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Nominations for the World Heritage List 2020

Why in News

Recently, the Minister of State of Culture and Tourism has informed Lok Sabha that India has submitted two nomination dossiers namely '**Dholavira: A Harappan City**' and '**Monuments and Forts of Deccan Sultanate**' for inclusion in the **World Heritage List for the year 2020**.

Dholavira: A Harappan City

- The City of Dholavira located in **Khadir island of the Rann of Kutch (Gujarat)** belonged to the mature **Harappan phase**.
- It was excavated by **R.S Bisht in 1985**.
- It demonstrates a **highly organised system of town planning with perfected proportions, street-pattern and an efficient water conservation system** that supported life for **more than 1200 years (3000 BCE to 1800 BCE)** against harsh hot arid climate.

The water conservation methods of Dholavira are unique and measures as one of the most efficient systems of the ancient world.

- The presence of a three-tier zonation comprising of a distinct upper (citadel, bailey) and middle (having a distinct street-pattern, large scale enclosure and a ceremonial ground) towns enclosed by a lower town (with narrower streets, smaller enclosures and industrial area) – **distinguishes the city of Dholavira from other metropolises of the Indus Valley Civilisation**.

Monuments and Forts of Deccan Sultanate

- The 'Monuments of the Deccan Sultanate' demonstrates the **convergence of national and international styles of Islamic architecture and their intersections with the prevalent Hindu architecture** of the period southern Indian in present-day Karnataka and Andhra Pradesh,
- It comprises of **four components** namely,
 - **Bahmani Monuments at Gulbarga, Karnataka**
 - It primarily comprises the **Gulbarga Fort with the Great Mosque** in the Fort, Jami Masjid and the **Haft Gumbad complex with seven tombs.**
 - Gulbarga was the **first capital of the Bahmani dynasty.**
 - **Bahmani and Barid Shahi Monuments at Bidar, Karnataka**
 - It includes monuments at Bidar dating from late **15th to the early 16th centuries** comprise of the Bidar Fort, the Madrasa Mahmud Gawan, the Bahamani tombs at Ashtur and the Barid Shahi tombs.
 - The significant feature of Bidar is the **sophisticated system of gates and sluices** (A sluice is a water channel controlled at its head by a gate.) that could be used when required to flood segments of the moat and thus preserve water.
 - **Adil Shahi Monuments at Bijapur, Karnataka**
 - These monuments date from the late **15th to the late 17th centuries.**
 - These are an ensemble of 80 small and big monuments including the fortifications, gates, water systems and tanks, several mosques and tombs and palatial structures.
 - The most remarkable monuments within the fort include the **Gol Gumbaz** which is the **second largest dome in the world.**
 - **Qutb Shahi Monuments at Hyderabad Andhra Pradesh**
 - It comprises of Golconda Fort, Qutb Shahi Tombs and Charminar that symbolize the **Qutb Shahi Dynasty.**
 - Golconda is a fortified citadel and an early capital city of the Qutb Shahi dynasty.
 - The tombs of Qutb Shahis are a mausoleum complex comprised of the tombs of the Royal family and the officials who faithfully served them.
 - Charminar is a ceremonial Gateway built to celebrate the foundation of Hyderabad, a new Millennial City, in 1591 A.D.

Indus Valley Civilisation

- The Indus Valley Civilisation (**IVC**), which is now more popularly referred to as the Harappan civilisation after Harappa, the **first of its sites** to be excavated in the 1920s by British archaeologist **Sir Mortimer Wheeler.**
- Harappan civilisation emerged on the **banks of the river Indus** in the second half of the third millennium BCE and spread across large parts of western India.

- **Harappa and Mohenjo-Daro – the two major sites of this civilization** – are among the earliest and finest examples of urban civic planning.
- The planned network of roads, houses and drainage systems indicate the planning and engineering skills that developed during those times.
- The Harappan Civilisation was widespread as it **covered parts of India, Pakistan and Afghanistan.**
- Harappan civilisation was a **trade based civilization** which had overseas trade links with Mesopotamia attested by the discovery of Harappan seals there and Mesopotamian carnelian beads here.

UNESCO's World Heritage Site List

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.
- 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.**
- 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.**

Source: PIB

Concentration of Black Carbon on Gangotri Glacier

Why in News

According to a research done by the **Wadia Institute of Himalayan Geology**, the **concentration of black carbon on Gangotri glacier has almost doubled in the past few years** primarily because of agricultural burning and forest fires.

- Scientists have been monitoring black carbon through two weather stations on way to **Gangotri glaciers** - namely Chirbasa station at a height of 3,600 m, and **Bhojbasa** station at a height of 3,800 m - for the last few years.
- Wadia Institute of Himalayan Geology (WIHG) is an **autonomous institution under the Department of Science & Technology**. It is headquartered in Dehradun (Uttarakhand).

