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सत्यमेव जयते



MK Yadav Sir

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BUSINESS STANDARD Page 1

DOVISH AND HAWKISH

(Syllabus: GS Paper 3 - Economy)

Markets decline on hawkish Fed signals

Sensex slips 632 pts; FPIs sell shares worth ₹2,109 crore

SUNDAR SETHURAMAN
Mumbai, 10 January

India's benchmark indices declined on Tuesday, along with most of their global peers, as investors assessed the hawkish comments from US Federal Reserve officials.

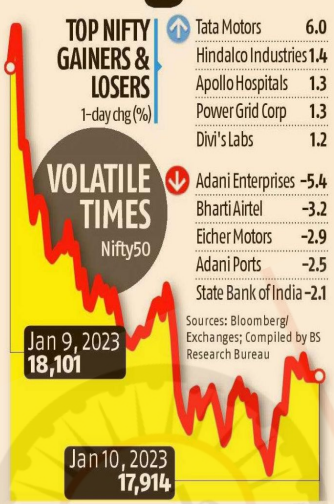
The Sensex plunged as much as 809 points during the day but partially recovered in the last 30 minutes of trading to settle at 60,115, with a decline of 632 points, or 1.04 per cent. The Nifty50, on the other hand, dropped 187 points, or 1.03 per cent, to end the session at 17,914.

Foreign portfolio investors net sold Indian equities worth ₹2,109 crore, while domestic institutional investors lent support to the market and bought shares worth ₹1,806 crore, according to provisional data from the exchanges.

Atlanta Fed President Raphael Bostic on Monday said the US central bank was determined to tackle high inflation, and that it should raise interest rates above 5 per cent by the second quarter and then go on hold for "a long time." Bostic added that if the upcoming data showed cooling consumer prices, then the case for reducing rate hikes to 25 basis points would be stronger.

San Francisco Fed President Mary Daly, meanwhile, said she expected the central bank to raise interest rates to above 5 per cent. It was too early to declare victory over inflation, Daly said. Neither Bostic nor Daly has a vote on policy this year. As a result, investors awaited remarks from Fed Chairman Jerome Powell for clues on the trajectory of interest rates.

Turn to Page 6



Rupee gains nearly 100 paise in two days to breach 82/$

The rupee strengthened significantly against the US dollar on Tuesday, amid a sharp fall in the greenback's demand from state-owned banks on behalf of oil importers, dealers said. 6

Investments in active equity MFs rise to ₹7,300 cr in Dec

Net investments in active equity mutual fund schemes rose to ₹7,300 crore in December after declining to a 21-month low of ₹2,260 crore in November, shows the latest data from the Amfi. 12

Context: India´s benchmark indices declined, along with most of their global peers, as investors assessed the **hawkish comments from US Federal Reserve officials.**

Dovish and Hawkish

- **Dovish View of Monetary Policy:** Doves support the **idea of low-interest rates s**ince they believe that it encourages economic growth.
  - They also argue that **an increase in economic growth leads to a high rate of borrowing** among the consumers, which encourages spending.
- **Hawkish View of Monetary Policy**: A Hawk or an inflation Hawk is a financial advisor or policymaker who believes that **monetary policies should maintain high-interest rates to curb inflation.**
  - They are primarily interested in **high-interest rates** as they relate to Fiscal policy.
  - Hawks are generally **not concerned with economic growth** but support an economy operating at a level below its full-employment equilibrium.

Hawkish	vs	Dovish
Currency appreciation (stronger)		Currency depreciation (weaker)
Interest rate: Increase		Interest rate: Decrease
Monetary policy stance: Contractionary		Monetary policy stance: Expansionary
Objective: Reduce/contain inflation		Objective: Stimulate the economy

LIVEMINT

Page 5

OFFER FOR SALE

(Syllabus: GS Paper 3 - Economy)

Sebi tweaks OFS rules to ease share sale by promoters

PTI
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NEW DELHI



The cooling-off period between two OFS has been cut from 12 to two weeks. MINT

Capital markets regulator the Securities and Exchange Board of India (Sebi) on Tuesday tweaked the offer for sale (OFS) framework to provide more flexibility to promoters and large shareholders planning to sell their shares through the mechanism. Under the revised framework, the cooling-off period required between two OFS has been reduced from 12 weeks to two weeks.

