

JULY

15

# CRUX 10

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MK Yadav Sir

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# Bond Yields May Rise by 4-11 bps in Q2 on Oil Price, Inflation: Crisil

Our Bureau

**Mumbai:** Indian bond yields could increase 4-11 basis points in the quarter ending September, driven by crude oil prices and the inflation trajectory, forecasts Crisil.

Yield on the 10-year benchmark government bond could move up 4 basis points (bps) in the three-month period, while the change for corporate and state bonds could be as much as 11 bps, it said.

The 10-year benchmark bond had settled at 7.11% at end-June, gaining 12 basis points during the month. In July, it is expected to oscillate between 7.05% and 7.15%, according to the Crisil outlook.

State development bonds hardened by 5 bps to 7.39% and corporate bonds (10-year public sec-

tor financial institutions) by 12 bps to 7.49% in June. Housing Development Finance Corporation, now merged with HDFC Bank, saw yields increase 5 basis points to 7.76% in June. Yields on 10-year bonds of AAA-rated non-banking finance companies and state-run companies ended at 7.70% and 7.49%, respectively, in June.

In the September quarter, yields are likely to be impacted by crude oil price movements, inflation, fiscal numbers, rate decisions by the Indian and US central banks, India's economic growth trend and foreign portfolio flows, Cri-



sil said in its outlook on bond yields.

Consumer price inflation is expected to reduce to 5% and India's GDP growth is projected to slow to 6% in fiscal 2024. The RBI, meanwhile, is expected to maintain status quo on rates in the next few meetings.

Crisil expects crude oil prices to average \$75-80 a barrel this fiscal year, compared with \$95 last year.

The ratings firm noted that FPI inflows into debt increased to Rs 9,178 crore in June from Rs 3,276 crore the previous month, aided by a stronger rupee.

India's current account deficit is declining, and if this trend continues, the rupee may appreciate further, said Crisil, adding: "FPIs are likely to bring more inflows into India in such a scenario."

**Context:** Indian bond yields could increase 4-11 basis points in the quarter ending September, driven by crude oil prices and the inflation trajectory, forecasts Crisil.

- **Yield on the 10-year benchmark government bond** could move up 4 basis points (bps) in the three month period, while the change for corporate and state bonds could be as much as 11 bps.

## Bond and Bond Yield

- **About:** A bond is a **debt investment**.
  - Corporates or governments **issue bonds directly to investors**, instead of obtaining loans from a bank.
  - This is to **raise money and finance** a variety of projects and activities.
- **Bond Yield:** Yield is the **amount of return** that an investor will realize on a bond.
  - If the investor holds the bond to maturity, s/he will be **guaranteed to get the principal amount** back plus the interest.
  - However, a **bond does not necessarily have to be held to maturity** by the investors.
  - Instead, investors may sell them for a **higher or lower price** to other investors.
  - The bond prices and yields generally **move in opposite directions**.
  - This is because, as a **bond's price increases, its yield to maturity falls**.
- **Regulations:** The RBI aims to **keep yields lower** as that reduces borrowing costs for the government while preventing any upward movement in lending rates in the market.
  - Thus it controls bond yields either by buying back government bonds or conduct open market operations to cool yields.

## Bond Prices and Yields



# FPI flows, IT rally propel Sensex beyond 66,000

Nifty50 tops 19.5K; indices now up 15% from March lows

SUNDAR SETHURAMAN  
Mumbai, 14 July

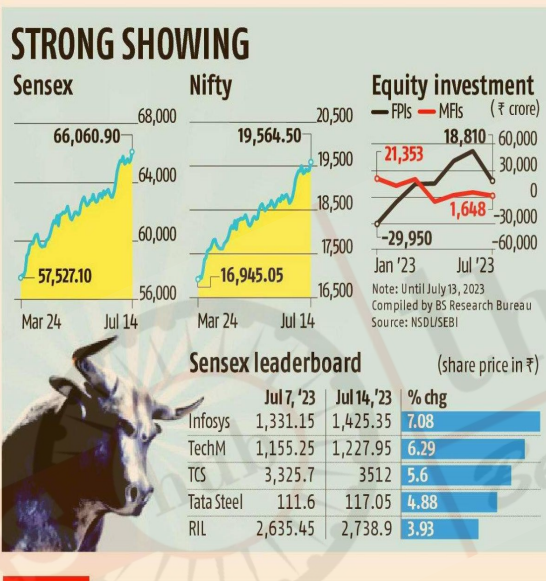
**R**obust foreign portfolio investor (FPI) flows, unprecedented gains for IT bigwigs, and optimism around the peaking of interest rates propelled domestic equities to new highs on Friday.

