

## WEEKLY UPDATES – (18<sup>th</sup>-24<sup>th</sup> Sept)

### Contents

<b>ART &amp; CULTURE</b> .....	<b>2</b>
Santiniketan: UNESCO's World Heritage .....	2
Three Hoysala Temples Declared 42 <sup>nd</sup> World Heritage Sites .....	3
<b>ENVIRONMENT</b> .....	<b>4</b>
Project Cheetah .....	4
Fossils Of A Plant-Eating Dinosaur Found In Rajasthan .....	8
Endangered Nilgiri Tahr .....	9
<b>POLITY</b> .....	<b>12</b>
Draft Patent Amendment Rules Undermine Pre-Grant Opposition.....	12
<b>ECONOMY</b> .....	<b>13</b>
Tracking India's Growth Trajectory .....	13
46-Year-Low Savings Rate .....	15
<b>INTERNATIONAL RELATIONS</b> .....	<b>16</b>
China, U.S. And India Absent At U.N.'S Climate Ambition Summit.....	16
<b>HEALTH</b> .....	<b>17</b>
PCOS: Polycystic Ovary Syndrome .....	17
<b>SCIENCE</b> .....	<b>19</b>
Rashtriya Vigyan Puraskar.....	19
<b>REPORT &amp; INDEX</b> .....	<b>20</b>
WHO releases report on global impact of high BP .....	20

## ART & CULTURE

### Santiniketan: UNESCO's World Heritage

**Context:** Santiniketan, a town established by Nobel laureate Rabindranath Tagore, made it to the UNESCO's World Heritage List.

- Located in West Bengal's Birbhum district, Santiniketan, which means "abode of peace", started taking shape in 1901 and is the place where Tagore laid the foundations of Visva-Bharati University.
- Santiniketan becomes India's 41st World Heritage Site to join the UNESCO List.
- The place exhibits an important interchange in human values, over a span of time or within a cultural area of world, on developments in architecture or technology, monumental arts, town planning or landscape design.
- Attempts to get Santiniketan inscribed on the World Heritage List have been going on since 2010.



#### About Santiniketan

##### Historical Significance

- In 1862, Rabindranath Tagore's father, Debendranath Tagore, spotted this scenic landscape and decided to establish an ashram, building a house called Santiniketan, meaning "abode of peace".

##### Name Change

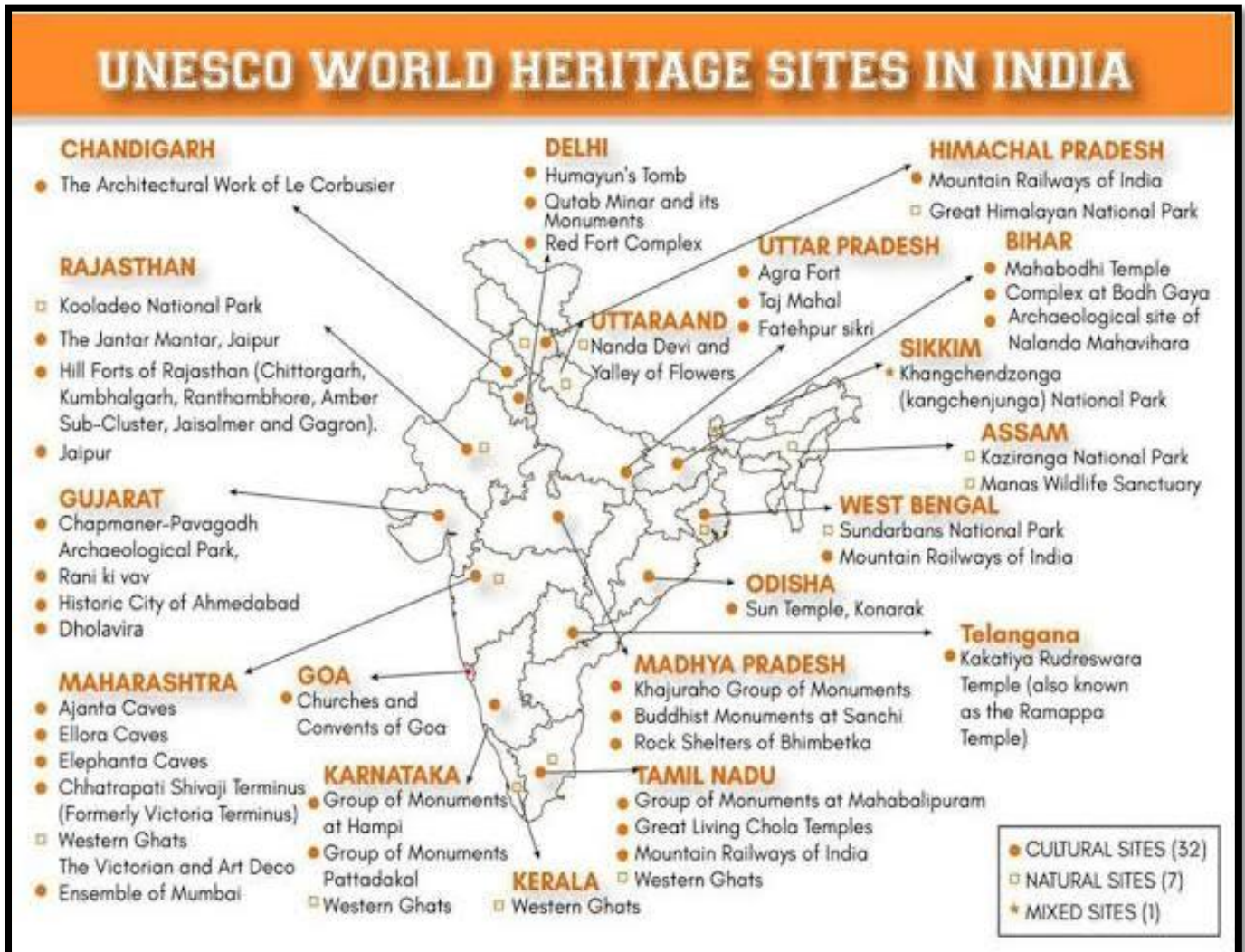
- The area, originally called Bhubadanga, was renamed Santiniketan by Debendranath Tagore due to its conducive environment for meditation.

##### Educational Legacy

- In 1901, Rabindranath Tagore chose a significant portion of land and established a school based on the Brahmachary Ashram model. This school later evolved into Visva Bharati University.

#### UNESCO's World Heritage Sites

- ✓ A World Heritage Site is a place that is listed by UNESCO for its special cultural or physical significance.
- ✓ The list of World Heritage Sites is maintained by the international 'World Heritage Programme', administered by the UNESCO World Heritage Committee.
- ✓ This is embodied in an international treaty called the Convention concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972.



## Three Hoysala Temples Declared 42<sup>nd</sup> World Heritage Sites

**Context:** The Hoysala temples at Belur, Halebid, and Somanathapur in Karnataka were declared UNESCO World Heritage Sites in a move that will bring global recognition with prospects of increase in international tourism to these places.

### Key Highlights

The Chennakeshava temple at Belur and the Hoysaleswara temple at Halebid — both in Hassan district — have been on the UNESCO's tentative list since 2014. The Keshava temple at Somanathapur in Mysuru district was appended to the other two monuments under the tentative list and all three were officially nominated by the Centre as India's entry for 2022-23 in February 2022.