Besides, retail investors have been allowed to bid for the unsubscribed portion of the non-retail segment, and unit holders of listed Real Estate Investment Trusts (Reits) and Infrastructure Investment Trusts (InvITs) have been allowed to offer their holdings through the OFS mechanism. The new framework would come into force from 10 February.

In a circular, Sebi said the minimum offer size should be ₹25 crore for selling shares through the OFS mechanism by shareholders. But, offer size can be less than ₹25 crore by promoter(s) or promoter group entities so as to achieve minimum public shareholding in a single tranche.

This comes after the Sebi board in September decided to do away with the requirement of minimum 10% shareholding for the non-promoter shareholders for offering shares through the OFS route.

Currently, promoters and non-promoter shareholders holding at least 10% stake in a company and willing to offer shares worth at least ₹25 crore are eligible to participate in the OFS mechanism. The OFS mechanism is available to companies with a market capitalization of ₹1,000 crore and above.

With regard to the cooling-off period, Sebi said the existing period of +12 weeks for OFS has been reduced to a range of +2 weeks to +12 weeks based on the liquidity of securities of such eligible firms.

Retail investors have also been allowed to bid for the unsubscribed portion of the non-retail segment of OFS

Notwithstanding the cooling-off period, the promoter or promoter group entities of companies whose shares are either liquid or illiquid can offer their shares only through OFS or Qualified Institutional Placement (QIP) with a gap of two weeks between successive offers.

With regard to allocation, a minimum of 25% of the shares offered would be reserved for mutual funds and insurance companies, and at least 10% of the offer size would be reserved for retail investors.

Context: Capital markets regulator SEBI tweaked the Offer For Sale (OFS) framework to provide more flexibility to promoters and large shareholders planning to sell their shares through the mechanism.

Offer for sale (OFS)

- **About:** Offer for sale (OFS) is a **simpler method of share sale** through the exchange platform for listed companies.
- **Origin**: The mechanism was **first introduced by India's securities market regulator SEBI, in 2012**, to make it easier for promoters of publicly-traded companies to cut their holdings and comply with the minimum public shareholding norms by June 2013.
  - The method was l**argely adopted by listed companies,** both state-run and private, to adhere to the Sebi order.
  - Later, the **government started using** this route to divest its shareholding in public sector enterprises.
- **Mechanism**: In an OFS, promoters of a company dilute their stake by **selling their shares on an exchange platform.**
  - **Anyone** including retail investors, companies, Foreign Institutional Investors (FIIs) and Qualified Institutional Buyers (QIBs) can bid on these shares.
- **Bidding**: In an OFS, a buyer has to provide **a bid in order to acquire the shares.**
  - The company sets a **'floor price.'** Buyers cannot bid at a price below the floor price.
  - Once the bids are placed, **shares are allocated to the different buyers.**
  - There is **no minimum limit** to participate in an OFS.
  - A buyer **can bid for even a single share** in the OFS process.
- **Eligibility**: As an individual investor, he c**an apply in the retail category of the OFS**.
  - In this category, his total bid value **should not exceed Rs 2 lakh rupees.** Otherwise, it **becomes ineligible.**
  - He also **require a demat account** and a trading account in order to participate in an OFS.
  - In case he is **an offline investor,** he can still place his bids through an assigned dealer.
- **Rules and regulations in an OFS**:
  - This facility is available only to the top 200 companies in the share market. The ranking is based on market capitalisation.
  - **Non-promoter shareholders** with more than 10% of share capital are also eligible to offer shares through an OFS.
  - The company has to i**nform the stock exchanges** at least two days before the OFS.
  - **SEBI has mandated that at least 25% of shares in an OFS** must be reserved for mutual fund and insurance companies.
  - In addition, a 10% reservation is made for retail buyers.