The BSE benchmark Sensex closed at 66,061, following a gain of 502 points, or 0.8 per cent. The Nifty50 finished at 19,565, gaining 151 points, or 0.8 per cent. The indices hit new highs both on intraday and closing bases.

From this year's low in March, the Sensex and the Nifty are now up around 15 per cent each.

Sharp gains in shares of software exports underpinned the latest gains. The top five Sensex and Nifty50 winners were IT companies, which accounted for all the gains posted by the benchmark indices. Up 4.7 per cent, the Nifty IT posted its biggest single-day gain since September 2022.

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## PE dealings at listed firms to face shareholders' test

The special privileges granted to private equity (PE) investors by listed companies are set to go through shareholders' test. Under new rules introduced by the Securities and Exchange Board of India (Sebi), all such arrangements will require shareholders' nod by way of special resolutions.

Legal experts say arrangements that are unfair to other public shareholders may not pass the muster. However, too much shareholder scrutiny could also be detrimental to PE investments. Some of the special rights granted to PEs in investee companies include right to appoint nominee directors.

**Context:** Robust foreign portfolio investor (FPI) flows, unprecedented gains for IT bigwigs, and optimism around the peaking of interest rates propelled domestic equities to new highs.

- From this year's low in March, the Sensex and the Nifty are now up around 15 per cent each.
- Sharp gains in shares of software exports underpinned the latest gains.
- The top five Sensex and Nifty 50 winners were IT companies, which accounted for all the gains posted by the benchmark indices.

### SENSEX

- **About:** SENSEX is the benchmark index of the Bombay Stock Exchange (BSE) in India.
  - The SENSEX index is made up of 30 of the BSE's largest and most actively traded stocks, and it serves as a gauge for the Indian economy.
  - It is a market capitalization-weighted and float-adjusted.
- **Origin:** Sensex is India's oldest stock index, having been established in 1986 by Standard & Poor's (S&P).
  - It is a bellwether index as well as an investable index that tracks the performance of India's 30 largest and most financially healthy corporations.
  - The SENSEX is re-evaluated twice a year, between June and December.
- **Calculation Method:** When it first started, it was computed using market capitalization, but in September 2003, it switched to a free-float capitalization technique.
  - This strategy is similar to the market-capitalization weighted method, which weights firms based on their percentage of the index's overall market capitalization.
  - The Indian rupee (INR) and US dollar (USD) are used to calculate the SENSEX.
- **Limitations:** Because the index uses the float rather than the outstanding shares of a firm, it excludes restricted stocks that can't be sold easily, such as those held by corporate executives.
- **Significance:** The Sensex is used by many investors across the world as a barometer of the general status of the Indian economy, which has developed significantly in recent decades.

## Guidelines for Operationalisation of Production Linked Incentive Scheme 2.0 for IT Hardware approved

**Context:** The Operational Guidelines of **Production Linked Incentive Scheme 2.0 for IT Hardware** has been finalised.

### PLI Scheme 2.0 for IT Hardware

- **About:** On May 29, the scheme was officially notified in the Gazette by the **Ministry of Electronics and Information Technology (MeitY)**.
  - The IT PLI scheme 2.0 **covers laptops, tablets, all-in-one PCs, servers, and ultra-small form factor devices.**
- **Objectives:** The scheme is aimed at **broadening and deepening the IT hardware** manufacturing ecosystem in the country.
- **Implementation:** Companies, **both global and domestic**, that meet the eligibility criteria specified in the PLI 2.0 Scheme guidelines will receive support for manufacturing goods in India within the specified target segment.
  - The **classification of applicants into the Hybrid (Global/Domestic) category** will be determined by whether the company is domestic or global.
  - A comprehensive ranking of all applicants will be maintained based on the **eligibility criteria outlined in the scheme guidelines.**
  - Subsequently, the selection of applicants in each category—**global, hybrid, and domestic**—will be based on their ranking and overall PLI projection, subject to the availability of the budget.
- **Tenure of incentives:** The incentives provided under the PLI 2.0 Scheme **will be applicable for a period of 6 years**, starting from either July 1, 2023, April 1, 2024, or April 1, 2025. The specific start date will depend on the choice made by the applicants to commit incremental investment and incremental sales under the scheme.
- **Base year:** For the calculation of net incremental sales of manufactured goods, the **base year will be the financial year 2022-23.**
  - However, if an applicant chooses to participate starting from April 1, 2024, or April 1, 2025, then the base year for the computation of net incremental sales will be FY 2023-24 and FY 2024-25, respectively.
  - Nevertheless, when considering the qualification criteria, FY 2021-22 will be taken into account regardless of the participation year.
- **Incentives payout:** The incentive granted to each company will be **based on the net incremental sales of manufactured goods** in the target segment, compared to the base year.
  - The maximum incentive amounts will be **capped at INR 45 billion for global companies, INR 22.50 billion for hybrid (global/domestic) companies, and INR 5 billion for domestic companies.**

