Natural Farming

For Prelims: Natural Farming, Zero-Budget Natural Farming (ZBNF), Bhartiya Prakritik Krishi Paddhati Programme (BPKP), Paramparagat Krishi Vikas Yojana (PKVY), Carbon Sequestration, National Mission on Sustainable Agriculture.

For Mains: Natural Farming - Significance and Associated Issues.

Why in News?

The Ministry for Agriculture and Farmers Welfare has inaugurated the Comprehensive Training Programme on **Natural Farming**, organised by the **National Institute of Agricultural Extension Management (MANAGE).**

- MANAGE was established in 1987 as the Indian response to **challenges of agricultural extension in a rapidly growing and diverse agriculture sector.**
- In practical terms, **extension means** giving farmers knowledge of agronomic techniques and skills to improve their productivity, food security and livelihoods.

What is Natural Farming?

- It can be defined as a **"chemical- free farming and livestock based "**. Soundly grounded in agro-ecology, it is a **diversified farming system that integrates crops, trees and livestock,** allowing the optimum use of functional biodiversity.
- It **holds the promise of enhancing farmers' income while delivering many other benefits,** such as restoration of soil fertility and environmental health, and mitigating and/or reducing greenhouse gas emissions.
    - This farming approach was **introduced by Masanobu Fukuoka**, a Japanese farmer and philosopher, in his 1975 book The One-Straw Revolution.
- It builds on natural or ecological processes that exist in or around farms. Internationally, Natural Farming is **considered a form of regenerative agriculture**—a prominent strategy to save the planet.
- It has the **potential to manage land practices and sequester carbon from the atmosphere** in soils and plants, where it is actually useful instead of being detrimental.
- In India, **Natural farming is promoted as Bhartiya Prakritik Krishi Paddhati Programme (BPKP) under** Paramparagat Krishi Vikas Yojana (PKVY).
    - BPKP is aimed at promoting traditional indigenous practices which reduce externally purchased inputs.
- Natural Farming, as the **name suggests, is the art, practice and, increasingly, the science** of working with nature to achieve much more with less.

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COMPONENTS OF

NATURAL FARMING

Beejamrit

The process includes treatment of seed using cow dung, urine and lime based formulations.

Jivamrit

The process enhances the fertility of soil using cow urine, dung, flour of pulses and jaggery concotion.

Whapasa

The process involves activating earthworms in the soil in order to create water vapor condensation.

Mulching

The process involves creating micro climate using different mulches with trees, crop biomass to conserve soil moisture.

Plant Protection

The process involves spraying of biological concoctions which prevents pest, disease and weed problems and protects the plant and improves their soil fertility.

What is the Significance of Natural Farming?

- **Minimised Cost Of Production:**
  - It is considered as a cost- effective farming practice with scope for raising employment and rural development.
- **Ensures Better Health:**
  - As Natural Farming does not use any synthetic chemicals, health risks and hazards are eliminated. The food has higher nutrition density and therefore offers better health benefits.
- **Reduced Water Consumption:**
  - By working with diverse crops that help each other and cover the soil to prevent unnecessary water loss through evaporation, Natural Farming optimises the amount of ‘crop per drop’.
- **Rejuvenates Soil Health:**
  - The most immediate impact of Natural Farming is on the biology of soil—on microbes and other living organisms such as earthworms. Soil health depends entirely on the living organisms in it.
- **Environment Conservation:**
  - It ensures better soil biology, improved agrobiodiversity and a more judicious usage of water with much smaller carbon and nitrogen footprints.
- **Livestock Sustainability:**
  - The integration of livestock in the farming system plays an important role in Natural farming and helps in restoring the ecosystem. Eco Friendly bio-inputs, such as Jivamrit and Beejamrit, are prepared from cow dung and urine, and other natural products.
- **Resilience:**

- The changes in soil structure with the help of organic carbon, no/low tillage and plant diversity are supporting plant growth even under extreme situations like **severe** droughts **and withstanding severe** flood **and wind damage during** cyclones.
- NF impacts many farmers positively by imparting resilience to the crops against weather extremities.

What are the Differences between Natural Farming and Organic Farming?	
Organic Farming	Natural Farming
In organic farming, organic fertilizers and manures like compost, vermicompost, cow dung manure, etc. are used and added to farmlands from external sources.	In natural farming, neither chemical nor organic fertilizers are added to the soil. In fact, no external fertilizers are added to soil or given to plants whatsoever.
Organic farming still requires basic agro practices like plowing, tilting, mixing of manures, weeding, etc. to be performed.	In natural farming, decomposition of organic matter by microbes and earthworms is encouraged right on the soil surface itself, which gradually adds nutrition in the soil, over the period.
Organic farming is still expensive due to the requirement of bulk manures, and it has an ecological impact on surrounding environments; whereas, natural agriculture is an extremely low-cost farming method, completely molding with local biodiversity.	In natural farming there is no plowing, no tilting of soil and no fertilizers, and no weeding is done just the way it would be in natural ecosystems.

What are the Other Initiatives related to Agriculture?

- **Rainfed Area Development (RAD):** It focuses on Integrated Farming System (IFS) for enhancing productivity and minimizing risks associated with climatic variabilities.
- **Sub-mission on Agro Forestry (SMAF):** It aims to encourage farmers to plant multi-purpose trees together with the agriculture crops for climate resilience and an additional source of income to the farmers, as well as enhanced feedstock to inter alia wood-based and herbal industry.
- National Mission on Sustainable Agriculture **(NMSA),** to develop, demonstrate and disseminate the techniques to make agriculture resilient to adverse impacts of climate change.
- **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER):** It is a **Central Sector Scheme**, a sub-mission under NMSA, aims to develop certified organic production in a value chain mode.
- **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY):** It was launched in 2015 to address the issues of water resources and provide a permanent solution that envisages Per Drop More Crop.

Way Forward

- The world's **population is predicted to expand to approximately 10 billion by 2050.** It is expected that agricultural demand will increase up to 50%, in comparison to 2013, in such a situation a transformational process towards 'holistic' approaches such as agro-ecology, agroforestry, climate-smart agriculture, and conservation agriculture is a necessity.
- There is a **need to strengthen agricultural market infrastructure** and extend the procurement mechanism to all foodgrain and non-foodgrain crops to all States.
- MGNREGS ((Mahatma Gandhi National Rural Employment Guarantee Act) **must also be linked with farm work** in order to reduce the cost of cultivation which has escalated at a faster pace over the past few years.

Source: PIB