PRIVATE EQUITY
(Syllabus: GS Paper 3 - Economy)

PE Inflows into Realty Increase 20%

Sobia.Khan@timesgroup.com

Bengaluru: Private equity investment in the Indian real estate market reached $4.9 billion in 2022, showing a 20% increase year-over-year, despite facing challenges such as high interest rates, inflation, and economic concerns.

In 2022, assets that generated income received the lion's share of funding in the sector. The residential, retail, and hospitality industries also attracted significant funding, as large transactions took place during the year and are expected to see continued growth in the coming years.

"The investments in Indian real estate have been consistent for the past few years and hence have the potential to grow due to the structural change in demand for capital," said Piyush Gupta, managing director, capital markets and investment services, Colliers India. "Performance credit, special situations, portfolio acquisitions, asset reconstruction, and related structures have been growing and are likely to attract more investments."

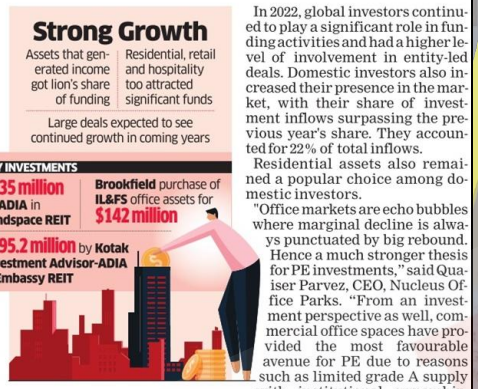
According to a report, the office segment will continue to lead in 2022, accounting for 41% of total funding. The inflows into the sector increased by 50% year-over-year, driven by several significant deals.

Notable investments in this segment during the year included Abu Dhabi Investment Authority (ADIA) investing $235 million in Mindspace REIT, Kotak Investment Advisor-ADIA investing $195.2 million in Embassy REIT and Brookfield buying IL&FS office assets for $142 million. This reflects a trend among global and domestic funds, who are looking to build portfolios of properties that they can bundle as REITs.

Experts predict that investors will continue to show interest in both greenfield and ready-to-move assets

Experts predict that investors will continue to show interest in both greenfield and ready-to-move assets. Most of the deals in the office sector are likely to be led by global investors, who are seeking assets that generate income.

In 2022, global fund CapitaLand expanded its portfolio across all segments, from business parks to data centres and warehousing to industrial parks.



"We will continue to seize attractive investment opportunities to strengthen and diversify our portfolio in the country, riding on macroeconomic trends of urbanisation, digitalisation, and the exponential growth in the IT services and fintech sectors," said Sanjeev Dasgupta, CEO, CapitaLand India Trust (CLINT).

In 2022, global investors continued to play a significant role in funding activities and had a higher level of involvement in entity-led deals. Domestic investors also increased their presence in the market, with their share of investment inflows surpassing the previous year's share. They accounted for 22% of total inflows.

Residential assets also remained a popular choice among domestic investors.

"Office markets are echo bubbles where marginal decline is always punctuated by big rebound. Hence a much stronger thesis for PE investments," said Quaiser Parvez, CEO, Nucleus Office Parks. "From an investment perspective as well, commercial office spaces have provided the most favourable avenue for PE due to reasons such as limited grade A supply with institutional ownership, larger capital deployment for ready-made operational assets, and a better risk-reward ratio."

According to experts, the year 2023 is expected to witness improvement in the capital environment, with both domestic and global funds continuing to invest in the Indian real estate sector.

Parameters	Venture Capital	Private Equity
Definition	These are small investments made to help the company grow during its early stages.	It refers to investments in companies that are not listed on any public stock exchange.
Investment Stage	Early stage	Later stage
Target of Investment	Many companies	Few companies
Focus	Management Skill	Corporate Governance
Associated Risk	High	Low
Capital Invested In	Operations growth	Business expansion

Context: **Private equity investment** in the Indian real estate market reached $4. 9 billion in 2022, showing a 20% increase year over-year, despite facing challenges such as high interest rates, inflation, and economic concerns.