## Skill India project successfully revives the dying Namda Art of Jammu and Kashmir

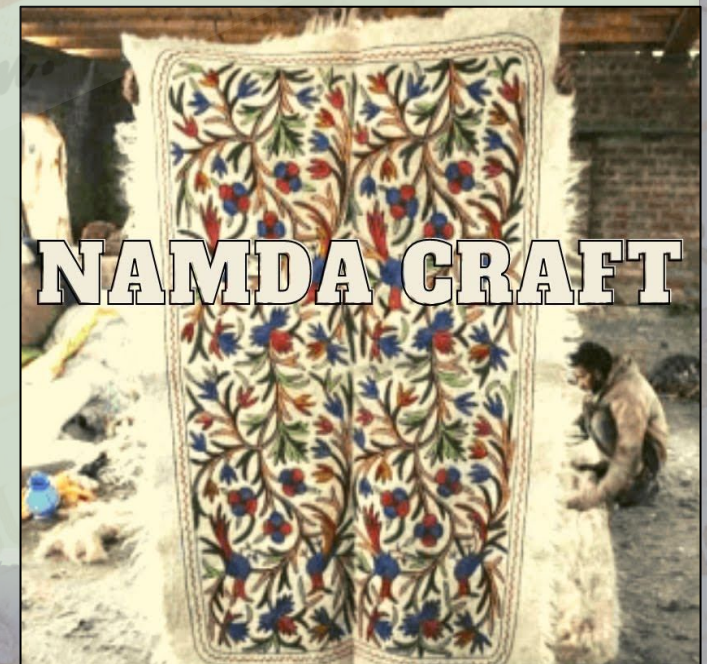
**Context:** Union Minister of State for Skill Development and Entrepreneurship and Electronics and IT flagged off the first batch of **Namda Art products for export to the United Kingdom (UK)**.

### Key Points

- The **Namda craft of Kashmir** is being successfully revived under a Skill India's Pilot Project as part of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), with nearly 2,200 candidates from across six districts of the state, receiving training in the dying art form.
- The project sets a great example of the **public-private partnership (PPP) model** in the field of skill development, as it is being implemented in collaboration with local industry partners.
- Under this initiative, **nearly 2,200 candidates have been trained** in the art of Namda craft, representing a significant milestone in preserving this traditional craft and empowering the local weavers and artisans.

### Namda project

- **Namda craft:** It is a **rug made of sheep wool** through felting technique instead of normal weaving process.
  - Due to **low availability of raw material**, lack of skilled manpower and marketing techniques, the export of this craft has declined almost 100 percent between 1998 and 2008.
- **Namda project:** Through this special project under PMKVY, the **Ministry of Skill Development and Entrepreneurship (MSDE)** has designed short-term training curriculum to preserve this endangered craft.
- **Implementation:** The project has been implemented in 25 batches in 3 cycles of training.
  - Each training program was approximately of three and half months, which resulted in the cycles being completed in approximately 14 - 16 months.
- **Significance:** The Namda project is an **industry-based training program** with beneficiaries involved in Namda Crafts Production who will contribute towards preserving and reviving the rich heritage associated with Namda craft in Kashmir.
  - This will also **improve the access of existing artisans** of Namda crafts cluster in Kashmir and will improve their prospects of employability.



# Govt aims 100 mt coal gasification

Subhash Narayan

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NEW DELHI

The ministry of coal has set a target to gasify 100 million tonnes of coal by FY 2030 in line with its energy transition plans, it said in a statement.

The ministry is considering a comprehensive scheme, with an outlay of ₹6,000 crore, to promote coal and lignite gasification projects for both public sector undertakings (PSUs) and the private sector.

Mint first wrote about the government's plan for a ₹6,000 crore VGF (viability gap funding) for coal gasification.

"The adoption of gasification technology in India will revolutionize the coal sector, reducing reliance on imports of natural gas, methanol, ammonia and other essential product," the ministry said.

Currently, India imports around half of its natural gas, most of its methanol and 13-15% of its total ammonia requirement.

