

1. North East Venture Fund

Why in News?

- Union Minister Jitendra Singh have recently informed Rajya Sabha that the North East Venture Fund (NEVF) has disbursed over Rs.18 crores to 12 start-ups till date.

North East Venture Fund (NEVF):

- The North East Venture Fund was formally launched on 9th September, 2017 with joint efforts from Ministry of Development of North Eastern Region (DoNER) and North Eastern Development Finance Corporation Ltd (NEDFi).

Objective:

- To encourage entrepreneurs and Start-ups and to empower entrepreneurs from the North Eastern Region (NER)

Capital:

- It is a close ended fund with capital commitment of Rs 100 crore.
- The investment is ranging between Rs. 25 lakhs and Rs. 10 crores per venture, which is long term in nature with investment horizon of 4-5 years.

Contribution:

- The NEVF team has vigorously been participating in various events, seminars, conclaves etc. across NER, and interacted with start-ups both on one to one and group basis to promote the fund.
- The team members have also interacted with various venture funds, incubators in the venture capital eco- system. Over the last three years, out of 212 enquiries/applications received across sectors like Agri-Allied, Healthcare, Biotechnology, Education, Food Processing, Tourism, Logistics, Parking, Aggregation of Services, Entertainment etc., 40 proposals have been taken to the Investment Committee for perusal and 22 proposals have received investment commitment. The NEVF has till date made a disbursement of Rs.18.16 crore to 12 start-ups.

2. ICONSAT 2020

Why in News?

- The International Conference on Nano Science and Nano Technology (ICONSAT) under the aegis of Nano Mission, Department of Science and Technology (DST) was recently conducted at Kolkata.

INCOSAT 2020:

- The Three-Day Event Deliberates on several thematic topics in the field, bringing out cutting-edge developments in the domain of physical, chemical, materials as well as biological sciences.

Highlights:

- The event focused on the recent advances in the frontier research field of Nano science and Technology.
- The genesis of Nano India was outlined and informed that in the last 20 years' infrastructure and human resources have been built in the field of Nano science and technology.
- The need to create a network of experts in Nano-science was emphasized to integrate the knowledge across sectors like energy, agriculture, transport, health etc.
- The 5Ms – Mechanical, material, machines, manufacturing and manpower, are the need of the hour and the focus should be on how Nano-science and technology can contribute to the challenges like sustainable development and new technology (machine learning, artificial intelligence and so on).
- Science should be related to the larger section of our society and hence, the young scientists were invited to participate with AWSAR, a DST new initiative through which young scholars can submit popular science stories related to their work while connecting them with societal benefits.

DST Nano Mission:



NANOTECHNOLOGY IN INDIA

- IIT Mumbai is the premier organization in the field of nanotechnology.
- Research in the field of health, environment, medicines are still on.
- Starting in 2001 the Government of India launched the Nano Science and Technology Initiative (NSTI).
- Then in 2007 the Nanoscience and Technology Mission was initiated with an allocation of Rupees 1000 crores for a period of five years.
- The main objectives of the Nano Mission are:
 - basic research promotion,
 - infrastructure development for carrying out front-ranking research,
 - development of nano technologies and their applications,
 - human resource development and
 - international collaborations.

- In addition to existing research on Nano-materials, several emerging areas such as quantum materials, energy materials and nanotechnology for agriculture have been included in cognizance of the identified thrust areas of DST Nano mission.
- The Government of India launched a Mission on Nano Science and Technology (Nano Mission) in May 2007. Recognizing the success of Nano Mission, the Union Cabinet accorded approval for continuation of the Nano Mission in its Phase-II during the 12th Plan period with an allocation of Rs. 650 crores.
- The Department of Science and Technology is the nodal agency for implementing the Nano Mission.

Potential:

- Nanotechnology is science, engineering, and technology conducted at the nanoscale, which is about 1 to 100 nanometers.
- Nanoscience and nanotechnology are the study and application of extremely small things and can be used across all the other science fields, such as chemistry, biology, physics, materials science, and engineering.
- Nano science is an extraordinary sector to work in and have lot of opportunities for translation of benefits for the society.
- Nano science has a tremendous application in various areas and in fields like Nano-Medicine, Agriculture, Environment and Energy.

3. Plastic Eating Caterpillar

Why in News?

- A small waxworm could be useful in our fight against plastic waste, one of the main environmental problems of the Modern Era.

Highlights:

- Humans are addicted to plastic, a material that we can find almost everywhere but that is also very hard to get rid of. About eight million tons of it ends up in the oceans every year.
- Researchers from the UK and Spain discovered that a species of caterpillar was capable of tearing apart polyethylene, one of the most common types of plastic.
- The waxworm could digest it and then produce ethylene glycol as a by-product.
- Other organisms could also do this but not as fast, which made this inconspicuous creature particularly interesting.

- The discovery opened the door to a new way of dealing with plastic pollution, but more research was needed to understand the internal mechanism of the caterpillar.
- Another group of researchers isolated the bacteria in the stomach of the waxworm and fed them just with plastic for a full year.
- This helped the researchers to identify the microorganisms that are involved in the process of breaking down the plastic, which could lead to creating a technology to eliminate plastic permanently.
- The caterpillars represent an important breakthrough and help deal with plastics, especially those that are hard to recycle.

