

ECONOMICS/AGRI

➤ **Open-source seeds movement**

- **CONTEXT:** Open source software like Linux is well-known and widely used. The origin of this concept can be traced to the 'Free Software Movement', which emphasised users' right to the source code, to share, to modify, and to distribute modifications.
- Richard Stallman, the U.S. programmer who pioneered this idea, also developed the General Public License (GPL), the first of the 'Free and Open Source Software' licences: it used copyright law to protect users' rights and prevent misappropriation. If a piece of code is licensed GPL, then modifications to it should be GPL as well; this requirement also furthered the use of the licence.
- Software and seeds seem as different as chalk and cheese – but as programmers have done for decades, farmers have innovated and shared seeds without any intellectual property rights (IPR) claims for centuries. Farmers also haven't sought exclusive rights over seeds and germplasm to prevent others from innovating on the seeds. In this regard, software and seeds actually have a strong parallel.

➤ **What are plant-breeders' rights?**

- The advent of hybrid seeds, the growth of the commercial seed industry, scientific plant-breeding, and some other factors conferred plant breeders and developers of new varieties with the so called plant breeders' rights (PBR). In this regime, farmers' rights were limited while rights-holders could demand royalty on seeds and legally enforce PBRs. In some countries, the PBR regulations allow rights-holders to restrict the unauthorised use of seeds to develop new varieties.
- In 1994, the establishment of the World Trade Organisation and then the Trade-Related IPR Agreement cast a global IPR regime over plant varieties. TRIPS required countries to provide at least one form of IP protection while consolidation in the seeds sector raised concerns about the freedom to innovate.
- The Green Revolution was spearheaded by public-sector breeding institutions and seeds were available as 'open pollinated varieties', or as reasonably priced hybrids with no restrictions on farmers to cultivate, reuse and share. But the genetic revolution in agriculture was led by the private sector, with seeds mostly made available as hybrids and/or protected by strong IPRs.

➤ **How is IP protected in agriculture?**

- In effect, there are now two forms of IPR protection in agriculture: plant-breeders' rights and patents. Together, they restrict farmers' rights and the freedom to develop new varieties using germplasm from IP-protected varieties. They have thus further consolidated the seed sector and increased the number of plant varieties covered by IPRs.
- The high prices of genetically modified seeds and IP claims triggered many problems, including the State's intervention on Bt cotton seeds in India. As public sector breeding declined and the private sector began to dominate the seed sector, the need for alternatives became keenly felt.
- This is when the success of open-source software inspired a solution. In 1999, a Canadian plant-breeder named T.E. Michaels suggested an approach to seeds based on the principles of open source software.

➤ **What are 'open source seeds'?**

- In 2002, Boru Douthwaite proposed an open-source model for seeds and plant varieties called it the "BioLinux model", and scholars and civil-society members alike discussed and built on it.
- In 2012, Jack Kloppenburg, whose 1988 book *First The Seed* alerted the world to trends in the seeds sector and the use of IP to control farmers' rights, launched the 'Open Source Seeds Initiative' (OSS) in Wisconsin. A few years later, a German NGO named Agrecol launched another initiative in Europe. Since then similar programmes have come up around the world.
- Agrecol's model to meet legal requirements in Europe is based on a contracts approach in which the user agrees inter alia to not patent seeds bought under the open-source licence. The OSS simply asks for a pledge, that an individual won't "restrict others' use of these seeds or their derivatives by patents or other means, and to include this pledge with any transfer of these seeds or their derivatives".

➤ **Are there such initiatives in India?**

- In India, the Hyderabad-based Centre for Sustainable Agriculture (CSA), part of the Apna Beej Network, developed a model incorporated into an agreement between CSA and the recipient of the seed/germplasm.
 - ✓ According to G. Rajshekar, who coordinates CSA's Open Source Seeds Initiative, it is trying to use this approach through three farmer producer organisations (FPOs). This is similar to Agrecol's strategy, using an agreement to 'shrinkwrap' a licence with contractual obligations.
- Worldwide, the number of seed firms using open source models and the crop varieties and seeds made available thereunder is small but growing. India is yet to test and adopt it widely.
- Under the **Plant Variety Protection and Farmers' Rights Act (PPVFR) 2001**, farmers can register varieties as 'farmer varieties' if they meet certain conditions, and have the right to reuse, replant, and exchange seeds. However, they can't breed and trade in varieties protected under the Act for commercial purposes. Using the open source approach here will enable farmers to gain more rights over germplasm and seeds and facilitate innovation.
 - ✓ So there is a need to test this approach with farmers and the three FPOs can take the lead.

