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From Waste To Wealth: The Zero Budget Natural Farming Approach

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INTRODUCTION

Zero Budget Natural farming (ZBNF) is also known as Zero Budget Spiritual farming (ZBSF). It is sometimes referred to as "The Fukuoka Method," "The Natural Way of Farming," and "Do-Nothing Farming." According to NITI Ayog, "Natural Farming is a chemical-free traditional farming method." It is regarded as an agroecology-based diversified agricultural system that combines crops, trees, and livestock with functional biodiversity. It is a system relying on natural laws to govern agricultural practices. This approach works in harmony with each farm's inherent biodiversity, fostering the complexity of living organisms that contribute to build up of particular ecosystem to thrive in such a way that food plants can grow alongside them. It relies on natural or ecological processes that exists on or near farms. Natural farming has the potential to increase the income of the farmers while simultaneously offering other benefits such as restoration of soil fertility and environmental health, as well as mitigation of greenhouse gas emissions.

In 2016, Shri Subhash Palekar received the Padma Shri award for bringing this concept to light. It involves growing plants for free without incurring any cost. This eliminates the need for farmers to purchase fertilisers, pesticides, and other agrochemicals to produce healthy crops. This approach integrates locally accessible natural biodegradable materials, ecological knowledge, and current advances in technology with traditional farming practices that rely on natural biological processes.

There is also an extensive history of natural farming, promoted by advocates such as Shri Narayana Reddy in Karnataka, Shri Shripad Dabholkar in Maharashtra, Shri G Nammalvar in Tamil Nadu, Shri Deepak Suchde in Madhya Pradesh, and Shri Bhaskar Save, known as the 'Gandhi of Natural Farming' in Gujarat. Subhash Palekar pioneered the cocept of Zero Budget Natural Farming (ZBNF) in the 1980s after conducting his own research on Vedas, organic farming and conventional agricultural science methods on his own farm. Shri Subhash Palekar was awarded the Padma Shri in 2016 for bringing this concept into limelight. The Credit for shaping natural farming movement in the country goes to Shri Acharya Devvrat, who is presently the Governor of Gujarat. Natural farming

spread throughout the state's Panchayats and villages in just three years as a consequence of his tireless efforts.

"ZBNF is self-nourishing and symbiotic in nature."- Subash Palekar (Palekar, 2014)

Basic Pillars of ZBNF

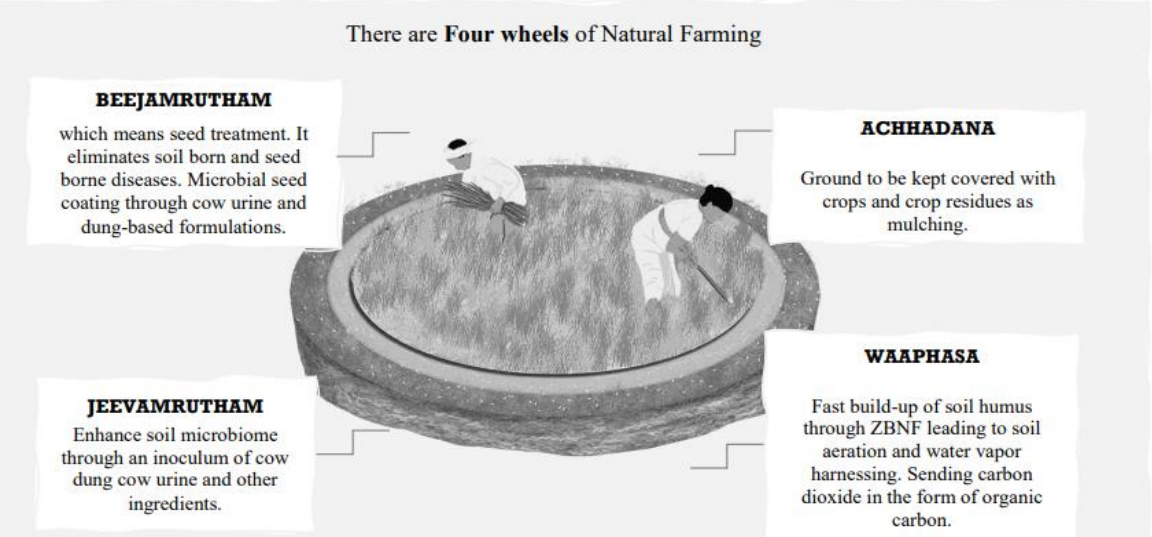
1. **Jeevamrutha:** It is made up of cow dung (20 kg), urine (5-10 l), jaggery (20 kg) and pulse flour (2 kg). Besides being rich in nutrients, it also functions as a catalytic agent, encouraging the activity of microorganisms in the soil and promoting earthworm activities as well. Jeevamrutha is also effective at preventing fungal and bacterial plant diseases. Jeevamrutha is only required for the first three years of the transition, afterwards the system becomes self-sustaining. This mixture should be applied every fortnight. It should be either sprayed directly on the crops or mixed with irrigation water. In the case of fruit plants, it should be applied on individual fruit plants. This mixture can be stored maximum for up to 15 days. In summer, spray is to be done in the early morning or late in the evening. In winter spray can be done at any time of the day. It can also be applied by hand whenever there is a water scarcity problem or when there is no sprayer available, still we can use it.

