

**BIOTECHNOLOGY****A push for GM mustard disregarding science, the Law**

**In Context:** India has seen a robust debate on GM crops in the last two decades. Environmentalists, scientists, farmers, and the higher judiciary have asked probing questions about the safety, efficacy and even the very necessity of GM food. Also, recently, some activists approached the Supreme Court to ban Genetically-Modified (GM) food crops — Dhara Mustard Hybrid-11 (DMH-11) for various reasons.

**GM Mustard**

- ✓ The Delhi University Center for Genetic Manipulation of Crop Plants created the genetically altered mustard variety known as DMH (Dhara Mustard Hybrid)-11.
- ✓ Biotechnologists insert select genes at a random location in the DNA of a plant to develop a GM crop.
- ✓ The Genetic Engineering Appraisal Committee (GMEC) approved the commercial production of Mustard DMH-11. Genetic Engineering Appraisal Committee (GEAC) is in charge of evaluating requests to release genetically engineered organisms and products into the environment, including experimental field tests. The Environment Protection Act gives the GEAC or those it has authorized the right to take sanctions.
- ✓ Mustard is India's top crop for producing edible oil.

**What are the Issues Regarding GM Mustard?**

- ✓ GM mustard is a herbicide-tolerant crop, and farmers and campaigners claim that spraying hazardous chemicals on the plant will have an adverse effect on the health of those who consume it. Additionally, they contend that it does not fit the agricultural circumstances in India and is not environmentally sustainable.
- ✓ Few Environmentalists, scientists, lawmakers, farmers, consumers, and members of the higher court have questioned the necessity of Genetically Modified (GM) food as well as its safety and effectiveness.
- ✓ The committees associated with GM Mustard highlighted major weakness in the regulatory system and called for utmost caution. The members of the Committee also pointed to the deficiencies in the safety assessment of GM crops.
- ✓ The Government has not placed the full biosafety dossier of GM mustard in public domain. Also, the government has claimed that it should not be considered as a Herbicide Tolerant (HT) crop.

**What are GM crops?**

- ✓ Crops that have undergone genetic engineering processes to alter their DNA are referred to as genetically modified crops.
- ✓ The goal is to give the plant a new characteristic that does not arise naturally in the species.
- ✓ Modifications made improvements to the crop's nutrient profile and resistance to certain pests, diseases, or environmental factors are both important in food crops.

**GM Crops in India**

- ✓ **Bt Cotton:** Bt cotton has two foreign genes from the soil bacterium *Bacillus thuringiensis* (Bt), which enables the crop to create a protein harmful to the common insect pink bollworm. Bt cotton is the only GM crop that is permitted in India. Contrarily, Bt cotton is created by introducing a second gene from a different soil bacterium, which enables the plant to withstand the common pesticide glyphosate.
- ✓ **Bt Brinjal:** A gene in Bt brinjal enables the plant to fend off fruit and shoot borer infestations. A gene in Bt brinjal enables the plant to defend itself against fruit and shoot borers. The commercial distribution of genetically modified (GM) mustard has previously been delayed by the government due to vehement resistance from NGOs and anti-GMO campaigners.
- ✓ **DMH 11 Mustard:** The genetic alteration in DMH-11 mustard, created by Deepak Pental and colleagues at the University of Delhi's South Campus, permits cross-pollination in a crop that naturally self-pollinates.
- ✓ **Worldwide variants:** There are GM versions of maize, canola, and soybeans accessible everywhere.

**Advantages of GM Crops**

- ✓ It boosts output and increases farmer income.
- ✓ It lessens the use of pesticides and insecticides during farming, which may be excellent steps for improving the availability of food.
- ✓ It can feed a population that is growing quickly due to the drastically higher yields.
- ✓ Smaller plots of land can yield greater yields.

**Disadvantages of GM Crops**

- ✓ The production imposes high risks to the disruption of ecosystem and biodiversity because the “better” traits produced from engineering genes can result in the favouring of one organism.
- ✓ It raises the expense of farming and makes farming more prone to marketization, which focuses on unethical profits.
- ✓ In addition to endangering farmers, transgenic crops also threaten the environment and the trade.

- ✓ The majority of the negative consequences from GM crops are not captured by the present safety evaluations. Additionally, the regulatory framework for GM crops in India has never undergone a full evaluation of the GM risk assessment under Indian conditions.