- **Are there other ways the model can help?**
- One potential application of the open source approach is to use it in farmer-led seed conservation and distribution systems. There are many traditional-variety conservation and sharing initiatives in India ,including those involving farmers.
- Many of them focus on traditional varieties that are unique to specific regions or sites and/or have specific features. To more widely adopt these varieties, the government and other stakeholders can consider an open source model.
- The model can also be used to promote farmer-led participatory plant-breeding exercises. Traditional varieties often lack uniformity and aren't of excellent quality. Open source principles can help overcome these two challenges by facilitating testing, improvisation, and adoption – all of which will ultimately be beneficial to India's food security and climate resilience.

CLIMATE

❖ **The Forest (Conservation) Amendment Bill, 2023**

➤ **CONTEXT: Recently the government introduced The Forest (Conservation) Amendment Bill, 2023 in Lok Sabha to make changes to The Forest (Conservation) Act, 1980.**

- The predominant idea of the proposed changes is to build forest carbon stock by raising plantations. The Bill also seeks to make land available for developers to meet their legal obligation towards **compensatory afforestation** in lieu of forest land diverted for development projects.
- The Bill tries to achieve both these objectives by restricting the applicability of the FC Act, and by freeing up land that is currently locked up as unrecorded forests.

➤ **File records and field reality**

- Following Independence, vast swathes of forest land were designated as reserved and protected forests and brought under state forest departments. However, many forested areas were left out and areas without any **standing forests** were included in 'forest' lands. The anomalies were supposed to be sorted out through extensive ground surveys but the process remained incomplete.
- In 1996, the Supreme Court suspended the felling of trees across the country, and ruled that the FC Act would apply to all land parcels that were either recorded as 'forest' or resembled the dictionary meaning of forest.
- This sweeping order helped check rampant deforestation on land not recorded as 'forest', but it also came in the way of excluding from recorded forests vast areas that were already in use for agriculture or as homesteads.
- The amendment Bill, instead of completing the demarcation process on the ground, seeks to limit the applicability of the FC Act only to land recorded as 'forest'. This will have the effect of removing the protection of the Act from millions of hectares of land that have the characteristics of forests, but are not notified as such.
 - ✓ For an idea of the scale, consider the latest State of Forests Report (SFR 2021), which records India's forest cover as 713,789 sq km. Of this, nearly 28% or 197,159 sq km (roughly the size of Gujarat) is not recorded as 'forest'.

➤ **Projects and plantations**

- If the scope of the FC Act is restricted, fewer projects will be required to obtain forest clearance, which is considered a 'hurdle' by most developers in and outside the government. But it will also help developers secure forest clearance when they need it.
- A key condition for forest clearance is that a developer must carry out **compensatory afforestation** on equivalent non-forest land or, if non-forest land is not available, on degraded forest land twice the extent of the forest area diverted. Since land is always at a premium, this works as an effective check on the demand for forest land.
- But in June 2022, the government amended the Forest Conservation Rules to propose a mechanism to allow developers to raise plantations "over land on which the [FC] Act is not applicable", and to swap such plots against subsequent requirements of compensatory afforestation. The proposed amendments are key to the working of this scheme.
- According to experts once the FC Act is no longer applicable on a land, it can be used to raise plantations and compensate for an equivalent area of diverted forest land. This will incentivise building private land banks of plantations, and streamline the forest clearance process.
- Conservationists see this as a double whammy: losing unrecorded forests to plantations, which will subsequently help to divert recorded forests for projects.

