

JANUARY

20

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MK Yadav Sir

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Union Minister V Muraleedharan to represent India at G-77 Third South Summit in Uganda

Context: Minister of State for External Affairs of India will be on a three-day visit to Kampala in Uganda to participate in the Third South Summit of the Group of 77 and China (G-77).

Group of 77 and China (G-77)

- **Formation**: The G77 was established at the United Nations (UN) on June 15, 1964, by 77 non-aligned nations during the UN Conference on Trade and Development.
- **Expansion**: Originally consisting of 77 members, it has now expanded to include 134 developing countries.
- **Chairmanship**: Cuba assumed the chairmanship of the G77 in 2023, succeeding Pakistan.
- **First Meeting**: Algiers in 1967, leading to the adoption of the Charter of Algiers and the establishment of permanent institutional structures.
- **Global Presence**: The G77 has chapters in various international locations, including Geneva (UN), Rome (FAO), Vienna (UNIDO), Paris (UNESCO), and Nairobi (UNEP), with an additional Group of 24 in Washington, D.C. (IMF and World Bank).
- **China's Involvement**: China is officially recognized as a member of the G77 and is listed among its 134 member countries.
 - Despite not considering itself a member, China consistently provides political support and financial contributions to the G77 since 1994.
- **Joint Declarations**: The G77 delivers official statements under the banner of "The Group of 77 and China" or "G77+China," reflecting their collaborative representation at the UN.

How do you plan to save the Great Indian Bustard, SC asks govt.

The Hindu Bureau
 NEW DELHI

The Supreme Court on Friday directed the Centre to come clean by February on its plans to save the critically endangered Great Indian Bustard.

A three-judge Bench headed by Chief Justice of India D.Y. Chandrachud said the government has to come out with a plan which would save the bird species from extinction largely due to collision with high-transmission power lines situated in areas in Gujarat and Rajasthan which also happen to be the natural habitat of the bustards. The court said the government's plan ought to maintain a balance between the preservation of the bird species and India's global commitments to shed its carbon footprints.

ments to shed its carbon footprints.

'Finding balance'

"We are conscious of the fact that we are dealing with an area of development. India has to meet its international obligations with regard to alternate forms of energy. Obviously you (Centre) cannot do anything which will put paid to all those projects. At the same time we have to balance between the preservation of the Great Indian Bustard and make sure that solar power is available keeping in mind international commitments to shed carbon footprints," Chief Justice Chandrachud addressed Attorney-General R. Venkataramani, who was appearing for the Union government.

Context: The Supreme Court directed the Centre to come clean on its plans to save the critically-endangered Great Indian Bustard.

Great Indian Bustard

- **About:** It is the State bird of Rajasthan and is considered India's most critically endangered bird.
- **Flagship species:** It is considered the flagship grassland species, **representing the health of the grassland ecology.**
- **Habitat:** Its population is **confined mostly to Rajasthan and Gujarat.**
- Small populations occur in Maharashtra, Karnataka and Andhra Pradesh.
- **Protection Status:**
 - **IUCN:** Critically Endangered
 - **CITES:** Appendix 1
 - **Convention on Migratory Species (CMS):** Appendix 1
 - **Wildlife (Protection) Act, 1972:** Schedule 1
- **Concerns:** As Rajasthan shares the **international border with Pakistan's Sindh and Punjab provinces**, the birds will **become easy prey for the gun-toting poachers there.**

Initiatives taken to protect GIB

- **Integrated Development of Wildlife Habitats:** GIB is kept under the species recovery programme under the Integrated Development of Wildlife Habitats of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- **Conservation Breeding Facility:** MoEF&CC, Rajasthan government and Wildlife Institute of India (WII) have established a conservation breeding facility in Desert National Park at Jaisalmer in June 2019.
- **Project Great Indian Bustard:** It has been launched by the Rajasthan government with an aim of constructing breeding enclosures for the species and developing infrastructure to reduce human pressure on its habitats.

