailing wind systems that move from east to west, sweeping the warmer surface waters towards the Indonesian coast. The relatively cooler waters from below come up to replace the displaced water.

In the El Niño phase, however, wind systems weaken, leading to lesser displacement of warmer waters. As a result, the eastern side of the Pacific becomes warmer than usual. In the La Niña phase, the opposite happens.

What is BCNN?
The new product uses the latest technologies such as Artificial Intelligence (AI), deep

learning, and machine learning (ML) to improve forecasts related to the ENSO phases. The model's prediction relies on the fact that El Niño or La Niña are connected to the slow oceanic variations and their atmospheric coupling, which gives sufficient lead time to issue early forecasts. It calculates the Niño3.4 index value — used to determine the different phases of ENSO phases — and makes the forecast.

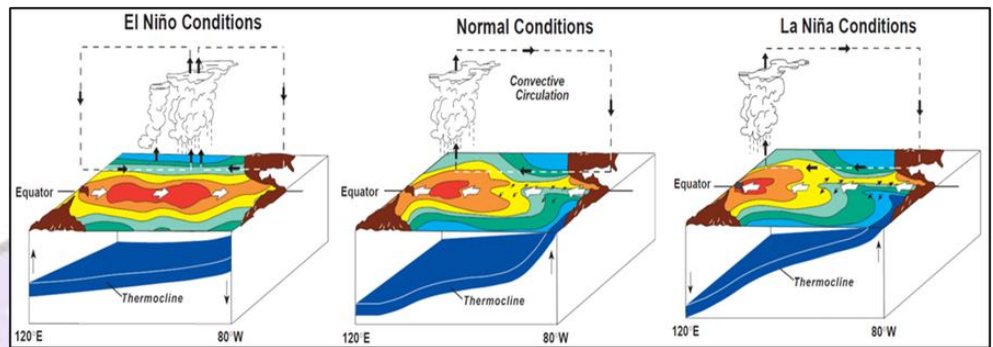
Why is BCNN significant?
There are largely two kinds of weather models used for forecasting. One is the statistical model, which generates forecasts based on various information sets received from different countries and regions. The other is the dynamic model, which involves a 3D mathematical simulation of the atmosphere done using high performance computers. The BCNN, however, is a combination of the dynamic model with AI. This helps it fore-

cast the emergence of El Niño and La Niña conditions with a 15-month lead time — unlike other models which can give a prediction up to six to nine months in advance.

What were the challenges?
Typically, researchers need historical weather data — spanning several decades, and even centuries — to feed into models to generate forecasts. While rich data are available for land, there is a scarcity when it comes to seas and oceans. This gap has hampered the weather and climate prediction accuracy. The INCOIS addressed the issue by taking data from historical runs (1850-2014 period) from the Coupled Model Intercomparison Project phases 5 and 6 (CMIP5 and CMIP6), thus augmenting the training dataset. CMIP5 is an experimental framework, which allows climate modellers to simulate various scenarios to test the past climate and project the future climate situations.

● **What is ENSO (El Niño and Southern Oscillation)?**

- ENSO is one of the most important climate phenomena on earth due to its **ability to change the global atmospheric circulation**, which in turn, influences temperature and precipitation across the globe.



- Though ENSO is a single climate phenomenon, it has three states, or phases, it can be in:

■ **El Niño:**

- ◆ This phase is characterized by unusually warm sea surface temperatures in the central and eastern equatorial Pacific.
- ◆ El Niño typically leads to altered weather patterns around the world, including increased rainfall in the southern United States and Peru, and drought conditions in Australia, Indonesia, and India.
- ◆ It can also affect marine life due to changes in nutrient availability in the ocean.

■ **La Niña:**

- ◆ This phase features unusually cold sea surface temperatures in the central and eastern equatorial Pacific.
- ◆ La Niña generally causes the opposite weather effects of El Niño.
- ◆ For instance, it can lead to increased rainfall in Australia and Indonesia, and drier conditions in the southwestern United States.
- ◆ La Niña events can also influence hurricane activity in the Atlantic Ocean, often increasing the number of hurricanes.