**Legal position of genetically modified crops in India**

- ✓ In India, the Genetic Engineering Appraisal Committee (GEAC) is the apex body that allows for the commercial release of GM crops. In 2002, the GEAC had allowed the commercial release of Bt cotton.
- ✓ Use of the unapproved GM variant can attract a jail term of 5 years and a fine of Rs 1 lakh under the Environmental Protection Act, 1989.
- ✓ The Central government had for the first time exempted certain types of genome-edited crops from the stringent regulations applicable on genetically modified or GM crops, paving the way for further R&D on them.
- ✓ FSSAI issued an order on February 8, 2021, setting the permissible limit for genetically modified organisms (GMO) in imported food crops at 1%.

Mandate of Ministries/Departments	
Ministry of Environment, Forest and Climate Change	<ul style="list-style-type: none"> <li>• Primarily responsible for conservation and protection of environment, ensuring environmental and human health safety before release of GMOs / LMOs.</li> <li>• Nodal agency for implementing Rules, 1989 and the Cartagena Protocol on Biosafety</li> </ul>
Department of Biotechnology (Ministry of Science & Technology)	<ul style="list-style-type: none"> <li>• Nodal department for promoting biotechnology programs</li> <li>• Provides scientific support in implementation of biosafety regulations</li> <li>• Provide services in areas of research, infrastructure, generation of human resource</li> </ul>
Ministry of Agriculture	<ul style="list-style-type: none"> <li>• Policies aimed at agriculture growth.</li> <li>• Indian Council of Agricultural Research (ICAR) responsible for monitoring agronomic benefits of GM technology.</li> <li>• Monitoring post-release performance of GM crops.</li> </ul>
Ministry of Health and Family Welfare	<ul style="list-style-type: none"> <li>• Policies aimed at protecting and monitoring human health.</li> <li>• Food Safety and Standards Authority of India responsible for regulating genetically engineered foods.</li> </ul>
Ministry of Commerce and Industries	<ul style="list-style-type: none"> <li>• Enhance trade with other countries through export/import policies.</li> <li>• Nodal agency for implementing DGFT notification on GMOs</li> </ul>
Central Board of Excise and Customs, Department of Revenue, Ministry of Finance	<ul style="list-style-type: none"> <li>• Enforcement of regulation pertaining to transboundary movement of GMOs/LMOs at point of entry</li> </ul>

**Way Forward:** Governments must address the problems brought on by GM crops, particularly in the areas of safety testing, legislation, industrial strategy, and food labeling.

**ENVIRONMENT**

**Madhav Gadgil report**

**In Context:** A landslide in Maharashtra’s Raigad district last week claimed 27 lives, flattened an entire village, and brought back into focus the 2011 Dr Madhav Gadgil report on conservation of the Western Ghats.



In 2010, then Union Environment Minister Jairam Ramesh appointed the Western Ghats Ecology Expert Panel (WGEEP), to be chaired by ecologist Dr Madhav Gadgil. The commission submitted its 552-page report to the Centre in August 2011.

**About the report:**

- ✓ In 2010 a Western Ghats Ecology Expert Panel (WGEEP) was created which was chaired by ecologist Dr Madhav Gadgil.
- ✓ The commission submitted its report to the Centre in 2011.
- ✓ The report recommended classifying 64 percent of the Western Ghats, spread over six states, into Ecologically Sensitive Zones called ESZ 1, ESZ 2 and ESZ 3.
- ✓ It also recommended designating the entire region as an Ecologically Sensitive Area (ESA).
- ✓ Almost all developmental activities like mining, construction of thermal power plants, dams were to stop along with the decommissioning of similar projects that have completed their shelf life in ESZ 1.
- ✓ It said that both the Athirappilly and Gundia hydel project sites should not be accorded environmental clearance as they fall in this zone.
- ✓ Permissions and Prohibitions:
  - Genetically modified crops should not be allowed,
  - Use of plastic bags be prohibited,
  - Special Economic Zones should not be permitted,
  - New hill stations should not be allowed,
  - Changing the land use from farmland to non-farm land and
  - Stoppage of diversions of rivers to protect the ecology of the region,
  - Public lands should not be converted into private lands.
- ✓ **Recommendations:**
  - The report also suggested a bottom-to-top approach instead of a top-to-bottom approach in governance of the environment, indicating decentralization and more powers to local authorities.
  - It recommended the establishment of a Western Ghats Ecology Authority under the Environment (Protection) Act, 1986, as a professional body to manage the ecology of the region and to ensure its sustainable development.
  - A ban on growing single commercial crops like tea, coffee, cardamom, rubber, banana and pineapple, which have led to fragmentation of forest, soil erosion, degradation of river ecosystems and toxic contamination of the environment.
  - A policy shift is urgently warranted curtailing the environmentally disastrous practices and switching over to a more sustainable farming approach in the Western Ghats.
  - Taking critical steps to involve citizens, including proactive and sympathetic implementation of the provisions of the Community Forest Resources of the Forest Rights Act.