FOUND AT DEPTHS RANGING FROM 655 FEET TO 3,280 FEET WHERE SUNLIGHT DOESN'T PENETRATE

Scientists map largest deep sea coral reef found till date in Atlantic off US

CHRISTINA LARSON
WASHINGTON, JANUARY 19

SCIENTISTS HAVE mapped the largest coral reef deep in the ocean, stretching hundreds of miles off the US Atlantic coast.

While researchers have known since the 1960s that some coral were present off the Atlantic, the reef's gargantuan size remained a mystery until new underwater mapping technology made it possible to construct 3D images of the ocean floor.

The largest yet known deep

coral reef "has been right under our noses, waiting to be discovered," said Derek Sowers, an oceanographer at the nonprofit Ocean Exploration Trust.

Sowers and other scientists, including several at the National Oceanic and Atmospheric Administration, recently published maps of the reef in the journal *Geomatics*.

The reef extends for about 310 miles (499 kilometers) from Florida to South Carolina and at some points reaches 68 miles (109 kilometers) wide.

The total area is nearly three times the size of Yellowstone



The reef's size remained unknown until underwater mapping technology made it possible to construct its 3D images. AP

Deep coral reefs provide habitat for fish like sharks and shrimps

National Park.

"It's eye-opening — it's breathtaking in scale," said Stuart Sandin, a marine biologist at the Scripps Institution of Oceanography, who was not involved in the study. The reef was found at depths ranging from 655 feet to 3,280 feet (200 meters to 1,000 meters), where sunlight doesn't penetrate.

Unlike tropical coral reefs,

where photosynthesis is important for growth, coral this far down must filter food particles out of the water for energy.

Deep coral reefs provide habitat for sharks, swordfish, sea stars, octopus, shrimp and many other kinds of fish, the scientists said. Tropical reefs are better known to scientists — and snorkelers — because they're more accessible.

The world's largest tropical coral reef system, the Great Barrier Reef in Australia, stretches for about 1,430 miles (2,301 kilometers). Sowers said it's possible that larger deep-sea

reefs will be discovered in the future since only about 75% of the world's ocean floor has been mapped in high-resolution.

Only 50% of U.S. offshore waters have been mapped.

Maps of the ocean floor are created using high-resolution sonar devices carried on ships.

Deep reefs cover more of the ocean floor than tropical reefs.

Both kinds of habitat are susceptible to similar risks, including climate change and disturbance from oil and gas drilling, said Erik Cordes, a marine biologist at Temple University and co-author of the new study.

Context: Scientists have mapped the largest coral reef deep in the ocean, stretching hundreds of miles off the U.S. Atlantic coast.

Coral Reef

- **About:** Coral reefs are some of the most diverse ecosystems in the world.
- **Structure:** Coral reefs are massive structures made of limestone deposited by coral polyps.
- **Referred to as:** Rainforests of the sea. Coral reefs support approximately 25 percent of all known marine species
- **Condition of its growth:**
 - **Warm water temperature:** Corals generally live in water temperatures of 20–32° C.
 - **Sunlight:** Corals need to grow in shallow water where sunlight can reach them. Zooxanthellae (algae) needs sunlight for photosynthesis.
 - **Salinity:** Corals need saltwater to survive.
- **Sunlight:** Abundant sunlight available.
- **Temperature:** The temperature of the water should be around 20°C.
- **Types of coral reef:** Fringing Reefs, Barrier Reefs, Atolls.
- **Coral reef in India:** Andaman and Nicobar Islands, Gulf of Mannar, Gulf of Kutch, Palk Strait and the Lakshadweep islands.

Coral Bleaching: When corals are stressed by changes in conditions such as temperature, light, or nutrients, they expel the symbiotic algae microscopic algae called zooxanthellae living in their tissues, causing them to turn completely white.

