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Importance of Zero Budget Natural Farming

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Introduction

Subash Palekar (Indian Agriculturist and Padma Shri Recipient) is the father of Zero Budget Natural Farming. He developed it in the mid-1990s as an alternative to the Green Revolution methods.

The topic, 'Zero Budget Natural Farming,' gained prominence when Finance Minister Nirmala Sitharaman mentioned it in her 2019 budget speech, speaking of it as a source of doubling farmers' income.

About Natural Budget Natural Farming

Zero Budget Natural Farming (ZNBF) is the practice of growing crops without the use of any external inputs, such as pesticides and fertilizers. The phrase "Zero Budget" refers to all crops with zero production costs. The farmers' revenue is increased as a result of ZBNF's guidance towards sustainable farming methods that help to maintain soil fertility, assure chemical-free agriculture, and ensure a cheap cost of production (zero cost). Simply said, ZBNF is a farming technique that emphasises cultivating crops in harmony with the environment. Under the specific programme know as, Paramparagat Krishi Vikash Yojana (PKVY) the government has been encouraging organic farming. This programme supports all different types of chemical-free agricultural methods, including Zero Budget Natural Farming.

Principles of Zero Budget Natural Farming

- Zero external inputs
- Crops to cover the soil for 365 days (Living Root
- Soil disturbance at a minimum
- Bio stimulants as essential catalysts
- Utilize native seed for mixed farming

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- Mixed cropping
- The incorporation of trees onto the farm
- Conservation of moisture and water
- Bring animals into farming
- More organic debris in the soil
- Using plant extracts to control pests
- No artificial pesticides, herbicides, or fertilisers

Benefits of Zero Budget Natural Farming

Below are some of the major benefits of Zero Budget Natural Farming:

- For all crops, ZBNF methods use between 50 and 60 per cent less water and electricity compared to non-ZBNF methods.
- Through multiple aerations, ZBNF greatly lowers methane emissions.
- By using mulching, it is also possible to prevent the burning of residue.
- In ZBNF, cultivation costs are lower.
- The primary reason for debt and suicide amongst farmers is the rising expense of external inputs (seeds, fertilisers, pesticides, and herbicides). Over half of all farmers are in indebtedness, and nearly 70% of households in the agricultural sector spend more than they make, according to data from the National Sample Survey Office (NSSO).
    - The cost of production could be decreased and agriculture could be turned into a "zero budget" endeavour since under ZBNF there is no requirement of spending money or taking out loans for external inputs.
    - This will enable many small farmers to escape the debt cycle and pave the way for the income of farmers to double.
- As ZBNF is a completely chemical-free technique, it is environmentally friendly and produces organic yields which fetch the farmers higher profits than from normal agricultural yields.
    - Organic foods thus avoid diseases which used to be caused by non-organic foods, in a long run will not only make people healthy but also reduce the burden on the healthcare infrastructure in general.
- It suits all crops in all agro-climatic zones.

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Components of Zero Budget Natural Farming

There are four primary ZNBF components and models:

1. **Bijamrita**: As native cow species are more adapted to our region's climatic circumstances and easier for small and marginal farmers to maintain, the seeds are treated with formulations made using their dung and urine. While neem leaves and pulp, tobacco, as well as green chilli extracts are used to manage insects and pests, bijamrita is utilised to treat seeds.

   Benefits: Fungal and other seed- and soil-borne infections may impact the seeds sowed in the field. The seeds are shielded against illnesses by the "Bijamrita" seed treatment.

2. **Jiwamrita/Jeevamrutha:** A natural resource utilised to restore the fertility and nutritional value of soil is cow dung. A gramme of cow dung may contain 300–500 billion helpful microorganisms. These bacteria help decompose the soil's biomass and transform it into readily usable nutrients for crops. Cow dung and cow urine are used to make Jiwamrita. It is a component of the plants' diet. It is a fermented microbial culture made from uncontaminated soil, jaggery, cow dung, urine, and pulse flour. When applied to soil, this fermented microbial culture enriches the soil with nutrients and acts as a catalyst to encourage the activity of earthworms and microorganisms. For each hectare of land, 500 litres of jeevamrutha should be applied twice a month; following three years, the system might become self-sustaining. A single native cow is adequate 30 acres of land.

   Benefits: By promoting soil microbial activity, this culture improves the availability of nutrients to plants, shields crops from soil diseases, and raises the carbon content of the soil.

3. **Acchadana/Mulching:** The process of mulching involves adding cover crops, organic debris, or agricultural residue to the topsoil.

   Benefits: Decomposing the materials used for mulching results in humus, which not only improves soil nutritional status but also conserves topsoil, boosts soil water retention, reduces evaporation loss, and promotes soil fauna. It also inhibits weed growth.

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4. **Waaphasa/Moisture (Soil Aeration):** For plants to grow and thrive, the soil must have adequate aeration.

   Benefits: Applying Jiwamrita and mulching promotes soil aeration, humus content, and availability of water, water retention capacity, and soil structure, all of which are essential for crop growth, particularly during dry spells.