





Daily Current Affairs from The Hindu, The Indian Express & The Assam Tribune

| 30 th Nov 2024 | | | |
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GS 2: POLITY, GOVERNANCE, SOCIAL JUSTICE, INTERNATIONAL RELATIONS/INSTITUTIONS

1. Scientists, industry demand passage of new Seeds Bill, changes in policy

Context: On the second day of the three-day National Seed Congress (NSC), scientists, experts, and industry partners asked the Centre to revisit and modernise the Seeds Bill of 2004 and the Seeds Policy of 2002 to incorporate the latest developments in the sector. At a panel discussion as part of the 13th NSC, the experts also demanded strategic interventions to face the challenges faced by the seed sector. The Seeds Bill, introduced in Parliament in 2004, was not passed due to opposition from farmers. Experts argued that the policies must be in tune with the contemporary situation in the seeds sector and the concerns of farmers should be incorporated in the new policies.

Key points

• Overview: The Ministry of Agriculture & Farmers' Welfare hosted the 13th edition of the National Seed Congress (NSC) in Varanasi, Uttar Pradesh, from November 28-30, 2024.

- <u>National Seed Congress:</u> NSC is an annual gathering of researchers, policymakers, farmers, and
 representatives from the private and public sectors to build a roadmap for a vibrant and equitable
 seed sector in India. The congress aims to foster regional cooperation, partnerships, and knowledge
 exchange, strengthening India's seed sector and addressing food security and agricultural
 resilience.
- National Seeds Policy of 2002: It was launched in India to protect the interests of farmers, conserve agro-biodiversity, and provide a favourable environment for the seed industry.
 - *Objectives* Protect the interests of farmers, Conserve agro-biodiversity, Provide a favourable environment for the seed industry.
 - Focus areas Varietal development and plant variety protection, Seed production, Quality assurance, Seed distribution and marketing, Infrastructure facilities, Transgenic plant varieties, Import and export of seeds and planting material, Promotion of domestic seed industry, Strengthening of monitoring system.
 - Features Development of new and improved plant varieties, Timely availability of quality seeds, Compulsory registration of seeds, Abolition of licensing for seed dealers.
- Key highlights of the meeting: The Event is being jointly organized by the International Rice Research Institute (IRRI) South Asia Regional Centre (ISARC) and the National Seed Research and Training Center (NSRTC). The theme for this year is "Fostering Regional Cooperation, Partnership, and Knowledge Exchange in the Seed Sector". NSC 2024 will provide a platform for presenting experiences and insights on the research advances, innovations, and principles related to seed, crop improvement, and seed delivery systems. The Congress will focus on building sustainable, equitable, and resilient seed systems by addressing a diverse range of topics such as climate-resilient breeding, advancements in seed quality and technology, innovative seed delivery methods, etc.
 - International Rice Research Institute (IRRI) IRRI is an independent, nonprofit, research and educational institute, founded in 1960 by the Ford and Rockefeller Foundations with support from the Philippine government. It is headquartered in Los Baños, Philippines, but has offices in 17 rice-growing countries in Asia and Africa.
 - ➤ IRRI South Asia Regional Centre (ISARC) Located within the premises of the National Seed Research and Training Centre (NSRTC), Varanasi, ISARC is IRRI's central hub for research partnerships in South Asia and Africa. The Centre was inaugurated by Prime Minister Narendra Modi on 29 December 2018 and provides cutting-edge research and capacity development facilities to improve and boost the rice-based agri-food systems in the region.

GS 2: POLITY, GOVERNANCE, SOCIAL JUSTICE, INTERNATIONAL RELATIONS/INSTITUTIONS

2. MoEF, Jal shakti said no, but panel tells SC 5 hydro projects on Ganga are good to go

Context: A Supreme Court appointed panel has suggested that setting up of hydroelectric project (HEPs) on the ganga and its tributaries in Uttarakhand, the court has been examining these projects since 2013 following a Suo Motu case of the Kedarnath floods that killed over 5000 people. This recommendation is opposed by the Ministry of Environment (MoEF) and Jal shakti. The objections were raised due to a lot of reasons like impact on rivers or the project falling into landslides or seismic zones. Initially the Court granted a momentary clearance for any new HEPs and directed the MoEF to form a committee to further study the impact of such projects. The five hydro projects include Bowala Nandprayag (300MW), Devasri (252MW), Bhyundar Ganga (24.3MW), Jhalakoti (12.5MW) and Urgam-II (7.5MW).

Key points

- <u>Overview</u>: Following the top courts recommendations three committees were formed, first one was led by environmentalist Ravi Chopra, concluded in 2014. The ministry formed a second committee in 2015 under IIT-Kanpur's Vinod Tare. Then, a third committee formed under engineer B P Das recommended in 2020 that 28 projects be given a nod.
- <u>Violations:</u> According to the Central Water Commission (CWC), some hydro power projects on the upper reaches of the river Ganga's tributaries are violating Ganga ecological flow (e-flow) norms.
- <u>Ecological- Flow Norms:</u> The Central Government under the Environment (Protection) Act, 1986 has notified the minimum environmental flows for the River Ganga that has to be maintained at various locations on the river. Environmental flows are the acceptable flow regimes that are required to maintain a river in the desired environmental state or predetermined state.
- Power Companies and E-flow Norms: The Centre's e-flow notification came into effect in October 2018 and gave companies three years to modify their design plans, if required, to ensure that a minimum amount of water flowed during all seasons. Power producers generally hoard water to create reserves to increase power production. In September 2019, the government advanced this deadline, from October 2021 to December 2019. This was after the CWC undertook field visits to hydropower sites and reported that most of the power projects could begin implementing the norms right away and didn't need three years.

