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Ambergris

- Ambergris (French for grey amber) is generally referred to as whale vomit. This preternaturally hardened whale dung is produced only by 1% of sperm whales.
- **Formation** - A sperm whale eats several thousand squid beaks a day.
- Occasionally, a beak makes its way to the whale's stomach and into its looping convoluted intestines where it becomes ambergris through a complex process, and may ultimately be excreted by the whale.
- Ambergris is a solid waxy substance that floats around the surface of the water body and at times settles on the coast.
- **Floating Gold** - This excretion is so valuable it is referred to as floating gold. 1 kg of ambergris is worth Rs 1 crore in the international market.
- The reason for its high cost is its use in the perfume markets (like Dubai), especially to create fragrances like musk.
- Ancient Egyptians used it as incense. It is used in traditional medicines.
- Since the sperm whale is a protected species, hunting is not allowed. But, due to Ambergris' high value, the fish has been a target to the smugglers.

Sperm Whale

- The Sperm Whale (*Physeter macrocephalus*), or cachalot, is the largest of the toothed cetacean. They are often spotted in groups (called pods).
- Spermaceti oil extracted from it is used in oil lamps, lubricants and candles.
- **Protection** - The species is protected by a whaling moratorium.
- IUCN Status - 'Vulnerable'.

First-ever GM Rubber

- Kerala-based Rubber Research Institute of India (RRII), under the Rubber Board, had developed the world's first genetically modified (GM) rubber plant tailored for the climatic conditions in the Northeast.
- This is the first time any GM crop has been developed exclusively for this region after years of research in RRII's biotechnology laboratory.
- The GM rubber has additional copies of the **gene MnSOD**, or manganese-containing superoxide dismutase, inserted in the plant.
- MnSOD may tide over the severe cold conditions during winter - a major

factor affecting the growth of young rubber plants in the region.

- Natural rubber is a native of warm humid Amazon forests and is not naturally suited for the colder conditions in the Northeast.
- Growth of young rubber plants remains suspended during the winter months, which are also characterised by progressive drying of the soil.
- This is the reason for the long immaturity period of this crop in the region. With the MnSOD gene in the GM crop, the plants will be protected from adverse effects of severe environmental stresses.
- To know more about Genetically Modified crops, [click here](#).

Rubber Board

- The Rubber Board is a statutory body under the administration of the Ministry of Commerce and Industry.
- It was constituted as per the Rubber Act, 1947 and Rubber Rules 1955 for the overall development of the rubber industry in the country.
- Head Office of the Board is located at Kottayam in the state of Kerala.
- It is responsible for the development of the rubber industry in the country by assisting and encouraging research, development, extension and training activities related to rubber.

Tiger Reserves To be Open All Year

- Uttarkhand announced that the state's two Tiger Reserves - Corbett and Rajaji - would now remain open for tourism round the year.
- Until now, the reserves would remain closed to tourists during the monsoon for 4-5 months every year.
- **Reasons** - Shutting the Tiger Reserves during the rainy season is important for the tiger and elephant breeding, as the tourism activities in that season may disturb tigers in their mating season.
- Apart from tiger breeding, a number of species do breed in the forest during the rainy months and together they maintain the ecological balance that supports the apex species.
- Besides, wildlife deserves a break from noise, light and other pollutions tourism brings to their habitat. But, shutting the reserves has more to do with humans than tigers (or elephants).
- As the tropical forest is least accessible during the monsoons, the trophy hunters of yore picked the rainy months as the off-season - a window that allows the animal population to recover.
- **Impact of opening parks on poaching** - Opening the parks to tourists in the rainy months may yet put the national animal at risk.
- This is because the poachers consider the monsoon an opportunity when

guards struggle to patrol much of the reserve.

- That is why Project Tiger has emphasised enhanced vigilance during the monsoon.
- Uttarakhand has a history of suffering heavy losses to poachers during the rainy season. Diverting the forest staff from 'Operation Monsoon' to tourism duties during this time will make the reserves more vulnerable.