Private equity

- **About**: Private equity is equity capital that is **not traded on a public exchange.**
  - It is **medium-to-long-term financing** offered in exchange for equity ownership in unlisted companies with great growth potential.
  - Private equity funds are investment firms that, on the whole, **avoid holding publicly traded securities** in favour of acquiring equity shares in privately-held businesses.
  - Private equity funds are **high-risk, high-reward investment vehicles.**
  - Pragati Fund and Samridhi Fund are a few examples of PE funds in India.
- **Types:**
  - **Distressed Funding**: It is also known as **vulture financing**. The goal is to turn **distressed companies** around by making required changes to their management or operations, or by profitably selling their assets.
  - **Fund of funds**: They provide **a backdoor into such funds for investors** who cannot afford the minimum capital requirements.
  - **Venture Capital**: Venture capital is a type of private equity finance in which **investors donate funds to entrepreneurs**. Venture capital can take different forms depending on the stage at which it is delivered.
  - **Leveraged Buyouts**: This is the **most common type of private equity investing,** and it entails buying a company outright with the goal of strengthening its commercial and financial health before disposing it for a profit to an interested party or launching an **initial public offering (IPO).**
  - **Real Estate Private Equity:** When compared to other types of private equity fundraising, real estate funds require a **greater minimum investment amount**. In this sort of funding, investor funds are locked up for several years at a time.

PIB JAN 11

SFURTI SCHEME

(Syllabus: GS Paper 2 - Economy & Infrastructure)

Special focus on hilly and border areas for better implementation of Khadi and Village Industry activities -Shri Manoj Kumar, Chairman KVIC

Context: On the occasion of inauguration of West Tripura Bamboo Mat Cluster and new **KVIC building under SFURTI scheme** along with inauguration of various programs launched in North Eastern Regions of the country, held at Agartala, Tripura on 9th January, 2023, Chairman said that the priority of KVIC is to create additional employment opportunities in the country through various programs and schemes to make dream come true of 'Atmanirbhar Bharat'.

SFURTI (Scheme of Fund for Regeneration of Traditional Industries) Scheme

- **About**: The Ministry of MSME is implementing a **Scheme of Fund for Regeneration of Traditional Industries (SFURTI)** with a view to organize traditional industries and artisans into clusters to make them competitive and increase their income.
  - The Ministry supports various interventions including setting up of infrastructure through **Common Facility Centers (CFCs), procurement of new machineries, creating raw material banks**, design intervention, improved packaging, improved skills and capacity development, etc.
  - Besides, the scheme **focuses on strengthening the cluster governance systems** with the active participation of the stakeholders, so that they are able to gauge the emerging challenges and opportunities and respond to them.
  - It is done through **building innovative and traditional skills**, improved technologies, advanced processes, market intelligence and new models of public-private partnerships, so as to gradually replicate similar models of cluster- based traditional Industries.
- **Origin**: The Ministry of MSME launched this scheme in the year 2005 with the view to **promote Cluster development.**
- **Nodal Agency: Khadi and Village Industries Commission (KVIC)** is the nodal Agency for promotion of Cluster development for Khadi as well as for Village Industries products.
- **Two types**:
  - **Regular Cluster** (500 artisans) with Government assistance of up to Rs. 2.5 crore.
  - **Major Cluster** (more than 500 artisans) with Government assistance up to Rs. 5 crore.

THE HINDU Page 10

ONDRIYA ARASU

(Syllabus: GS Paper 2 - Polity & Governance)

T.N. Governor objects to *ondriya arasu* use

During an interaction with a batch of candidates who had cleared their Civil Services (Main) Examination and are preparing for the interview, the Tamil Nadu Governor shared his view that the word "ondriyam" referred to a sub-district, sub-divisional level structure in the hierarchy, and the term was used perhaps with an intention to "belittle" and be "disrespectful" to the Union government.

Mr. Ravi was responding to a query from an aspirant on how to answer a question on the "Central government/Union government" controversy in the State. Since coming to power, the DMK government had been using *ondriya arasu* in all its communications, a move that attracted criticism, mainly from the BJP.