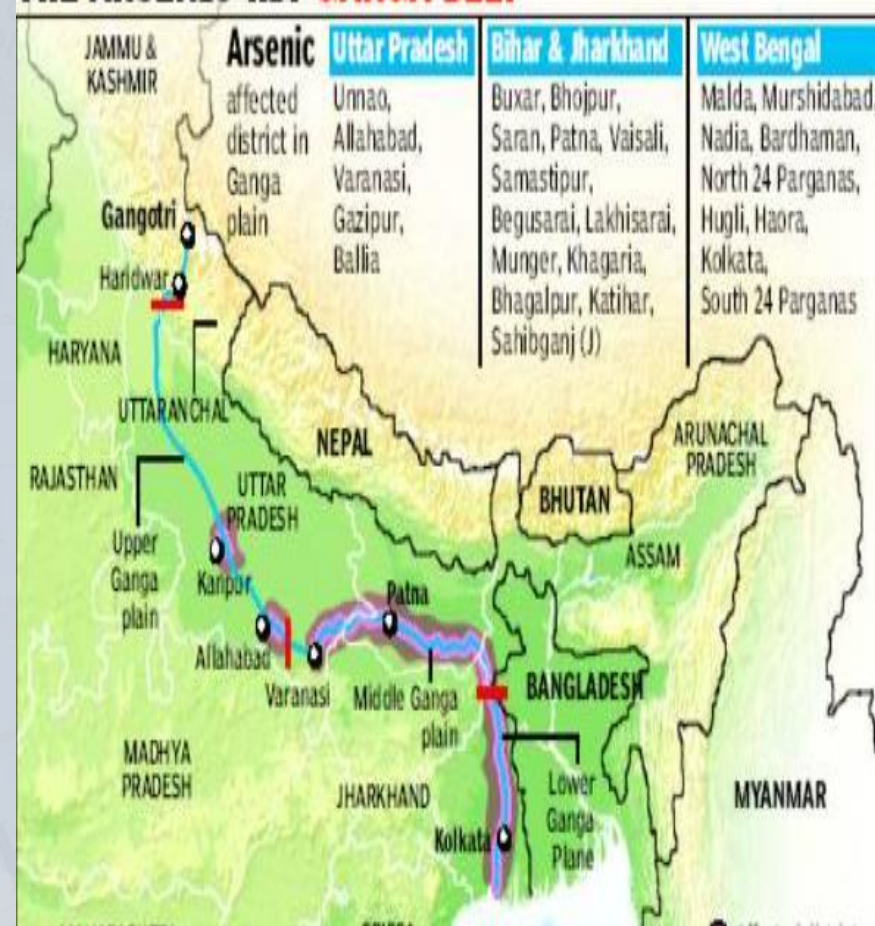
Climate change-driven sea-level rise could increase arsenic poisoning in Bangladesh: Study

Context: Sea-level rise driven by climate change could significantly release arsenic a cancer-causing agent into Bangladesh's drinking well water, according to a new study.

Arsenic

- **About:** Arsenic, a tasteless and odorless metalloid, occurs naturally in the earth's crust and groundwater.
- **Toxicity:** In its inorganic form, arsenic is highly toxic, leading to arsenic poisoning with severe health consequences.
- **Arsenic-affected areas:** Assam, Bihar, West Bengal, Punjab, and Uttar Pradesh (UP).
- **Health Implications:** Arsenicosis, characterized by the accumulation of high arsenic levels, results in adverse health effects, potentially causing multi-system organ failure and death.
- **Global Initiatives:** Efforts under the 2030 Agenda for Sustainable Development focus on ensuring safely managed drinking water, free from arsenic contamination.
- **National Mission:** The Jal Jeevan Mission, targeting 2024, aims to provide safe drinking water to all households in rural and urban India, addressing the arsenic threat.

THE ARSENIC-HIT GANGA BELT



India elected as First Vice Chair of COFI Sub-Committee on Fisheries Management

Context: India has been elected as the First Vice Chair of the Food and Agriculture Organization FAO COFI Sub-Committee on Fisheries Management.