Coal gasification will contrib-

ute to India's vision of becoming self-reliant and create a surge in job opportunities, the statement said.

Coal gasification is expected to make significant contribution to India's development by reducing imports by 2030. This initiative holds the potential to alleviate the environmental burden by reducing carbon emissions and fostering sustainable practices, contributing to India's global commitments towards a greener future, the statement added.

**India imports around half of its natural gas, most of its methanol and 13-15% of its total ammonia requirement**

The selection of entities for the gasification scheme will be carried out through a competitive and transparent bidding process.

The selection of PSUs and private sector companies for budgetary support for gasification projects will be done through a tariff-based bidding process, with criteria formulated in consultation with NITI Aayog, the government think-tank.

The ministry is also considering an incentive to reimburse GST compensation cess on coal utilized in gasification projects.

**Context:** The ministry of coal has set a target to gasify 100 million tonnes of coal by FY 2030 in line with its energy transition plans.

## Key Points

- The ministry is considering a **comprehensive scheme**, with an outlay of ₹6,000 crore, to promote coal and lignite gasification projects for both public sector undertakings (PSUs) and the private sector.
- Currently, **India imports around half of its natural gas**, most of its methanol and 13-15% of its total ammonia requirement.
- The Ministry highlighted collaborative efforts in advancing **Surface Coal Gasification (SCG) projects** across Coal India Limited (CIL) coalfields.
- In October 2022, strategic bilateral agreements were executed, including a **Memorandum of Understanding (MoU)** between BHEL & CIL, as well as an MoU between IOCL, GAIL & CIL.
- These collaborations aim to foster cooperation and expertise in driving the implementation of SCG projects.

## Coal gasification

- **About:** Coal gasification is the **process of producing syngas**: a mixture consisting primarily of carbon monoxide (CO), hydrogen (H<sub>2</sub>), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and water vapour (H<sub>2</sub>O) - from coal and water, air and/or oxygen.
  - Rather than burning coal directly, **gasification converts all of the carbon of the coal into electricity**, hydrogen, and other forms of energy through partial oxidation.
- **Advantages:**
  - Coal gasification can help **address local pollution** problems that have in recent months brought parts of the country to a virtual standstill.
  - Gasification facilitates **utilisation of the chemical properties of coal**.
  - It is considered a **cleaner option** compared to the burning of coal.
  - Coal gas can be **converted into chemical energy** and is used for the production of iron from iron ore, as well as for the production of methanol and urea.
  - **Carbon Capture and Storage:** another advantage of coal gasification is the fact that it lets you separate the good parts from the bad, and select the parts you want to keep.
- **Disadvantages:**
  - Some studies say that coal gasification actually **produces more CO<sub>2</sub> than a traditional coal plant**.
  - Its overall **carbon intensity is worse**: so it is not attractive at all from a climate change point of view.
  - Coal gasification is one of the **more water-intensive forms** of energy production while the country is already suffering from water shortages.

## MAPUTO PROTOCOL

(Syllabus: GS Paper 2 - Social Justice)

### Maputo Protocol contributed towards Africa's progress on gender equality, but growth uneven: Report

Protocol considered one of the world's most progressive legal frameworks for women's rights; was launched 20 years ago

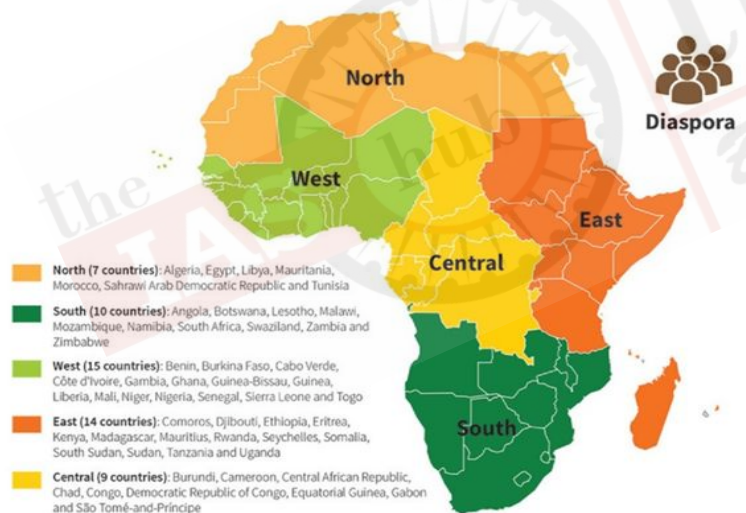


NEXT NEWS >

By Kiran Pandey  
Published: Friday 14 July 2023



#### THE SIX REGIONS OF THE AFRICAN UNION



**Context:** There has been some progress on **gender equality in African countries due to the Maputo Protocol**, but it has been uneven, according to the landmark report, 20 Years of the Maputo Protocol: Where are we now.