**Kasturirangam Committee vs the Gadgil committee:**

- ✓ In 2012, a High-Level Working Group on Western Ghats was constituted under former Indian Space Research Organization (ISRO) chief Dr K Kasturirangan.
- ✓ Kasturirangan-led panel formulates report to replace the Gadgil Report.
- ✓ While the Gadgil panel recommended 64 percent area in the Western Ghats, a report by a panel led by Dr K Kasturirangan notified only 37 percent of the area as ecologically sensitive.
- ✓ It also split the Western Ghats into cultural (human settlements) and natural (non-human settlements) regions.
  - It was suggested that cultural lands be designated as an ecologically sensitive area (ESA).
- ✓ It also consisted of red, orange and green categories.
  - The red list entailed a ban on mining, stone quarrying, thermal plans and certain construction and township projects
  - The orange category had activities that would be regulated and taken up with appropriate permissions
  - The green category allows all agricultural and horticultural activities and commercial activities.
- ✓ In 2017, the Environment Ministry issued a draft notification, demarcating an area of 56,285 sq km in the Western Ghats as ESA as opposed to the 59,940 sq km recommended by the Kasturirangan committee.
- ✓ By 2022, the Centre announced a high-powered committee constituted by the Ministry of Environment, Forest and Climate Change (MoEF&CC) to conduct physical landscaping and submit a detailed report in a year's time.

**PRELIM FACTS**

**1. Inclusion of “Mahara” and “Mahra” Communities in the Schedule Caste List**

**In context:** The Union Social Justice Ministry recently introduced the Constitution (Scheduled Castes) Order (Amendment) Bill, 2023 to add two synonyms for the Mahar Community (“Mahara” and “Mahra”) in Chhattisgarh to the State’s Scheduled Castes list.

**The Criteria for inclusion:** Extreme social, educational and economic backwardness arising out of traditional practice of untouchability.

**Procedure followed for inclusion**

- Scheduled Castes(SCs) are specified under the provisions of Articles 341 of the Constitution of India.
  - ✓ The President may with respect to any State or Union territory, and where it is a State after consultation with the Governor thereof, by public notification, specify the castes, races or tribes or parts of or groups within castes, races or tribes which shall for the purposes of this Constitution be deemed to be Scheduled Castes in relation to that State or Union territory, as the case may be.
  - ✓ Parliament may by law include in or exclude from the list of Scheduled Castes specified in a notification issued under clause (1) any caste, race or tribe or part of or group within any caste, race or tribe, but save as aforesaid a notification issued under the said clause shall not be varied by any subsequent notification.
- Further, the Government has laid down Modalities which envisage that only such proposals of the concerned State Governments/ UTs, which have been agreed to by the Registrar General of India (RGI) and National Commission for Scheduled Castes (NCSC), are processed in accordance with provisions of clause (2) of Articles 341.
- As any amendment in the list of Scheduled Castes can be made only by an Act of Parliament, in view of clause (2) of Article 341 of Constitution of India, no time frame can be assigned in the matter.

## 2. Meri Maati, Mera Desh campaign

**In Context:** The Union government has launched the Meri Maati, Mera Desh campaign.

### About

- ✓ It is envisaged as a culminating event of the Azadi Ka Amrit Mahotsav celebration.
- ✓ Under the campaign, soil collected from different parts of the country will be used to develop a garden along the Kartavya Path in Delhi.
- ✓ Events have been planned at the panchayat, village, block, urban local body, and State and national levels, respectively.
- ✓ The five-point agenda includes the installation of a shilaphalakam (memorial plaque), bearing the names of those who have made the supreme sacrifice.
- ✓ For this purpose, veers (bravehearts) include freedom fighters, defence personnel, CAPF personnel, and State Police.

## 3. Greenfield Airport

**In context:** The Prime Minister will inaugurate Gujarat's first Greenfield Airport at Hirasar near Rajkot.

### About Greenfield project:

- ✓ Greenfield projects are those that are initiated from scratch on undeveloped ground. They do not include the renovation or demolition of an existing building.
- ✓ The classification takes into account specific environmental characteristics as well as planning, commissioning, and construction processes from scratch.
- ✓ Government of India has accorded 'In-Principle' approval for setting up of 21 new Greenfield Airports. Out of these, 11 Greenfield airports have been operationalised.