Sub-Committee on Fisheries Management

- **About:** It is a forum for discussing fisheries management issues at national, regional and global levels.
 - It deals with technical and policy matters in line with **FAO's mission, and actively collaborates with relevant regional and international organizations**, countries, stakeholder groups, and non-governmental organizations (NGOs), forging new collaborations where needed.
- **Establishment:** During the Thirty-Fifth session of the FAO Committee on Fisheries (COFI).
- **Membership:** It is open to all Member Nations of the Organization.
- **Observers:** Entities and registered COFI observers can join the Sub-Committee.
- **Functions**
 - To provide essential technical and policy guidance on fisheries governance and management, with the aim of advancing the FAO Code of Conduct for Responsible Fisheries.
 - It identifies significant global issues and trends in fisheries management and sustainable development that require urgent measures, offering guidance and recommendations for addressing them.

Food and Agriculture Organization (FAO):

- **About:** It is a specialised agency of the United Nations that leads international efforts to defeat hunger. Its sister bodies are the World Food Programme and the International Fund for Agricultural Development (IFAD).
- **Formation:** 16th October, 1945.
- **Headquarter:** Rome (Italy).
- **Goal:** To achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives.
- **Members:** 195 members - 194 countries and the European union
- **World Food Day:** Celebrated every year on 16th October.

5th Meeting of Steering Committee of Ken Betwa Link Project Authority and Atal Bhujal Yojana in MP

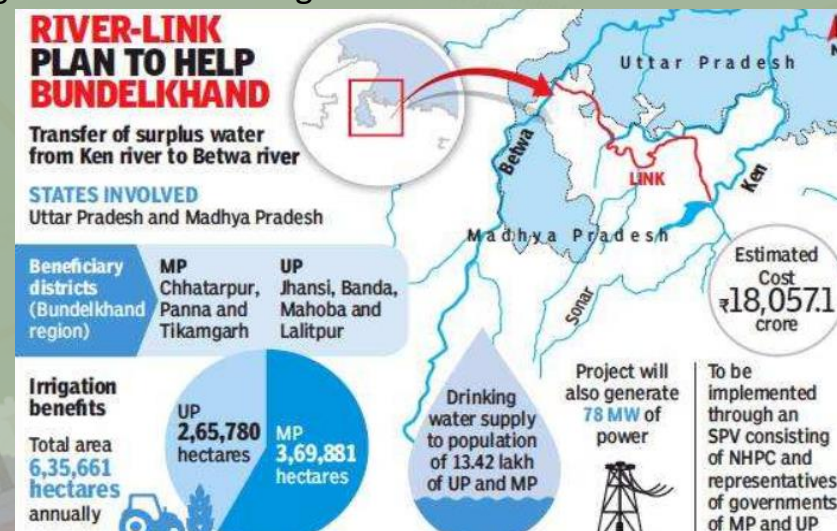
Context: Recently, the 5th meeting of the Steering Committee of the Ken Betwa Link Project Authority was conducted at Khajuraho, Madhya Pradesh.

Ken-Betwa Link Project

- **About:** It is the first project under the **National Perspective Plan (NPP)** for interlinking of rivers.
- It envisages transferring water from the **Ken River to the Betwa river**, both tributaries of the Yamuna.
- **Length:** will be 221 km long, including a 2-km long tunnel.
- **Implementing Agency:** Special Purpose Vehicle (SPV) called Ken-Betwa Link Project Authority (KBLPA).
- **Benefits:** The project lies in Bundelkhand, a drought-prone region, which spreads across 13 districts of Uttar Pradesh and Madhya Pradesh. It will provide water of irrigation, drinking water, groundwater recharge etc.

Ken and Betwa River

- **Ken River:** Originated in Katni district, Madhya Pradesh.
 - **Merged with:** Yamuna in Banda district in Uttar Pradesh.
 - **Passes through:** Panna tiger reserve.
- **Betwa River:** It rises in the Vindhya Range (Raisen) in Madhya Pradesh.
 - **Merged with:** Yamuna rivers is in Hamirpur district in Uttar Pradesh.
 - **Major Dams on Betwa:** Rajghat Dam, Matatila Dam, Parichha Dam, Dhurwara Dam, Halali Dam.