■ **Neutral:**

- ◆ In this phase, sea surface temperatures and atmospheric conditions in the equatorial Pacific are near average.
- ◆ This phase is also sometimes referred to as ENSO-neutral.
- ◆ During this phase, the global weather patterns are more stable and not significantly influenced by the extreme conditions seen during El Niño or La Niña.

● **New Product to Forecast El Niño and La Niña:**

- Hyderabad-based Indian National Centre for Ocean Information Services (INCOIS) has developed a new product to predict the emergence of El Niño and La Niña conditions.
- Known as **Bayesian Convolutional Neural Network (BCNN)**, the new product uses the latest technologies such as Artificial Intelligence (AI), deep learning, and machine learning (ML) to improve forecasts related to the ENSO phases.

● **Working of BCNN:**

- The model predicts El Niño or La Niña by observing slow changes in the ocean and how they interact with the atmosphere.
- This interaction allows enough time to make early forecasts.
- The prediction uses the Nino3.4 index, which helps identify the different ENSO phases.
- This index is calculated by averaging the sea surface temperature (SST) anomaly in a specific part of the central equatorial Pacific, ranging from 5°N to 5°S latitude and 170°W to 120°W longitude.

7. Global Gender Gap Report 2024

Recent events of importance

- **Why in News:** The world has seen modest progress in closing the gender gap, however, the pace remains sluggish, according to the latest edition of the World Economic Forum's Global Gender Gap Report.
- **About Global Gender Gap Report:**
 - It is an **annual index** designed to measure gender equality.
 - It benchmarks gender-based gaps in **four areas**: economic participation and opportunity; educational attainment; health and survival and political empowerment.
 - It is released by the **World Economic Forum (WEF)**.
 - It is the longest-standing index tracking the progress of numerous countries' efforts towards closing these gaps over time since its inception in 2006.
 - **Highlights of 2024 Report:**
 - ◆ The **global gender gap score** in 2024 for all 146 countries stands at **5%**, a 0.1 percentage point improvement on last year.
 - ◆ At the current pace, it will take another 134 years to achieve full gender parity.
 - ◆ **India slipped two places to 129th** place as **Iceland retained its top position** in the rankings for the 15th consecutive year.
 - ◆ It was followed in the top 10 by Finland, Norway, New Zealand, Sweden, Nicaragua, Germany, Namibia, Ireland, and Spain.
 - ◆ With a population of over 1.4 billion, India closed 64.1% of its gender gap in 2024.
 - ◆ In South Asia, India was ranked fifth after Bangladesh, Nepal, Sri Lanka, and Bhutan, while Pakistan was ranked last.
 - ◆ In the world, **Sudan was ranked last** on the index of 146 countries, while Pakistan fell three places to 145th.
 - ◆ India was among the economies with the **lowest levels of economic parity**, with Bangladesh, Sudan, Iran, Pakistan, and Morocco, as all of them registered less than 30 percent gender parity in estimated earned income.
 - ◆ **India showed the best gender parity in terms of enrolment in secondary education** and ranked 65th globally on political empowerment of women.
 - ◆ With regard to parity in number of years with female/male heads of state for the last 50 years, India ranked 10th.

8. Pantanal Wetland

GS 3 (Environment)

- **Why in News:** Fires in Brazil's Pantanal wetlands have surged nearly tenfold so far this year to the highest levels since 2020.
- **About Pantanal Wetland:**
 - It is the **world's largest tropical wetland**.
 - **Location:**
 - ◆ It is located in the upper Paraguay River basin, the Pantanal straddles Brazil's border with **Bolivia and Paraguay**.
 - ◆ About 80 percent of the Pantanal is in **Brazil**.
 - It's a 185,000-square-kilometer (71,000-square-mile) mosaic of **grassland swamps fed by rivers, streams** and seasonal floods and dense, low-forested savanna.
 - It was developed in a structural basin formed as the Andes Mountains rose.
 - The climate is **tropical, wet and dry**.
 - It is one of the most biologically rich environments on the planet, with more than 4,700 plant and animal species.
 - **Fauna:**
 - ◆ Noteworthy animals include the **jaguar**, giant otter, giant armadillo, marsh deer, pampas deer and **hyacinth macaw** (the biggest parrot on the planet).
 - ◆ It has the **largest concentration of crocodiles in the world**, with approximately 10 million caimans.
 - In 2000, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) declared a small portion of the Pantanal a **World Heritage Site**.
 - Around **95% of the Pantanal is under private ownership**, the majority of which is used for cattle grazing.

