Prelim Bits 20-11-2021 | UPSC Daily Current Affairs

Integrated Farming Practices for India

A new study on integrated farming has found that the following 4 methods are worth following in India.

- This work found that
    1. **Relay planting** enhances yield,
    2. **Strip rotation** (Within-field rotation) was more fruitful,
    3. **Soil munching** and **No-till** or a reduced tillage, when compared with traditional monoculture cropping,
        - Increases the annual crop yield up by 15.6% to 49.9%, and
        - Decreases the environmental footprint by 17.3%.
- While these methods are not easy for small farmers in India, they could be practised at least in **larger farms**.

Relay Planting

- Relay planting means the planting of different crops in the same plot, **one right after another**, in the same season.
    - Second crop is planted into an established stand of a main crop.
    - Second crop develops fully after the main crop is harvested.
- **Examples** - Planting rice and summer gourd in the same season.
- If this method is followed, there is **less risk** since you do not have to depend on one crop alone.
- It also means better distribution of labour, insects spread less, and any legumes actually add nitrogen to the soil.
- However, the difficulties involved in relay cropping are difficulty in mechanisation, and higher requirements for management.

Strip Cropping

- It is a practice of growing field crops in narrow strips either at right angles to the direction of the prevailing wind, or following the natural contours of the terrain to prevent soil erosion by wind and water.
- It involves planting crops in strips across the slope, with alternate strips of grain and/or forage crops.
- It is used when a slope is too steep or too long, or otherwise, when one does not have an alternative method of preventing soil erosion.
- It is more effective in reducing soil losses, as it combines,
    1. Soil & moisture conserving properties of cross-slope farming with
    2. Soil building advantages of a crop rotation.
- Strip cropping has been used in the U.S. (where the fields are larger than those in India),

where they grow wheat, along with corn and soyabean, in the same farm in an alternative manner. However, this needs large lands.
- In India, it is used in the large fields such as the ones owned by cities and state governments.

Soil Mulching

- Soil mulching is the application of a layer of material (mulch) to the surface of an area of soil.
- It requires keeping all bare soil covered with straw, leaves, and the like, even when the land is in use.
- As mulch prevents rain from hitting the soil directly, the impact of the water drops is reduced.
- Erosion is curtailed, moisture retained, and beneficial organisms, such as earthworms, kept in place. Mulching adds organic matter to the soil.
- Mulch decreases water loss due to evaporation.
- The same set of benefits is also offered by not tilling the soil.

No-till Farming

- No-till farming (or zero tillage or direct drilling) is a technique for growing crops or pasture without disturbing the soil through tillage.
- In this, not only the soil is left undisturbed by tillage and but also the residue is left on the soil surface.
- In zero tillage, **herbicide functions are extended**. Before sowing, the vegetation present has to be destroyed for which broad spectrum, non-selective herbicides with relatively short residual effect are used.

Reference

1. https://www.thehindu.com/sci-tech/science/indian-farming-practices-learning-from-elsewhere-in-the-world/article3725678ece
2. https://agritech.tnau.ac.in/agriculture/agri_majorareas_dryland_agromeasures_strip_cropping.html
3. http://www.agritech.tnau.ac.in/expert_system/paddy/cultivationpractices5.html
4. http://nwrm.eu/measure/strip-cropping-along-contours
5. https://agritech.tnau.ac.in/agricultural_engineering/agriengg_Mulching.html
6. https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/no-till-farming

Radio Stars

National Centre for Radio Astrophysics (NCRA-TIFR) astronomers have used the upgraded Giant Metrewave Radio Telescope (uGMRT) to discover 8 stars belonging to a rare category 'Main-sequence Radio Pulse' (MRPs) emitters.

