PRAGNYA BHARATHI: Detailed News Analysis (DNA)

Article: 27th September, 2024

Topic: India-Australia CCEA Agreement

Relevance: GS Paper: 2 – International Relations

Source: DD News

Context

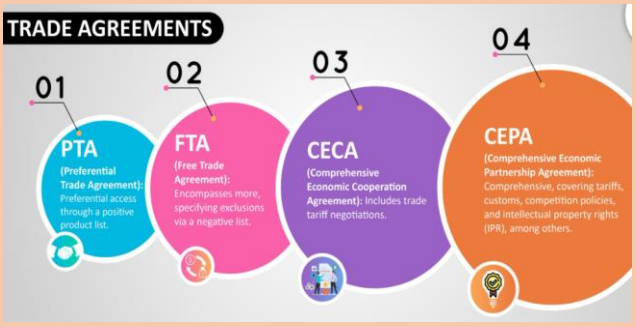
- After signing the **Economic Cooperation and Trade Agreement (ECTA)** in 2022, **India and Australia** are currently negotiating a **Comprehensive Economic Cooperation Agreement (CECA).**

About

- The goal of **$100 billion** in **bilateral trade** between the two nations by **2030** was the main topic of discussion during the negotiations.
- Since the **ECTA went into effect in 2022**, Australian exports to India have **increased to $30 billion** in value, with tariffs removed, saving Australians about **$225 million on goods from India.**
- **Australia's most important trading partner is India,** with **two-way trade in goods** estimated to be worth over **$6.7 billion in 2023–2024.**
- By the **end of 2023**, the combined value of goods and services **traded bilaterally** between the two countries was approaching **$50 billion.**

About CECA

- It is a **free-trade agreement** that improves bilateral trade **between the two nations.**
- **2011** saw the start of CECA negotiations between **Australia and India.**
- **In 2016,** negotiations came to an end. The CECA negotiations were **formally restarted** by the two nations in 2021.
- Under the CECA, both nations hope to increase trade in areas such as **digital trade, agritechnology, government procurement, rules of origin, services, and goods.**
- Additionally, it seeks to realize the potential of industries like **tourism, agribusiness, education, skills development, and clean energy.**



Principal Goals:

- **Trade liberalization:** To encourage **bilateral trade, lower tariffs and non-tariff barriers.**
- **Investment Facilitation:** Promote pooled funds and offer a structure for **enhanced investment security.**

- **Extension of the Service Sector:** Strengthen collaboration in services, such as **medical, educational, and professional services.**
- **Collaboration in Technology**: **Promote innovation and technology transfer**, particularly in fields like digital economy and renewable energy.

Importance:

- **Economic Growth:** Higher trade volumes contribute to a growth in **GDP for both countries.**
- **Job creation** is the growth of employment prospects **across a range of industries.**
- **Improved market access** for Australian companies operating in India and vice versa.

Way Forward

- The recent rapid development of **Australia-Indian relations** can be attributed, in part, to India's **extensive economic reform program and the swift globalization** of the Indian economy that followed.
- Both nations have become **more powerful and significant**, and they have advanced quickly in every field, including **trade, mining and energy, science and technology, information technology, education, and defense**.
- The depth and scope of **engagements increased in 2022–2023**, and new mechanisms for cooperation were established.
- The overall relationship between **Australia and India** will likely continue to grow in the upcoming years and may **even become more significant.**

Also Read Topics & Concepts:

https://www.livemint.com/economy/economic-cooperation-and-trade-agreement-comprehensive-economic-cooperation-agreement-piyush-goyal-don-farrell-11727241071785.html

Prelims Practice Questions

Q. Consider the following statements regarding CECA

1. It is a free-trade agreement that improves bilateral trade between the two nations.

2. 2011 saw the start of CECA negotiations between India and US.

Which of the above statements are correct?

a. 1 only
b. 2 only
c. Both 1 and 2
d. Neither 1 nor 2

Ans: a

Explanation

It is a free-trade agreement that improves bilateral trade between the two nations.

