

NATURAL FARMING – AN OVERVIEW

Hariraj N¹, Cinthia Fernandez C^{2*}, Karthikeyan C³, Balaji Parasuraman⁴ and Asokhan M⁵

¹PG Scholar, Department of Agricultural Extension & Rural Sociology, TNAU, Coimbatore

²Associate Professor (Agricultural Extension), Directorate of Extension Education, TNAU, Coimbatore

³Professor & Head, Department of Agricultural Extension & Rural Sociology, TNAU, Coimbatore

⁴Professor, Department of Agricultural & Rural Management, TNAU, Coimbatore

⁵Professor, Department of Agricultural Extension & Rural Sociology, TNAU, Coimbatore

*Corresponding Author Mail ID: cinthiafernandaz.c@tnau.ac.in

Introduction

Natural farming is emerging as a powerful movement in modern agriculture, offering an alternative to chemical-intensive practices that harm soil, water, and biodiversity. Often described as “do-nothing farming,” this method emphasizes working with nature rather than against it. Originating from the teachings of Japanese farmer and philosopher Masanobu Fukuoka and further adapted by Indian proponents like Subhash Palekar, natural farming is gaining popularity in India and globally for its eco-friendly, cost-effective, and sustainable approach.

What is Natural Farming?

Natural farming is a method of cultivating crops without the use of synthetic chemicals such as fertilizers, pesticides, or herbicides. Instead, it relies on natural inputs like cow dung, cow urine, jaggery, and pulse flour to nourish soil and crops. It promotes minimal soil disturbance, no tillage, and the use of indigenous seeds. In India, the most well-known model is Zero Budget Natural

Farming (ZBNF), popularized by Padma Shri Subhash Palekar, which aims to reduce farming input costs to near zero while increasing productivity and profitability.

Core Principles of Natural Farming

1. **Bijamrita** – Seed treatment using local cow dung and urine to protect against seed-borne diseases.
2. **Jeevamrita** – A microbial culture prepared with cow dung, urine, jaggery, and pulse flour, applied to soil to enhance microbial activity.
3. **Mulching** – Covering the soil with crop residues or dry biomass to retain moisture and prevent weed growth.
4. **Waaphasa** – Soil aeration through proper moisture balance, enhancing root health and soil microflora.
5. **No external chemical inputs** – Dependence on natural processes and on-farm resources

Natural vs Organic vs Conventional Farming

Feature	Natural Farming	Organic Farming	Conventional Farming
Inputs	Farm-based, no chemicals	Approved organic inputs	Synthetic fertilizers & pesticides
Certification	Not mandatory (local trust-based)	Third-party certification	Not required
Soil Health	Focuses on soil microbiome	Promotes soil fertility	Often leads to soil degradation
Cost	Very low	Moderate to high	High input costs
Productivity	May start low, but stabilizes	Generally moderate	Initially high, but depleting

Benefits of Natural Farming

Environmental Benefits

- Restores soil fertility and microbial diversity.
- Reduces greenhouse gas emissions and water pollution.
- Enhances carbon sequestration through organic matter buildup.

Economic Benefits

- Low input costs due to on-farm materials.
- Resilience to market fluctuations in chemical input prices.
- Potential for premium pricing in organic/natural produce markets.

Social and Health Benefits

- Safer food for consumers.
- Reduced health risks to farmers from chemical exposure.
- Empowers small and marginal farmers through self-reliant practices.

Farmer Success Stories

- In Nilgiris, Tamil Nadu, tribal farmers practicing natural farming on small plots reported better soil structure, reduced irrigation needs, and lower input costs, especially in vegetables and minor millets.
- In Himachal Pradesh, apple growers adopting natural farming observed improved pest resistance and increased pollinator activity in orchards.
- In Karnataka, women SHGs practicing natural farming noted better market price for residue-free vegetables and built direct market linkages.