Gangotri Glacier

- It is the **largest glacier in Uttarakhand** and is one of the **sources of Ganges** (Bhagirathi).
- The Gangotri glacier originates at the northern slope of **Chaukhamba range** of peaks in **Garhwal Himalayas**.
- Gangotri is not a single valley glacier, but a **combination of several other glaciers**.

Black Carbon

- Black carbon is a kind of an **aerosol**. An aerosol is a suspension of fine solid particles or liquid droplets in the air.
- Among aerosols (such as brown carbon, sulphates), Black Carbon (BC) has been recognized as the second most important anthropogenic agent for climate change and the primary marker to understand the adverse effects caused by air pollution.
- It gets emitted from gas and diesel engines, coal-fired power plants, and other sources that burn fossil fuel. It comprises a significant portion of **particulate matter or PM**, which is an air pollutant.

Key Findings

- **Seasonal Variation**
 - The concentration of the black carbon increases in summer months due to varied factors. Scientists have found a range of black carbon up to 4.62 micrograms per cubic metre.
 - In the non-summer months, the concentration comes down to about 2 micrograms per cubic metre.
- **Reasons for Increase in Black Carbon Concentration in Summer Season**
 - Period from April to June shows remarkable increase in black carbon concentration primarily due to direct and indirect activities related to **tourism**.
 - Also, forest fires contribute to increasing black carbon concentration. According to the Forest Survey of India, the forest fire activity is generally reported in Uttarakhand from February to June, with a peak in fire incidences in May and June.
 - Besides man made, other reasons for forest fires in the state include lightning, friction of falling rocks and monkeys accidentally throwing stones that create sparks leading to forest fires.
 - Over 44,554 hectares of forest area has been damaged in forest fires in Uttarakhand since its formation in 2000.
 - The lowest black carbon concentration has been recorded during August followed by December, likely due to the absence of tourist activities and forest fire incidences during these months.

- **Local Sources of Black Carbon**

- Forest fires, domestic and commercial fuel wood burning, seasonal burning of crop residue and developmental activities.
- Pollution from local, regional and global sources that accumulate over the Himalayan region and increase the concentration of black carbon.

- **Possible Impact**

- Black materials absorb more light and emit infra-red radiation which increases the temperature. So, when there is an increase in black carbon in the higher Himalayas, it will contribute to faster melting of the Himalayan glaciers.
- In the longer run, the changes in the atmospheric composition of the high Himalayan will affect the weather pattern (such as rain and snow precipitation patterns), and accordingly natural resources and socio-economic activities of Himalayan communities.

Way Forward

The Black Carbon (BC) aerosols contribute significantly towards global warming due to its light-absorbing nature. Their presence in the eco-sensitive zone, such as the Himalayan glacier valleys, is a matter of serious concern and needs to be meticulously monitored.

Source: PIB

Indigenously Developed Flow Diverters Stents

Why in News

The research team of Sree Chitra Thirunal Institute of Medical Science and Technology (SCTIMST), Thiruvananthapuram has developed an **intracranial flow diverter stent for the treatment of aneurysms of the blood vessels of the brain.**

- Currently, the flow diverter stents are **imported and are not manufactured in India.**
- The availability of indigenous technology will help to manufacture these stents at a **much lower price within the country.**

SCTIMST is an **Institute of National Importance** under the **Department of Science and Technology.**

Key Points



- Flow diverters stents are deployed in the artery in the brain bearing the aneurysms to **divert blood flow away from the aneurysm**, thus reducing the chances of its rupture from the pressure of blood flow.
- The **weave shape of the designed stent** makes it **resistant to kinking or twisting** when it is placed in complex-shaped arteries.
- It is made up of **Nitinol, a superelastic alloy with shape memory** acquired from National AeroSpace Laboratories, Bengaluru (CSIR-NAL).

A shape-memory alloy is an alloy that can be deformed when cold but returns to its pre-deformed ("remembered") shape when heated.

Nitinol

- Nitinol is a **nickel-titanium alloy** distinguished from other materials by its **shape memory and superelastic characteristics**.
- It is discovered while searching for materials that could be used in tools for dismantling magnetic mines.
- It is widely used in various kinds of industries but **majorly used in the medical industry due to its narrow temperature range**.

Brain Aneurysm

- Brain aneurysm is also known as **Intracranial aneurysm**.
- Intracranial aneurysm is a **localised ballooning, bulging or dilation of arteries** in the brain, caused by progressive weakening of the inner muscles of the wall of the blood vessels.
- Spontaneous rupture of the aneurysm can result in bleeding into the space around the brain **leading to paralysis, coma or death**.

