

## Zero Budget Natural Farming in Sustainable Agriculture

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### SUMMARY

Natural farming, a sustainable agriculture practice, emphasizes the use of natural methods and processes to cultivate crops and livestock. This approach is based on ecological and agroecological principles, as well as traditional farming practices. Natural farming practices, such as minimal tillage, crop rotation, organic matter use, water conservation, integrated pest management, and agroforestry, promote soil health, conserve water, reduce chemical inputs, and enhance ecological balance. Compared to conventional agriculture practices, natural farming offers a more sustainable and ecologically sound alternative, as it reduces environmental impacts and promotes long-term agricultural sustainability.

### INTRODUCTION

Chemical fertilisers and insecticides have increased at an alarming rate in India since the green revolution. Excessive chemical use has a negative influence on the ecosystem, soil, human health, and Consumption of groundwater purity. To limit the usage of artificial fertilisers and pesticides in this situation, the Zero Budget Natural Farming technique was implemented. Agriculture is a significant industry in India. It is essential for the Indian economy's survival and expansion. The majority of farmers rely extensively on inorganic external chemical inputs like as fertilisers and pesticides, which pollute groundwater and other water-dependent ecosystems while also reducing soil fertility over time. The continued use of pesticides and chemicals poses a major threat to the health of Indian farmers. Zero-budget farming has the potential to significantly reduce production expenses. This zero-budget natural farming method was pioneered in India in the 1990s by Mr. Subhash Palekar, a Padma Shri recipient. ZBNF is an approach to farming that requires little or no investment in the form of outside resources. Often referred to as low-cost farming, ZBNF is gaining traction in the restoration of soil quality for long-term crop production through diversifying, microbial activities, nutrient recycling, and beneficial biological interaction. Bio-fertilizers play a significant role in plant growth and production, making them an essential part of organic and sustainable farming. Low-input agricultural practices have proliferated around the globe, providing producers with potentially lower costs and improved yields as well as food that is free of chemicals for consumers and improved fertility for the soil. Natural farming is a sustainable agriculture practice that aims to cultivate crops and livestock using natural methods and processes. It is based on the principles of ecology, agroecology, and traditional farming practices. Natural farming practices focus on improving soil health, conserving water, reducing chemical inputs, and enhancing the overall ecological balance of the farm.

### Need of zero budget natural farming

- Higher cost of inputs
- Higher Wages for labor
- Market price Fluctuations
- Weather extremities
- Suicide in farmers
- Rising Environmental concerns
- Change in Consumers preference towards safety food
- Combat climate change

### Benefits of zero budget natural farming

- Farming in tune with nature
- Multi-crop cultivation methods for increased net income
- In ZBNF, there is no need for farmers to purchase inputs, so the cost of production is zero.
- This method uses only 10% of the water that crops use when grown in traditional ways. Approximately 10-12 kg of fresh dung is produced by a cow every day, enough to cover 30 acres of land in one month.
- There are no fertilizers or pesticides used on the farm, so input costs are nearly zero.

- Adding more crops and border crops to the same plot of land serves as a source of nutrients.
- External labor requirements are being reduced.
- Untainted food.
- It is suitable for all crops in all climates.

### Key principles of natural farming:

- 1. Minimal tillage:** Natural farming practices involve minimal tillage to reduce soil erosion, preserve soil structure, and promote the growth of beneficial microorganisms.
- 2. Crop rotation:** Crop rotation is a key component of natural farming, as it helps to maintain soil fertility, reduce pest and disease pressure, and promote the growth of beneficial microorganisms.
- 3. Use of organic matter:** Natural farming practices involve the use of organic matter such as compost, manure, and crop residues to improve soil structure, nutrient cycling, and water-holding capacity.
- 4. Conservation of water:** Natural farming practices emphasize the conservation of water through methods such as rainwater harvesting, mulching, and the use of water-efficient irrigation systems.
- 5. Integrated pest management:** Natural farming practices involve the use of integrated pest management strategies, which combine biological, cultural, and chemical control methods to manage pests and diseases in a sustainable manner.
- 6. Agroforestry:** Natural farming practices often involve the integration of trees and shrubs into agricultural systems, which can provide a range of ecological and economic benefits, such as improved soil fertility, reduced erosion, and increased crop yields.

### Pillars of Zero Budget Natural Farming



#### Jivamrita/Jeevamrutha

It is a mixture of fresh desi cow dung and aged desi cow urine, jaggery, pulse flour, water and soil. This is a fermented microbial culture that adds nutrients to the soil, and acts as a catalytic agent to promote the activity of microorganisms and earthworms in the soil. Jeevamrutha also helps to prevent fungal and bacterial plant diseases.

#### Bijamrita/Beejamrutha

It is used to treat seeds, while concoctions using neem leaves and pulp, tobacco and green chilies are prepared for insect and pest management.

#### Acchadana/mulching

Mulching is the practice of applying a layer of mulch to the top of the soil. Jivamrut's beneficial microorganisms require a specific microclimate for proper growth, multiplication, and activity, and there are three ways to create that microclimate. Mulching is a powerful tool for improving crop quality and yield by regulating soil temperature, maintaining moisture, and reducing soil evaporation.

There are three types of mulching

- a. Soil mulch
- b. Straw mulch
- c. Live mulch

**Whapasa/moisture**

It is the condition in which there are both air molecules and water molecules present in the soil. It encourages reducing irrigation, irrigating only at noon, in alternate furrows. It allows significant decline in need for irrigation.

**CONCLUSION**

Natural farming practices offer a sustainable and ecologically sound alternative to conventional agriculture practices, which often rely heavily on chemical inputs and intensive tillage. By promoting the use of natural methods and processes, natural farming can help to improve soil health, conserve water, reduce chemical inputs, and enhance the overall ecological balance of the farm.

**REFERENCES**

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