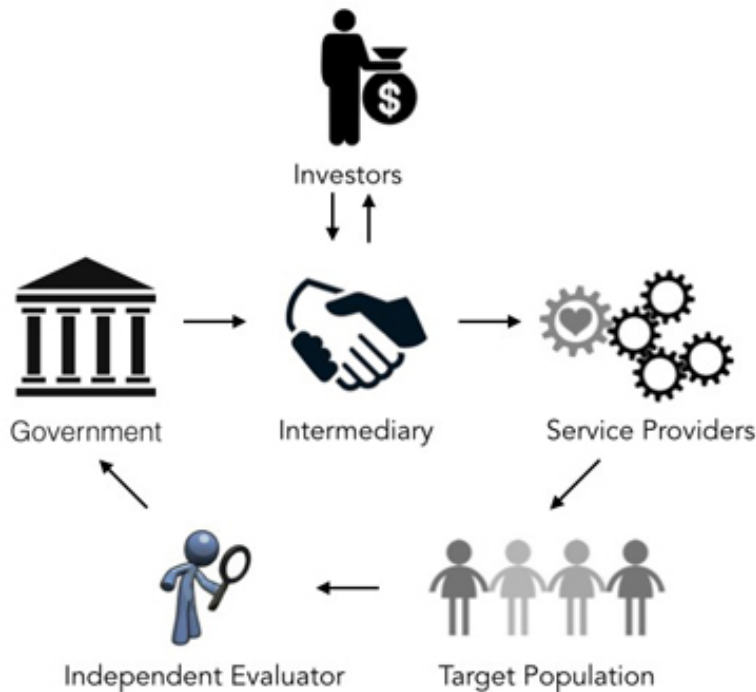


1. Impact Bonds

Pay for Success Model



Topic: Economy

In News: The Skill Impact Bond, an initiative pioneered by the National Skill Development Corporation (NSDC) in India have successfully enrolled nearly 18,000 young Indians from 18 states and union territories.

More on the Topic:

- This model, developed under the **Ministry of Skill Development and Entrepreneurship**, brings together **public-private partnerships** and a coalition of mission-aligned partners.
- Its primary objective is **to revolutionise the implementation of skill training programmes**, specifically targeting the need to bridge the gap between skilling and employment, particularly for women.

About Impact bonds:

- A social impact bond (SIB) is a contract with the public sector or governing authority, whereby it pays for better social outcomes in certain areas and passes on part of the savings achieved to investors.

- A social impact bond is not a bond, per se, since repayment and return on investment (ROI) are contingent upon the achievement of desired social outcomes.
- If the objectives are not achieved, investors receive neither a return nor repayment of principal.

How Impact Bond Works:

- Impact bonds are innovative financing instruments that leverage private sector capital and expertise, with a focus on achieving results.
- It **shifts the focus from inputs to performance and results.**
- Rather than a government or a donor financing a project upfront, private investors (risk investors) initially finance the initiative and are repaid by 'outcome funders', only if agreed-upon outcomes are achieved.
- The outcomes to be measured are agreed upon at the outset and independently verified.

About National Skill Development Corporation:

- National Skill Development Corporation (NSDC) is a not-for-profit public limited company incorporated on July 31, 2008, under section 25 of the Companies Act, 1956 (corresponding to section 8 of the Companies Act, 2013).
- NSDC was set up by the Ministry of Finance as Public Private Partnership (PPP) model.
- The Government of India through the Ministry of Skill Development & Entrepreneurship (MSDE) holds 49% of the share capital of NSDC, while the private sector has the balance of 51% of the share capital.

Source: Indian Express

2. Need for National resourcing strategy for critical minerals



Topic: Economy



In News: It is critical by India to develop a national resourcing strategy for critical minerals.

More on the Topic:

- A national resource strategy focusing on critical minerals is the need of the hour.
- India must actively participate in global value chains to **create and safeguard its supply chains.**
- Acting quickly and decisively will boost the nation's growth trajectory and lead to Aatmanirbhar Bharat.
- Critical minerals are needed for sustainable economic growth and green technologies.

About Critical Minerals:

- Critical minerals are elements that are **the building blocks of essential modern-day technologies, and are at risk of supply chain disruptions.**
- These minerals are now used everywhere from making mobile phones, computers to batteries, electric vehicles and green technologies like solar panels and wind turbines.
- Based on their individual needs and strategic considerations, different countries create their own lists.
- However, such lists mostly include **graphite, lithium and cobalt**, which are used for making EV batteries; **rare earths that are used for making magnets and silicon which is a key mineral for making computer chips and solar panels.**
- Aerospace, communications and defence industries also rely on several such minerals as they are used in manufacturing **fighter jets, drones, radio sets and other critical equipment.**

Why is this resource critical?