- The Archaeological Survey of India (ASI) said the coming together of creative genius, architectural eclecticism, and symbolism into this outstanding sacred architecture makes these Hoysalas temples a true work of art and their inscription is an honour for India and the entire world heritage community.

- The monuments were officially inscribed as UNESCO World Heritage Sites during the **45th session of the World Heritage Committee** at Riyadh, Saudi Arabia.
- All three temples are protected by the ASI and the nominations were entered as ‘The Sacred Ensembles of Hoysalas’.

## About Hoysala Temples

Hoysala architecture, developed between the 11th and 14th centuries in southern Karnataka under the Hoysala Empire.

- The Hoysala temples are known for evolving a distinct style that is ornate with temple architecture following a stellate plan built on a raised platform.
- A unique style blending elements of Dravida and Nagara architectures.
- Influences from Bhumija, Nagara, and Karnataka Dravida architectural traditions.
- The material used in temple construction is chlorite schist which is also known as soapstone that are soft and amiable to carving.
- The temples have horizontal friezes and many of the sculptures are signed by artists which is unique in the history of Indian art while the doorways show intricate carvings showcasing the excellence achieved by the artist.

Temple	Features
<p><b>Chennakeshava Temple (Belur, Hassan, Karnataka)</b></p>	<ul style="list-style-type: none"> <li>• <b>Year:</b> 1117 AD (period of king Vishnuvardhana)</li> <li>• <b>Deity:</b> Lord Vishnu (Chennakesava)</li> <li>• <b>Richly sculptured exterior depicting</b> scenes from Vishnu's life, epics, and some representations of Shiva.</li> <li>• "<b>Chenna</b>" means beautiful, "<b>Keshava</b>" means Vishnu</li> <li>• Follows a <b>stellate plan</b> with a raised platform. Constructed using chloritic schist (<b>soapstone</b>).</li> </ul>
<p><b>Hoysaleshwara Temple (Halebidu, Hassan, Karnataka)</b></p>	<ul style="list-style-type: none"> <li>• <b>Year:</b> 1121 CE</li> <li>• <b>Deity:</b> Lord Shiva (Hoysaleshwara)</li> <li>• Known for <b>more than 240 wall sculptures</b> depicting various themes</li> <li>• Walled complex with <b>three Jaina basadi</b> (temples) and a stepped well in Halebid.</li> </ul>
<p><b>Keshava Temple (Somanathapura, Mysuru, Karnataka)</b></p>	<ul style="list-style-type: none"> <li>• <b>Year:</b> 1268 CE (regime of Narasimha III)</li> <li>• <b>Deity:</b> Lord Krishna (Keshava, Janardhana, Venugopala)</li> <li>• <b>Trikuta Temple</b> dedicated to Lord Krishna in three forms: Janardhana, Keshava, and Venugopala.</li> <li>• The main <b>Keshava idol is missing</b>, and the Janardhana and Venugopala idols are damaged.</li> </ul>

## ENVIRONMENT

### Project Cheetah

**Context:** The first batch of eight cheetahs from Namibia arrived on September 17, 2022, officially launching Project Cheetah, India's cheetah introduction programme. An overview of the project as it completes one year.

#### Why have African cheetahs been introduced in India?

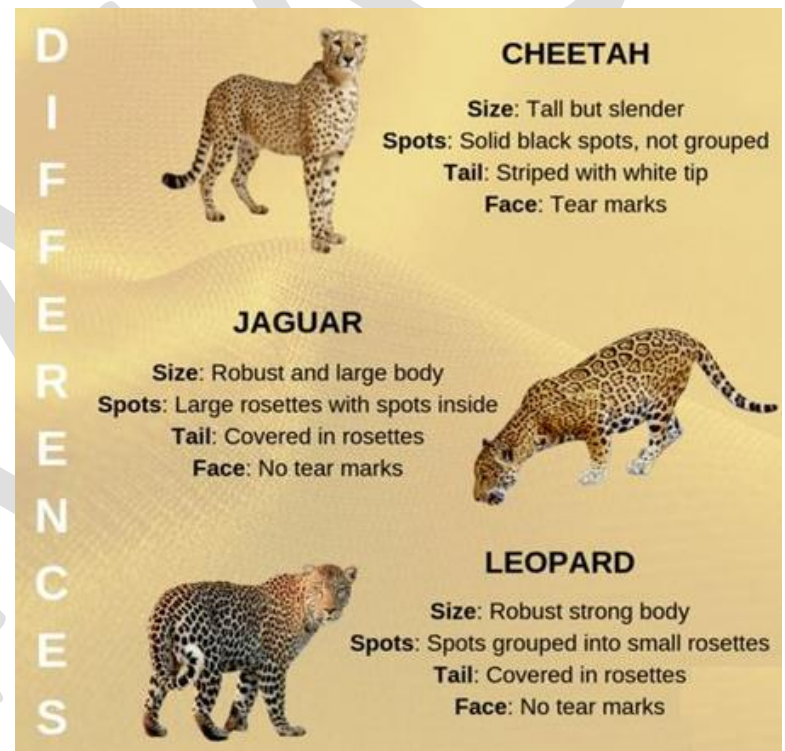
The goal of the introduction of African cheetahs is to “establish viable cheetah metapopulation in India that allows the cheetah to perform its functional role as a top predator and provides space for the expansion of the cheetah within its historical range thereby contributing to its global conservation efforts.”

- This effectively means that the project aims to enable cheetahs to establish themselves as viable and free-ranging populations in large unfenced wildlife reserves which are in turn connected by wildlife corridors to other unfenced reserves.

### What is the status of the project?

In total, 20 adult African cheetahs have been imported so far. The first batch of eight cheetahs arrived on September 17, 2022 and another batch of 12 cheetahs from South Africa arrived on February 18, 2023. In late March 2023, one of the females gave birth to a litter of four cubs which were conceived in India.