➤ **Exemptions prove rule**

- In the recent past, a slew of executive orders has been issued to exempt certain types of projects in certain areas from obtaining clearance under the FC Act. The Bill proposes to expand these exemptions and make them part of the Act itself.
 - ✓ Between July 2014 and November 2017, the construction of defence roads within 100 km of the Line of Actual Control (LAC) was exempted from forest clearance. The Bill now seeks to exempt all strategic linear projects of "national importance and concerning national security" within 100 km of international borders, the LAC, and the Line of Control (LoC). India's land boundaries extend over 15,000 km.
 - ✓ Between May 2011 and May 2013, critical public utilities not requiring more than 5 hectares each were exempted from the FC Act in 106 districts affected by Left Wing Extremism (LWE). This is proposed to be extended to "construction of defence related project or a camp for paramilitary forces or public utility projects,

as may be specified by the Central Government in a Left Wing Extremism affected area as may be notified by the Central Government.”

- ✓ Additionally, the amendments seek to exempt “security-related infrastructure” requiring up to 10 hectares, without defining its scope. To the list of activities related to conservation and therefore exempt from the FC Act, the Bill adds **silvicultural operations**, construction of zoos and wildlife safaris, eco-tourism facilities, and any other activities “the Central Government may, by order, specify”.
- The proposed exemptions, sweeping in themselves, leave a lot to the Centre to decide retrospectively.
- **Protecting forests, people**
- Any review of the FC Act is an opportunity to make suitable concessions for land that has traditionally been under the control of indigenous and forest communities. Even after the enactment of the Forest Rights Act, 2006, the scope for their consent has eroded incrementally when it came to the diversion of forest land for development projects. Now, they may have no say on the extensive plantations that are envisaged on land on which they depend as communities.
- The Bill talks about keeping up with “dynamic changes in the ecological, strategic and economic aspirations of the country” and “improvement of livelihoods for forest-dependent communities.” But the scope of the amendments boils down to pushing plantations to achieve carbon neutrality by limiting the scope of the Act.
- Indeed, compared to stable natural forests, fast-growing plantations score faster carbon growth. Conveniently, both count the same towards increasing the country’s green cover, since India does not discriminate between forests and plantations for the purpose.
- But forests are a lot more than a sum of trees. Unlike man-made plantations, natural forests perform a range of ecosystem services that are key to the survival and well-being of the millions of species that they support, and also provide direct livelihood and subsistence to crores of people.
- The Bill’s focus on raising tradeable vertical repositories of carbon can jeopardise the very purpose of the Act, which is to protect and conserve India’s forests.

PRELIMS

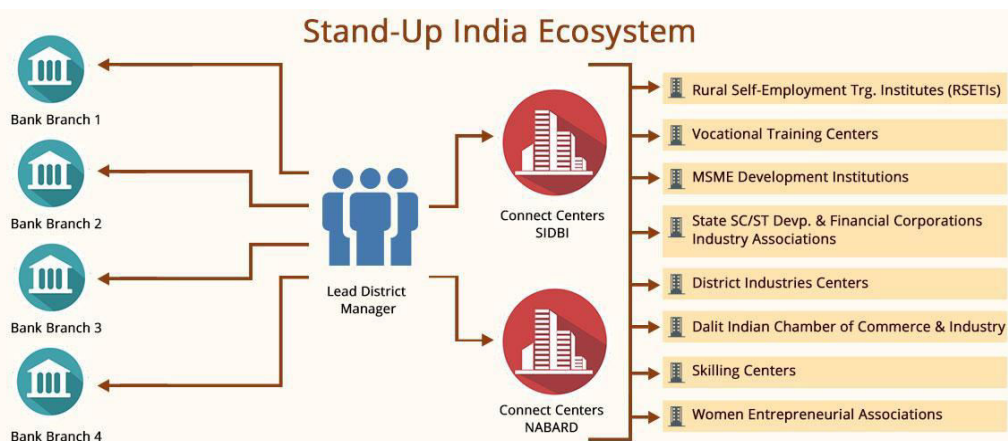
1. Stand Up India Initiative

➤ **CONTEXT: Stand Up India completes 7 years. The Prime Minister, Shri Narendra Modi has acknowledged the role that Stand Up India initiative has played in empowering the SC/ ST communities and ensuring women empowerment.**

- The Stand Up India Scheme was established on April 5, 2016, with the goal of encouraging grassroots entrepreneurship for economic empowerment and job creation. This strategy aims to use the institutional credit system to reach out to those who are underserved, such as SCs, STs, and women entrepreneurs.