Enhanced Pinaka Rocket

- The Defence Research and Development Organisation (**DRDO**) test fired extended range version of indigenously developed Pinaka rocket at Integrated Test Range (ITR), Chandipur, Odisha.
- These 122 mm Caliber Artillery rockets were launched from a Multi-Barrel Rocket Launcher (MBRL).
- The **enhanced range version** of Pinaka Rocket System can destroy targets at distances up to 45 kms.
- This Rocket System has been developed jointly by Pune based Armament Research and Development Establishment (ARDE) and High Energy Materials Research Laboratory (HEMRL).
- The development of the Enhanced Pinaka system was taken up to achieve **longer range performance**.
- To know about the Pinaka Rocket, [click here](#).

LiDAR Survey

- Environment Minister released the Detailed Project Reports (DPRs) of LiDAR based survey of forest areas in ten states.
- [Ten states - Assam, Bihar, Chhatisgarh, Goa, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Nagaland, and Tripura.]
- The project, which was awarded to WAPCOS in 2020 for implementation in 26 states, is a first of its kind experiment using LiDAR technology.
- WAPCOS has prepared these DPR's using LiDAR technology in which the 3-D (three dimensional) DEM (Digital Elevation Model), imagery and layers of the project areas are used.
- This LiDAR Survey will,
 - Help augment water and fodder in jungles areas thereby reducing human-animal conflict,
 - Help in groundwater recharge,
 - Recommend different types of Soil & Water conservation structures such as Anicut, Gabion, etc.,
- State forest departments must use CAMPA funds towards implementation of these projects in accordance with the 'Ridge to Valley' approach of

watershed management.

- WAPCOS with the participation of State Forest Departments identified one major ridge inside a forest block in these states with average area of 10,000 ha selected in each State for preparation of DPRs.
- States/UTs identified one major ridge inside a forest block with the criteria that
 1. Area selected should have average rainfall of the state, and
 2. Area requires assisted natural generation which means the density of forests should be less than 0.4 or below, but should have reasonable potential to regenerate with the ANR interventions.

WAPCOS

- Water and Power Consultancy Services (WAPCOS) is a “MINI RATNA-I” Public Sector Undertaking (PSU) under the Ministry of Jal Shakti.
- WAPCOS was incorporated in 1969 under the Companies act, 1956
- It provides **Consultancy** and Engineering, Procurement & Construction **(EPC) services** in all facets of Water Resources, Power and Infrastructure sectors in India and Abroad.
- WAPCOS as a **techno-commercial organization** utilizes the talent and expertise developed in the various organizations of Government of India and State Governments.

LiDAR

- Light Detection and Ranging (LiDAR) is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth.
- A LiDAR instrument has a laser, scanner and a specialized GPS receiver.
- It determines the ranges by targeting an object with a laser and measuring the time for the reflected light to return to the receiver.
- Airplanes and helicopters are the most commonly used platforms for acquiring LiDAR data over broad areas.
- **Types** - Two types of lidar are topographic and bathymetric.
 1. Topographic lidar uses a near-infrared laser to map the land,
 2. Bathymetric lidar uses water-penetrating green light to also measure seafloor and riverbed elevations.
- **Uses** - LiDAR is used for agriculture, hydrology and water management systems and geology-related applications. It is also used in archaeology.
- Read about a similar technology - [RADAR](#).

Tax Inspectors Without Borders

- Bhutan's Tax Inspectors Without Borders (TIWB) programme was launched in partnership with India.
- TIWB is a capacity-building programme, which is joint initiative of the United Nations Development Programme (UNDP) and the Organisation for Economic Cooperation and Development (OECD).
- TIWB was launched in July 2015 to strengthen developing countries' auditing capacity and multinationals' compliance worldwide.
- It deploys qualified experts in developing countries across Africa, Asia, Eastern Europe, Latin America and the Caribbean,
 1. To build tax capacity in areas of audit, criminal tax investigations
 2. For effective use of automatically exchanged information.
- **Bhutan's TIWB** - India was chosen as the Partner Jurisdiction and has provided the Tax Expert for the TIWB programme in Bhutan.
- This programme is expected to be of about 24 months' duration.
- Through this program, India aims to aid Bhutan in strengthening its tax administration by transferring technical know-how and skills to its tax auditors, and through sharing of best audit practices.
- The focus of the programme will be in the area of **International Taxation and Transfer Pricing**.

Source: PIB, The Hindu, The Indian Express, NOAA