9. SDG 7: Energy Progress Report 2024

GS 3 (Environment)

- **Why in News:** SDG 7: Energy Progress Report 2024, released recently, finds that the world remains off course to achieve Sustainable Development Goal (SDG) 7 for energy by 2030.
- **About SDG 7: Energy Progress Report 2024:**
 - Since its inception in 2018, it has become the global reference for information on progress toward the **achievement of Sustainable Development Goal 7 (SDG 7)** of the UN 2030 Agenda for Sustainable Development.
 - The aim of **SDG 7** is to “ensure access to affordable, reliable, sustainable, and modern energy for all.”
 - The report is **produced annually by the five custodian agencies** responsible for tracking progress toward the goal.
 - The custodian agencies are the **International Energy Agency (IEA)**, the **International Renewable Energy Agency (IRENA)**, the **United Nations Statistics Division (UNSD)**, the **World Bank**, and the **World Health Organization (WHO)**.
 - This report summarizes global progress on energy access, energy efficiency, renewable energy, clean cooking, and international cooperation to advance SDG 7.
 - **Highlights of 2024 Report:**
 - ◆ The latest report confirms that the **number of people without access to electricity increased for the first time in over a decade**, as population grew—mostly in Sub-Saharan Africa—at a higher rate than that of new electricity connections, leaving **685 million people** without electricity in 2022, 10 million more than in 2021.
 - ◆ The **world remains off track to achieve universal access to clean cooking by 2030**. 1 billion people still live without access to clean cooking fuels and technologies, largely in Sub-Saharan Africa and Asia.
 - ◆ **Renewable electricity consumption grew** more than 6% year-on-year in 2021, bringing the share of renewables in global electricity consumption to 28.2%.
 - ◆ Installed **renewable energy-generating capacity per capita reached a new record** in 2022 at 424 watts per capita globally.
 - ◆ However, considerable disparities exist. Developed countries (at 1,073 watts per capita) have 3.7 times more capacity installed than developing countries (at 293 watts per capita).
 - ◆ It warns that **current efforts are not enough** to achieve SDG 7 on time.
 - ◆ Between 2010 and 2021, **India**, along with **China and Indonesia**, achieved significant advancements in modern renewable energy use.
 - ◆ Between 2010 and 2021, India recorded **one of the highest increases in the use of modern renewable energy**, with the share of renewables in total final energy consumption (TFEC) rising by nearly 7 percentage points.
 - ◆ India's transition to renewable energy has been bolstered **by substantial international financial support**.
 - ◆ In 2022, the country received a notable USD 627 million for 47 renewable energy projects, many of which were valued at less than USD 1 million.
 - ◆ A significant portion of this funding **came from Germany and the International Bank for Reconstruction and Development (IBRD)**.
 - ◆ India's role in renewable energy extends to the transportation sector, where it, alongside the United States, Brazil, Europe, and China, accounts for 85 percent of renewable energy use.

MCQ Current Affairs
17th June, 2024

1. Palamu Tiger Reserve lies in which one of the following states?

- a) Uttar Pradesh
- b) Gujarat
- c) Jharkhand
- d) West Bengal

2. The Global Gender Gap Report is released by which one of the following organisations?

- a) World Bank (WB)
- b) World Economic Forum (WEF)
- c) United Nations Development Programme (UNDO)
- d) International Labour Organization (ILO)

3. Pantanal Wetland, recently seen in the news, is located in which one of the following regions?

- a) Western Australia
- b) Southeastern Africa
- c) Eastern Europe
- d) South America

4. "Joint Communique on a Peace Framework", recently seen in the news in the context of which one of the following countries?

- a) China and India
- b) Ukraine and Russia
- c) Israel and Palestine
- d) Iran and Pakistan

5. "Exercise Red Flag 2024", recently seen in the news, is hosted by:

- a) U.S. Air Force
- b) Republic of Singapore Air Force
- c) Indian Air Force
- d) Royal Netherlands Air Force

Answers Current Affairs
17th June, 2024

1. c
2. b
3. d
4. b
5. a

