

GEOGRAPHY**Scientists discover massive mountains under Earth's crust**

Scientists have discovered massive mountains in the Earth's mantle, an advance that may change our understanding of how the planet was formed.

About the discovery:

- These newly discovered mountains are located between upper and lower mantle. Scientists used data from an enormous earthquake in Bolivia to find mountains and other topography on a layer located 660 km straight down, which separates the upper and lower mantle.
- Data from earthquakes that are magnitude 7.0 or higher sends shockwaves in all directions that can travel through the core to the other side of the planet — and back again.
- Lacking a formal name for this layer, the researchers simply call it “the 660-km boundary.”

Implications: The presence of roughness on the 660-km boundary has significant implications for understanding how our planet was formed and evolved.

Earthquake waves: Earthquake waves are basically of two types – body waves and surface waves.

- **Body waves:** They are generated due to the release of energy at the focus and moves in all directions traveling through the body of the earth. Hence, the name – body waves. They travel only through the interior of the earth. Body waves are faster than surface waves and hence they are the first to be detected on a seismograph. There are two types of body waves as primary waves and secondary waves.
- **Surface Waves:** When the body waves interact with surface rocks, a new set of waves is generated called as surface waves. These waves move along the earth surface. Surface waves are also transverse waves in which particle movement is perpendicular to the wave propagation. Hence, they create crests and troughs in the material through which they pass. Surface waves are considered to be the most damaging waves. Two common surface waves are Love waves and Rayleigh waves.

Policy bias against rainfed agriculture

A new rainfed agriculture atlas has been released recently. It has been released by Revitalising Rainfed Agriculture (RRA) Network. The atlas not only maps the agro biodiversity and socio-economic conditions prevailing in such areas, but also attempts to document the policy biases that are making farming unviable for many in these areas.

Challenges:

- Three out of five farmers in India grow their crops using rainwater, instead of irrigation. However, per hectare government investment into their lands may be 20 times lower, government procurement of their crops is a fraction of major irrigated land crops, and many of the government's flagship agriculture schemes are not tailored to benefit them.
- There has been “negligence” toward rainfed areas which is leading to lower incomes for farmers in these areas. Farmers in rainfed areas are receiving 40% less of their income from agriculture in comparison to those in irrigated areas.
- Lands irrigated through big dams and canal networks get a per hectare investment of Rs. 5 lakh. Watershed management spending in rainfed lands is only Rs. 18,000-25,000.
- The difference in yield is not proportionate to the difference in investment. When it comes to procurement, over the decade between 2001-02 and 2011-12, the government spent Rs. 5.4 lakh crore on wheat and rice. Coarse cereals, which are grown in rainfed areas, only had Rs. 3,200 crore worth of procurement in the same period.
- Flagship government schemes, such as seed and fertiliser subsidies and soil health cards, are designed for irrigated areas and simply extended to rainfed farmers without taking their needs into consideration.

CONSTITUTION AND POLITY**Performance of 16th Lok Sabha**

- It met for 1,615 hours, 40% lower than all full-term Parliaments.
- This Lok Sabha sat for 331 days (against a 468-day average for all previous full-term Lok Sabhas), and lost 16% of its time to disruptions.
- The House was often disrupted by MPs carrying placards, entering the well, and even on occasion, blocking their colleagues from speaking.

- Question Hour — the Lok Sabha lost a third of this time and the Rajya Sabha 60%; consequently, just 18% of the starred questions in each House got an oral reply.
- Speaker blaming unruly behaviour for her inability to count the required number of MPs demanding a no-confidence motion but allowing the Union Budget to be passed in the interim.

Important Legislations

- The Goods and Services Tax was implemented and the bankruptcy code was enacted.
- The IIM Act gave premier management educational institutions a level of autonomy not available to other public educational institutions.
- The Juvenile Justice Act allowed children (between 16 and 18 years) accused of committing heinous crimes to be prosecuted as adults.
- The Prevention of Corruption Act was amended to make bribe-giving an offence.
- Laws were made requiring a declaration of assets held outside India, and to declare as fugitives those economic offenders who had fled the country.
- The Aadhaar Act was passed to create a biometric-based identity system.