Gangetic dolphin rescued in Odisha, may be indicator of more freshwater dolphins in river

Context: Recently, a fisherman in Odisha's Balasore district made a noteworthy discovery when he captured a rare and endangered Gangetic dolphin in the Jalaka river.

Gangetic Dolphin

- **About:** The Gangetic Dolphin, is a freshwater species and among the rare river dolphins globally.
- **Scientific Name:** *Platanista gangetica*.
- **Also known as:** "SUSU" or Sisu.
- **Distribution:** It resides in the river systems of Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu, spanning Nepal, India, and Bangladesh.
- **Other Name:** Blind dolphin, Ganges dolphin, Ganges susu, hihu, side-swimming dolphin, or South Asian River Dolphin.
- **Honour:** India's National Aquatic Animal.
- **Conservation Status**
 - **IUCN:** Endangered
 - **Wildlife (Protection) Act:** Schedule-I
 - **CITES:** Appendix I

Save Dolphin to save Ganga

The Centre has declared the dolphin a national aquatic animal to save the rare freshwater species from disappearing from the country's aqua map

Know about *Platanista gangetica*

 **1.67m**

Males grow up to **2.12m**

Females grow up to **2.67m**

Females give birth to only one calf, once in **2-3 yrs**

Generally blind, they catch their prey by emitting ultrasonic sound to gauge distance, mass etc

Assam, UP, MP, Rajasthan, Bihar, Jharkhand & W Bengal in the rivers Chambal, Sone, Kosi, Brahmaputra

Prefer deep waters, in & around Indian river confluences



GANGETIC DOLPHIN:
A rare specie almost extinct

Lost cousin: The Yangtze dolphin, Baiji, of China

Grim Future

Dwindling number due to killing, habitat fragmentation

Once counted in 10's of 1000's, the amount has reduced in last century to **1,500**

"Endangered" & placed in **Schedule-I of Wildlife (Protection) Act, 1972**

Launch of “Alliance for Global Good- Gender Equity and Equality” by India at World Economic Forum, Annual Meeting Davos, 15-19 January, 2024

Context: India recently launched the "Alliance for Global Good- Gender Equity and Equality" at the World Economic Forum's Annual Meeting in Davos.

Alliance for Global Good- Gender Equity and Equality

- **About:** Originating from the G20 Leaders' Declaration and India's commitment to women-led development, the Alliance takes shape under Prime Minister of India's vision.
- **Objectives:** To consolidate global best practices, facilitate knowledge sharing, and attract investments in critical areas such as women's health, education, and enterprise.
- **G20 Commitments:** Aligned with G20 leaders' commitments, the Alliance builds upon the activities of engagement groups like Business 20, Women 20, and G20 EMPOWER for the global community's benefit.
- **Partnerships:** Bill and Melinda Gates Foundation, CII Centre for Women Leadership, World Economic Forum, and Invest India.
- **Alignment with Global Initiatives:** Rooted in India's commitment to "Vasudhaiva Kutumbakam" and the principle of "Sabka Saath, Sabka Vikas, Sabka Prayas," the Alliance focuses on gender equity and equality on a global scale.
- **Women Leadership Lounge at WEF:** A unique initiative at WEF, the 'We Lead' lounge facilitated conversations on women-led development, digital gender gap, women's health, and showcased products by women entrepreneurs.

Andhra becomes 2nd State to take up 'caste census'

Press Trust of India
AMARAVATI

The Andhra Pradesh government on Friday kicked off its comprehensive caste census to enumerate all communities in the State. Information and Public Relations Minister C. Srinivasa Venugopala Krishna said the census is scheduled for 10 days from January 19.

"The comprehensive caste census is scheduled for 10 days in one phase and if needed, it will be extended by four or five days," Mr. Krishna said.

The Minister noted that volunteers will visit each and every home to collect the caste details, which will be relayed to the village secretariat system.