Mr. Ravi said he was fine with people using the term "Union government", but he felt the term being translated into Tamil as *ondriya arasu* was not acceptable.

According to Mr. Ravi, the term *ondriyam* to refer to the Union government would have been acceptable if there was no "lower level social structure" called *ondriyam* in society. Mr. Ravi said he himself used the term "Union government" often and there was no confusion about the fact that India is a Union of States. The problem in Tamil Nadu was because the term *ondriya arasu* is used in a "politically overloaded" manner in a "political game" of playing down (the importance of the Union government), he said.

Context: A day after he walked out of the Tamil Nadu Assembly following a face-off with Chief Minister, Tamil Nadu Governor disapproved of the ruling DMK's use of the Tamil term **" ondirya arasu" to denote the Union government.**

'Central' v 'union' government

- **About**: In common parlance, the terms **"union government" and "central government"** are used interchangeably in India.
  - In Tamil Nadu, a controversy erupted over the new DMK government referring to the government of Prime Minister as the **'union government' (ondriya arasu)** instead of **'central government' (madhiya arasu).**
- **Rationale given by Tamil Nadu govt**: As per the Tamil Nadu govt, the word **ondriyam (union) stands for the principles of federalism.**
  - The word **signifies federal principles** underlined in the Constitution which describes India as a "union of states".
- **Nature of the Indian state**: While it often said what's in a name but usage of the **word 'Union' does have a kind of unifying effect,** while the word 'Centre' does have centralistic overtones.
  - **Government of India Act, 1935**: Provinces had more power and the Viceroy had only the minimum. But the **Indian constitution changed this equation,** and the federal government was made more powerful.
    - Presently, the actual power is vested with the Union of India in all respects. So, the debate over using Centre or Union is of no consequence.
  - **Language issue**: More than 70 years after Independence, there is **no authorized Tamil translation** of the Constitution of India.
    - Hence, Tamil Nadu has seen consistent efforts to present words in a better form of Tamil, especially after the DMK came to power in the mid-1960s.
- **Constitutional position**: Article 1 mentions that India, that is Bharat, shall be a Union of States.
  - While submitting the **draft Constitution in 1948, Dr B R Ambedkar,** chairman of the drafting committee, had said that the committee had used the world 'Union' because:
    - The Indian federation was **not the result of an agreement by the units.**
    - The component units had **no freedom to secede from the federation.**

DTE

JAN 11

POVERTY ESTIMATION IN INDIA

(Syllabus: GS Paper 2 - Social Justice)



Will India officially be poverty free in 2023?

National Statistical Office rolling out consumption expenditure sample survey; may note impact of central schemes adding to people's income

NEXT NEWS >

By Richard Mahapatra
Published: Tuesday 10 January 2023

Context: India will finally have its official poverty figure in the second half of this year.

- The **National Statistical Office (NSO)** is currently rolling out the consumption expenditure sample survey, which is used to measure poverty level.
- The survey will continue through July 2023 and preliminary results are expected by the end of the year.

Key Points

- Besides other reasons, most of them point towards **two developments that would have helped reduce poverty**: The slew of cash transfers under various programmes like the rural employment guarantee and the subsidised fuel under the Ujjawala Yojana.
- Add to it the free foodgrains provided under the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)** from March 2020 till December 2022 and the recent government decision to provide foodgrains free under the **National Food Security Act (NFSA)** till the end of this year.
- The premise on which these programmes' **impact on poverty level** is measured is like this: People have received employment thus the income from wage, cheaper gas means saving on fuel (a major household expenditure) and free food grains means saving that in turn would have added to people's saving and thus income.
- All these would have **increased expenditure on other items.**
- India's poverty is measured based on monthly per capita **consumption expenditure - expenditure is used as a proxy for income.**