2011 saw the start of CECA negotiations between Australia and India.

Mains Model Questions

Q. The most significant agreement that will strengthen bilateral ties between the two nations is the India-Australia Economic Cooperation and Trade Agreement. Discuss.

Introduction:
An Economic Cooperation and Trade Agreement (ECTA) was signed by Australia and India. At the moment, India and Australia are each other's 17th and 9th largest trading partners, respectively. From the current estimate of $27 billion, it is anticipated that the ECTA will increase trade between the two sides to $45–50 billion over a five-year period.

Body:

How will bilateral ties be strengthened by ECTA?

- Given that Australia produces a large number of intermediates and raw

materials, there is a great deal of potential for exporting finished goods to Australia.

- We will be able to serve more people and become more competitive on a global scale thanks to the cheaper raw materials.
- Additionally, the Agreement will do away with double taxation on IT services, which was reducing our profitability and competitiveness in the IT industry.
- Indian goods can enter the Australian market duty-free across all tariff lines. Australia is offering India preferential market access on all of its tariff lines, including labour-intensive export industries like gems and jewellery, textiles, leather goods, automobiles, etc.
- Over 70% of Australia's tariff lines, which are mainly made up of raw materials and intermediaries like coal, mineral ores, and wines, will have preferential access granted by India.
- Under this agreement, the parties have also concurred to a separate Annex on pharmaceutical products, which will allow for expedited approval for patented, generic, and biosimilar medicines.
- Under ECTA, an extra 10 lakh jobs are predicted to be created in India.
- Teachers of Indian yoga and chefs stand to benefit from the annual visa quota. The ECTA would provide over one lakh Indian students with a post-study work visa that could last anywhere from 18 months to 4 years.

Conclusion:

ECTA will strengthen India's trilateral Supply Chain Resilience Initiative (SCRI) and QUAD Grouping with the United States, Australia, and Japan.

The two nations' already strong, strategic ties will be strengthened even more by the ETCA. It will greatly enhance the general welfare of the populations of the two countries and raise living standards.

Article: 27th September, 2024

Topic: Mineral Security Finance Network

Relevance: GS Paper: 2 – International Relations

Source: Business Standard

Context

- India has become a member of the **US-led Minerals Security Finance Network**, a global effort to improve coordination in **safeguarding vital mineral supply chains.**

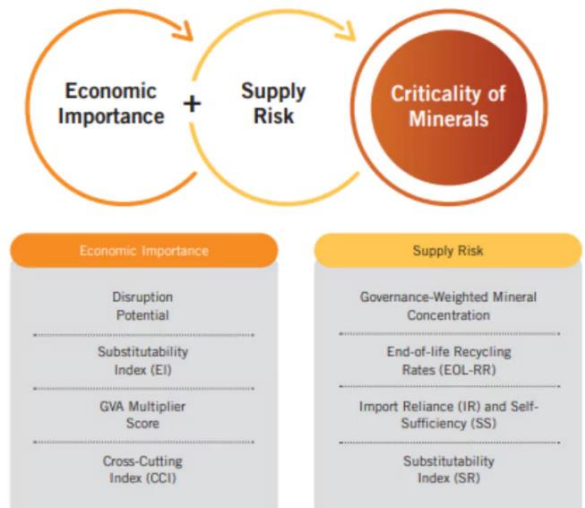
Minerals Security Finance Network (MSFN)

- The **US-established Minerals Security Partnership (MSP) framework** gave rise to the new initiative known as the **Minerals Security Finance Network (MSFN).**
- By bringing together organizations from **Europe and the Indo-Pacific region**, the network hopes to **foster collaboration, information sharing, and co-financing.**

What are Critical Minerals?