## 4. Kargil Vijay Diwas

**In context:** On July 26, 2023, Kargil Vijay Diwas will be commemorated to pay tribute to the courageous Indian soldiers who valiantly fought in the Kargil War.

### About:

- ✓ After the Indo-Pak war of 1971, there had been many military conflicts.
- ✓ Both the countries conducted nuclear tests in 1998 which further escalated tensions and finally the Kargil War in 1999.
- ✓ Kargil War, also known as the Kargil conflict, was fought between May-July of 1999 in the Kargil (now a district in the UT of Ladakh) district of Jammu and Kashmir along the Line of Control (LoC) in which India got the victory.



### Operation Vijay:

- ✓ In the year 1999, India and Pakistan signed the Lahore Agreement to mutually resolve the Kashmir issue in a peaceful manner.

- ✓ However, the Pakistani troops began infiltrating toward the Indian side of the Line of Control (LoC) under Operation Badr, hoping to cut off Indian Troops in Siachen.
- ✓ The Indian Army responded by launching Operation Vijay.
- ✓ On 3rd May 1999, Pakistan started this war when it had infiltrated into the high altitudes in the rocky mountainous region of Kargil with around 5,000 soldiers and captured it.
- ✓ When the Indian Government got the information about it, 'Operation Vijay' was launched by the Indian army to throw back the intruders who had treacherously occupied Indian Territory.

**What is the National War Memorial?**

- Inaugurated in 2019, it is around 400 meters from India Gate. The layout of the structure comprises four concentric circles, named:
  - ✓ the "Amar Chakra" or Circle of Immortality.
  - ✓ the "Veerta Chakra" or Circle of Bravery.
  - ✓ the "Tyag Chakra" or Circle of Sacrifice.
  - ✓ the "Rakshak Chakra" or Circle of Protection.
- The proposal for a National War Memorial was first made in the 1960s.
- The memorial is dedicated to soldiers who laid down their lives defending the nation during:
  - ✓ Sino-Indian war in 1962
  - ✓ Indo-Pak wars in 1947, 1965 and 1971
  - ✓ Indian Peace Keeping Force Operations in Sri Lanka 1987-90
  - ✓ Kargil Conflict in 1999.
- The National War Memorial also commemorates the soldiers who participated and made supreme sacrifices in United Nations peace-keeping missions, Humanitarian Assistance Disaster Relief (HADR) operations, counterinsurgency operations and Low-Intensity Conflict Operations (LICO).

**ANSWER WRITING**

**Q. Explain the nature and contours of the RIN mutiny. Also, highlight the significance of RIN mutiny.**

**Introduction:** The British army was the most effective instrument of coercion. It provided guarantee of stability to the Raj against all sorts of civil disturbances-nationalist agitations, workers strikes, peasant movement etc. The empire maintained a large empire that devoured 40% of the central revenue in peace time. It was a garrison state. The RIN revolt was started on 18 February 1946 in Bombay. It was the offshoot of visible economic impact of the war manifested in rising prices, shortage of food grains and closure of war time industries causing retrenchment and employment. It got merged with the anti-British sentiments evident in the mass scale of the protests revolving around the INA trials (November 1945).

Army was quarantined in the garrisons across India, deliberately kept at low level of literacy and insulated from all political influences. Everything was changed due to this short but very significant RIN mutiny.

**Contours of RIN mutiny**

- It was started by the naval ratings on HMIS Talwar protested against the poor quality of food and racial discrimination by British officers. B.C. Dutt, a rating in the HMIS Talwar was arrested for scribbling 'Quit India' on the panel of the ship. It served as the trigger for the revolt. 1,100 ratings on the ship started the strike on the ship.
- The day after, the revolt was joined by the ratings in the Fort Barracks and the Castle and a large number of them went into the Bombay cities in commandeered trucks waving Congress flags, holding aloft a portrait of Subhas Bose and shouting anti-British slogans.
- A naval central strike committee had been elected. It combined service grievances with wider national concerns. The latter included the release of INA (Indian National Army) personnel and other political prisoners; withdrawal of Indian troops from Indonesia; and the acceptance of Indian officers only as superiors.
- The most significant feature of this short uprising was the massive outpouring of public support for the mutiny. Soon, the workers in the textile mills of Bombay joined the struggle. The trade unions in Bombay and Calcutta called for a sympathy strike and the two cities turned into war zones. Barricades were erected all over and pitched battles fought. Shopkeepers downed shutters and hartals became the order of the day. Trains were stopped in the two cities with people sitting on the tracks.
- Ratings in the HMIS Hindustan and other naval establishments in Karachi also went on a lightning strike on February 19. The strike wave spread to almost all the naval establishments across India and at least 20,000 ratings from 78 ships and 20 shore establishments ended up revolting in the days after February 18, 1946.
- There were strikes, expressing support to the ratings in the Royal Indian Air Force stationed in Bombay, Poona, Calcutta, Jessore and Ambala units. The sepoys in the army cantonment station at Jabalpur too went on strike. The ratings, in many places, hoisted the Congress, the Communist, and the Muslim League flags together on the ship masts during the revolt.
- The colonial government's response was brutal repression. An army battalion was inducted to control the situation. More than 228 civilians had died and 1,046 were injured.