Challenges to Natural Farming

Despite its advantages, several constraints hinder its widespread adoption:

1. **Initial Yield Drop** – Especially in the first 1–2 years, as soil health recovers.
2. **Lack of Awareness** – Many farmers are unaware or skeptical of natural methods.

3. **Limited Market Access** – Natural produce often lacks distinct branding or separate value chains.
4. **Institutional Resistance** – Extension systems and Agri-input companies may be slow to shift.
5. **Policy Disconnects** – Subsidies still largely favour chemical-intensive agriculture.

Role of Research and Extension

- ICAR-NIASM, TNAU, and ANGRAU are initiating field trials to evaluate productivity, soil carbon, and crop health under natural farming.
- Krishi Vigyan Kendras (KVKs) and NGOs play a vital role in demonstrating field models, conducting farmer field schools (FFS), and documenting success stories.
- Use of ICT tools, podcasts, and YouTube channels are emerging ways to spread natural farming awareness to remote areas.

Adoption and Challenges

Natural farming is increasingly being adopted in Indian states like Andhra Pradesh, Himachal Pradesh, Tamil Nadu, and Karnataka. Schemes like Bharatiya Prakritik Krishi Paddhati (BPKP) under Paramparagat Krishi Vikas Yojana (PKVY) support its expansion. However, there are challenges:

- Initial yield fluctuations.
- Lack of awareness and training among farmers.
- Market access for natural produce.
- Policy and institutional support gaps.

Despite these hurdles, growing consumer demand for chemical-free food and environmental concerns are encouraging broader adoption.

Global Perspective

Countries such as South Korea, Japan, and parts of Europe have also embraced natural or nature-based farming methods. Globally, terms like regenerative agriculture, agroecology, and organic farming often overlap with natural

farming principles, showing a convergence toward sustainable agricultural transformation.

Future Outlook

- **Carbon Credits:** Natural farming systems sequester more carbon and may soon qualify for carbon trading under global climate finance frameworks.
- **Youth Engagement:** Natural farming is attracting educated youth interested in sustainable agriculture, agri-entrepreneurship, and niche markets.
- **Export Potential:** Residue-free and naturally grown produce holds value in export markets if traceability is ensured.

Advantages and Disadvantages of Natural Farming

Aspect	Advantages	Disadvantages
Soil Health	Improves soil fertility and microbial activity naturally	Takes time to regenerate severely degraded soils
Input Costs	Very low; uses on-farm inputs like cow dung, urine, and biomass	Limited availability of desi cows and inputs in some areas
Environmental Impact	No chemical residues; prevents water and air pollution	Weed and pest control can be difficult without chemicals
Water Use	Conserves water through mulching and moisture retention techniques	Some areas may still face water constraints during dry spells
Crop Yield	Sustainable and resilient in the long term	Initial yield may decline during transition from chemical to natural farming
Market Opportunities	Premium price for chemical-free produce in niche markets	Lack of structured market and certification for “natural” produce
Farmer Empowerment	Encourages self-reliance and revives traditional knowledge	Requires extensive training and awareness
Labor Requirement	Reduces chemical application labor and reliance on external inputs	Mulching, preparation of inputs like Jeevamrita is labor-intensive
Climate Resilience	Resilient to drought and erratic climate	Some practices may need adaptation for specific agro-climatic zones
Health Benefits	Produces toxin-free, nutritious food	Not all consumers are aware of or have access to natural produce
Sustainability	Promotes long-term ecological balance and biodiversity	Transition takes time; not a quick fix for all farming problems

Conclusion

Natural farming offers a promising path toward sustainable, self-reliant, and eco-friendly agriculture. By harnessing the power of nature,

through local resources, traditional wisdom, and minimal external inputs, it ensures healthier soil, safe food, and improved farmer livelihoods. While challenges like initial yield fluctuations and lack of

awareness persist, growing environmental concerns and consumer demand for chemical-free produce are fuelling its adoption. With the right mix of policy support, farmer training, market linkages, and community engagement, natural farming can transform the future of Indian agriculture into one that is more resilient, regenerative, and inclusive.