

What is Natural Farming? How is it Different from Organic Farming?

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SUMMARY

Several studies have reported the effectiveness of natural farming in terms of increase in production, sustainability, saving of water use, improvement in soil health and farmland ecosystem. It is considered as a cost-effective farming practices with scope for raising employment and rural development. Natural Farming offers a solution to various problems, such as food insecurity, farmers' distress, and health problems arising due to pesticide and fertilizer residue in food and water, global warming, climate change and natural calamities. It also has the potential to generate employment, thereby stemming the migration of rural youth. Natural Farming, as the name suggests, is the art, practice and, increasingly, the science of working with nature to achieve much more with less.

INTRODUCTION

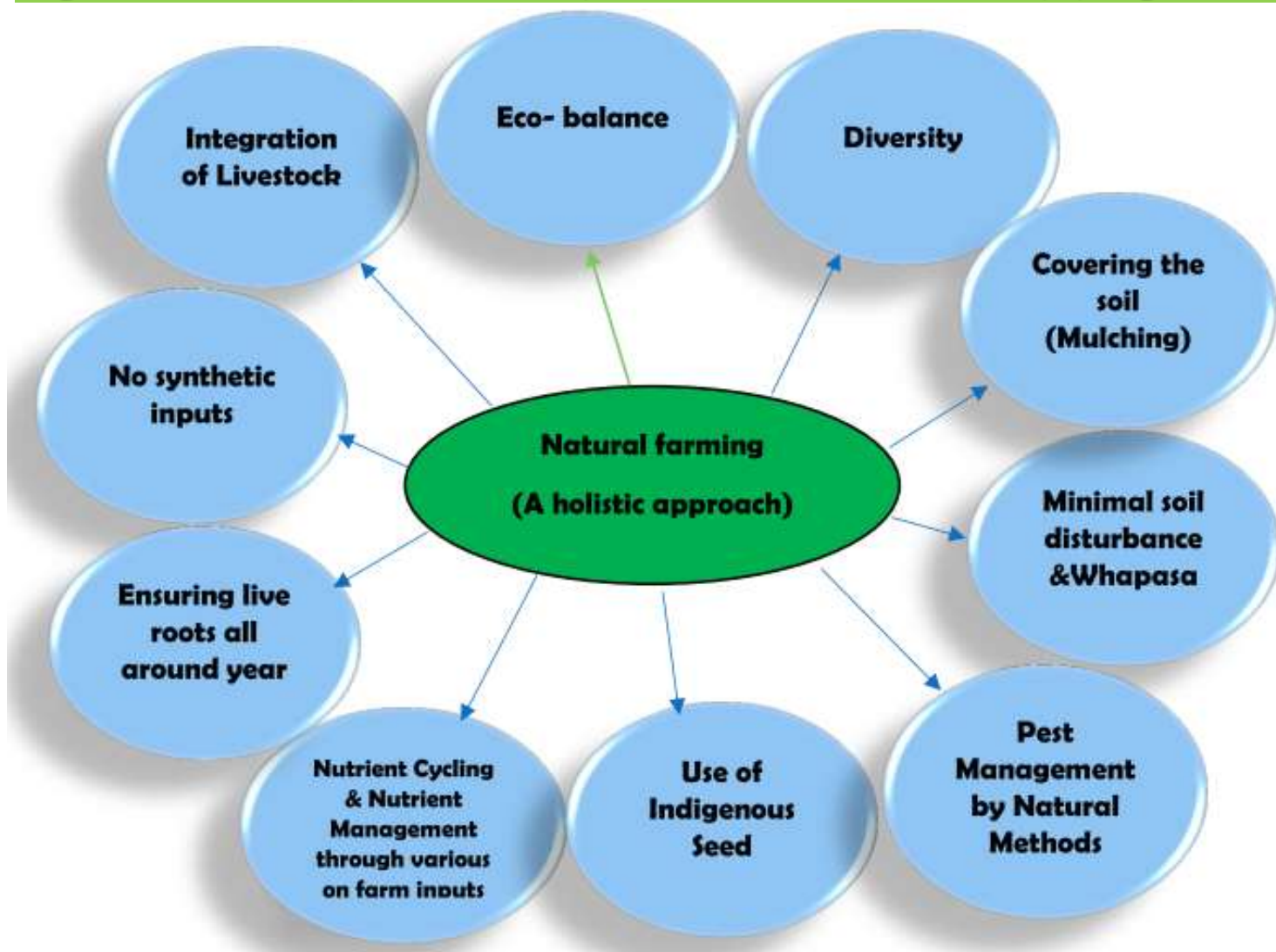
Natural farming is a system where the laws of nature are applied to agricultural practices. This method works along with the natural biodiversity of each farmed area, encouraging the complexity of living organisms, both plants, and animals that shape each particular ecosystem to thrive along with food plants. Natural farming is an ecological farming approach established by Masanobu Fukuoka (1913 –2008), a Japanese farmer and philosopher, introduced in his 1975 book “The One-Straw Revolution”.