- The report was released by Solidarity for African Women's Rights Coalition; Human rights organisation Equality Now and advocacy platform Make Every Woman Count.

#### Maputo Protocol

- The **Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa**, better known as the Maputo Protocol, is an international human rights instrument
- It was **adopted by the African Union** in Maputo, Mozambique, in 2003 in the form of a protocol to the African Charter on Human and Peoples' Rights (adopted in 1981, enacted in 1986).
- Of the 55 member states, **44 have ratified or acceded** to the Protocol on gender equality, becoming one of the most ratified instruments in the AU.
- It **guarantees comprehensive rights to women** including the right to take part in the political process, to social and political equality with men, improved autonomy in their reproductive health decisions, and an end to female genital mutilation.
- The Protocol has a **target of universal ratification in Africa by 2028**.
- However, with just five years until the target year, there are **still 12 countries that are yet to ratify** this important legal instrument.

AFTER SUCCESSFUL LAUNCH, lander enters earth orbit | ORBIT-RAISING MOVES, travel towards moon next | PRESIDENT, PRIME MINISTER lead nation in hailing ISRO

# India's Moonshot



Chandrayaan-3 makes near-perfect liftoff amid cheer; expected to make soft-landing on the moon August 23

JOHNSON TA  
SRIHARIKOTA, JULY 14

THE INDIAN Space Research Organisation (ISRO) on Friday took the first step towards a possible robotic soft landing on the surface of the moon on August 23 with the near-perfect launch of the Chandrayaan-3 spacecraft into an orbit around the earth by the heavy lift LVM3 rocket from the Satish Dhawan Space Centre at Sriharikota in Andhra Pradesh.

The LVM3 rocket, carrying a payload of 3,895 kg, including the spacecraft, lifted off precisely at 14:35:17 hours and followed a trajectory that was more or less in line with the scheduled stages in the launch of the Chandrayaan-3. "Cryo stage thrust cut off. Satellite injection conditions are achieved," said the announcer at the mission control complex at the space station in the final stage of the launch, which lasted around 16 minutes.

The Chandrayaan-3 satellite separated from the rocket after 965 seconds – against an intended 969 seconds – of flight as per the mission control data transmitted for viewing at the mission complex. "The Chandrayaan-3 has been placed in its elliptical parking orbit," the announcer said.

Soon after the announcement, mission director Mohana Kumar announced the success of the mission. "This is the mission director. The LVM3/Chandrayaan mission accomplished its precise satellite

It demonstrates the nation's unwavering commitment to advancement in space science and technology. My best wishes...  
PRESIDENT DROUPADI MURMU

EXPRESS NETWORK

WILL GIVE QUANTUM LEAP TO INDIA'S ROLE IN GLOBAL ARENA: SCIENCE MINISTER PAGE 11

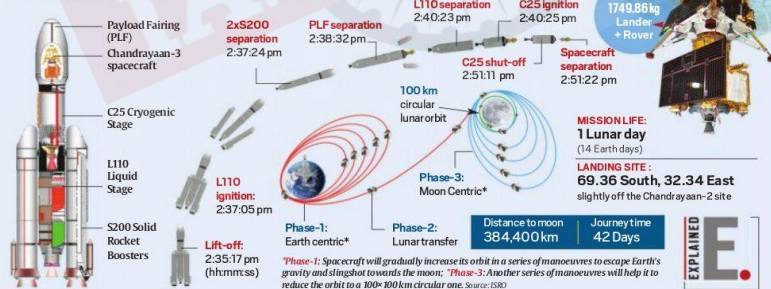
injection conditions. LVM3-M4 mission is successful," he announced as ISRO Chairman Somanath shook hands with top scientists associated with the launch.

"Congratulations India. Chandrayaan-3 has started its journey towards the moon. Our dear LVM3 has already put Chandrayaan-3 into a precise orbit around earth. The intended orbit was 170 km by 36,500 km around earth and it is precisely there now. Let us wish all the best to the Chandrayaan-3 craft to make all the orbit raising manoeuvres and travel towards the moon in the coming days," the ISRO chairman announced.