Poverty Estimation in India

- **About**: Calculating income or **consumption levels** is the most commonly used method for poverty estimation in India.
  - According to this method, if the household's income or consumption value falls below the given minimum level, called Poverty Line, it is said to be BPL, i.e., Below the Poverty Line:
    - **Poverty Line Calculation**: NITI Aayog carries the Poverty Line Calculation in India **based on the data collected by the National Sample Survey Office (NSSO)** under the Ministry of Statistics and Programme Implementation (MOSPI). Earlier, the Planning Commission was responsible for calculating India's poverty line.
    - **Consumption Versus Income Level:** Income and consumption levels are used to evaluate poverty. However, we need to know that the primary criterion for identifying the poor in India is its **consumption expenditure and not income level.**

Data Collection Methods for Poverty Estimation in India

- **Uniform Resource Period (URP):** It was from 1993 to 1994. During this period, the poverty line in India was based on URP.
  - In this method, **people were questioned about their consumption** expenditure over 30 days.
- **Mixed Reference Period (MRP):** It was from 2000 onwards. In this period, the NSSO used the MRP method that **involves the measurement of the consumption level of the household of five-low frequency** items for 30 days.
  - The low-frequency items include institutional health expenditure, education, durables, and clothing items.

INDIAN EXPRESS

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DAC approves DRDO missile systems worth Rs 4,276 crore

AMRITA NAYAK DUTTA
NEW DELHI, JANUARY 10



Rajnath Singh heads Defence Acquisition Council

AMID THE ongoing military standoff with China at the Line of Actual Control in eastern Ladakh, India is planning to procure the Very Short Range Air Defence System or VSHORAD (IR Homing) missile system, which is being designed and developed by the Defence Research and Development Organisation (DRDO).

The Defence Acquisition Council (DAC) headed by Defence Minister Rajnath Singh Tuesday accorded Acceptance of Necessity (AoN) to critical procurements for the defence forces, including that of the VSHORAD (IR Homing) missile system.

The DAC also approved procurement of the HELINA Anti-Tank Guided Missiles, launchers and associated support equipment for the indigenous Advanced Light Helicopters (ALH) with the Army and the Brahmos Launcher and Fire Control System (FCS) for the Shivalik class of ships and Next Generation Missile Vessels (NGMVs) for the Navy.

The AoN is the first step in the long and complex defence procurement process. Not all AoNs accorded necessarily materialise into a final order. The three capital acquisition proposals—two of the Army and one of the Navy—totals Rs 4,276 crore and will be procured under the Buy (Indian-IDDM) category.

"In view of the recent developments along the northern borders there is a need to focus on effective Air Defence (AD) weapon systems which are man portable and can be deployed quickly in rugged terrain and maritime domain," the Defence Ministry said in a statement.

The ministry added that procurement of VSHORAD, as a robust and quickly deployable system, will strengthen India's air defence capabilities.

Last year, there were several instances where China threatened violations along the LAC in eastern Ladakh and Arunachal Pradesh. While some instances involved Chinese fighter jets, there were instances of Chinese drones flying very close to the LAC in the Northeast in the later half of last year, prompting the IAF to scramble their fighter jets in response.

India has been in talks with Russia since 2018 to procure the Igla-S air defence missiles at a cost of $1.5 billion under the VSHORAD programme in a bid to replace the Russian Igla-M systems which have been in use with the Army. However, with a strong pitch for 'Atmanirbharta' in defence, there has been little progress on this front, with sources indicating the deal has been put on hold for now.

The DAC also gave its approval to procure the HELINA Anti-Tank Guided Missiles, launchers and associated support equipment for their integration to the Army's ALHs as part of their weaponization process.

VSHORAD MISSILE SYSTEM

(Syllabus: GS Paper 3 - Sci & Tech)

Context: The **Defence Acquisition Council (DAC)** headed by Defence Minister accorded Acceptance of Necessity (AoN) to critical procurements for the defence forces, including that of the **Very Short Range Air Defence System or VSHORAD (IR Homing) missile system.**

- The DAC also approved procurement of the **HELINA Anti-Tank Guided Missiles,** launchers and associated support equipment for the indigenous **Advanced Light Helicopters (ALH)** with the Army and the Brahmos Launcher and **Fire Control System (FCS)** for the Shivalik class of ships and **Next Generation Missile Vessels (NGMVs)** for the Navy.