- These are vital minerals for **both national security and economic growth.**
- The scarcity of these minerals or their concentration in a small number of

geographic areas for extraction or processing may cause **"supply chain vulnerabilities and even disruption of supplies."**



Critical Mineral Applications

- Initiatives centered around clean technologies, like **solar power, wind turbines, and zero-emission automobiles.**
- Critical minerals are used in **batteries, semiconductors, solar panels, and other devices**. Examples of these minerals are **cadmium, cobalt, gallium, indium, selenium, and vanadium.**
- Materials and inputs for advanced manufacturing, including **ceramics, permanent magnets, and defense applications.**
- Minerals such as **beryllium, titanium, tungsten, tantalum,** and so forth are used in electronics, defense hardware, and new technologies.
- **Dental materials, cancer treatment medications, and medical devices** all contain platinum group metals (PGMs).

Way Ahead:

- By joining the network, India will be **able to secure and diversify** its supply of vital minerals from countries like **Australia, Chile, Argentina, and a few African nations.**
- In its efforts to lessen its reliance on China for these minerals and **create a strong, self-sufficient supply chain** for its green energy projects, India has made **significant progress with this partnership.**

Also Read Topics & Concepts:

https://economictimes.indiatimes.com/industry/indl-goods/svs/metals-mining/india-joins-us-led-minerals-security-fin-setup/articleshow/113642909.cms?from=mdr

Prelims Practice Questions

Q. Consider the following statements regarding Critical minerals

1. Only non-metallic elements are present.
2. Essential minerals known as rare earth elements are used to make silicon and magnets.
3. India ranks fourth globally in terms of rare earth mineral production and is the world's second-largest producer of cobalt.

Which of the above statements are incorrect?

a. 1 only
b. 2 only
c. 1 and 2
d. 1 and 3

Ans: d

Explanation

A critical mineral can be either metallic or non-metallic, but it must meet two requirements in order for modern economies, technologies, or national security to function, and there is a chance that its supply chains will be disrupted. Australia ranks fourth globally in terms of rare earth mineral production and is the world's second-largest producer of cobalt.
Essential minerals known as rare earth elements are used to make silicon and magnets.

Mains Model Questions

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Q. Why are critical minerals regarded as a geostrategic tool in the modern world, and what are they? Provide recommendations on how India can best utilize its vital mineral resources.

Introduction:

Critical minerals are necessary components used in advanced manufacturing, defense, renewable energy, and high-tech industries. Their special qualities are essential for making batteries, electronics, and aerospace parts. They are essential to national security, economic expansion, and technological innovation. Securing access to vital minerals is strategically important, influencing global trade and economic stability due to limited global supply and geopolitical factors. In accordance with the Mines and Minerals (Development and Regulation) Act, 1957, the Indian government has designated thirty minerals as critical.

Body:

Critical Minerals as a Geostrategic tool:

- Technological Edge: High-tech gadget production, national technological advantages, and the promotion of innovation in important industries all depend on critical minerals.
- Defense Capabilities: By guaranteeing access to essential materials, they support national security and military might by being essential in the production of cutting-edge defense systems.
- Economic Influence: A country's economic stability and growth prospects can be greatly improved by controlling important mineral supply chains, which can have a substantial impact on international markets.
- Energy Transition: The world's transition to sustainable energy sources is made possible by these minerals, which are essential for renewable energy technologies like solar panels and electric cars.
- Supply Chain Security: Preserving the dependability of vital industrial supply chains by guaranteeing a steady supply of vital minerals lowers susceptibility to geopolitical unrest.
- Building strategic reserves of essential minerals improves national resilience by acting as a buffer against changes in the market and interruptions in the supply chain.

Techniques India Can Use to Harness Vital Mineral Resources:

- Mapping and Exploration of Resources: To improve resource management, carry out extensive geological surveys to pinpoint and measure the amount of essential minerals that are domestically available.
- International Partnerships: To guarantee a steady, long-term supply of essential minerals, establish trade agreements and strategic alliances with nations rich in minerals.
- R&D investment: To maximize resource utilization, increase funding for research and development of cutting-edge extraction, processing, and recycling technologies.
- Create and put into effect policies that provide tax breaks and other financial aid to encourage the domestic mining and processing sectors.
- Strategic Stockpiling: To control supply chain risks and lessen the effects of market volatility, strategically accumulate reserves of essential minerals.
- Infrastructure Development: To enhance operational efficiency, infrastructure should be invested in to support the efficient mining, processing, and transportation of essential minerals.