Misuse of Money Bill

- The manner in which some Bills were passed is questionable.
- The Aadhaar Act was passed as a Money Bill and has been upheld by the Supreme Court.
- A Money Bill contains provisions that exclusively relate to taxes or government spending.
- Apart from this, various Finance Bills have been passed as Money Bills.
- The Finance Bill contains all the legislative changes to tax laws. Therefore, it is usually a Money Bill.
- However, in the last few years Finance Bills have included items which have no relation to taxes or to expenditure of the government.
- The Finance Bill, 2015 included provisions to merge the regulator of commodity exchanges with the Securities and Exchange Board of India.
- The Finance Bill, 2016 included amendments to the Foreign Contribution (Regulation) Act which relate to donations to non-profits.
- The Finance Bill, 2017 changed the compositions of quasi-judicial bodies such as the Securities Appellate Tribunal, the National Green Tribunal.
- The Finance Bill, 2019 amended the provisions related to attaching property under the money laundering law.
- These Bills do not fall within the definition of Money Bill as defined in Article 110 of the Constitution.

Need for reviewing Anti-defection Law

- Triple Talaq Bill and the Citizenship Bill, were passed by the Lok Sabha but will lapse as they were not passed by the Rajya Sabha.
- They were held in check only due to a lack of majority in the Rajya Sabha; even this check was bypassed occasionally using the Money Bill route.
- The government could do this as a result of the anti-defection provision which gives complete control of all party votes to the party leadership.
- This law has converted MPs from being representatives of the people to delegates of the party.
- If the party in government has a majority of its own, it can have any provision passed; even coalition governments have to convince just a handful of leaders of their alliance partners.

States allocation: panel sticks to 2011 census

The 15th Finance Commission will rely solely on the 2011 Census for population figures in its calculations for allocations to States. However, States that have performed well by controlling population growth would not be penalised.

On the basis of the Presidential Order, wherever population has to be used as a criterion, that population should be what is in the Census of 2011. The recommendations of the Commission will have a bearing on the Central Budget and the State budgets for the year 2020-21.

In general, State finances are in a weaker position than the Centre's. The Commission had not finalised whether it would be altering the previous Commission's recommendation that 42% of the Centre's tax revenue be shared with the States.

Finance Commission (Article 280):

- Under the federal structure, most of the taxation powers are with the Centre but most of the spending is done by the states.
- Such a federal structure requires transfer of resources from the Centre to the states.
- A finance commission is set up every five years by the President under Article 280 of the Constitution.
- Its main function is to recommend how the Union government should share taxes levied by it with the states.
- These recommendations cover a period of five years.
- The commission also lays down rules by which the Centre should provide grants-in-aid to states out of the Consolidated Fund of India.
- It is also required to suggest measures to augment the resources of states and ways to supplement the resources of panchayats and municipalities.

15th Finance Commission: The 15th Finance Commission is headed by N.K. Singh. This Commission's recommendations will be observed for a period of five years beginning from April 1, 2020.

GOVERNANCE- WELFARE SCHEMES, E-GOVERNANCE, SERVICES ETC.

Deendayal Disabled Rehabilitation Scheme

For the overall empowerment of Persons with Disabilities (Divyangjan), a "Regional Conference on Deendayal Disabled Rehabilitation Scheme (DDRS)" is being organized by the Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment, Government of India at Kolkata, West Bengal.

Objectives of the conference:

- To disseminate the provisions of the revised scheme and to sensitize various stake holders about it.
- To provide a unique opportunity for interactions amongst all stakeholders.
- To ensure exchange of cross-sectoral views on the aspects of the efficacy of the scheme as well as the scope of improvements in it.