VSHORAD missile system

- **About**: A man-portable air-defense system (**MANPADS**).
  - MANPADS are **short-range, lightweight and portable surface-to-air missiles** that can be fired by individuals or small groups to destroy aircraft or helicopters.
  - They help **shield troops from aerial attacks** and are most effective in targeting low-flying aircraft.
  - **MANPATs or Man-Portable Anti-Tank Systems** work in a similar manner but are used to destroy or incapacitate military tanks.
  - MANPADS have **a maximum range of 8 kilometers** and can engage targets at altitudes of 4.5 km.
  - The first MANPADS were introduced by the United States and Soviet Union in the 1960s.
- **Designed and developed**: Indigenously by **DRDO's Research Centre Imarat (RCI)**, Hyderabad in collaboration with other DRDO laboratories and Indian Industry Partners.
- **Key features**: It **designed for anti-aircraft warfare and neutralizing low altitude aerial threats** at short ranges.
  - The missile incorporates many novel technologies including miniaturized **Reaction Control System (RCS)** and integrated avionics, which have been successfully proven during the tests.
    - RCS is responsible for **attitude control and steering** by the use of **thrusters.**
    - **The RCS system is** capable of providing small amounts of thrust in any desired direction or combination of directions.
    - An RCS is also **capable of providing torque** to allow control of rotation (pitch, yaw, and roll).
  - The missile, meant for neutralizing low-altitude aerial threats at short ranges, is propelled by a **dual thrust solid motor.**
  - The design of the missile including launcher has been highly optimized to **ensure easy portability.**

DTE JAN 11

RARE DISEASES

(Syllabus: GS Paper 3 - Sci & Tech)



Rare disease patients yet to receive financial help promised by Centre, flags MP Varun Gandhi

More than 10 children who were awaiting treatment have already lost their lives

By Taran Deol
Published: Tuesday 10 January 2023

Context: More than 400 identified patients of rare diseases - mostly children - are yet to receive the Rs 50 lakh financial assistance for treatment guaranteed by the Union government under the **National Policy for Rare Diseases, 2021.**

- **Example**: Lysosomal Storage Disorders (LSD), Pompe disease, cystic fibrosis, muscular dystrophy, spina bifida, haemophilia etc.
- About 95% rare diseases have **no approved treatment** and less than 1 in 10 patients receive disease-specific treatment.
- 80% of these diseases have genetic origins.

Key Points

- A rare disease is defined as **often debilitating lifelong disease or disorde**r with a prevalence of one or less per 1,000 population, according to the World Health Organization (WHO).
- The Union health ministry had formulated and launched the **National Policy for Rare Diseases March 30, 2021.**
- Under this, financial assistance of Rs 20 lakh was guaranteed for rare diseases amenable to one-time treatment identified under **Group 1.**
- These included **LSDs (metabolism errors)**, immune deficiency disorders and Osteopetrosis (when bones grow abnormally dense).
- Financial assistance was not available for those suffering from rare diseases under **Group 2** - diseases which require lifelong treatment with a relatively lower cost - and **Group 3** - diseases for which definitive treatment is available but is costly, requiring optimal patient selection.
- The policy was changed in May 2022 when the **financial assistance of Rs 20 lakh** was hiked up to Rs 50 lakh to include rare diseases of all categories.
- Till the finalisation of guidelines and in order to provide uninterrupted and enhanced financial assistance i.e up to Rs. 50 lakhs to the patients of rare diseases irrespective of the category of disease, funds may continue to be granted from the current budget head of **Umbrella Scheme of Rashtriya Arogya Nidhi (RAN).**
    - **Rashtriya Arogya Nidhi is a** centrally sponsored scheme which aims at providing financial assistance to the patients who live under the poverty line.

Categorization under National Policy for Rare Diseases

- **Group 1**: Disorders amenable to one-time curative treatment.
- **Group 2**: Those requiring long term or lifelong treatment.
- **Group 3:** Diseases for which definitive treatment is available but challenges are to make optimal patient selection for benefit, very high cost and lifelong therapy.