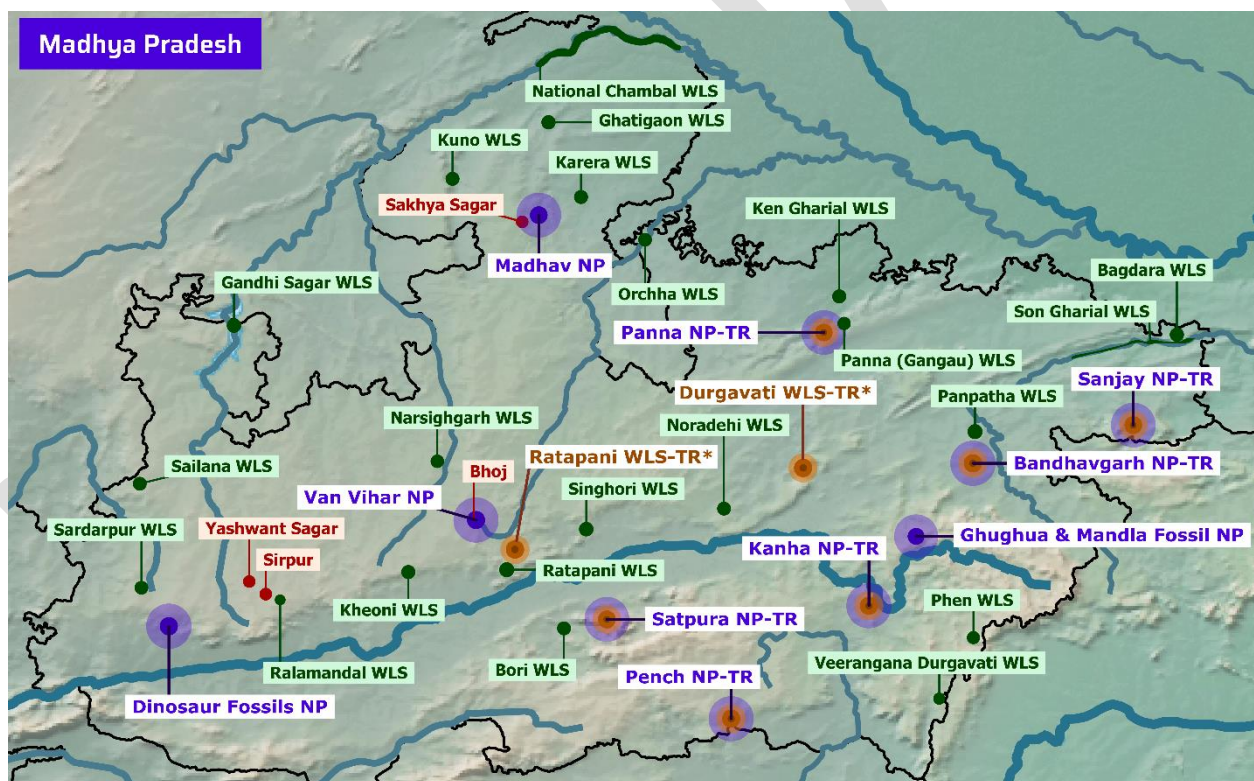
- After prolonged periods of quarantine which ranged from 50 to more than 70 days (the prescribed period of quarantine is 30 days), the cheetahs were released from their quarantine enclosures into larger holding enclosures, so that they could acclimatise themselves to the local habitats and environmental conditions.
- The plan was to first release male coalitions after about 1 to 2 months of them getting acclimatised in the larger enclosures.
- This was to be followed by the release of females, 1-4 weeks after the release of the males.
- The release of the cheetahs to run free in the wild was delayed with the first cheetah being released after more than 100 days in the larger enclosure.
- So far, only 12 of the 20 cheetahs were ever released into the wild, with a few being brought back multiple times to the **Kuno National Park (KNP)**, since the managers felt that the cats were moving into areas that may have posed risks for their survival.
- Six of the cheetahs which came from Africa have died.
  - Four while still in captivity and two in the wild.
  - Four of the adult cheetahs are yet to be released to run free even for a single day.



- Additionally, three of the four cubs have died and the only remaining cub is being hand reared as its mother has rejected it.
- Since the deaths of the three cheetahs in July-August, all 10 of the remaining free cheetahs have been captured and kept captive in enclosures for observation, removal of radio-collars and treatment.
- Safely capturing these cheetahs, especially a female whose radio-collar was functioning only intermittently, is no small feat and the efforts, skills, determination and dedication displayed by the field teams has to be appreciated.

Currently, from the available information, on the first anniversary of the project, all the surviving 14 adult cheetahs and one cub are in captivity and there is talk of them being radio-collared again and released once the winter sets in.

- The project authorities are talking of additional sites being prepared for releasing the cheetahs such as the **Gandhi Sagar Wildlife Sanctuary** and **Nauradehi Wildlife Sanctuary**, both in Madhya Pradesh.
- Gandhi Sagar is expected to be ready by the end of this year while Nauradehi is likely to be ready sometime in 2024.
- The project authorities are also talking of importing more cheetahs from Africa sometime next year.



## Why did the cheetahs die?

There have been a variety of reasons and causes attributed to the deaths of the six adults and three cubs. **Radio collars** are not the underlying reason for the deaths of any of these cats, at least that is the officially stated position. One needs to determine if the African cheetahs are susceptible to **certain insects and parasites** in India, and if the collars provide a micro-environment conducive for these to thrive.

The first cheetah which died is said to have perished due to a renal condition. The question that arises is why the Government of India agreed to bring a cheetah which was sick and put it through more stress by transporting it and having it adapt to a new environment.

One of the females died when authorities attempted to get the cheetah to mate inside the enclosure.

Three of the four cubs born in India are reported to have died due to heatwave conditions.

One of the males is reported to have died due to cardio-pulmonary failure but what caused it (the ultimate cause), has still not been determined.

The last three deaths occurred during the monsoon. While there have been several conflicting reports regarding the cause of their deaths, no definitive cause has been shared in the public domain.

Even though the cheetahs were under constant monitoring, nine deaths have occurred. It is time the **authorities reassess the approach** and **act decisively** so that one can **prevent such deaths**, especially when the animals are in captivity. We also have to be **cognisant of the effects of long periods of captivity** on the **fitness** of these cats to be released to run free in the wild.

### Impact of the project on the conservation of other endangered species



- Unfortunately, the very high-profile cheetah project has definitely **distracted attention** and probably also **diverted financial resources** from much needed conservation projects like the ones for the Great Indian Bustard and the translocation of Asiatic lions, to mention a few.
- Project Cheetah has also been called upon as a means to **save grasslands** and other open **natural ecosystems**. However, given the challenges that the cheetahs have faced in surviving even in captivity and the **lack of sufficient suitable habitats** for them, using African cheetahs to **conserve grasslands and grassland-dependent species is clearly a faulty strategy**.

#### What needs to be done?

- Without proper and adequate habitats, there is no point in importing more cheetahs.
- Focus on the establishment of high-quality habitats covering at least 5,000 square kilometres before bringing more cheetahs.
- We cannot rely on simply importing more cheetahs to establish a viable population while neglecting its habitat requirements.
- The other weakness has been the lack of wider consultation and transparency. This definitely needs to improve.

## Fossils Of A Plant-Eating Dinosaur Found In Rajasthan

**Context:** IIT Roorkee scientists have characterised dinosaur fossils from the middle-Jurassic period, found in the Thar desert near the Jaisalmer Basin by the Geological Survey of India. The remains are those of a sauropod dinosaur, and happen to be the oldest known fossils of this particular sauropod.

### Key Highlights

- Sauropod dinosaur is the same clade as the long-necked herbivores in Jurassic Park – only these happened to be the oldest known fossils of this particular kind of sauropod.
- Belonging to the family Dicraeosauridae and from the superfamily Diplodocoidea, these fossils are the first dicraeosaurid sauropods to have been found in India.
- And at 167 million years old, they are the oldest known diplodocoid fossils in the world.
- The scientists named the dinosaur *Tharasaurus indicus*, with *Tharo* deriving from the Thar desert; *saurus* from the Greek ‘sauros’, or lizard; and *indicus* from its Indian origin.
- The most fascinating feature about sauropods is their size. They can grow more than a hundred feet. There are many sauropod groups that are even longer than the blue whale.
- However, members of the Dicraeosauridae family of sauropods – to which *Tharasaurus* belongs – were not nearly as large.
  - This family was unique: its members were smaller and had shorter necks and tails compared to the other long-necked sauropods.