Deendayal Disabled Rehabilitation Scheme (DDRS):

"Scheme to Promote Voluntary Action for Persons with Disabilities" was revised and renamed as the "Deendayal Disabled Rehabilitation Scheme (DDRS)". The objectives of the scheme are:

- To create an enabling environment to ensure equal opportunities, equity, social justice and empowerment of persons with disabilities.
- To encourage voluntary action for ensuring effective implementation of the People with Disabilities (Equal Opportunities and Protection of Rights) Act of 1995.
- To provide financial assistance to voluntary organizations to make available the whole range of services necessary for rehabilitation of persons with disabilities including early intervention, development of daily living skills, education, skill-development oriented towards employability, training and awareness generation.

With a view to inclusion of persons with disabilities in the mainstream of society and actualizing their potential, the thrust would be on education and training programmes.

INTERNATIONAL AFFAIRS- BILATERAL, GROUPINGS, ORGANISATIONS

Azov sea Conflict

The EU has decided to sanction eight Russian nationals for their responsibility in incidents in the Azov Sea last November. The Ukraine-Russia conflict flared up when Russian forces seized three Ukrainian vessels and captured two dozen sailors as they tried to pass from the Black Sea to the Sea of Azov.

About the conflict in the Sea of Azov:

- Ukraine and Russia accuse each other of violating international maritime law. They refer to the 1982 UN Convention on the Law of the Sea, which both states joined in the 1990s.

- Ukraine insists on freedom of movement in the Kerch Strait and the Sea of Azov in accordance with this agreement, while the Russian side is trying to draw territorial borders. The countries also have a bilateral agreement on the free use of the Kerch Strait and the Sea of Azov, an accord that Russia has never called into question.

Importance of the Kerch Strait: The Kerch Strait is the only connection between the Black Sea and the Sea of Azov, and the only way to reach two important Ukrainian ports, Mariupol and Berdiansk. Russia has controlled the strait since annexing Crimea in 2014, which has made traffic significantly more difficult for Ukrainian ships.

Sea of Azov:

- It is a sea in Eastern Europe. To the south it is linked by the narrow (about 4 km or 2.5 mi) Strait of Kerch to the Black Sea, and it is sometimes regarded as a northern extension of the Black Sea.
- The sea is bounded in the north and in the west by Ukraine, in the east by Russia.
- The Don and Kuban are the major rivers that flow into it.
- The Sea of Azov is the shallowest sea in the world, with the depth varying between 0.9 and 14 metres.

ENVIRONMENT- CONSERVATION, BIO-DIVERSITY AND ISSUES

Eco Circuit

‘Development of Eco Circuit: Pathanamthitta – Gavi – Vagamon – Thekkady’ under the Swadesh Darshan scheme of Ministry of Tourism was recently inaugurated.

- Eco Circuit is one of the fifteen thematic circuits identified for development under Swadesh Darshan Scheme- Integrated development of theme- based tourist circuits in the country.
- Major works carried out under the project includes Eco Adventure Tourism Park at Vagamon, Cultural Centre at Kadamanitta, Eco Log Huts at Peerumedu, Idukki, Approach Roads, Walking trails, Rain Shelters at Pine Valley Forest, Thekkady, Kumily, Moozhiyar Dam, Penstock and Kakki Dam.

Swadesh Darshan Scheme:

The Tourism Ministry had launched ‘Swadesh Darshan’ scheme with an objective to develop theme-based tourist circuits in the country. These tourist circuits will be developed on the principles of high tourist value, competitiveness and sustainability in an integrated manner.

Features of Swadesh Darshan Scheme:

- The scheme is 100% centrally funded for the project components undertaken for public funding.
- It leverages the voluntary funding available for Corporate Social Responsibility (CSR) initiatives of Central Public Sector Undertakings and corporate sector.
- Funding of individual project will vary from state to state and will be finalised on the basis of detailed project reports prepared by PMC (Programme Management Consultant).
- A National Steering Committee (NSC) will be constituted with Minister in charge of M/O Tourism as Chairman, to steer the mission objectives and vision of the scheme.
- A Mission Directorate headed by the Member Secretary, NSC as a nodal officer will help in identification of projects in consultation with the States/ UTs governments and other stake holders.
- PMC will be a national level consultant to be appointed by the Mission Directorate.

QUOTE OF THE DAY

The pain you feel today is the strength you feel tomorrow.