Source: PIB

Defence Expenditure as a Part of GDP

Why in News

The Minister of State for Defence gave information about the defence expenditure as a part of GDP in Rajya Sabha.

Key Points

- The Defence Expenditure is **increasing every year in absolute terms**, implying higher spending. However, Defence Budget as a **percentage of GDP** may appear to be **decreasing** due to the **increasing trend in the growth of GDP**.
- In Budget Expenditure(BE) 2019-20, total Defence Budget (including Miscellaneous and Pensions) is 15.47% of total Central Government Expenditure.
- In BE 2019-20, the Capital Budget of the Ministry of Defence is approximately 31.97% of the total capital expenditure of the Central Government Expenditure.
- The expenditure on operations/ maintenance and Defence Infrastructure has been maintained optimally.

GDP

GDP stands for "**Gross Domestic Product**" and represents the total monetary value of all final goods and services produced (and sold on the market) within a country during a period of time.

Capital expenditure

Capital expenditure is the money spent on the acquisition of assets like land, buildings, machinery, equipment, as well as investment in shares.

Capital Budget

Capital Budget consists of:

- **Capital receipts**
Capital receipts are loans raised by the government from the public (which are called market loans), borrowings by the government from the Reserve Bank and other parties through sale of treasury bills, loans received from foreign bodies and governments, and recoveries of loans granted by the Central government to state and Union Territory governments and other parties.
- **Capital payments**
Capital payments consist of capital expenditure on acquisition of assets like land, buildings, machinery, and equipment, as also investments in shares, loans and advances granted by the Central government to state and Union Territory governments, government companies, corporations and other parties.
- Capital Budget also incorporates **transactions in the Public Account**.

Source: PIB

Why in News

To commemorate its 19th **foundation day, Bureau of Energy Efficiency (BEE)**, Ministry of Power organized a Stakeholder Consultation to develop a vision towards building an energy efficient India.

Key Points

- On this occasion, BEE **expanded the coverage of its star labelling programme** by including energy efficient **Deep freezer and Light Commercial Air Conditioners (LCAC)**.
 - With this inclusion BEE will cover 26 appliances.
 - **Deep freezer and Light Commercial Air Conditioners (LCAC) are major energy guzzlers** in commercial space.
 - The program will be initially launched in voluntary mode from 2nd March, 2020 to 31st December, 2021. Thereafter, it will be made mandatory after reviewing the degree of market transformation in this particular segment of appliances.
 - Through this initiative, it is expected to save around 2.8 Billion Units by FY2030, which is equivalent to GreenHouse Gas (GHG) reduction of 2.4-million-ton Carbon Dioxide.
- The Star Labeling Programme has been formulated by the **Bureau of Energy Efficiency**, under the **Energy Conservation Act, 2001**.
- During the event, a **database on energy efficiency** named **Urja Dakshata Information Tool (UDIT)** was also launched. This initiative has been taken by the BEE with the **World Resources Institute (WRI)**.
 - It is a user-friendly platform that explains the energy efficiency landscape of India across industry, appliances, building, transport, municipal and agriculture sectors.
 - It will also showcase the capacity building and new initiatives taken up by the Government across the sectors in the increase energy efficiency domain.

Energy Efficiency in India

- **Transition:** India's energy sector is set for a transition with recent developmental ambitions of the Government e.g. 175 GW of installed capacity of renewable energy by 2022, 24X7 Power for all, Housing for all by 2022, 100 smart cities mission, promotion of e- mobility, electrification of railway sector, 100% electrification of households, Solarization of agricultural pump sets, and promotion of clean cooking.

- **Potential of Energy Efficiency:** Energy Efficiency has the maximum **GreenHouse Gas (GHG) abatement potential** of around **51% followed by renewables (32%), biofuels (1%), nuclear (8%), carbon capture and storage (8%) as per the World Energy Outlook (WEO 2010)**. World Energy Outlook (WEO) is the flagship publication of the International Energy Agency.

India can avoid building 300 GW of new power generation up to 2040 with implementation of ambitious energy efficiency policies.

- **Positives:** Successful implementation of Energy Efficiency Measures contributed to electricity savings of 7.14% of total electricity consumption of the country and emission reduction of 108.28 million tonnes of CO₂ during 2017-18.

Bureau of Energy Efficiency

- The Government of India set up Bureau of Energy Efficiency (BEE). on 1st March 2002 under the provisions of the Energy Conservation Act, 2001.
- The mission of the Bureau of Energy Efficiency is to assist in developing policies and strategies with a thrust on self-regulation and market principles, within the overall framework of the Energy Conservation Act, 2001 with the primary objective of reducing energy intensity of the Indian economy.
- BEE coordinates with designated consumers, designated agencies and other organizations and recognize, identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act.