➤ **About the Scheme**

- Every bank branch participates in the Stand Up India Scheme, which grants bank loans ranging from 10 lakh to 1 crore to at least one scheduled caste (SC) or Scheduled Tribe borrower, as well as at least one woman, for the development of a greenfield enterprise.
- This business might be in manufacturing, services, or trading. In the event of non-individual firms, at least 51 percent of the ownership and controlling interest must be owned by a SC/ST or female entrepreneur.
- SIDBI and NABARD offices would be identified as Stand-Up Connect Centres (SUCC).
- SC/ST and women entrepreneurs of 18 years of age or above are eligible for the stand Up India Scheme. The loans under this scheme are given only to greenfield projects. Greenfield implies the first-time venture of the beneficiary in the manufacturing, services or trading sector. As far as non individual enterprises are concerned, 51% of the shareholding and controlling state should be held either by SC/St or by women entrepreneurs. Lastly, the borrower should not be in default with any bank or institution.
- For loans above Rs10 lakh up to 100 lacks, it depends on risk-based pricing for micro and small enterprises.
- A Composite loan that is inclusive of a term loan and working capital between 10 lakh and up to 100 lakh is provided.



- The loan is repayable in 7 years with a maximum moratorium period of 18 months
- Generally, working capital limits are authorised by cash credit limits. However, subject to the delegation of loaning power, working capital up to 10 lakhs can be approved through an overdraft facility. To make things easier for the borrower, a Rupay debit card will be provided.
- A working capital limit will be established by a cash credit limit. A Rupay debit card will be provided for the borrower's convenience.

2. **Mission Amrit Sarovar:**

➤ **CONTEXT: The Prime Minister, Shri Narendra Modi has praised the Mission Amrit Sarovar and said that the speed with which Amrit Sarovars are being constructed across the country is going to fill new energy in our resolutions for Amrit Kaal.**

- The Prime Minister launched a new Mission Amrit Sarovar on 24th April 2022.
- The objective of the mission is to conserve water for the future.
- The Mission is aimed at developing and rejuvenating 75 water bodies in each district of the country as a part of the celebration of Azadi ka Amrit Mahotsav.
- This Mission has been launched with a whole Government Approach in which 6 Ministries/Department namely;
 - ✓ Dept of Rural Development.
 - ✓ Department of land resources.
 - ✓ Department of Drinking Water and Sanitation.
 - ✓ Department of Water Resources.
 - ✓ Ministry of Panchayati Raj.
 - ✓ Ministry of Forest, Environment and Climate changes.
- The Mission works through the States and Districts, by refocusing on various schemes such as Mahatma Gandhi NREGS, 15th Finance Commission Grants, and PM Krishi Sichayi Yojana sub-schemes such as Watershed Development Component, Har Khet Ko Pani besides States' schemes.
- The Mission would encourage the mobilization of citizen and non-govt resources for supplementing these efforts.
- The Mission Amrit Sarovar is to be completed by 15th August 2023. Around 50,000 such Amrit Sarovar may be constructed in the country.
- People's participation in the Mission is the focal point. Local freedom fighters, their family members, Martyr's family members, Padma Awardees and citizens of the local area wherein an Amrit Sarovar is to be constructed, will be engaged at all stages.

3. **Ladakh's Wood Carving**

➤ **CONTEXT: The Prime Minister, Shri Narendra Modi expressed happiness about GI Tag for Ladakh's Wood Carving, a first of its kind.**

- In a major recognition for Ladakh, its wood carving has been granted the Geographical Indication (GI) Tag.
- In December 2022, the government also granted GI Tag for Raktsey Karpo apricot of Ladakh.
- The process for GI Tagging of these products was started by NABARD in consultation with and support of the Department of Handicrafts and Handloom in December 2020.
- Earlier in 2023, the products were registered with the GI Registry Chennai.