With this initiative, Andhra Pradesh has become the second State in the country after Bihar to take up a caste census.

Mr. Krishna said officials in the village secretariat system across the State will verify the accuracy of the information collected by the volunteers and correct it, if necessary, before entering the final details. Each volunteer will cater to 50 households.

Mr. Krishna exuded con-



CM Jagan Mohan Reddy

fidence that the entire census process will be completed before the issuance of the election notification on or around February 15.

The YSRCP government has set the caste census as a major goal and feels that the enumeration can transform the living standards of people.

'Will help in welfare'

Mr. Krishna said there are many castes that are yet to receive the benefits of welfare schemes and the census will help address this.

Earlier, the Minister said there has been no caste census in India post independence and that the government has conducted only population censuses.

As part of this exercise, the Andhra Pradesh government had elicited opinions from caste representatives across the State.

Context: Recently, the Andhra Pradesh government initiated a comprehensive caste census to enumerate all communities in the state.

Caste Census

- **About:** The caste census entails the categorization of India's entire population by caste, with a focus on Other Backward Classes (OBCs), rather than solely on Scheduled Castes (SCs) and Scheduled Tribes (STs).
- **Background:** Caste was last included in the Indian Census in 1931 at the time by the Britishers.
- From 1951 to 2011, every census in independent India provided data on Scheduled Castes and Scheduled Tribes but not on other castes.
 - The Britishers ended the practice in the 1941 Census, citing cost restrictions.
- **Caste Survey:** As only the central government can conduct a census, states like Bihar and Odisha have been conducting socio-economic caste surveys to inform policy-making by assessing the social and economic conditions of various castes.

Importance of Caste Census:

- Equitable representation
- Enumerating the marginalised
- Removes caste rigidities
- Data for Policy Making

Nagara style of temple architecture, in which Ram temple is being built

ARJUN SENGUPTA
NEW DELHI, JANUARY 19

THE RAM temple in Ayodhya will be inaugurated on January 22. Designed by Chandrakant Sompura, 81, and his son Ashish, 51, it is being built in the Nagara style of temple architecture.

A 'language' of architecture

The Nagara style emerged some time in the fifth century CE in Northern India. It is seen in juxtaposition to the Dravida style of Southern India, which too emerged around the same time.

The use of the term 'style', however, is debated because of the immense variations observed. Adam Hardy, in *The Temple Architecture of India* (2007), refers to them as "the two great classical languages" of Indian temple architecture. "Languages" seems a [more] suitable term, in that each is a system providing a 'vocabulary', a kit of parts, along

with a 'grammar' which regulates the ways of putting the parts together," he wrote.

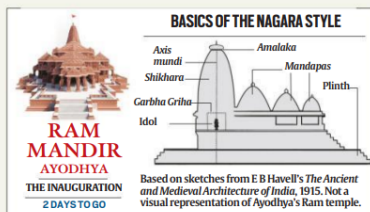
With a towering shikhara

Nagara temples are built on a raised plinth, with the *garbhagriha* (sanctum sanctorum) — where the image of the deity rests — being the most sacred part of the temple. Towering over the *garbhagriha* is the *shikhara* (literally 'mountain peak'), the most distinguishable aspect of Nagara style temples.

Atypical Nagara-style temple also comprises a circum-ambulatory passage around the *garbhagriha*, and one or more *mandapas* (halls) on the same axis. Walls of the temples may be adorned with beautiful murals and reliefs.

Five modes of Nagara style

Depending on the period and geography there is a large variation when it comes to what a *shikhara* looks like, or how it is used in a temple's design. On this basis,



Hardy identifies five modes of Nagara temple architecture — Valabhi, Phamsana, Latina, Shekhari, and Bhumija.