- The ratings in Bombay surrendered on 23 February following assurances of sympathetic treatment from Vallabhai Patel and M.A. Jinnah. They were eager not to encourage indiscipline in the armed forces as they knew that independence and power were in sight.

**Conclusion:** RIN mutiny even though was a revolt without any leadership to give it an organised direction had a dramatic psychological repercussion as it showed the politicisation of the army and brought in sharp relief the point that British rule in India could not go on forever. The seeds of national consciousness has reached the heart of British Empire. The impact of the mutiny events was liberating in terms of the consciousness of the ordinary Indian. Even today when people hark back to those days, the RIN revolt looms large in their memory as an event which made the people and the government realise that the days of colonial rule were numbered. It was indeed a glorious chapter in the Indian National Movement and perhaps the last act of rebellion in the long story of such acts of valour in the cause of independence

**MCQ**

- Considered the following statement regarding Kargil Vijay Diwas
  - Kargil Victory Day is observed annually on July 26 -1999 conflict with China.
  - Operation Vijay is related to kargil war
 Which of the above statement is/are correct?
  - Only 1
  - Only 2
  - Both 1 and 2**
  - Neither 1 nor 2
- Who has the power to specify the castes, races, tribes, or parts of groups within castes and races as Scheduled Castes?
  - Prime Minister of India
  - President of India**
  - Chief Justice of India
  - Governor of each state
- The Union government has launched the Meri Maati, Mera Desh campaign, Considered the following statement.
  - Under the campaign, soil collected from different parts of the country will be used to develop a garden along the Kartavya Path in Delhi.
  - Events have been planned at the panchayat, village, block, urban local body, and State and national levels, respectively.
 Which of the above statement is/are correct?
  - Only 1
  - Only 2
  - Both 1 and 2**
  - Neither 1 nor 2
- Recently Prime Minister will inaugurate first Greenfield Airport in which state?
  - Gujarat**
  - Madhya Pradesh
  - Maharashtra
  - Andhra Pradesh
- With reference to the Zero FIR which of the following statements is/are correct?
  - Zero FIR is defined in Indian Penal Code 1860.
  - The provision of Zero FIR came up after the recommendation in the report of the Justice Verma Committee.
 Select the correct answer using the code given below:
  - Only 1
  - Only 2**
  - Both 1 and 2
  - Neither 1 nor 2
- Consider the following statements about Kalagarh Tiger Reserves:
  - It is located in the Terai region of Uttar Pradesh.
  - This reserve is bounded by the Ramganga River on the west and the Mandal River on the east.
 Which of the above statements is/are incorrect?
  - Only 1**
  - Only 2
  - Both 1 and 2
  - Neither 1 nor 2
- With reference to the Middle East Respiratory Syndrome (MERS), take into account the following statements:
  - In this disease respiratory system is impacted by bacteria.
  - There is currently no vaccination or particular therapy for MERS.
 Which of the above statements is/are correct?
  - Only 1
  - Only 2**
  - Both 1 and 2
  - Neither 1 nor 2
- Mhadei Wildlife Sanctuary, which was recently seen in the news, is located in which state?
  - Assam
  - Manipur
  - Goa**
  - None of these
- With reference to National Dental Commission Bill, 2023, consider the following statements:
  - It seeks to repeal the Dentists Act of 1948.
  - It seeks to replace the Dental Council of India with the National Dental Commission (NDC).
  - It will make provision for an exit test for dentists on the lines of the National Exit Test for MBBS.
 How many of the above statements are correct?
  - Only 1
  - Only 2
  - Only 3**
  - None
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  - None