Conclusion:

India has committed to achieving 450 GW of renewable energy capacity by 2030, so these

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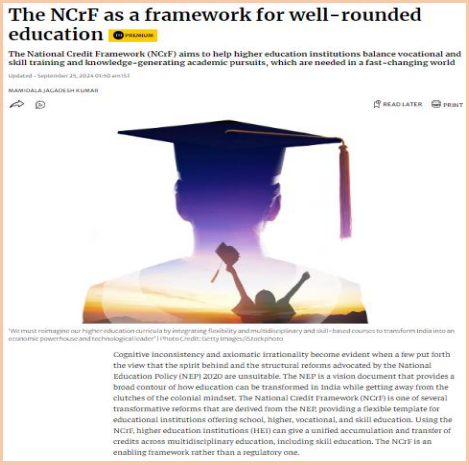
minerals are essential to the country meeting its environmental goals. Since lithium and nickel are entirely imported, it is imperative to ensure a steady and sustainable supply of these essential minerals. India's standing in the international market will be enhanced by this proactive strategy, which will also promote innovation, guarantee economic stability, and bolster national security.

Article: 27th September, 2024

Topic: NCrF – Framework for well-rounded education

Relevance: GS Paper: 2 – Education

Source: The Hindu


The NCrF as a framework for well-rounded education

The National Credit Framework (NCrF) aims to help higher education institutions balance vocational and skill training and knowledge-generating academic pursuits, which are needed in a fast-changing world

MAMIDALA JAGADESH KUMAR

READ LATER PRINT

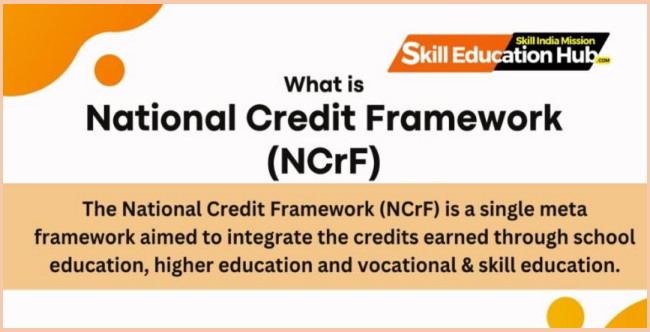
Cognitive inconsistency and axiomatic irrationality become evident when a few put forth the view that the spirit behind and the structural reforms advocated by the National Education Policy (NEP) 2020 are unsuitable. The NEP is a vision document that provides a broad contour of how education can be transformed in India while getting away from the clutches of the colonial mindset. The National Credit Framework (NCrF) is one of several transformative reforms that are derived from the NEP, providing a flexible template for educational institutions offering school, higher, vocational, and skill education. Using the NCrF, higher education institutions (HEI) can give a unified accumulation and transfer of credits across multidisciplinary education, including skill education. The NCrF is an enabling framework rather than a regulatory one.

Context

- The **National Credit Framework (NCrF)** encourages **flexibility, skill-based learning, and multidisciplinary** courses in an effort to **modernize higher education in India.**

National Credit Framework (NCrF)

- The **National Education Policy (NEP) 2020** is the source of the revolutionary reform known as the **National Credit Framework (NCrF).**
- To fulfill the goals and objectives of NEP, it has been collaboratively developed by a number of organizations, including the **Ministry of Education, NCERT, CBSE, DGT, and Ministry of Skill Development.**
- The NCrF is a thorough framework that integrates learning **across all domains and covers education and training** in elementary, **middle school, higher education, and the workplace.**