- ✓ India has also been home to a few early, more primitive sauropods, like *Kotasaurus* and *Barapasaurus*.
- ✓ They were both discovered in the Kota Formation, a geological rock unit in Telangana, from the Early Jurassic period.
- ✓ In 2006, an Indo-German team found another middle Jurassic sauropod dinosaur fossil in the Kutch basin of Gujarat, named *Camarasaurus supremus*, which was also the oldest fossil of that group found at the time.
- ✓ There have been subsequent finds of extremely old sauropod fossils in the region by the same team since.

Sauropods first appeared on the earth during the Jurassic period, about 200 million years ago. They were one of the most dominant clades of dinosaurs, surviving until the late Cretaceous period 65 million years ago, when dinosaurs went extinct.

### Importance of Indian landmass

Some 167 million years ago when *Tharasaurus* lived, India was not where it is now.

- It was part of a group of continents in the southern hemisphere with Africa, South America, Madagascar, and Antarctica, together called Gondwanaland.



- Considering the fact that we already have more primitive sauropods in India and now the oldest diplodocoid, it is highly likely that India was the site of radiation of these diplodocoid dinosaurs to other parts of the world.
- The scientists reasoned that these diplodocoid sauropods could have originated in India during the Middle Jurassic period and used the land connections at the time to migrate to Madagascar, Africa, and South America.
  - After that they could have made their way to North America and the rest of the world.
- Another piece of evidence that supports their theory was that diplodocoid fossils in other continents like Africa, the Americas, and Asia come from a younger geological interval.
  - This increases the possibility that the Indian landmass was the site for the Tharosaurus' early radiation.

## Endangered Nilgiri Tahr

**Context:** After launching Project Nilgiri Tahr last year for the conservation of the State animal, Tamil Nadu is now working on a standardised protocol to count the endangered population of southern India's only mountain ungulate.

- The Tamil Nadu Forest Department will also propose to its Kerala counterpart to conduct a synchronised census, as the animal is only found in select habitats in the two States.

### Key Highlights

- The Tamil Nadu Forest Department is proposing two censuses:
  - One in November, after the southwest monsoon, and
  - The other in March or April, after the calving season.
- If Kerala agrees to the proposal, the second census is likely to be a synchronised count.
- This would be the first comprehensive, exclusive census for the State animal.
- Experts felt that bounded count and double-observer survey methods could be priority models. Camera traps could also be used in difficult terrains.
- The Project Nilgiri Tahr team, during field visits, experimented with drones to observe tahr groups.
  - Contrary to our perception, they were not disturbed by the drone flown around 100 metres above them.
- A component of the Project Nilgiri Tahrs aims to study the possible causes of the lumpy skin disease that has been observed in the animal, and suggest a remedy for it.



## About Nilgiri Tahr

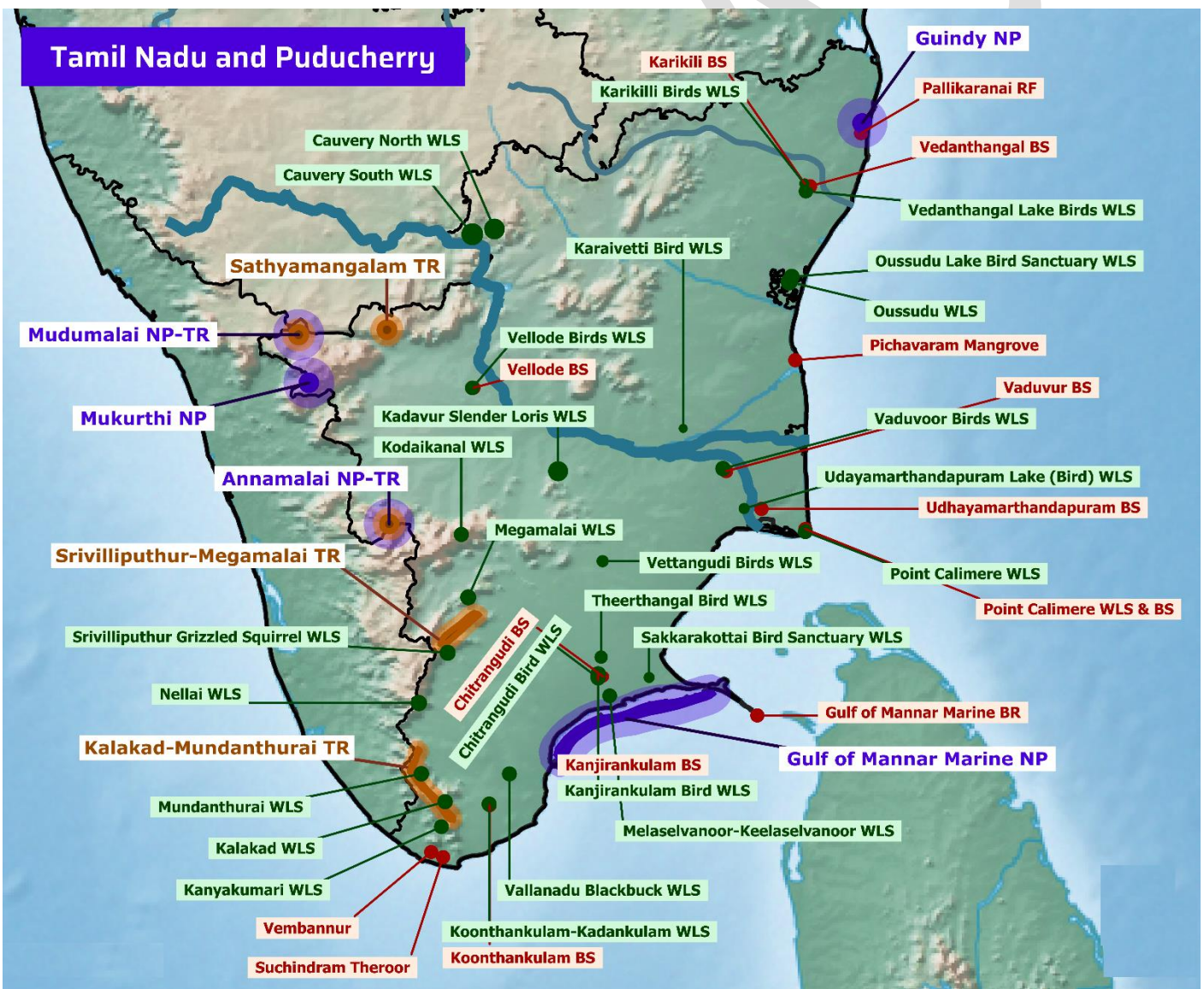
<b>Local Name</b>	The species is locally known as <b>Varaiaadu</b> .
<b>Other Name</b>	It is also known as <b>Nilgiri Ibex</b> .
<b>Habitat</b>	<ul style="list-style-type: none"> <li>• It is the sole Caprinae species found in the <b>tropical mountains</b> of southern India.</li> <li>• The Nilgiri tahr prefers <b>montane grasslands</b>, with steep and rocky terrains at an altitude between 300 metres and 2,600 metres above sea level.</li> <li>• Historically, the Nilgiri Tahr was known to inhabit a large portion of the <b>Western Ghats</b>. <ul style="list-style-type: none"> <li>○ They live in highly fragmented habitats in the Western Ghats in Tamil Nadu and Kerala, ranging between the Nilgiris in the north and the Kanniyakumari hills in the south, according to a 2015 study by WWF-India.</li> </ul> </li> </ul>
<b>Population</b>	<ul style="list-style-type: none"> <li>• It is estimated that there are <b>3,122</b> Nilgiri Tahrs in the wild.</li> <li>• It has become locally extinct in around 14% of its traditional shola forest-grassland habitat.</li> <li>• The Adult males of Nilgiri Tahr species develop a <b>light grey area</b> or “<b>saddle</b>” on their backs and are hence called “<b>Saddlebacks</b>”.</li> </ul>
<b>Status</b>	<ul style="list-style-type: none"> <li>✓ IUCN – <b>Endangered</b>;</li> <li>✓ Wildlife (Protection) Act of India, 1972 - <b>Schedule I</b> : This provides absolute protection and offences under these are prescribed the highest penalties.</li> </ul>
<b>Threats</b>	<ul style="list-style-type: none"> <li>✓ Anthropogenic pressures</li> <li>✓ Threats from invasive plants such as wattles, pines, and eucalyptus in the grasslands.</li> <li>✓ Other threats are poaching and populations of these animals are small and isolated, making them vulnerable to local extinction and Climate Change.</li> </ul>
<b>Nilgiri Tahr Day</b>	<ul style="list-style-type: none"> <li>• October 7 will be celebrated as ‘<b>Nilgiri Tahr Day</b>’ in honour of E.R.C. Davidar. <ul style="list-style-type: none"> <li>○ He was responsible for pioneering one of the first studies on Nilgiri Tahr in 1975.</li> </ul> </li> </ul>
<b>Cultural Significance</b>	<ul style="list-style-type: none"> <li>• There are multiple references to the Nilgiri Tahr in Tamil Sangam literature dating back to 2,000 years. <ul style="list-style-type: none"> <li>○ The late Mesolithic (10,000-4,000 BC) paintings highlight the significance of the Tahr in folklore, culture and life.</li> </ul> </li> </ul>