- They are critical as the world is fast shifting from a fossil fuel-intensive to a mineral-intensive energy system.
- Critical resources are key to the ecosystem that fuels the transition towards clean energy and digital economy.
- Any supply shock can severely **imperil the economy and strategic autonomy of a country over-dependent on others to procure critical minerals.**
- But these supply risks exist due to **rare availability, growing demand and complex processing value chain.**
- Many times the complex supply chain can be disrupted by hostile regimes, or due to politically unstable regions.

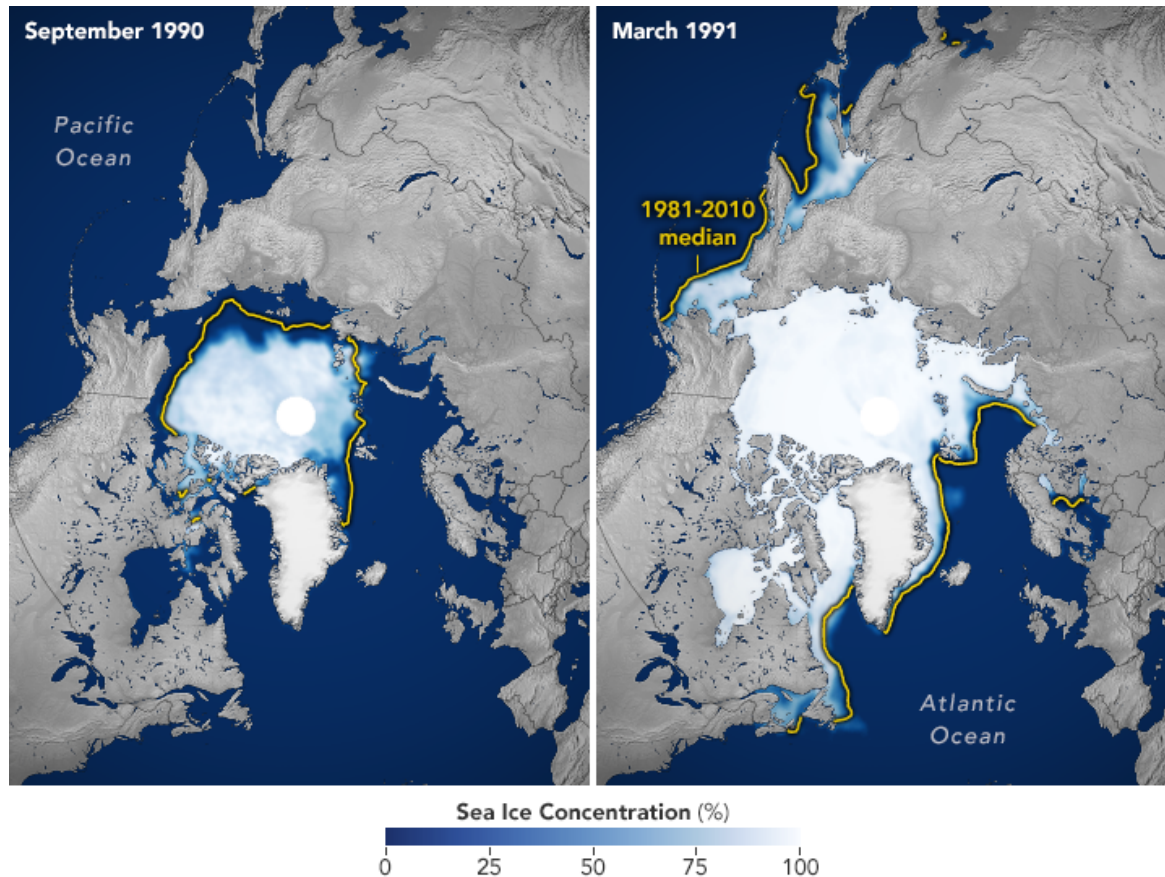
Concerns:

- **The China 'threat':** According to the 2019 USGS Mineral Commodity Summaries report, China is the world's largest producer of 16 critical minerals.
- It possesses refineries - 35% for nickel, 50-70% for lithium and cobalt, and nearly 90% for rare earth elements.
- It also controls cobalt mines in the Democratic Republic of Congo, from where 70% of this mineral is sourced.
- **Demand for green technologies:** Since India lacks the critical minerals requirement demand for the green technologies it has depend on other countries.