Similarities between natural farming and organic farming:

- Natural and organic both are chemical free and more or less poison free farming methods.
- Both systems discourage farmers from using any chemical fertilizers, pesticides on plants and in all agricultural practices.
- Both farming methods encourage farmers to use local breeds of seeds, and native varieties of vegetables, grains, pulses and other crops.
- Organic and natural farming methods promote nonchemical and homemade pest control methods.

Key differences between natural farming and organic 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 give to plants whatsoever. 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 still requires basic agro practices like ploughing, tilling, mixing of manures, weeding, etc. to be performed.
- In natural farming there no ploughing, no tilling of soil and no fertilizers, and no weeding is done just the way it would be in natural ecosystems.
- 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 moulding with local biodiversity.
- There are many working models of natural farming all over the world, the zero budget natural farming (ZBNF) is the most popular model in India. This comprehensive, natural, and spiritual farming system is developed by Padma Shri Subhash Palekar.



Features of Zero budget natural farming (ZBNF):

- Commercial level farming can be done in almost zero budget only by using locally available and farm-based resources.
- According to ZBNF principles, plants get 98% of their supply of nutrients from the air, water, and sunlight. And the remaining 2% can be fulfilled by good quality soil with plenty of friendly microorganisms. (Just like in forests and natural systems)

Soil microclimate: The soil is always supposed to be covered with an organic mulch, which creates humus and encourages the growth of friendly microorganisms.

Desi cow: The system requires cow dung and cow urine (Gomutra) obtained from Indian breed cow only. Desi cow is apparently the purest as far as the microbial content of cow dung, and urine goes.

Cultures: A farm made bio-culture named 'Jeevamrutha' is added to the soil instead of any fertilizers to improve microflora of soil. Jeevamrutha is derived from very little cow dung and cow urine of desi cow breed.

- Natural, farm-made pesticides like Dashparni ark and Neem Astra are used to control pests and diseases.
- Weeds are considered essential and used as living or dead mulch layer. Understand mulching.
- In ZBNF, multi-cropping is encouraged over single crop method.

Benefits

1. Improve Yield: Farmers practicing Natural Farming reported similar yields to those following conventional farming. In several cases, higher yields per harvest were also reported.

2. 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.

3. Environment Conservation: Natural Farming ensures better soil biology, improved agrobiodiversity and a more judicious usage of water with much smaller carbon and nitrogen footprints.

4. **Increased Farmers' Income:** Natural Farming aims to make farming viable and aspirational by increasing net incomes of farmers on account of cost reduction, reduced risks, similar yields, incomes from intercropping.
5. **Employment Generation:** Natural farming generates employment on account of natural farming input enterprises, value addition, marketing in local areas, etc. The surplus from natural farming is invested in the village itself.
6. **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 optimizes the amount of 'crop per drop'.
7. **Minimized Cost of Production:** Natural Farming aims to drastically cut down production costs by encouraging farmers to prepare essential biological inputs using on-farm, natural and home-grown resources.
8. **Eliminates Application of Synthetic Chemical Inputs:** The overuse of synthetic fertilizers, especially urea, pesticides, herbicides, weedicides etc. alters soil biology and soil structure, with subsequent loss of soil organic carbon and fertility.
9. **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.
10. **Livestock Sustainability:** The integration of livestock in the farming system plays an important role in Natural farming and helps in restoring the ecosystem. Ecofriendly bio-inputs, such as Jeevamrit and Beejamrit, are prepared from cow dung and urine, and other natural products.



Government of India is promoting both these non-chemical systems of agriculture. Natural farming, through National Mission on Natural Farming (NMNF) and organic farming through Paramparagat Krishi Vikas Yojna (PKVY) and Mission Organic Value Chain Development for North Eastern Region (MOVCDNER).

The world of Natural Farming- Cattle and non-Cattle based

The cattle-based farming is cow-based farming which is considered as boon for sustainable agriculture. Cow-based farming results in the conservation of natural resources, soil, water and lives. Even the water and electricity requirements are reduced by 90% in this manner, lowering the cultivation cost to a bare minimum. This method would also utilize only 10% of the irrigation water in the farming practice. Also, because there is less power consumption, there is less pollution and also there are several advantages to embracing cow-based farming.