GS 3: ECONOMY, ECOLOGY, SCIENCE & TECHNOLOGY, DEFENCE, SECURITY AND DISASTER MANAGEMENT 3. GDP growth hits 5.4% in Q2, lowest in 7 quarters

Context: India's real GDP growth slumped to a seven-quarter low of 5.4% in the July to September 2024 quarter, much lower than even the most pessimistic independent projections, from a five-quarter nadir of 6.7% in the first quarter (Q1), with Gross Value Added (GVA) growth slowing to 5.8% from 6.8% in Q1. Reserve Bank of India (RBI) has estimated GDP growth of 6.8% in Q2 citing economic activity indicators, this was enunciated in October monetary policy review.

Key points

- Overview: For the full year 2023-24 (FY24), India's Real GDP is estimated to have grown at a robust 8.2%.
- <u>India's GDP Growth Performance:</u> Slowest Growth in Seven Quarters India's Gross Domestic Product (GDP) grew by 5.4% in the July-September 2024 quarter, down from 6.7% in the previous quarter. This is below the 6.5% projected by analysts.
 - *Sectoral Slowdown* Manufacturing grew by just 2.2%, compared to 7% previously, driven by weak consumer demand, inflation, and high borrowing costs. Private Consumption, constituting 60% of GDP, slowed to 6%, reflecting reduced demand for goods.
 - Rural-Urban Dynamics Rural demand showed recovery due to strong agricultural output (+3.5%), while urban demand lagged due to high inflation and weak wage growth.
- <u>Economic Concerns and Policy Challenges:</u> *Policy Pressures* Economists suggest the Reserve Bank of India (RBI) might need to cut the repo rate, currently at 6.5%, to stimulate growth. The government faces challenges in balancing growth targets, inflation control, and job creation.

Private Sector Issues - Weak hiring and wage growth have reduced purchasing power and dampened demand, particularly for consumer goods. The profit-GDP ratio grew to 4.8% in FY24 but did not translate into proportional compensation or job growth.

- <u>Structural Recommendations:</u> *Deregulation* Double down on deregulation, especially at state and local levels, to foster ease of doing business and increase investment.
 - *Public Investment* Focus on increasing capital expenditure (capex) for long-term infrastructure development.
 - *Private Sector Responsibility* Improve hiring practices and wage growth to sustain demand and boost private consumption.
 - Geopolitical Risks Address challenges like supply chain disruptions, rising US dollar strength, and tightening liquidity conditions in emerging markets.
- <u>Positive Outlook:</u> Resilience in sectors like agriculture, construction, and parts of manufacturing supports optimism. Record production in Kharif food grains and promising prospects for Rabi crops signal rural economic recovery. The labour market shows signs of improvement, though further policy efforts are needed.
- <u>Conclusion:</u> India's growth remains one of the fastest among major economies but faces challenges from domestic constraints like weak consumption and global risks such as geopolitical uncertainties. Policymakers must balance stimulating growth with controlling inflation, focusing on structural reforms and private sector participation.

GS 3: ECONOMY, ECOLOGY, SCIENCE & TECHNOLOGY, DEFENCE, SECURITY AND DISASTER MANAGEMENT 4. How scientists took the first detailed image of star outside our galaxy

Context: For the first time, scientists have succeeded in taking a zoomed-in picture of a star in another galaxy. The star, known as WOH G64, is located 160,000 light years away in the large magellanic cloud. This discovery was possible with the help of the European southern observatory's very large telescope interferometer (VLTI). VLTI comprises four 8-meter diametric telescope which is situated in Cerro Paranal, Chili. The interferometer is called GRAVITY that combines the light from the telescopes to achieve the resolution of a much larger telescope.

Key points

- Overview: WOH G64 was discovered in the 1970s by Bengt Westerlund, Olander, and Hedin. The name "WOH" in the star's name is an acronym for the names of its three discoverers.
- WOH G64 star: The WOH G64 star is located 1,60,000 light years away from Earth in the 'Large Magellanic Cloud', a satellite galaxy of the Milky Way. It is a 'Red Giant' star, whose size is about 2,000 times larger than our Sun. This detailed image clearly shows a star in its dying phase, surrounded by gas and dust as it heads towards its death in a massive explosion called a supernova.
- Very Large Telescope Interferometer (VLTI): It is the world's most advanced optical instrument, consisting of four Unit Telescopes with main mirrors of 8.2m diameter and four movable 1.8m diameter Auxiliary Telescopes. The telescopes can work together, to form a giant 'interferometer', the ESO Very Large Telescope Interferometer, allowing astronomers to see details up to 25 times finer than with the individual telescopes.
 - Features The VLT consists of four individual telescopes. They are generally used separately but can be used together to achieve very high angular resolution. The four separate optical telescopes

are known as Antu, Kueyen, Melipal, and Yepun, which are all words for astronomical objects in the Mapuche language.

Significance - The light beams are combined in the VLTI using a complex system of mirrors in underground tunnels where the light paths must be kept equal to distances less than 1/1000 mm over a hundred metres.

• <u>Supernova</u>: A supernova is a massive explosion that occurs when a star reaches the end of its life cycle. It's a stellar event that releases a huge amount of energy and matter and can sometimes outshine entire galaxies for a short time.