President Droupadi Murmu congratulated the ISRO on the successful launch. "India successfully launches Chandrayaan-3 accomplished its precise satellite

FRIDAY, 2.35 PM, ISRO's Launch Vehicle Mark-III M4 rocket carrying Chandrayaan-3 lifts off from the Satish Dhawan Space Centre in Sriharikota. PTI EXPLAINED, PAGE 17

## LAUNCH TO LUNAR LANDING: SOARING START



**Context:** India's third moon mission, Chandrayaan-3, was successfully launched onboard a Launch Vehicle Mark-3 (LVM-3) rocket from the second launch pad at the Satish Dhawan Space Centre in Sriharikota.

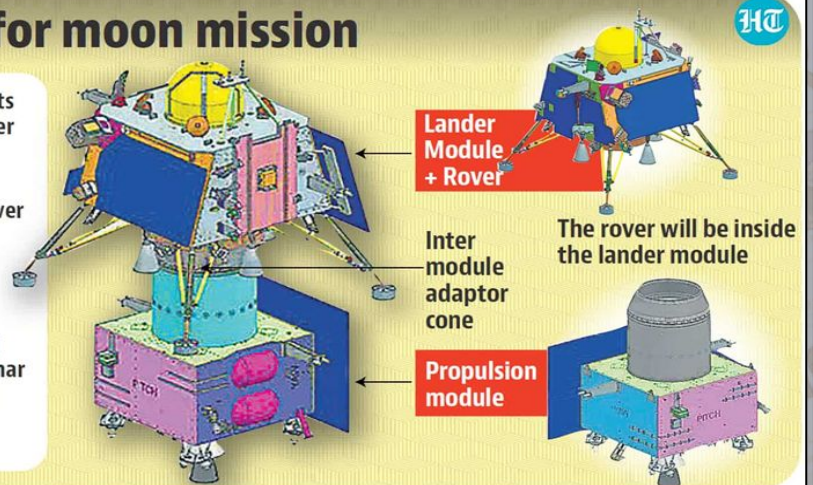
- This is India's second attempt at soft-landing robotic instruments on the lunar surface after the previous attempt, Chandrayaan-2, failed in 2019.
- Thus far, **only three countries, the U.S., Russia and China**, have successfully soft-landed on the moon.
- It's **one of the several space missions** lined up to go to the celestial body, including Russia's Luna 25 mission and NASA's Artemis II.

### Chandrayaan-3

- It is a **follow-on mission to Chandrayaan-2** to demonstrate end-to-end capability in safe landing and roving on the lunar surface.
- It consists of **Lander and Rover configuration**.
- The **propulsion module** will carry the lander and rover configuration till 100 km lunar orbit.
- The propulsion module has **Spectropolarimetry of Habitable Planet Earth (SHAPE) payload** to study the spectral and Polarimetric measurements of Earth from the lunar orbit.

## Gearing up for moon mission

- Chandrayaan-3 consists of an indigenous lander module, a propulsion module, and a rover
- The lander and the rover will have scientific payloads to carry out experiments
- The mission aims to demonstrate safe and soft landing on the lunar surface, and have the rover conduct experiments



**Low-cost perovskite solar cells with superior thermal and moisture stability developed indigenously by Indian scientists**

**Context:** Indian scientists have indigenously developed highly stable, **low-cost Carbon-based perovskite solar cells** with superior thermal and moisture stability which can help overcome the challenges of degradation during operation.

**Key Points**

- It is the **first indigenous perovskite-powered niche product** developed in India and can pave the way for futuristic stable perovskite solar cells.
- One of the emerging technologies for **increasing solar energy production** is Perovskite solar cell (PSC), a third-generation solar cell.
- However, Perovskite photovoltaic cells face the **problem of degradation during operation** when they come in contact with heat, moisture, light, and other environmental factors.
- This **long-duration stability** is a major hindrance in the large-scale commercialisation of the product.
- While **Carbon-based perovskite solar cells (CPSCs)** have been successful in minimizing device stability issues and fabrication costs, the sensitivity of perovskite materials toward humidity and thermal stress is a major obstacle for practical implementation.
- Scientists have engineered **MaPbI<sub>3</sub> (MAPI-Methylammonium-lead-iodide)** to attain thermal stability by incorporating Guanidinium iodide (Gul) and moisture stability by surface passivation using 5- amino valeric acid iodide (5-AVAI).
- The indigenously developed perovskite solar cells **can help resolve stability concerns in PSCs** bring down high fabrication costs and could help speed up of commercialization in PSC-based niche products.