- Radio Stars or stellar radio sources or radio source stars are celestial objects, such as a supernova remnant or quasar, which emit radio waves.
- MRPs are radio stars hotter than Sun with magnetic fields stronger than stellar wind (a continuous flow of gas from a star's upper atmosphere).
- Due to this, they emit bright radio pulses like a lighthouse.
- They are probably more common, but are difficult to detect as the radio pulses are visible only at certain times and the phenomenon is mostly observable at low radio frequencies.

Magnetic field and temperature are two quantities that appear to play the major role in deciding how intense the radio pulse will be.

Reference

1. https://www.thehindu.com/sci-tech/science/ncra-astronomers-discover-rare-radio-stars/article37586840.ece
2. https://www.collinsdictionary.com/dictionary/english/radio-star

Process for Repealing a Law

Prime Minister announced that the process of repealing the three contentious farm laws will take place in the upcoming Winter Session of Parliament.

- Repealing a law is one of the ways **to nullify a law**. A law is reversed when Parliament thinks there is no longer a need for the law to exist.
- Sometimes, legislation can also have a "sunset" clause, a particular date after which they cease to exist.
- For laws that do not have a sunset clause, Parliament has to pass another legislation to repeal the law.
- **Article 245** of the Constitution gives Parliament the power to make laws for the whole or any part of India, and State legislatures the power to make laws for the state.

For repeal, the power of Parliament is the same as enacting a law under the Constitution (Article 245)

- A law can be repealed either in its entirety, in part, or even just to the extent that it is in contravention of other laws.
- **Two Ways** - Laws can be repealed in two ways through
    1. Ordinance, or
    2. Legislation.
- **Ordinance** - In case an ordinance is used, it would need to be replaced by a law passed by Parliament within 6 months.
- If the ordinance lapses because it is not approved by Parliament, the repealed law can be revived.
- **Legislation** - The government can also bring legislation to repeal the laws. The Repealing and Amending (Amendment) Bills are introduced for this purpose.
- It will have to be passed by both Houses of Parliament, and receive the President's assent before it comes into effect.
- When a repeal bill is passed, it is also a law.

All three farm laws can be repealed through a single legislation.

Reference

1. https://indianexpress.com/article/explained/the-process-for-repealing-a-law-7631735/
2. https://www.thehindu.com/news/national/explained-how-to-repeal-a-law/article37574716.ece
3. https://timesofindia.indiatimes.com/india/govt-to-repeal-all-3-new-farm-laws-how-is-a-law-repea

led-in-india/articleshow/87794900.cms

CRISP-M for MGNREGA

Ministry of Rural Development reaches an important milestone with the completion of Geographical Information System (GIS) plans for around 75% Gram Panchayats (GPs) under Mahatma Gandhi NREGA.

- Climate Resilience Information System and Planning (CRISP-M) tool will integrate this GIS-based planning data with the climate data.
- This tool was developed jointly by the Ministry of Rural Development and the British Government.
- CRISP-M will enable the local communities to understand the impact of changing climate in terms of various geophysical parameters and make smart decisions on them.
- This is initially proposed to be taken up in 7 states and will be expanded later to all other states as well.

Reference

1. https://pib.gov.in/PressReleasePage.aspx?PRID=1773279
2. https://rural.nic.in/press-release/climate-resilience-information-system-and-planning-crisp-m-tool-mahatma-gandhi-nreg
3. https://newsonair.com/2021/10/14/crisp-m-aiding-rural-communities-to-cope-with-climate-change/

Uniform Civil Code

Allahabad High Court has called upon the Central Government to forthwith initiate the process for the implementation of the Uniform Civil Code (UCC).

- The UCC cannot be made 'purely voluntary' as was observed by Dr. B.R Ambedkar 75 years back in view of the apprehension and fear expressed by the members of the minority community.
- The Court directed the Centre to consider the constitution of a committee or commission for implementing the mandate of Article 44 (UCC), as directed by the Supreme Court.
- To know more about the Uniform Civil Code, click here and here.

Reference

https://www.thehindu.com/todays-paper/tp-national/hc-presses-centre-on-uniform-civil-code/article37590794.ece

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