PIB JAN 11

PRITHVI-2 MISSILE

(Syllabus: GS Paper 3 - Sci & Tech)

Successful training launch of Short-Range Ballistic Missile, Prithvi-II, carried out off Odisha coast

Context: A successful training launch of a Short-Range Ballistic Missile, Prithvi-II was carried out on January 10, 2023 from the Integrated Test Range, Chandipur off the coast of Odisha.

Prithvi-2 Missile

- **About**: A **single-stage missile** that falls under the liquid fuelling category.
- **Origin**: While the missile was inducted into India's Strategic Forces Command for the first time in 2003, it was the first missile developed under the **Integrated Guided Missile Development Program (IGMDP).**
  - It was first used by the **Indian Air Force.**
- **Developed by:** An indigenously developed missile by **DRDO (Defence Research & Development Organization)** under the flagship of the IGMDP.
- **Key features:** It is known to have a **maximum warhead mounting capability of 500 kg** and a range of 250 km (160 mi).
  - **Surface-to-Surface Missile**
  - **Short-Range Ballistic Missile (SRBM).**
  - Can carry a **one tonne payload.**
  - Capable of striking targets with a very **high degree of precision.**
- **Other Missiles:** There are **3 Prithvi missiles** with India with Prithvi I having a range of 150 km, Prithvi II with 250 km range and Prithvi III with 350 km range.

Five Missiles Developed under the IGMDP

PRITHVI	AKASH	NAG	TRISHUL	AGNI
Surface-to-Surface Short Range Ballistic Missile	Medium-Range Surface-to-Air Missile	3rd Generation 'Fire and Forget' Anti-tank Missile	Short Range Low Level Surface-to-Air Missile	Intermediate Range Surface-to-Surface Missile



DST

JAN 11

ZEBRAFISH

(Syllabus: GS Paper 3 - Sci & Tech)

Protein found in Zebrafish can regenerate aged degenerated discs

Context: Scientists discovered a protein, found in the backbone of zebrafish, called **Cellular communication network factor 2a (Ccn2a)** secreted from intervertebral disc cells induces disc regeneration in aged degenerated discs by promoting cell proliferation and cell survival by modulating the pathway called the **FGFR1-SHH (Fibroblast growth factor receptor-Sonic Hedgehog)** pathway.

Key Points

- In humans, **discs degenerate naturally,** leading to many related health concerns, including low back, neck, and appendage pain.
- Currently, **only symptomatic treatments** for disc degeneration are available, including pain relievers or anti-inflammatories.
- In severe cases, **disc replacement or disc fusion surgery** is performed.
- Thus, there is an **urgent need to develop a treatment** either to suppress disc degeneration or to promote disc regeneration in humans.
- Medical examinations have given insights into the stages of degenerating human discs, but **limited information is available** about the cellular and molecular processes playing a role in the maintenance of the discs.
- Most importantly, **no medical procedures or treatments** have been known to suppress disc degeneration or induce disc regeneration.
- The study which used **Zebrafish as a model organism** is the first in vivo study showing that it is possible to induce disc regeneration in a degenerated disc by activating an endogenous signaling cascade.
- The scientists also found that the **Ccn2a-FGFR1-SHH signaling cascade** takes a positive role in disc maintenance and augmenting disc regeneration.

Zebrafish

- **Scientific Name**: Danio rerio.
- **Habitat**: It is a **small (2-3 cm long) freshwater fish** found in the **tropical and subtropical regions.**
  - The fish is **native to South Asia's Indo-Gangetic plains**, where they are mostly found in the paddy fields and even in stagnant water and streams.
  - They are classified as a species of **least concern on the IUCN's Red List of Threatened Species.**
- **Significance**: They have been used to study **vertebrate development, evolution, genetics, and disease** due to its adequate regeneration capacity of almost all its organs, including the brain, heart, eye, spinal cord.
  - Zebrafish have a **similar genetic structure (around 70%) to humans.**
  - As a vertebrate, the zebrafish has the **same major organs and tissues as humans.** Their muscle, blood, kidney and eyes share many features with human systems.

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