# Declare floods as calamity, compensate farmers for loss: SKM

**The Hindu Bureau**  
NEW DELHI

The Samyukt Kisan Morcha (SKM), an umbrella organisation of various farmers' outfits, urged the Centre to declare the floods and landslides in north Indian States, particularly in Himachal Pradesh, as a national calamity. The SKM said in a statement here on Friday that farmers should be adequately compensated for the loss they suffered due to the floods.

It also asked the farmers to join the relief works in various States.

The organisation pointed out that landslides, waterlogging and floods caused the death of more than 100 people till now. "Himachal Pradesh is the worst affected State and 80 people have already lost their lives there. Properties worth hundreds of crores of rupees and numerous cattle have been lost," it said, adding that farmers are the most affected since they have lost crops and cattle. It also asked the Centre to fast-track rescue and relief work in Himachal and other affected regions.

**The organisation demands separate compensation for loss of crops and farm animals**

The SKM demanded that the Centre and State government provide compensation of ₹10 lakh to the families who have died, ₹50,000 per acre for crop loss, ₹1 lakh per bovine cattle and ₹1 lakh per small ruminant. "SKM notes with dismay that it is unfortunate that there is no effective insurance coverage for agriculture and animal husbandry sector due to the collapse of the Prime Minister's Fazal Bima Yojna in many of the affected States," it said.

SKM also opposed the amendments made in the Forest Conservation (Amendment) Bill, which is expected to be tabled in the monsoon session of Parliament. "The purpose of the bill is facilitating corporate take over of the forest resources for profiteering and deny the rights of the local communities especially Adivasis over forest and forest resources," the SKM alleged.

**Context:** The Samyukt Kisan Morcha (SKM), an umbrella organisation of various farmers' outfits, urged the Centre to declare the floods and landslides in north Indian States, particularly in Himachal Pradesh, as a **national calamity**.

- The SKM demanded that the Centre and State government **provide compensation** of ₹10 lakh to the families who have died, ₹50,000 per acre for crop loss, ₹1 lakh per bovine cattle and ₹1 lakh per small ruminant.
- According to **present norms**, cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloudburst, pest attack, frost and cold waves are considered as disasters that are covered under the **State Disaster Response Fund (SDRF)**, 75% of which is funded by the Centre.

### State Disaster Response Fund (SDRF)

- **About:** It has been constituted under the **Disaster Management Act, 2005**.
- **Funding:** It is the primary fund available with the State governments for responses to notified disasters to **meet expenditure for providing immediate relief**.
  - The **Centre contributes 75%** of the SDRF allocation for general category States and Union Territories and 90% for special category States and Union Territories (northeastern States, Sikkim, Uttarakhand, Himachal Pradesh, Jammu and Kashmir).
  - The annual Central contribution is **released in two equal installments** as per the recommendation of the Finance Commission.
  - A **State Government may use up to 10% of the funds available under the SDRF for providing immediate relief** to the victims of natural disasters that they consider to be 'disasters' within the local context in the State and which are not included in the notified list of disasters of the Ministry of Home Affairs.
- **Disaster covered under SDRF:** Cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloudburst, pest attack, frost and cold waves.

# Focus on compromised O zone, suggest experts

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**New Delhi:** Encroachments in several catchment and low-lying areas of the city have worsened the impact of the urban flood in Delhi, affecting the lives of especially those residing in the flood-prone O zone where construction is not allowed by

has resulted in a flood-like situation in several areas of east and northeast Delhi like Okhla and Karawal Nagar.

According to Prof CR Babu, head of Centre for Environmental Management of Degraded Ecosystems who had also headed a National Green Tribunal (NGT)-appointed committee to

heavy flood. They needed to be removed, which was very difficult," said Babu, adding that it was decided that no construction would be allowed in an area that had seen "a worse flood" in the past 25 years. "However; not much was done in this regard. Now that the city has seen a worse flood than 1978, there is a need to relook the matter," said Babu.

"Ideally, there should be no activity in such areas and they need to be regulated. This means construction should only be allowed after a permission from NGT. But that did not happen and the settlement has increased," he added.

According to former DDA commissioner AK Jain, this could just be a prelude to a much worse flood in future. "O zone roughly covers about 10,000 hectares where no construction must be allowed. But right from the 1962 master plan, some areas were legalised, including Delhi Secretariat, Rajghat, power stations, Ring Road," said Jain. The practice continued and from time to time there was pressure to regularise unauthorised colonies, he added.

In the draft master plan 2041, Jain said, around 3,500 hectares of O zone is defined as regulated or inactive riverfront because of existing construction.