4. Bijayananda Patnaik

Why in News?

- Recently, 104th birth anniversary of Bijayananda Patnaik (1916 – 1997) is celebrated.



About Bijayananda Patnaik:

- He was popularly known as Biju Patnaik, was an Indian politician, aviator and businessman.
- He flew with private airlines but at the start of the **Second World War** he joined the **Royal Indian Air Force** eventually becoming **head of air transport command**.
- During **Quit India Movement**, he used air force transports to fly clandestine missions that carried freedom fighters like **Ram Manohar Lohia** from hideouts across India to secret meetings that charted the independence struggle.
- He had flown a **DC-3 transport aircraft** to **Srinagar** on October 27, 1947, ferrying soldiers of the **Sikh regiment** after the tribal invasion from Pakistan in Kashmir.
- He rescued two key **Indonesian independence leaders** from a remote hideout in Indonesia and flew them to India, outraging the Dutch. For this act of bravery, he was given honorary citizenship in Indonesia and awarded the '**Bhoomi Putra**' the highest Indonesian award.
- He served twice as the **Chief Minister** of the State of **Odisha**. Biju Patnaik's younger son, **Naveen Patnaik**, is the current Chief Minister of Odisha.

5. Great Barrier Reef

Context:

- Recently, Scientists have warned that the Great Barrier Reef will face a critical period of heat stress over the coming weeks.

Great Barrier Reef:

- It is a Marine Park, which spreads across a length of over 2,300 km and is roughly the size of Italy, is home to about 3,000 coral reefs, 600 continental islands, 1,625 type of fish, 133 varieties of shark and rays and 600 types of soft and hard corals. It is a world heritage site.
- **Coral reefs** are important hotspots of biodiversity in the ocean. They are animals in the same class (**Cnidaria**) as jellyfish and anemones. They consist of individual **polyps** that get together and build reefs.

Key Points:

- They support a wide range of species and maintain the quality of the coastal biosphere.
- They control the level of carbon dioxide in the water by converting it into a limestone shell.
- If this process does not take place, the amount of carbon dioxide in the ocean water would increase significantly and affect ecological niches.
- They are threatened by climate change. When the sea surface temperature increases beyond a tolerable limit, they undergo a process of bleaching.

What is Bleaching?

- It is when the corals expel a certain algae known as **zooxanthellae**, which lives in the tissues of the coral in a Symbiotic Relationship.
- About 90% of the energy of the coral is provided by the zooxanthellae which are endowed with chlorophyll and other pigments.
- They are responsible for the yellow or reddish brown colours of the host coral. In addition, the zooxanthellae can live as endosymbionts with jellyfish also.
- When a coral bleaches, it does not die but comes pretty close to it. Some of the corals may survive the experience and recover once the sea surface temperature returns to normal levels.

6. Open Data Portal

Why in News?

- Recently, Indian School of Business (ISB) has developed one-stop open data portal.

About:

- It aimed at collating government data, scattered across multiple sources for consumption of policymakers, researchers, students and journalists, focusing on information related to agriculture.
- In the age where the credibility of information is being questioned and scrutinised, often with good reason, a platform with credible data can be a game changer.
- **India Data Portal (IDP)** incubated at ISB's Bharti Institute of Public Policy is a platform that has data from multiple disciplines, subjects and areas.
- In the first phase, the focus is on agriculture data, and in later phases the portal will diversify to include datasets on financial inclusion, rural development etc.
- Mostly, data is available at different locations generally in inaccessible formats, which then requires extra effort in converting them into a format which can be analysed.
- In other cases, even if the data is easily available, comparing it across geographies becomes a considerable challenge. These issues of unavailability of organised and linked data and inadequate platforms for rapid visualisations are addressed by the IDP.

7. Red Panda (Ailurus Fulgens)

Context:

- Recently, **endangered Red Panda (Ailurus fulgens)** has fewer hunters because the younger generations of people across its Himalayan habitat are losing interest in animal products, a new study by wildlife trade monitoring network TRAFFIC has found.



Highlights:

- The news is both good and bad for the red panda, whose survival is crucial for the eastern and northeast and the eastern Himalayan forests
- About 5,000--6,000 red pandas are estimated to be present in four Indian states – Arunachal Pradesh, Meghalaya, Sikkim, and West Bengal.

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- This is the second largest population after China (6,000-7,000). Nepal accounts for 580 animals, while Bhutan and Myanmar have no estimate of the animal's population.
 - Red pandas have been reported from 11 districts of Arunachal Pradesh, which is presumed to hold the largest red panda population in the country.
 - They are called "Living Fossils" as they are the only living member of the Ailuridae mammalian family.
 - The report also recommended trans-boundary law enforcement co-operation through the use of multi-government platforms like **SAWEN (South Asia Wildlife Enforcement Network)**
 - The report titled "**Assessment of illegal trade related threats to Red Panda in India and selected neighbouring range countries**" has looked at a ten-year period from July 2010 to June 2019, and analysed poaching and illegal trade of the species.