- **Geographic hurdles:** The geographic concentration of mining and processing of the minerals may also adversely impact their availability.
- **Trade agreements:** Lack of trade agreements with other mineral-endowed countries.

Source: Hindu

3. Arctic Sea Ice



Topic: Environment and Ecology

In News: A recent study in the Nature journal says that the loss of Arctic sea ice is inevitable in the decades ahead, even if the world somehow gets its act together and sharply reduces carbon emissions.

More on the Topic:

Why is the Arctic sea ice important?

- The massive sheets of ice that pad the Arctic region play a major role in **influencing global climate and the rise and fall in Arctic sea temperatures.**



- Sea ice is **light-coloured and therefore reflects more sunlight back to space** than liquid water, thus playing a vital role in keeping polar regions cool and maintaining the earth's energy balance.
- Sea ice also keeps the air cool by forming a **barrier between the cold air above and the relatively warmer water below**.
- As the amount of sea ice decreases, the Arctic region's cooling effect is reduced, and this may initiate a '**feedback loop**' whereby ocean warming caused by more absorption of solar energy leads to an even greater loss of sea ice and further warming.
- Changes in sea ice can affect biodiversity and impact mammals such as polar bears and walruses, which rely on the presence of sea ice for hunting, breeding, and migrating.
- The reduction in ice cover also affects the traditional subsistence hunting lifestyle of indigenous Arctic populations such as the Yup'ik, Iñupiat, and Inuit.
- The diminished sea ice while warming the Arctic also leads to a **weakening of the polar jet streams**, which are currents of air that form when warm and cold air meet.
- This weakening has been linked to rising temperatures and heatwaves in Europe as well as unseasonal showers in northwest India.

What can be done?

- While the ice-free summer may be inevitable, reducing carbon emissions might mean being better able to adapt to climate 'tipping points.'
- Methane emission reductions.
- Promotion to energy produced by renewable sources of energy.

About Arctic Ice:

- They are the massive sheets of ice that pad the Arctic region.
- During winter, **the sea ice envelops most of the Arctic Ocean and in summer, due to longer periods of exposure to sunlight, a portion of it melts**.
- Sea ice normally melts and is at its thinnest and most sparse in mid-September.
- With the onset of winter and dipping temperatures, the ice reaches its zenith in March.

Source: Hindu

4. Cost Inflation Index



Topic: Economy

In News: Finance Ministry has notified the final Cost Inflation Index (CII) for FY24 (Assessment Year 2024-25) at 348. The provisional index, as notified in April, was also 348.

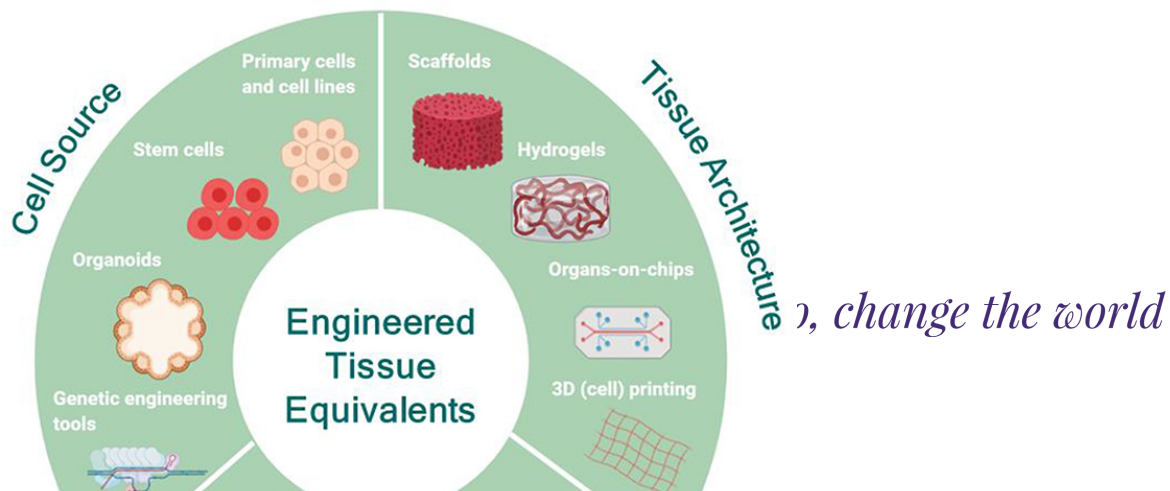
More on the Topic:

- Cost Inflation Index or CII is a **tool used in the calculation of an estimated yearly increase in an asset's price as a result of inflation.**
- A Cost Inflation Index table is **used to calculate the long term capital gains from a transfer or sale of capital assets.**
- Capital gain refers to the profit acquired from the sale/transfer of any capital assets, including land, property, stocks, shares, trademarks, patents, etc.
- It **helps taxpayers offset the impact of inflation** as the difference between the purchase and sale price could be substantial due to rising prices.
- The application of the Cost Inflation Index for capital gain adjusts the purchase price of assets based on their sale price, resulting in smaller earnings and a lower tax amount.