➤ **About the wood carving**

- Ladakh's wood carving has been known for its intricate designs and unique patterns, which are mostly inspired by Buddhist themes and motifs.
- The wood carvings are made from local wood such as willow and apricot, and they are often used for decorating doors, windows, and other household items.
- This craft is practiced in the Wanla and Cjoglamsar districts of Leh. Items ranging from folding tables called choktse, wooden pot called fehpur, tea mixing pot called gurgur, larger tables, cupboards, ritual bowls, cup with lids to printing bleoks are produced under this craft-form.
- The tools required for this process are tool box called zaghama, sandpaper called kapsack, sharpening tool called jandar, chisels, saw, measuring tape and gouges.
- **Benefits:** The GI tag for Ladakh's Wood Carving is likely to boost the local economy by promoting tourism and creating employment opportunities for artisans. The recognition will also protect the traditional knowledge and skills of wood carving, ensuring that it is passed down to future generations.



➤ **GI Tags**

- The GI tag for Ladakh's wood carving has been granted by the GI Registry in Chennai, which is responsible for registering products under the GI Act, 1999. The registration ensures that the product has a unique identity and origin, and it cannot be duplicated or sold under the same name by any other manufacturer from a different region.
- A Geographical Indication (GI) tag is a type of intellectual property right that identifies a product as originating from a specific geographical location, and possessing certain qualities, characteristics or reputation that are due to that location.
- The GI tags are issued as per the Geographical Indications of Goods (Registration and Protection) Act, 1999. This tag is issued by the Geographical Indication Registry under the Department of Industry Promotion and Internal Trade.
- The GI tags are used to protect the products from being copied or imitated by others and to ensure that consumers get genuine and authentic products.

ANSWER WRITING

Q. Discuss the concept of environmental ethics and the values on which it is based. Illustrate with the help of relevant examples.

Environmental ethics is a branch of applied philosophy that studies the moral and ethical relationship of human beings to the environment. With the deterioration of ecological systems and the worsening of environmental issues, humans have realised that they cannot fix environmental pollution and ecological imbalances just by economical, technological, and judicial means. In this context, environmental ethics and practices can play a critical role in ensuring that humans and other beings in the environment are treated equally.

Some broad common values on which environmental ethics is based:

- **Ecological Sustainability:** Sustainable development implies harmony in human-environment interactions and inter-generation responsibility, with emphasis on a harmonious relationship among population, resources, environment and development.
 - For e.g.: renewable energy sources are seen as an ethical choice, as they do not cause pollution or deplete finite resources.
- **Biocentric Ethics Value System:** Bio-centrism is a moral point of view that extends the intrinsic value of life to all living things.
 - For e.g.: advocating for animal rights, and increasing consciousness about vegetarianism and veganism are examples of the biocentric value system.
- **Coexistence of species and ecosystems:** All living organisms, including animals, plants or humans, have right over the environment and humans should learn to coexist with them. Agro-forestry, and the creation of biodiversity hotspots, are examples of coexistence.
- **Conservation:** Humans should exploit nature only for their vital needs. The focus should be on the conservation of resources by finding alternatives and by taking appropriate measures.
 - For e.g.: In India, to balance the development and environment, the policymakers have established institutions like NGT, the Central Pollution board, National Ganga River Basin Authority, National Biodiversity Authority, etc.
 - Further, Environmental Impact Assessment (EIA) is made mandatory for various projects, such as mining, thermal power plants, river valley and infrastructure.
- **Collectivism along with individualism:** Taking collective actions as well as recognising individual actions at the same time is important for the protection of the environment.
 - For e.g. Under the Paris agreement, countries put forward national plans in the form of Nationally Determined Contributions (NDCs). Further, the countries have also collectively launched a host of initiatives to address environmental issues such as clean development mechanism (CDM), climate and clean air coalition, etc.
- **Holistic:** Protecting the environment in its entirety, instead of in parts, prevents the efforts of conservation from being wasted.

Though we have a rich tradition and culture of living in peace and harmony with nature but with industrialization we have become indifferent towards nature. Therefore, the need of the hour is to emphasize promoting sustainable development and taking into consideration the ethical values of equity, justice, temperance and wisdom in the choices we make concerning the environment.