Relevance of NCrF

- **Flexibility in Learning:** Students can customize their education to **fit their interests and professional aspirations** by selecting from a **wide range of courses and extracurricular activities** to earn credits.
- **Development of Skills:** The NCrF places a strong emphasis on **theoretical knowledge combined with practical skills**, making students more employable and ready for **real-world situations.**
- **Credit transferability** is a useful tool for **students in higher education** because it makes it simple for them to accrue and transfer credits, even when they are studying various subjects, such as **skills training.**
- **Multidisciplinary Approach:** NCrF offers comprehensive, **multidisciplinary, and holistic education**, enabling creative and demand-driven curricula.

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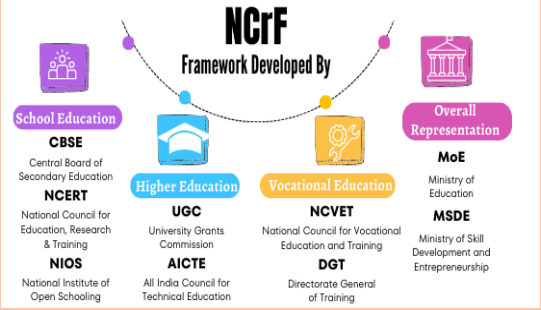


Implementation challenges

- **Opposition to Change: Academic staff and traditional educational institutions** are against adopting more flexible, skill-based learning in place of traditional teaching methods.
- **Infrastructure and Resources:** Many educational institutions, particularly those in rural areas, **lack the facilities and funding** necessary to offer **multidisciplinary courses, internships, and training in practical skills.**
- **Evaluation and Standardization:** It is challenging and complex to **create a consistent system for credit accumulation** and transfer between various **academic disciplines and institutions.**

Conclusion

- The realization of the goals and objectives of NEP would be greatly **aided by the adoption of NCrF,** which would eliminate barriers, **guarantee flexibility and mobility, and create academic parity** between general and vocational education.
- Our higher education system needs to be redesigned with **more flexibility, multi-subject courses, and skill-based learning.** This will assist India in rising to the top of the **economy and technology.**

Also Read Topics & Concepts:

https://www.ugc.gov.in/KeyInitiative?ID=zTPDjUIHVSxLuFL/Kq4EXA==

Prelims Practice Questions

Q. Consider the following statements regarding National Credit Framework

1. It seeks to integrate experiential, academic, and vocational learning by granting transferability of credits from one stream to another.
2. Only public educational institutions are covered by it.
3. One element of the NCrF is the National School Education Qualification Framework (NSEQF).

Which of the above statements are correct?

a. 1 and 3
b. 2 only
c. 1 and 2
d. 1, 2, 3

Ans: a

Explanation

It seeks to integrate experiential, academic, and vocational learning by granting transferability of credits from one stream to another. Broadly speaking, the NCrF is applicable to all Indian educational institutions, both public and private. Its goal is to establish a uniform framework for the acquisition and distribution of credit among all kinds of institutions.

One element of the NCrF is the National School Education Qualification Framework (NSEQF).

Mains Model Questions

Q. Analyze how the National Education Policy 2020 will change India's higher education system and the role of the National Credit Framework (NCrF).

Introduction:
By establishing a flexible and dynamic educational framework, the National Credit Framework (NCrF) significantly contributes to the transformation of India's higher education system in line with the National Education Policy (NEP) 2020.
Body:
Importance