- It was designated as the **State animal of Tamil Nadu** in recognition of its ecological and cultural significance.

### Mukurthi National Park

It is a protected area located in the northwest corner of Tamil Nadu in the Western Ghats. The park was created to protect its keystone species, the Nilgiri Tahr.

- The park is characterised by montane grasslands and shrublands interspersed with sholas in a high altitude area of high rainfall, near-freezing temperatures and high winds.
- **Other Species Found:** Royal Bengal Tiger and Asian Elephant.
- The park was previously known as Nilgiri Tahr National Park.
- It is part of Nilgiri Biosphere Reserve along with Mudumalai Wildlife Sanctuary, Bandipur National Park, Nagarhole National Park, Wayanad Wildlife Sanctuary and Silent Valley.



## POLITY

### Draft Patent Amendment Rules Undermine Pre-Grant Opposition

**Context:** The Patents Act explicitly permits anyone to file a pre-grant opposition; but as per the draft patent amendment rules, the maintainability of persons or civil society organisations filing pre-grant oppositions will be decided by the controller.

#### Key Highlights

- The draft patent amendment rules made public this year could hugely **benefit big pharma but turn out to be disastrous for patients in India** and in countries in the global South, which rely on generic drugs manufactured in India, in accessing affordable drugs and vaccines.
- The draft rules released by the Department for Promotion of Industry and Internal Trade for stakeholder comments have made a few significant changes that will **create needless hurdles in pre-grant opposition of patents**.
- The **most important change** is about granting the controller the power to determine the maintainability of representation by individuals or civil society organisations to file pre-grant oppositions.
  - Pre-grant opposition is an important public health safeguard against patent ever-greening and unmerited monopolies.
  - It is one sure way to ensure that quality-assured and affordable generics remain accessible.
- But the amendment in the draft patent rules threatens the safeguard against extending the duration of patent protection on completely frivolous grounds.

#### Body blow to pre-grant opposition

The draft patent amendment rules give the controller the power to determine the maintainability of representation of those filing pre-grant oppositions



**Worrying:** The draft amendment rules create needless hurdles. SPECIAL ARRANGEMENT

■ Currently, the Patents Act explicitly permits “any person” to file a pre-grant opposition without the discretion of the Controller. But as per the draft rules, the Controller will decide maintainability

■ Big pharma had questioned the maintainability of petitioners opposing patents, leading to delays. The same can happen with pre-grant opposition

■ The present amendments present the most significant challenge to the Indian Patent System since 2005

■ Pharma companies are averse to pre-grant opposition. The draft patent amendment rules help them by

making the process difficult

■ There are innumerable instances when patient groups and civil society organisations have filed pre-grant opposition, leading to rejection of patent extension

■ The latest pre-grant opposition ruling that was not in favour of a pharma company is the Bedaquiline drug for MDR-TB patients

#### What is the Issue?

Big pharma has lobbied for years to remove essential safeguards from India’s patent laws. “The purpose of the draft amendment rules to pre-grant opposition is to knock out people whom they don’t want [to challenge the granting of patents].

- This is wrong. How will the controller decide the maintainability and on what basis? There is no guiding factor. This will create more problems.
- The [government] is favouring the companies, and pharma companies don’t want pre-grant opposition. But since they can’t do away with that, they are making the process difficult.

- They are introducing the maintainability criterion but there should be a rational basis. If the pre-grant opposition has grounds of pre-grant, then how is it not maintainable? The controller will decide on an arbitrary basis [about maintainability], which is wrong.
- Bringing in maintainability of representation in the pre-grant opposition will be the first major amendment to the Indian Patent Act.
  - The provision of pre-grant opposition in the India Patent Act is unique in the world, the reason why big pharma has been opposed to it as they want continued control over the market and charge high prices for their products.
  - Any weakening of the provision will be disastrous for patients as they will not be able to afford the high price of medicines and the generic drug industry will be affected too.

## ECONOMY

### Tracking India's Growth Trajectory

**Context:** With inflationary pressures, a falling rupee, fluctuations in tax revenue streams and an apprehensive outlook on the agriculture sector in Q1 FY24, India's reported growth narrative may be over embellished.

- The conventional way to assess a country's economic situation is to look at the quarterly (three-month) and annual (12-month) GDP (gross-domestic-product) growth rate and compare it to previous quarters as well as years.
- The quarterly release of GDP figures is by the NSO (National Statistical Office).

#### Q1-Data

- ✓ The **Q1 data** covering the GDP growth rate from April to June of FY24 boasts a **nominal growth rate of 8%** and a **real growth rate of 7.8%**.
- ✓ The growth story currently posits that the numbers reflect an uptick in the **agriculture sector growing at 3.5%**, unlikely to be sustained due to pressure from the El Niño phenomenon, and the services industry, with financial, real estate and professional services growing at 12.2%.
- ✓ Moreover, there is also talk of sustaining a close to 6.5% growth rate for the current financial year.

#### THE GIST

- The Q1 data covering the GDP growth rate from April to June of FY24 boasts a nominal growth rate of 8% and a real growth rate of 7.8%.
- The government's tax revenue from direct taxes has weakened over the previous quarter while the indirect tax revenue remained strong, indicating a K-shaped pattern.
- Direct and personal taxes should (in the absence of any significant policy changes) have grown closer to the nominal growth rate than it has currently. Narrowing revenue streams indicate forced austerity measures, as the government intends to control the budget deficit, and hence the interest rate.

### Calculating GDP

The first factor to consider is that calculating the GDP growth rate involves many complex statistical choices and sophisticated statistical operations.