MCQs

1. Consider the following Plant Variety Protection and Farmers' Rights Act (PPVFRA) 2001
 1. One of the objective of the act is to establish an effective system for the protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants.
 2. The Act recognise Breeders' Rights, Researchers' Rights and Farmers' Rights
 Which of the above statement/s is/are correct?

a) 1 only b) 2 only c) Both 1 and 2 d) Neither 1 nor 2
2. With reference to Forest (Conservation) Amendment Bill, 2023 consider the followings

1. The Bill replace the Forest Conservation Act, 1980
2. The Act restricts the de-reservation of forest or use of forest land for non-forest purposes.
3. Under the Act, state government or any authority requires prior approval of the central government to direct the assigning of forest land through a lease or otherwise to any organisation (such as private person, agency, authority, corporation) not owned by the government.
Which of the above statement/s is/are correct?
a) 1 only **b) 2 and 3 only** c) 1 and 3 only d) 3 only
3. With reference to Compensatory Afforestation Fund (CAF) Act, 2016 consider the following
 1. The Act established a National Compensatory Afforestation Fund under the Consolidated Fund of India and State Compensatory Afforestation Fund under the Consolidated Fund of each state.
 2. The State Funds will receive 90% of the payments while National Fund will receive remaining 10%.
 3. The Act established Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
 Which of the above statement/s is are not correct?
a) 1 and 2 only b) 2 and 3 only **c) 1 and 3 only** d) 1,2 and 3
4. With reference to the “Stand-up India Scheme”, which of the following statements is / are correct?
 1. Its purpose is to promote entrepreneurship among SC / ST and women entrepreneurs.
 2. It provides for refinancing through RBI.
 3. It provides financial assistance to Greenfield projects only
 Select the correct answer using the code given below:
a) 1 and 2 only b) 2 and 3 only **c) 1 and 3 only** d) 1,2, and 3
5. With regard to Amrit Sarovar Scheme, consider the following statements:
 1. The Mission is aimed at developing and rejuvenating 75 water bodies in each district of the country.
 2. It was launched on National Panchayati Raj Day on 24 April 2022.
 Select the correct answer from the codes given below
a) 1 only b) 2 only **c) Both 1 and 2** d) Neither 1 nor 2
6. The world-famous Basohli Painting recently got GI Tag is belongs to which of the following state or UTs?
a) Himachal Pradesh
b) Rajasthan
c) Ladakh
d) Jammu and Kashmir
7. With reference to Ladakh's wood carving, which was recently got GI Tag, consider the following
 1. They are mostly inspired by Buddhist themes and motifs.
 2. It is also known as ‘Ladakh Shingskos’, has become the first handicraft from the Union Territory to be granted a Geographical Indication (GI) tag
 Which of the above statement/s is/are correct?
a) 1 only b) 2 only **c) Both 1 and 2** d) Neither 1 nor 2
8. With reference to Atomic Energy (Amendment) Act, 2015 consider the following
 1. The act facilitates fast track setting up of new nuclear projects in the country which allow for the formation of joint ventures between the Nuclear Power Corporation of India Limited and other government companies.
 2. The Act amended the Atomic Energy Act of 1952
 Which of the above statement/s is/are correct?
a) 1 only b) 2 only c) Both 1 and 2 d) Neither 1 nor 2
9. With reference to Safe City Projects consider the following
 1. Safe City Projects have been sanctioned by the Ministry of women and Child Development under the Nirbhaya Fund Scheme
 2. The project has been launched in a pan India basis.
 3. The State Governments have entrusted the responsibility of Implementation of their projects to the Police department in consultation with the local bodies and State Line Departments.
 Choose the correct statement/s using the codes given below
a) 1 only b) 1 and 2 only c) 2 and 3 only **d) 3 only**
10. VISVAS Yojana recently seen in news is associated with which of the following Ministry?
a) Ministry of Finance
b) Ministry of Social Justice and Empowerment
c) Ministry of Home Affairs
d) Ministry of Women and Child development