- Flexibility in Education: Giving students the freedom to select their own courses and extracurricular activities is one of the NCrF's central tenets. Based on evaluations, students can receive credits through coursework, research projects, athletics, internships, or even performing arts classes. This flexibility represents a shift toward a learner-centric model, allowing students to follow a variety of interests and have control over their educational path.
- Encouraging Employability and Skills: The NCrF is crucial in closing the skills divide in India's labor force. There was a big gap in the traditional higher education system's emphasis on theoretical knowledge compared to practical, employable skills. Through the NCrF, higher education institutions (HEIs) are now urged to offer a well-rounded education that incorporates basic research and vocational training.
- Encouraging Social Equity and Democratizing Education: The NCrF's adoption is essential to democratizing education. Interdisciplinary courses, practical skills, and flexibility in the classroom all work together to make education more inclusive and cater to the needs of all societal groups. Making sure students from underprivileged backgrounds have access to opportunities that can help them advance both socially and economically depends on this.
- Keeping Up with Technological and Economic Changes: Educational institutions must constantly adjust to the rapid advancements in both technology and the economy. The NCrF provides flexibility to update curricula in response to changing job requirements, enabling continuous adaptation.
- Overcoming Resistance to Change: It's time to rethink education and abandon antiquated pedagogical methods, as the NEP 2020 states. By giving students the option to customize their education to fit their interests, future career goals, and societal needs, the NCrF challenges educational institutions to reject these antiquated viewpoints.

Conclusion:

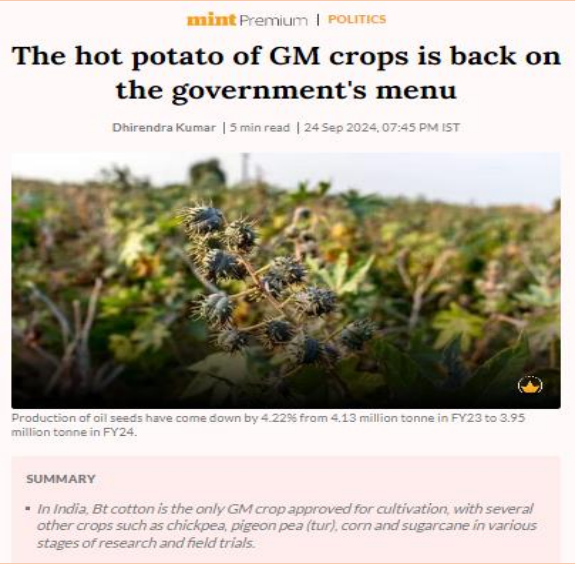
The National Education Policy 2020's transformative vision cannot be realized without the National Credit Framework (NCrF). In the end, the NCrF's emphasis on inclusivity, multidisciplinary learning, and skill development will determine how India's educational system develops in the future and makes sure it is ready to handle the challenges of the twenty-first century.

Article: 27th September, 2024

Topic: India's GM Crops

Relevance: GS Paper: 3 – Agriculture

Source: Livemint


mint Premium | POLITICS

The hot potato of GM crops is back on the government's menu

Dhirendra Kumar | 5 min read | 24 Sep 2024, 07:45 PM IST

Production of oil seeds have come down by 4.22% from 4.13 million tonne in FY23 to 3.95 million tonne in FY24.

SUMMARY

- In India, Bt cotton is the only GM crop approved for cultivation, with several other crops such as chickpea, pigeon pea (tur), corn and sugarcane in various stages of research and field trials.

Context

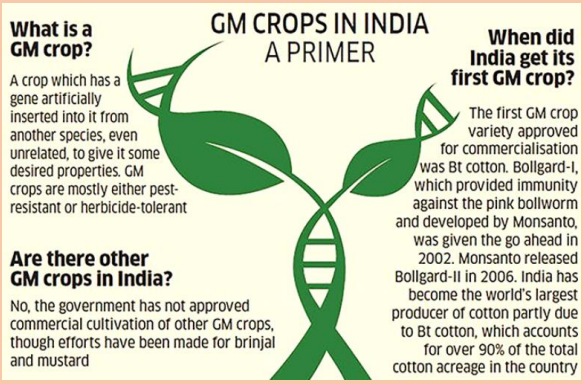
- A panel has been formed by the **Ministry of Agriculture** to examine **GM crop research** and gather international best

practices, after consulting with **multiple other ministries.**

- Experts in **rice, cotton, and plant protection** are on the panel.