The Standards & Labeling Programme

- The Standards & Labeling Programme is one of the major thrust areas of BEE.
- A key objective of this scheme is to provide the consumer an informed choice about the energy saving and thereby the cost saving potential of the relevant marketed product.
- The scheme targets display of energy performance labels on high energy end use equipment & appliances and lays down minimum energy performance standards.

Source: PIB

8th Foundation Day of LPAI

Why in News

Recently, the **8th Foundation Day of the Land Ports Authority of India (LPAI)** has been celebrated in New Delhi.

- LPAI is involved in the development of land ports (also known as Integrated Check Posts (ICPs)) to maintain regional connectivity across the international borders of India.
- Currently, the LPAI is building the Passenger Terminal Building at Dera Baba Nanak, **Kartarpur Sahib Corridor**.

Land Ports Authority of India

- The **Land Ports Authority of India** is a **statutory body** established under **Land Ports Authority of India Act, 2010**.
 - **Committee of Secretaries** in **2003 recommended** setting up of Integrated Check Posts (ICPs) at major entry points on India's land borders.
 - These ICPs were planned to house all the regulatory agencies like Immigration, Customs, Border Security etc. together with support facilities in a single complex to serve as a single-window facility as is prevalent at Airports and Seaports.
- LPAI intends to provide safe, secure and systematic facilities for movement of cargo as well passengers at its ICPs along the **international borders of India**.
- **Functions:**
 - It plans, constructs and maintains roads, terminals and ancillary buildings other than national highways, State highways and railways, at an ICP.
 - It establishes and maintains warehouses, container depots and cargo complexes for the storage or processing of goods with the establishment of hotels, restaurants and restrooms at ICP.

The Integrated Check Posts (ICPs) along with the border areas, State/UT wise are given below:

S. No.	ICP Location	State	Borders with	Current Status
1.	Attari (Amritsar)	Punjab	Pakistan	Operational
2.	Agartala	Tripura	Bangladesh	
3.	Petrapole	West Bengal	Bangladesh	
4.	Raxaul	Bihar	Nepal	
5.	Jogbani	Bihar	Nepal	
6.	Moreh	Manipur	Myanmar	

7.	Dawki	Meghalaya	Bangladesh	under construction
8.	Rupaidiha	Uttar Pradesh (U.P.)	Nepal	Approved in December 2018.
9.	Sunauli	Uttar Pradesh (U.P.)	Nepal	
10.	Sutarkandi	Assam	Bangladesh	

Source: PIB

Jammu University and Airport to be Renamed

Key Points

- **Resolutions have been passed to** rename the Jammu Airport and the Jammu University after Hindu Dogra monarchs Maharaja Hari Singh and Maharaja Gulab Singh, respectively.
- **Maharaja Gulab Singh** founded the **Dogra dynasty** and **became the first monarch of J&K in 1846.**
- **Maharaja Hari Singh**
 - Maharaja Hari Singh was the **last Dogra monarch**, who **acceded to India in 1947.**
 - Soon after the accession, **an interim state government** was instituted by a **proclamation made by the Maharaja on March 5, 1948.**

The Instrument of Accession

- The Instrument of Accession (IoA) is a legal document executed by Maharaja Hari Singh, the then ruler of the princely state of Jammu & Kashmir, on **October 26, 1947**, declaring that the state accedes to India.
- The IoA gave India's Parliament the power to legislate in respect of J&K **only on the matters of defence, external affairs and communications.**
- Apart from defence, communications and external affairs, the IoA mentions **ancillary subjects that include elections to the dominion legislature.**

Source: TH

Greek Island of Lesbos

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- **Lésbos**, also called **Mitílíni**, is a **greek island**.



- It is the largest island after Crete and Euboea in the **Aegean Sea**.
- The island is largely volcanic in the west, and numerous thermal springs indicate the unstable subterranean structure that has caused severe earthquakes throughout history.
- The irregular coast of Lésbos is penetrated by **two narrow-mouthed bays**, Gérias (southeast) and the Gulf of Kallonís (southwest).
- The principal peak is **Mount Lepethymnus** (Áyios Ilías) which reaches 3,176 feet.

Source: TH

Whale Shark

- **Scientific Name:** *Rhincodon typus*



- **Features:** Whale sharks are the largest shark and they feed on plankton and travel large distances to find enough food to sustain their huge size, and to reproduce.
- **Habitat:** Whale sharks are found in all the tropical oceans of the world.
- **Threats:** Oil & gas drilling, shipping lanes etc.
- **Protection Status:**
 - **IUCN Red List:** Endangered
 - **CITES:** Appendix II
 - **Indian Wildlife Protection Act, 1972:** Schedule I

Source: TH
