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iDEX - DIO

- Union Defence Minister has approved the budgetary support of Rs 498.8 crore to Innovations for Defence Excellence (iDEX) - Defence Innovation Organisation (DIO) for the next five years.
- iDEX-DIO has the primary objective of self-reliance and indigenisation in defence & aerospace sector of the country.
- The creation of the iDEX framework and establishment of the DIO was done by the Department of Defence Production (DDP).
- It is aimed at creating an ecosystem to foster innovation and technology development in defence and aerospace by,
    a. Engaging Industries including MSMEs, start-ups, individual innovators, R&D institutes & academia and
    b. Provide these Industries with grants/funding and other support to carry out R&D development which has good potential for future adoption for Indian defence and aerospace needs.
- The DDP will release funds to DIO for setting up and managing the iDEX network in the form of Partner Incubators (PIs).
- To know more about the Innovations for Defence Excellence (iDEX) - Defence Innovation Organisation (DIO), click here.

Tigray Crisis

- The United Nations emergency relief coordinator said that Tigray region in the Ethiopa's north was witnessing a widespread full scale famine.
- This famine is a result of the military conflict between Ethiopia's federal government and the ruling party in the Tigray since September, 2020.
- The term 'famine' was used after the release of an Integrated Food Security Phase Classification (IPC) analysis update, which uses a standardised scale originally developed by the UN.
- As per the IPC scale, famine conditions in Tigray are in phase 5, which starts with a catastrophe warning and ends in famine in a region.

Integrated Food Security Phase Classification Scale

- The Integrated Food Security Phase Classification scale (IPC scale), is a tool

for improving food security analysis and decision-making.

- This standardised scale integrates food security, nutrition and livelihood information into a statement about the nature and severity of a crisis and implications for strategic response.
- The IPC was originally developed for use in Somalia by the UN Food and Agriculture Organization's Food Security Analysis Unit (FSAU).
- Several national governments and international agencies, including CARE International, FAO, UN World Food Programme (WFP), etc have been working together to adapt it to other food security contexts.

IPC Phase Number	Phase	Description
1	Generally Food Secure	More than 80% of households can meet basic food needs without atypical coping strategies
2	Borderline Food Insecure	For at least 20% of households, food consumption is reduced but minimally adequate without having to engage in irreversible coping strategies. These households cannot fully meet livelihoods protection needs.
3	Acute Food and Livelihood Crisis	At least 20% of households have significant food consumption gaps OR are marginally able to meet minimum food needs only with irreversible coping strategies such as liquidating livelihood assets. Levels of acute malnutrition are high and above normal.
4	Humanitarian Emergency	At least 20% of households face extreme food consumption gaps, resulting in very high levels of acute malnutrition and excess mortality; OR households face an extreme loss of livelihood assets that will likely lead to food consumption gaps.
5	Famine/Humanitarian Catastrophe	At least 20% of households face a complete lack of food and/or other basic needs and starvation, death, and destitution are evident; and acute malnutrition prevalence exceeds 30%; and mortality rates exceed 2/10000/day

Global Liveability Index 2021

- The Global Liveability Index for 2021 of 140 cities around the world was released by the Economist Intelligence Unit.

- Handling of the Covid-19 crisis seems to be one of the most important factors that dominated the formulation of the Index for 2021.
- The index takes into account more than 30 qualitative and quantitative factors spanning five categories - stability (25%), healthcare (20%), culture and environment (25%), education (10%), infrastructure (20%).
- **Findings** - New Zealand's Auckland is named the world's most liveable city for 2021, due to its successful approach in containing the pandemic.
- Austria's Vienna (Topped in 2018 and 2019) has completely dropped out of the top 10 after being heavily affected by Covid, and ranks 12.