Genetic Modification in Crops

- It is any living thing whose **DNA has been modified** to add desired characteristics.
- It is employed in the industrial manufacturing of **insulin, vaccinations, and other products.**
- Crop characteristics can be **altered through genetic modification**, which substitutes DNA manipulation for traditional techniques like **controlled pollination.**



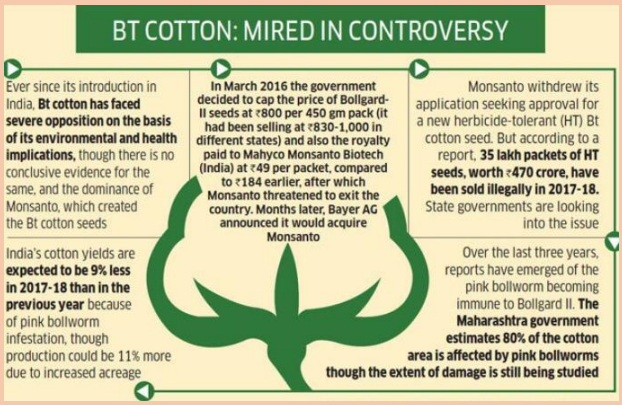
- **Common Genetically Modified Crops: Canola, maize, soybeans, and cotton** are widely cultivated for their insect and herbicide resistance.
- **Method of Crop Modification:** After the desired gene has been **located, separated, and added** to the crop's DNA, its performance is evaluated in a controlled environment.
- Other characteristics of GM **Virus resistance, drought resistance, and better fruit/tuber quality** are examples of common modifications.

Advantages

- **Herbicide and pesticide** use can be decreased or eliminated by **genetic engineering**, which can **increase resistance to diseases and pests.**
- Increased yields can be attained by farmers, **increasing their revenue.**
- It is possible to alter GM crops to **increase their nutritional content.**
- Foods can have **longer shelf** lives thanks to GM technology.
- Foods that have undergone genetic modification may **taste and texture better.**
- It is possible to engineer GM crops to **resist harsh weather.**

GM Crops in India

- The **only genetically modified crop** that is currently permitted for cultivation in India is **Bt cotton;** other crops, such as **chickpea, pigeon pea, corn, and sugarcane,** are still in various stages of research.



- To lessen reliance on **imported mustard oil**, the government approved the environmental release of **genetically modified mustard** in October 2022.
- Trials, however, were postponed following an appeal to the **Supreme Court by activists.**
- It is said that GM **mustard produces 28% higher yields than traditional varieties, but detractors point to** non-indigenous features and raise concerns about the validity of independent testing to refute these claims.
- The **older BG-II variety** of Bt cotton is **no longer effective against new pests and weeds**, according to farmers who are

demanding upgrades to the technology, especially **given the changing climate.**

SC Conclusion on GM Mustard

- Prior to authorizing the use of **genetically modified mustard**, a thorough safety plan was mandated by a recent divided Supreme Court ruling.

Regulations governing genetically modified crops in India include

- Environment Protection Act, 1986 (EPA)
- Biological Diversity Act, 2002
- Plant Quarantine Order, 2003
- GM policy under Foreign Trade Policy
- Food Safety and Standards Act, 2006
- Drugs and Cosmetics Rule (8th Amendment), 1988

International GM Crop Policies:

- The US and the EU both have broad **legalization of GM crops,** but the EU has tight laws **requiring risk assessments and labeling.**

Debate Regarding Genetically Modified Crops

- Because of worries about risks to the environment, **contaminating non-GM crops, and human and animal health**, genetically modified crops are a contentious topic in India.
- According to experts, there **isn't a single document** that outlines the various agencies' roles in **India's evaluation of genetically modified crops.**
- Concerns regarding the use of overseas research to **assess genetically modified crops** were brought up during the court hearing, and more Indian research was suggested.