- One such decision the NSO made while conducting their research was to use the income approach of calculating GDP rather than the expenditure approach.

- The **income approach** involves summing up all national incomes from the factors of production and accounting for other elements such as taxes, depreciation, and net foreign factor income. The assumption generally is that both methods lead to similar results.
- However, the **expenditure approach** dictates headline growth to be 4.5% rather than 7.8% which is a large discrepancy.
- Moreover, another essential statistical operation is the **adjusting for inflation using the price deflator**.
  - Typically, the deflator is meant to adjust growth figures when they are overstated by inflation.
  - In this case, deflation due to falling commodity prices, reflected in the wholesale price index, has worked to overstate the real growth.
- Furthermore, there is a base effect from the **COVID-19 de-growth period**, which continues to plague India's growth figures. Although less pronounced in FY24, the base effect has a role in comparative statistics due to sporadic growth in the years following FY20-21.
- Additionally, one must consider whether the proposed, supposedly cooled, inflation rate calculated through the consumer price index can be sustained at current levels with the impending depreciation of the Indian rupee against the dollar due to capital outflow pressures resulting from the RBI's reluctance to raise interest rates.
- India is a net importer, and its most significant import consists of crude petroleum, whose price seems to be rising due to Saudi's \$100 per barrel push and rupee depreciation.
  - The domestic consumption of diesel, a proxy for economic activity in India, fell by 3% in August, which, if sustained, does not paint a rosy growth picture for the coming quarters.

## Revenue from Taxes

- The government's tax revenue from direct taxes has weakened over the previous quarter while the indirect tax revenue remained strong, indicating a **K-shaped pattern**.
- The **income streams** from progressive taxation (more significant tax burden on those higher on the income ladder) seem to be a laggard compared to its regressive counterpart.
- A **muted growth of direct tax** collected in an economy boosted by the services industry is a statistical discrepancy which remains unexplained in the proposed GDP growth story.
- **Direct and personal taxes** should (in the absence of any significant policy changes) have grown closer to the nominal growth rate than it has currently.
- **Narrowing revenue streams** indicate forced austerity measures, as the government intends to control the budget deficit, and hence the interest rate.

Therefore, growth in FY24 stemming from government expenditure seems to be a pipe dream.

In conclusion, after a meticulous analysis of India's Q1 FY24 economic transcript, it becomes palpable that the reported growth narrative might be somewhat over embellished.

- The divergence in growth figures brought forth by the income and expenditure approaches manifest a significant disparity, raising fundamental questions about the veracity of the promulgated optimistic narrative.
- Moreover, the underpinnings of this growth story, nuanced by inflationary adjustments and conspicuous fluctuations in tax revenue streams, signal a cautious trajectory.

- Additionally, the apprehensive outlook on the agriculture sector and potential fiscal constraints paint an arguably more restrained picture than initially portrayed.
- Therefore, it seems prudent to assert that India's economic performance, although showing signs of resilience, does not quite emerge as the unequivocal success story depicted in initial observations, urging a more nuanced and critical approach in assessing the trajectory ahead.

## 46-Year-Low Savings Rate

**Context:** FinMin links 46-year-low savings rate to changing preferences; 'higher borrowings signal confidence in future employment, income prospects'.

- The Finance Ministry dismissed "critical voices" about household savings having fallen to a multi-decade low on account of economic distress and asserted that households were now adding lesser financial assets than in the past as they had started taking loans to buy real assets such as homes and vehicles.
- This was "not a sign of distress but of confidence in their future employment and income prospects," the ministry added.
- Data released by the Reserve Bank of India showed net household financial savings slid to 5.1% of GDP in 2022-23, reckoned to be the lowest since 1976-77, from 7.2% in 2021-22.
- This, coupled with an increase in households' financial liabilities to 5.8%, from 3.8% of GDP in 2021-22, had prompted concerns that the recovery from the COVID-19 pandemic was still incomplete for many households and that high inflation had dented savings.

### Changing Preference

- Asserting that "the correct position with true facts and right inferences" of data indicated that changing consumer preference for different financial products was the "real reason for the [decline in] household savings," the ministry said in a 630-word statement:
  - "between June 2020 and March 2023, the stock of Household Gross Financial Assets went up by 37.6%, and the stock of Household Gross Financial Liabilities went up by 42.6% — no big difference between the two".
- "Households added Net Financial Assets of ₹22.8 lakh crore in FY21, nearly ₹17 lakh crore in FY22 and ₹13.8 lakh crore in FY23.
- So, they added less financial assets to their portfolio than in the previous year and the year before. They added financial assets by a lesser magnitude than in the previous years because they have now started taking loans to buy real assets such as homes.
- Sharing RBI data on growth in personal loans, the ministry said there had been "a steady double-digit growth in loans for housing since May 2021" indicating that financial liabilities had been incurred to buy real assets.

### Acquiring real assets

Finance Ministry attributes decline in savings rate to an increase in borrowings to buy real assets such as homes and vehicles



- RBI data shows net household financial savings slid to 5.1% of GDP in FY23, from 7.2%
- Households' financial liabilities rose to 5.8%, from 3.8% of GDP in FY22
- Ministry cites RBI data showing steady double-digit growth in housing loans since May 2021

## Double-Digit Growth

- Vehicle loans have been growing at double digits since April 2022 and more than 20% since September 2022.
- The household sector is not in distress, clearly. They are buying vehicles and homes on mortgages, the ministry averred.
- Overall household savings [current prices] — which includes financial, physical and jewellery — has grown at a CAGR of 9.2% between 2013-14 and 2021-22.
- Nominal GDP has grown at a CAGR of 9.65% during the same period,” the ministry highlighted.

This showed that the ratio of household savings to nominal GDP had remained constant around 20% to 19% as of 2021-22.

## INTERNATIONAL RELATIONS

### China, U.S. And India Absent At U.N.’S Climate Ambition Summit

**Context:** The Climate Ambition Summit (CAS) in New York, as part of the United Nations General Assembly, was marked by the absence of major economies whose actions significantly influence the future of global emissions.

#### Key Highlights

- China, the U.S. and India — which collectively account for about 42% of global greenhouse gas emissions and are the top three emitters in that order — were all absent from the summit that was designed, according to the U.N., to “showcase leaders who are movers and doers ... and have credible actions, policies and plans to keep the 1.5 degrees Celsius goal of the Paris Agreement alive and deliver climate justice to those on the front lines of the climate crisis”.
- In the run-up to the summit, nearly 100 heads of state had written in response to a call from UN Secretary-General Antonio Guterres to ramp up action to address the climate crisis.
- However, Only representatives from 34 states and seven institutions were given the floor on the day of the summit.
- India’s neighbours Sri Lanka, Nepal and Pakistan were among the listed speakers and emerging economies such as South Africa and Brazil were also on the list. The European Union, Germany, France and Canada were also on the podium.