Blue-finned Mahseer

- On the International Union for Conservation of Nature's (IUCN) red list, the Blue-finned Mahseer (Tor Khudree) has been moved from the 'endangered' status to the 'least concern' status.
- However, the golden mahseer is still in danger of going extinct.
- The IUCN group is involved in conservation of the blue-finned and golden Mahseer for 50 years in Lonavala, Maharashtra.
- **Characteristics** - They inhabit both rivers and lakes. Most of species ascend into rapid streams with rocky bottoms for breeding.
- They are omnivorous. They eat algae, crustaceans, frogs, insects and other fish. They also eat fruits that fall from trees overhead.
- **Habitat** - This species is found in River Mota Mola east of Pune and other rivers of the Deccan Plateau.
- The species is migratory; moving upstream during rains. It prefers clean, fast flowing and well oxygenated waters.
- **Threats** - Over harvesting, habitat manipulation and competition from other fish species.

PENCiL Portal

- The instances of Child Labour can be reported by citizens on PENCIL Portal or by calling on Childline-1098.
- The Platform for Effective Enforcement for No Child Labour (PENCiL) portal was launched by the Ministry of Labour and Employment to rehabilitate child labour in the country.
- This portal is an online platform that aims at engaging the Central and State Governments, District, civil society and the public in eradicating child labour to achieve the target of child labour free society.
- It aims to mainstream into legal schools of all children who have been withdrawn from child labour and rehabilitated through the National Child Labour Project (NCLP) Scheme.
- It aims to build a strong authentication mechanism for implementing and

monitoring both the enforcement of the legislative provisions and effective implementation of the NCLP Scheme.

- **Components of PENCiL Portal** - Child Tracking System, Complaint Corner, State Government, National Child Labour Project, Convergence.
- **Implementation Process** - All complaints filed will be received by the District Nodal Officers (DNOs) who are nominated by the Districts.
- After receiving the complaints, the rescue measures will be taken within the 48 hours in coordination with the police department only if the complaint filed is found to be genuine.

PASIPHAE

- Polar-Areas Stellar-Imaging in Polarisation High-Accuracy Experiment (PASIPHAE) is an international collaborative sky surveying project steered by the Institute of Astrophysics, Greece.
- It will be used in upcoming sky surveys to capture polarisation (B-mode signal) coming from very faint stars that are so far away that their polarisation signals haven't been systematically studied.
- The distances to these stars will be obtained from measurements of the GAIA satellite.
- The survey will use two high-tech optical polarimeters to observe the northern and southern skies, simultaneously.
- By combining these data, astronomers will perform a maiden magnetic field tomography mapping of the interstellar medium of very large areas of the sky using a novel polarimeter instrument known as WALOP.
- As the survey will focus on sky areas where very low polarisation values (<0.5%) are expected to emerge, a polarimeter with high sensitivity and accuracy was needed, so WALOP was planned sometime in 2013.
- The maximum observation time offered by the smaller telescopes will be diverted for the PASIPHAE sky survey using WALOP.

WALOP

- Wide Area Linear Optical Polarimeter (WALOP) can detect polarised light signals coming from the stars along high galactic latitudes.
- Each WALOP will be mounted on two small optical telescopes,
    a. The 1.3-metre Skinakas Observatory, Crete, and
    b. The 1-m telescope of the South African Astronomical Observatory, Sutherland.
- The images obtained from WALOP will simultaneously have the finest of details of a star along with its panoramic background.
    a. WALOP can capture images within ½° by ½° area of the sky during every exposure.

b. WALOP will offer the widest ever view of the sky in polarimetry.

- WALOP will operate on the principle that at any given time, the data from a portion of the sky under observation will be split into 4 channels.
- Depending on the manner in which light passes through the four channels, the polarisation value from the star is obtained.
    - Each star will have four corresponding images which when stitched together will help calculate the desired polarisation value of a star.
- WALOP and its predecessor RoboPol survey share the single shot photometry principle.
- But WALOP will be capable of observing hundreds of stars concurrently present both in the northern and the southern skies as opposed to RoboPol, which has a much smaller field of view in the sky.
- The development of the instrument is in an advanced stage currently and progressing at the instrumentation facility in IUCAA.

Source: PIB, The Hindu, The Indian Express

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