The Valabhi begins as a masonry rendering of the barrel-roofed [wooden] structure, simple or with aisles, familiar through

chaitya halls [prayer halls, most associated with Buddhist shrines]. A formalisation of multi-eave towers, wedged to a piling up of slabs, leads to the Phamsana," Hardy wrote. From these modes emerged the Latina — a single, slightly curved tower with four

sides of equal length. "The mode emerged in the Gupta heartland, was complete with curvature by the early seventh century, and during that century spread across the entire breadth of northern India," Hardy wrote. "For three centuries it reigned supreme, the peak — literally — of Nagara temple architecture," he wrote.

The Shekhari and Bhumija modes emerged in the tenth century. Unlike the previous three modes, where *shikharas* were unitary structures, these modes comprise 'composite' Latinas — attached miniature spires around or on top of the main *shikhara*.

It is important to note that these modes are somewhat simplified scholastic classifications. Temple architects of yore did not consciously choose to adhere to any 'mode' — they simply followed and innovated on existing design traditions they saw around them, and broader trends emerged overtime.

Consequently, there is also immense variation within these modes. Temples can even contain multiple kinds of *shikharas* on top of a single structure, with the tallest al-

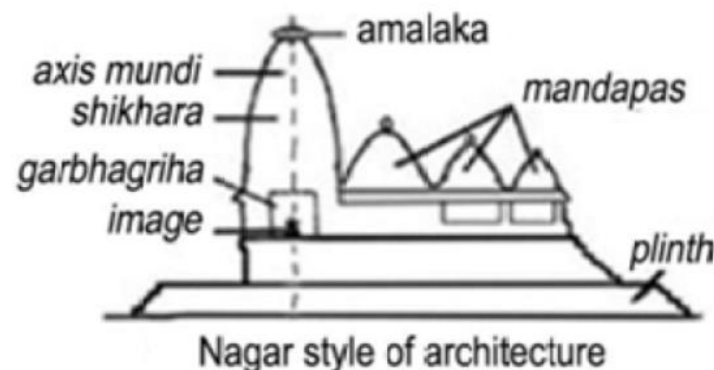
ways being on top of the *garbhagriha*.

Comparison to Dravida style

The Dravida counterpart to the *shikhara* is the *vimana*. There is, however, a fundamental difference. In the Dravida style temple, *vimanas* are typically smaller than the great gatehouses or *gopurams*, which are the most immediately striking architectural elements in a South Indian temple complex. Moreover, while *shikharas* are mentioned in southern Indian architectural texts, they refer to only the dome-shaped crowning cap atop the *vimana*.

The existence of *gopurams* also points to another unique feature of the Dravida style — the presence of a boundary wall. Few Nagara style temple complexes are lined with distinctive boundary walls that are a part of the temple's design.

This is one of Ayodhya's Ram temple's 'hybrid' features — although no elaborate *gopuram* has been built (citing paucity of space), a 732-m-long wall runs around the temple compound.



Context: The ram temple in Ayodhya will be inaugurated on January 22. Designed by Chandrakant Sompura, 81, and his son Ashish, 51, it is being built in the Nagara style of temple architecture.

Nagara Style

- **About:** The Nagara style of temple architecture originated in the fifth century CE during the late Gupta period in northern India, contemporaneously with the Dravida style in the south.
- **Features:** Nagara temples are characterized by their towering shikhara, constructed on a raised plinth.
- The sanctum sanctorum, or *garbhagriha*, holds the deity, with the shikhara towering above it as the most distinctive feature of the Nagara style.
- **Shikhara:** Shikharas in Nagara temples serve as symbolic representations of the natural and cosmological order, rooted in Hindu tradition.
- They embody concepts like Meru, Mandara, and Kailasa, reflecting the axis of the world.
- **The Temple's Cosmic Connection:** The names Meru, Mandara, and Kailasa, central to early texts, signify the temple's role as the axis and destination of the world edifice.
- **Architectural Components:** A typical Nagara temple includes a raised plinth, a *garbhagriha*, a shikhara, a circumambulatory passage around the sanctum, and one or more *mandapas* on the same axis.
- **Five modes of Nagara temple architecture:** Valabhi, Phamsana, Latina, Shekhari, and Bhumija.

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