   First spray should be done after one month of seed sowing or transplanting of the seedling (100 litre water + 5 litre of Jeevamrutha. Second spray should be done after 21 days of the first spray (150 litre of water +10 litres of jeevamrutha).Third spray should be done after 21 days of the second spray(200 litre of water + 20litre of jeevamrutha).Fourth spray should be done when fruits are beginning to show up(200 litre of water + 6 litre sour buttermilk) for one acre.

2. **Beejamrita:** It primarily consists of water (20l), cow dung (5kg), urine (5l), lime (50gm), and a handful of soil. Bijamrita is a seed treatment that protects young roots of the plant from fungal, soil-borne, and seed-borne ailments.

3. **Acchadana/Mulching:** It can be done with soil mulch, straw mulch or live mulch. It preserves soil moisture by minimising evaporation.

4. **Whapasa:** Irrigation should be minimised and done only at noon in alternate furrows. Palekar disputes the notion that plant roots require a lot of water; instead, roots require water vapour, and so Whapasa is the situation in which both air and water molecules reside in the soil.



BENEFITS OF NATURAL FARMING

1. **Reduction In Cost Of Cultivation**: Zero budget natural farming can reduce the dependence on loans and brings reduction in costs associated with production, breaking the vicious circle of debt for struggling farmers. The phrase 'Zero Budget' implies no use of credit/money in order to purchase agricultural inputs.
2. **Biodiversity Conservation**: Natural farming is based on natural processes with no use of chemicals in order to preserve biodiversity and promote harmony with nature. It reduces soil erosion & nourishes the soil with nutrients. According to natural farming principles, plants get 98% of their supply of nutrients from the air, water and sunlight and the remaining 2% can be full-filled by good quality soil with plenty of friendly microorganisms (Just like in forests and natural systems).
3. **Healthy Soils Build Up**: The soil should always be covered with organic mulch, which produces humus and promotes the growth of beneficial microbes. Farm-made bio-cultures such as Jeevamrutha and Beejamrit are applied to the soil in place of fertilisers to encourage soil microflora. The technique requires only cow dung and urine (Gomutra) from Indian breed cows. Desi cows appear to be the purest in terms of microbial content in cow manure and urine.
4. **Reduction In Environmental Pollution**: In natural farming, neither chemical nor organic fertilisers are applied to the land. In fact, no external fertilisers are added to the soil or applied to the plants. Decomposition of organic debris by bacteria and earthworms is promoted immediately on the soil surface, gradually adding nourishment to the soil over time. Soil is not ploughed, tilled, fertilised, or weeded, mimicking a natural ecological setting. Pest and disease management is achieved by the use of natural, farm-made insecticides such as Dashparni Ark and Neem Astra. Weeds are considered necessary and can be used as a live or dead mulch layer. Multi-cropping is encouraged over the single crop.

INSECTS & PESTS MANAGEMENT IN NATURAL FARMING

1. **AGNIASTRA**: It is composed of 10 litre local cow urine and 1 kg tobacco, 500gm of green chili, 500gram local garlic, 5 kg Neem leaves pulp (crushed in urine). For spraying, Agniastra is taken in 100l water. It is effective against the pests like leaf roller, stem borer, fruit borer, pod borer.
2. **BRAHMASTRA:** It is prepared by neem leaves, custard apple leaves, lantern camellia leaves, guava leaves, pomegranate leaves, papaya leaves and white dhatura leaves crushed and boiled in urine. It is effective against all of the sucking pests, pod borer, fruit borer.
3. **NEEMASTRA**: It is composed of 5 litre local cow urine, 5 kg cow dung and neem leaves and 5 kg neem pulp fermented for 24 hrs. It is used for the control of sucking pests & mealy bug.

CONCLUSION

Natural Farming is a chemical-free traditional farming method. It is self-nourishing and symbiotic in nature. It relies on natural or ecological processes that exists on or near farms. This approach integrates locally accessible natural biodegradable materials Natural farming has the potential to increase restoration of soil fertility and environmental health, as well as mitigation of greenhouse gas emissions.