The criteria for countries to be considered for a speaking slot at the summit were that

They would be expected to present updated pre-2030 Nationally Determined Contributions (as agreed in Glasgow)

Updated net-zero targets

Energy transition plans with commitments to no new coal, oil and gas

Fossil fuel phase-out plans; more ambitious renewable energy targets

Green climate fund pledges

Economy-wide plans on adaptation and resilience



- All the “main emitters” and notably all G-20 governments would be asked to commit to presenting, by 2025, more ambitious economy-wide Nationally Determined Contributions featuring absolute emissions cuts and covering all gases.
- “The Climate Ambition Summit this year set a high bar for participation. The Secretary-General’s Climate Action Team engaged governments, as well as businesses and local authorities with transition plans to reach net zero in line with the UN-backed credibility standard and accountability of net zero pledges.
- India last updated its climate pledges in 2022 of reducing emissions intensity — or the volume of emissions per unit of gross domestic product (GDP) — by 45% from 2005 levels by 2030, a 10% increase from what it agreed to in 2015.

### Climate Solutions

- The government committed to meet 50% of its electric power needs from renewable, non-fossil fuel energy sources — up from 40% committed at the Paris agreement.
- It promised to create an additional carbon sink of 2.5 to 3 billion tonnes of Co<sub>2</sub>-equivalent [GtCO<sub>2</sub>e] through additional forest and tree cover by 2030.

“Our focus here is on climate solutions — and our task is urgent. Humanity has opened the gates to hell,” Mr. Guterres said in his address. “Climate action is dwarfed by the scale of the challenge. If nothing changes, we are heading towards a 2.8-degree temperature rise — towards a dangerous and unstable world.”

## HEALTH

### PCOS: Polycystic Ovary Syndrome

**Context:** Research confirms that adolescents raised in environments conducive to healthy choices have a lower risk of developing PCOS.

#### Key Highlights

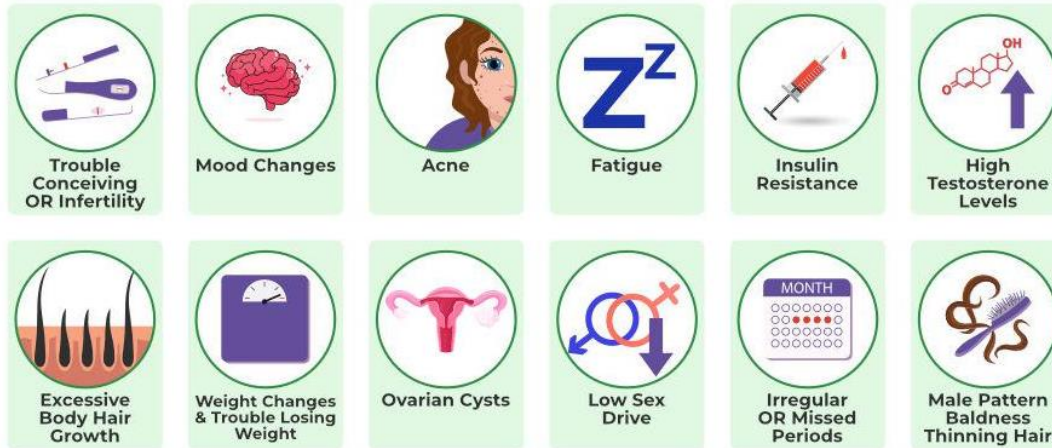
In September, amid **PCOS awareness month**, a concerning reality emerges: academic pressure may unknowingly contribute to a silent health crisis among young girls.

- It starts in classrooms but often leads to gynaecologists’ offices, where ultrasound scans reveal ovarian cysts, resulting in a diagnosis of Polycystic Ovary Syndrome (PCOS).

#### Increasingly Common

- Various studies and reports, reveal PCOS as an increasingly common health issue among modern Indian women.
- One in five women in India grapples with PCOS, with 60% of those seeking infertility treatments doing so due to PCOS-related problems. Gynaecologists nationwide concur that this condition is on the rise.
- PCOS lacks a single known cause.
  - It affects individuals with a genetic predisposition, often marked by a family history of diabetes or obesity, exposed to environments that encourage neither a healthy diet nor regular exercise and are stress-laden.

## PCOS Symptoms



- Research confirms that adolescents raised in environments conducive to healthy choices have a lower risk of developing PCOS. Unfortunately, such environments are scarce, especially for students in the Indian context.
- Physical education classes, where they exist, are typically once a week for a mere 30-45 minutes, a trend that has worsened, as revealed by the 2022 India Report Card team.
  - This falls far short of the WHO's recommendations for adolescent physical exercise, suggesting at least 60 minutes of aerobic activity and strength training three times a week.
- With parents enrolling children in tuition and coaching classes, sometimes from kindergarten, there's little time or motivation for physical activity. Many women only start exercising when health scares or infertility emerge.
- Experts in neuroscience, however, emphasise that fostering physical activity must start in childhood; those neglecting exercise in youth find it hard to initiate later when health issues arise.

The highly competitive education system not only makes normal expectations for physical activity unattainable but also subjects adolescents to extreme stress. Studies establish a clear link between stress and PCOS and in Indian adolescents, the most common cause of stress is academic.

- Dr Aslam points out, "Academic stress can be productive if channelled effectively, but education on coping skills and emotion regulation is overlooked in India. Most Indian schools lack mental health professionals to assist students with stress."

### Unrealistic Expectations

- Indian parents often lack tools to teach healthy resilience, becoming pressure points by imposing unrealistic academic performance expectations.
- Stress-induced hormonal changes alter body composition, predisposing young women to PCOS.
- PCOS is now the most prevalent endocrine disorder among young Indian women, impacting their lives from diabetes, obesity, and heart disease to mental health challenges like depression and anxiety.
- It also leaves them grappling with fertility issues and cosmetic concerns, including increased body hair, facial hair, and scalp hair loss.

## What Needs To Be Done?

While education and ambition empower women, we must not neglect health. The growing prevalence of PCOS urges us to consider how our societal narratives affect our children's future health and well-being.

- Encouraging exercise is vital, as is ensuring children have time for it.
- A robust and universal physical education syllabus which focuses on accessibility is paramount.
- Parents disentangling themselves from the prestige or status narrative of academic success and understanding that various routes to success exist that do not involve academic excellence is a crucial way to relieve some pressure on the students.
- Including mental health and stress management skills in the curriculum is not only a necessity but also a responsibility.

Keep in mind that women facing health challenges will face several obstacles to achieving success in life.

## SCIENCE

### Rashtriya Vigyan Puraskar

**Context:** Nearly a year after deciding to cut the number of prizes annually awarded by its Ministries, the Union government is set to institute the Rashtriya Vigyan Puraskar — 56 prizes to felicitate scientists, technologists and innovators.

- Akin to the prestigious Padma awards, these awards will not include any cash component; instead, they will likely bestow a certificate and a medallion on the awardee.

#### Key Highlights

- According to the proposal, the RVP will comprise three Vigyan Ratna, 25 Vigyan Shri, 25 Vigyan Yuva-Shanti Swarup Bhatnagar and three Vigyan Team awards.
- **Multidisciplinary prizes:** These prizes will be awarded annually for physics, chemistry, biological sciences, mathematics and computer science, earth science, medicine, engineering science, agricultural science, environmental science, technology and innovation, atomic energy, space science and technology, and a 13th category, simply called “others”.
- The Vigyan Ratna awards shall be for “**lifetime contributions along with excellence made in any field of science**”, the Vigyan Shri for “**distinguished contribution to any field**”, and the SSB for “**exceptional contribution by young scientists**”. The team awards shall be for three or more researchers who have made an “exceptional contribution as a team”.
- There are **no age limits** for any prizes except the SSB, for which recipients must be 45 years or younger.
- “It may be ensured that each domain may be represented. Adequate representation of women may also be ensured,” said the proposal forwarded by the Department of Science and Technology (DST) to the Union Home Ministry.
- The 56 proposed awards are a stark reduction from the almost 300 science prizes that used to be given by Union Ministries.
- In their previous avatar, the prizes also had a significant cash component.