Source: HT

5. Tissue Engineering

Topic: Science and Technology





In News: An advanced wound care product developed by the Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), named Cholederm, has won the approval of the Central Drugs Standard Control Organisation (CDSCO) as a Class D medical device.

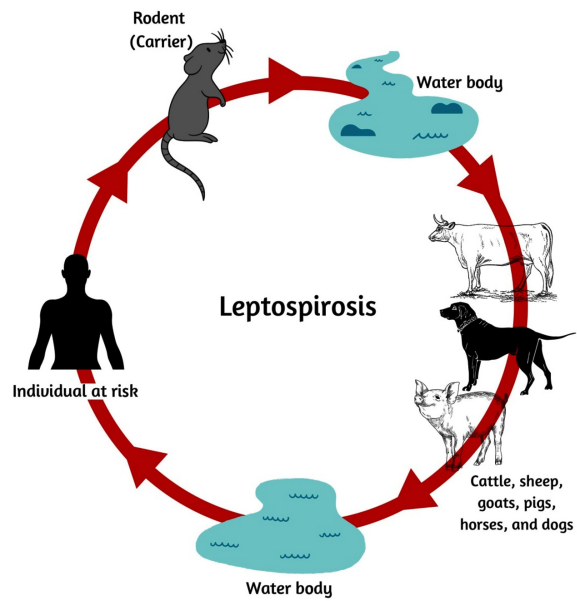
More on the Topic:

- Cholederm is a **wound healing material derived from the extracellular matrix** of de-cellularised gall bladder of pig and tissue engineered as membrane forms of scaffold.
- Cholederm **healed different types of skin wounds including burn and diabetic wounds** in rats, rabbits or dogs faster than similar products currently available in the market, with minimal scarring.
- It is expected that with the introduction of Cholederm to the Indian market, the treatment cost can be reduced from Rs 10,000/- to Rs 2,000/- making it more affordable to the common man.
- Tissue engineering is a **biomedical engineering discipline** to create tissues or cellular products outside the body or to repair tissues within the body.
- It combines the principles of materials and cell transplantation to develop substitute tissues and/or promote endogenous regeneration.

Source: Hindu

6. Leptospirosis

Topic: Health





In News: Leptospirosis has emerged as an important infectious disease after heavy rainfall or flooding.

More on the Topic:

- The disease is more prevalent in **warm, humid countries and in both urban and rural areas**. It affects an estimated 1.03 million people every year, killing around 60,000.
- The burden of leptospirosis is expected to increase in the future as the urban poor population in tropical countries increases even as sanitary infrastructure falls shorter.
- In India, thousands of people are affected by leptospirosis every year.
- The disease is **caused by a bacterium called Leptospira interrogans, or leptospira**. It is a contagious disease in animals but is occasionally transmitted to humans in certain environmental conditions.
- The carriers of the disease can be either wild or domestic animals, including rodents, cattle, pigs, and dogs.
- The cycle of disease transmission begins with the **shedding of leptospira, usually in the urine of infected animals**.
- Infected animals can continue to excrete the bacteria into their surroundings for a few months, but sometimes up to several years.
- **Humans become part of the cycle when they come in direct contact with this urine or indirectly**, through soil and water that contain leptospira bacteria.
- A person is more likely to contract leptospirosis if they have cuts or abrasions on their skin.

Source: Hindu

7. Chickungunya Vaccine



Topic: Science and Technology

In News: A Phase III human trial found the live chikungunya vaccine highly protective.

More on the Topic:

- First discovered in Tanzania in the 1950s, the viral disease has since spread to various parts of Africa, Asia, the Caribbean and South America.
- Chikungunya virus is currently **only common in countries with tropical climates south of the equator.**
- However, climate change is driving disease-carrying mosquitos closer to the poles, meaning the new vaccine could become applicable for larger populations around the world.
- Symptoms include severe joint and muscle pain as well as high fever and skin rashes. There is currently no specific antiviral therapy. While symptoms usually improve within a week, joint pain (arthralgia) can persist for months. In some cases, lasting arthralgia can lead to debilitating chronic rheumatic arthritis disease.
- **The Asian tiger mosquito, which transmits the virus, is spreading more and more.**

Source: Hindu