He pointed out that due to the construction, the capacity to retain floodwater is very low. "About 40% of O zone is lost, so water is entering the areas outside O zone. The extent of flooding would be even more in time to come," warned Jain.

**Context:** Encroachments in several catchment and low-lying areas of the city have worsened the impact of the urban flood in Delhi, affecting the lives of especially those residing in the flood-prone O-zone where construction is not allowed by Delhi Development Authority.

## Key Points

- Experts suggest that the swollen Yamuna is reclaiming its area by spreading through these catchments, where several small ponds, bogs etc could have countered the consequences of the flood, but have been occupied and built over.
- This has resulted in a flood-like situation in several areas of east and northeast Delhi like Okhla and Karawal Nagar.
- In the draft master plan 2041, around 3,500 hectares of O-zone is defined as regulated or inactive riverfront because of existing construction.


**WHAT IS O-ZONE**

**One of 15 zones of the Yamuna and its riverfront has been designated as O-Zone**

- > It has **ecological** significance
- > Should be a **no-construction zone**, but vastly encroached upon
- > Spread over **9,700 hectares**, as per Master Plan 2001
- > Stretches from **Wazirabad to Okhla Barrage**, including


areas around Delhi Secretariat, Samadhi complex, DMRC depots, Sports Complex, etc

- > 62.2 hectares under **approved residential schemes** like Madanpur Khadar resettlement colony and Commonwealth Games Village



**Encroachment**

- > As of 2010, unauthorised colonies and JJ clusters have encroached upon at least 980 hectares; transportation-related construction over 340 hectares
- > Over 140 illegal colonies
- > Over 3,000 hectares proposed to be notified as inactive floodplain to regularise colonies like Shaheen Bagh, Batla

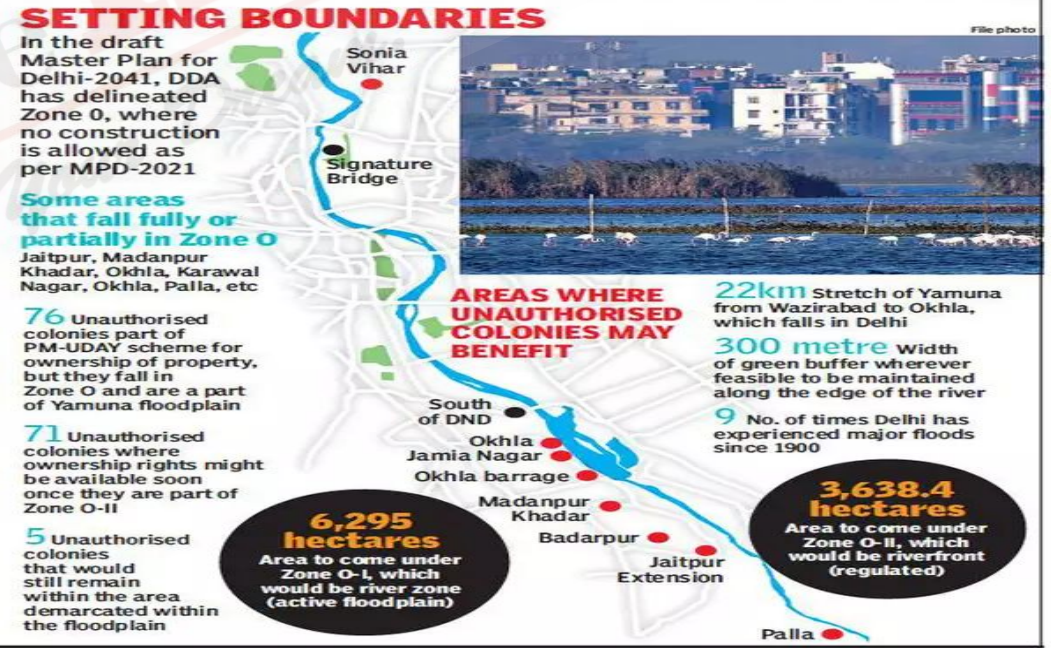


House, parts of Okhla, etc

- > Several villages like Jaitpur, Mithapur, Wazirabad, Badarpur Khadar, Jagatpur, etc, on O-zone are now expanding

Delhi Development Authority. Experts suggest that the swollen Yamuna is reclaiming its area by spreading through these catchments, where several small ponds, bogs etc could have countered the consequences of the flood, but have been occupied and built over. This

study O zone in the city, there is a need to take a relook. "There had been a DDA plan to refine the O zone recently by including some of the irregularised colonies falling under the area... Our expert committee found several built-up structures in the areas prone to



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