- Example: The Shanti Swarup Bhatnagar (SSB) awards, given by the Council of Scientific and Industrial Research (CSIR) since 1958, now includes ₹5 lakh per winner, as well as a salary perk.
- The National Technology Awards, given to teams by the Technology Development Board (a DST entity), also include cash prizes worth ₹25 lakh.
- The new awards will also be open to **persons of Indian origin (PIOs)**, though a maximum of one such may be awarded the Vigyan Ratna, while three PIOs each can be selected for the Vigyan Shri and the VY-SSB. However, PIOs will not be eligible for the Vigyan Team awards.

### Starting in 2024

- The awards will be announced annually on May 11, which is **National Technology Day**, and will be awarded on **National Space Day**, August 23.
  - These are the days on which India successfully conducted its second nuclear test in 1998, and then catapulted the Chandrayaan-3's Vikram lander on the moon this year.
- The RVP awards, which will commence from 2024, will be given by the President or the Vice President, according to the proposal.
- A committee will be constituted every year, comprising the Secretaries of six Science Ministries, up to four presidents of science and engineering academies, and six distinguished scientists and technologists from various fields.
- The **CSIR** will coordinate the administration of the awards process for two years, after which it will be taken over by the proposed **National Research Foundation**.

## REPORT & INDEX

### WHO releases report on global impact of high BP

**Context:** Approximately four of every five people with hypertension are not adequately treated, but if countries can scale up coverage, 76 million deaths could be averted between 2023 and 2050, the World Health Organization (WHO) said in its **first-ever report** on the global impact of high blood pressure.

#### Key Highlights

- The WHO report states that hypertension affects one in three adults worldwide.
- This common, deadly condition leads to stroke, heart attack, heart failure, kidney damage and many other health problems.
- The number of people living with hypertension (blood pressure of 140/90 mmHg or higher or taking medication for hypertension) doubled between 1990 and 2019, from 650 million to 1.3 billion.

#### What is Hypertension?

- Blood pressure is the force exerted by circulating blood against the walls of the body's arteries, the major blood vessels in the body.
- Hypertension is when blood pressure is too high.
- It is defined as having systolic blood pressure level greater than or equal to 140 mmHg or diastolic blood pressure level greater than or equal to 90 mmHg or/and taking anti-hypertensive medication to lower his/her blood pressure.

- Nearly half the people with hypertension globally are currently unaware of their condition.
- More than three-quarters of adults with hypertension live in low- and middle-income countries.

### Recommendations of WHO

- Recommending ways to win the race, the world organisation states that lifestyle changes such as eating a healthier diet, quitting tobacco and being more active can help lower blood pressure. Some people may need medicines.
- Unhealthy lifestyle choices, such as a high-salt diet, lack of physical activity, and excessive alcohol consumption, increase hypertension risk.
- Sedentary lifestyles, poor dietary choices, and high stress levels contribute to the rising incidence of hypertension in India.
- The treatment gaps identified in the WHO report and the Indian studies have dire consequences, as uncontrolled hypertension can lead to life-threatening conditions.
- “Prevention, early detection and effective management of hypertension are among the most cost-effective interventions in health care and should be prioritised by countries as part of their national health benefit package offered at a primary care level.
- The economic benefits of improved hypertension treatment programmes outweigh the costs by about 18 to 1,” notes the WHO.

“Hypertension can be controlled effectively with simple, low-cost medication regimens, and yet only about one in five people have controlled it,” WHO director-general said.

### India must get more people to keep blood pressure under control

- Studies have shown that excess salt consumption (over five grams a day) is responsible for 17%-30% of hypertension.
- While member States are required to achieve a 30% relative reduction in mean population intake of salt by 2025, India is yet to implement many components of WHO’s prescription to cut down salt intake.
- A study in four Indian States published in 2021 found high salt and sugar content in packaged food items.

- ✓ Hypertension is the most important risk factor for death and disability in India, according to a paper in The Lancet, regional health (Southeast Asia), published late last year.
- ✓ It adds that less than one-fourth of hypertensive patients in India had their blood pressure under control during 2016-2020. Though this rate has improved from the previous years’ figures, substantial differences exist across regions.
- ✓ The Lancet paper says the 2019-20 National Family Health Survey (NFHS-5) reported a hypertension prevalence of 24% in men and 21% among women, an increase from 19% and 17%, respectively, from the previous round (2015-16).
- ✓ The India Hypertension Control Initiative, a large-scale hypertension intervention under the National Health Mission, has been recognised for its positive work done within the primary healthcare system.
- ✓ Based on sketchy data from parts of India, stroke incidence was found to be 108-172 per 1,00,000 people per year and the one-month case fatality rate was 18%-42%, as per a February 2022 study. In the Global Burden of Disease report, in 2019, heart attack was the leading cause of death and disability in India.

- Making front-of-pack nutrition labelling mandatory, encouraging reformulation of foods to cut down salt, and raising awareness in people to reduce salt intake should be urgently undertaken.
- India has, however, done well in improving blood pressure control in people with hypertension through the novel India Hypertension Control Initiative (IHCI).
  - Launched in 2018, the IHCI has successfully enrolled 5.8 million hypertensive patients for treatment in 27 States, as of June 2023.
  - Importantly, 48% of patients enrolled at primary health centres and 55% at health wellness centres achieved blood pressure control as of March 2021.
  - It is now important to greatly increase the number of hypertensive people on treatment and keep blood pressure under control.

### Way forward for India

The Indian research papers complement these perspectives by stressing the need for improved hypertension control strategies.

- They reveal that despite awareness of their hypertension diagnosis, a significant portion of patients in India do not initiate treatment.
- This indicates challenges in treatment-seeking behaviour and need for educational and behavioural interventions.
- Despite a significant four-fold improvement in control rates over two decades, the rising prevalence of hypertension, especially among the poor and young adults, necessitates re-evaluating national strategies.
- According to the WHO report, regional disparities are evident among different countries. However, WHO and Dr Frieden believe India does well.
- The Cureus study identifies regional disparities within India. Southern States such as Kerala and Tamil Nadu show better control than the western and north/north-eastern - States in India.
- Issues like forgetfulness in the elderly to take medication, availability, and affordability pose barriers.
- Limited research exists on lifestyle and risk factors, with social determinants such as education and caste playing a role. This calls for better data collection and evidence-based policies to address uncontrolled hypertension in India.
- Managing cases of high blood pressure that don't respond well to treatment, especially when doctors hesitate to take action in primary care settings, is also a problem.
- Additionally, ensuring that people take their medications over the long term and close monitoring of complications related to high blood pressure, especially in those with diabetes, are major challenges in India.
- Consequently, the National Programme for Non-communicable Diseases aims to provide proper care for 70 million people with high blood pressure in India, and its work amid the WHO report release is crucial.

The economic aspect of hypertension management is a vital focus area of the WHO report. It underscores that prevention, early detection, and effective management of hypertension are among the most cost-effective interventions.