Conclusion and Way Forward

- The government and the court are urged to weigh the **possible advantages** of **genetically modified crops against environmental concerns,** understanding that ideal solutions shouldn't come at the expense of the good.
- **Food security, climate resilience, and farm incomes** are some of the most important agricultural issues facing India, and genetically modified crops may be able to help. Nonetheless, cautious management of their adoption is required to **prevent any environmental or socioeconomic hazards**. India must strike a balance **between innovation and caution** as it advances its policy on genetically modified crops to ensure that the **advantages of biotechnology** are realised while **protecting the environment and public health.**

Also Read Topics & Concepts:

https://www.downtoearth.org.in/agriculture/gm-crops-undesirable-for-india-say-farmer-leaders-demand-comprehensive-discussion-in-national-policy

Prelims Practice Questions

Q. Consider the following statements regarding GM Crops

1. Only plants can provide genetic material for the development of genetically modified crops.
2. GM crops are not made to be resistant to viruses.
3. Herbicide tolerance can be incorporated into GM crop design.

Which of the above statements are correct?

a. 1 and 3
b. 2 only
c. 1 and 2
d. 1, 2, 3

Ans: a

Explanation

Only plants can provide genetic material for the development of genetically modified crops.
The area of India with the most irrigation is the

Northern Indo-Gangetic plain. However, due to inadequate irrigation, some areas of Karnataka, Maharashtra, Madhya Pradesh, Rajasthan, Chhattisgarh, and Jharkhand remain highly susceptible to the effects of climate change. The abundance of water resources in northern India causes the intensity of irrigation to decrease as one moves southward.

Mains Model Questions

Q. Crops that have undergone genetic modification significantly increase productivity and combat malnutrition and hunger. Critically anaylse.

Introduction:

Biological entities such as plants, animals, and microorganisms that have had their genetic material (DNA) changed in a way that does not happen naturally through natural recombination or mating are referred to as genetically modified organisms (GMOs).

Body:

Advantages of GM crops include higher agricultural yield and the elimination of hunger and malnutrition.

- Climate resilience: It is occasionally required to cultivate crops that can withstand unfavorable weather conditions. The farmer will be able to protect himself from losses brought on by crop losses thanks to this. Ex: A paddy resistant to water can withstand constant rain.
- Boost agricultural output: When compared to traditional species, new crops created through biotechnology have the potential to yield more in a given area. This translates into higher output from smaller land and higher earnings as a result.
- Boost crop nutrient value: GM crops can produce nutrient-efficient varieties and can withstand drought. Moreover, it can aid in the production of foods with improved texture, flavor, and shelf life.
    - Furthermore, crops can be genetically modified to increase their nutritional value, giving populations that find it difficult to obtain certain nutrients for a healthy lifestyle important vitamin.
- Cut back on pesticides: More than any other source, pests pose a serious threat to the farm economy. Scientists have developed creative strategies utilizing biotechnology to aid in the eradication of pests in order to significantly reduce risks to crops.

Problems with genetically modified crops

- Allergic Reactions: According to this article, genetic modification frequently introduces or combines proteins that were not native to the original plant or animal, which may lead to the development of new allergic reactions in our bodies.
- Cross-pollination: New genes can be incorporated into the progeny of conventional, organic plants or crops that are miles apart. Cross-pollination can occur over fairly large distances. This can make it difficult to determine which crop fields are organic and which are not, making it challenging to correctly label food products that are not genetically modified.
- Possible negative effects on human health include those resulting from cultivating genetically modified crops, such as genetically modified mustard, on the environment (the soil in which the crop is grown), the food chain, groundwater, and population health.

Conclusion:

India's living standards can rise with the aid of GM crops, and this will benefit human development. In order to meet its international obligations to achieve sustainable development goals, it will also help India ensure food security, reduce hunger and malnutrition, boost

farmer income, and increase agricultural exports. However, adequate research on its detrimental effects on human and environmental health based on scientific evidence is required. Consequently, developing regulatory protocols requires a participatory approach that involves all stakeholders.