Current Scenario of Natural Farming in India

There are several states practicing Natural Farming. Prominent among them are Andhra Pradesh, Chhattisgarh, Kerala, Gujarat, Himachal Pradesh, Jharkhand, Odisha, Madhya Pradesh, Rajasthan, Uttar Pradesh and Tamil Nadu. Till now 6.5 lakh ha. area is covered under natural farming in India. Different State governments are promoting natural farming through various schemes.

Andhra Pradesh

The Government of Andhra Pradesh turned to farming approaches that are in harmony with nature, as they build on ecological science, rather than input economics. By improving the ecological conditions in each and every site, it is witnessed that Natural Farming reduces the need for synthetic inputs and deliver instead a form of farming that costs less, in financial terms, and is climate resilient.

The Andhra Pradesh Community-Managed Natural Farming (APCNF)

This programme is being implemented by Rythu Sadhikara Samstha (RySS), a not-for-profit company established by the Department of Agriculture, Government of Andhra Pradesh. RySS's mandate is to plan and implement programmes for the empowerment and all-round welfare of farmers.

Gujarat: In Budget 2020–21, special financial assistance was announced for promoting Natural Farming practices under the Gujarat Atma Nirbhar package. Further, on 17 September 2020, two schemes were launched - Sat Pagala Khedut Kalyaan and Pagala for Natural Farming - by the Government of Gujarat. Details of Scheme 1: Rs 900 monthly subsidy for the maintenance cost of one cow to a farming family practising Natural Farming. Details of Scheme 2: Provision of Rs 1248 subsidy to farmers for purchase of a Natural Farming kit to prepare Jeevamrit.

Himachal Pradesh: Himachal Pradesh practices Natural Farming under the Prakritik Kheti Khushhal Kissan (PK3) Yojana. The scheme aims to reduce the cost of cultivation and enhance farmers' income. The scheme was announced by the Chief Minister in the Budget speech of 2018–19. The scheme seeks to promote the production of food grains, vegetables, and fruits without the use of synthetic chemicals/pesticides and fertilizers. The scheme went beyond its target of covering 500 farmers to 2669 in 2018–19. By 2019–20, 54,914 farmers were practicing Natural Farming on 2,451 hectares of land. The scheme has now targeted to bring more farmers under its ambit and cover 20,000 hectares.

Rajasthan: Honourable Chief Minister of Rajasthan during the budget speech of FY2019-20 declared support to natural farming to reduce input costs with a view to empower farmers through remunerative agriculture – Kheti Mein Jaan Toh Sashakt Kisan. The scheme in the form of a pilot project was initiated in three districts of the State viz. Tonk, Sirohi and Banswada. Under the scheme, 18,313 farmers were trained in a two-day long workshop conducted by master-trainers of the Department. 10,658 farmers were provided with drums, buckets, jugs and sprayers at a subsidy of up to 50% of their costs but limited to Rs 600 per farmer for preparing the organic inputs.

CONCLUSION:

There is no doubt that, green revolution technologies have revolutionized the food production scenario and transformed the Indian agriculture from subsistence to surplus generating enterprise. But indiscriminate use of chemical inputs (fertilizers, pesticides and hormones) and over-exploitation of natural resources led to decline in soil health and fertility, depleting natural resources and contamination in environment, water and food. All these concerns have underscored the need for exploring alternative agricultural systems, that are sustainable, environment friendly, non-degrading, non-contaminating and offer better income opportunities to the farmers along with safe and healthy food to citizens. Non-chemical natural farming systems which rely largely on biomass recycling, biological rejuvenation of natural nutrient cycles and promote usage of on-farm plant and livestock-based inputs are being used with considerable success in various parts of the country by individual practitioners. Such natural farming systems, besides being sustainable, non-degrading, non-depleting and resource conserving are also low cost. They give freedom to farmers from purchased inputs, ensure comparable productivity, increased income and are safe to soil, environment and all the life forms including human and animals. Adoption of natural farming practices on farmer fields have been found to be enriching the soils with organic carbon, increased microbial activity, increased activity of earthworms leading to restoration of natural nutrient cycles, improved water holding capacity and increased biological activity. Natural farming fields with adequate diversity have been found to be less prone to insect pest attacks.

REFERENCES

<https://naturalfarming.dac.gov.in/NaturalFarming/NFSystems>