

INTRODUCTION TO NATURAL FARMING



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A PUSH FROM THE CENTRE

Prime Minister Narendra Modi has been talking about need to reduce chemical fertilizers and promotion of organic and natural farming at various forums, including the **United Nations convention**. **Union finance** as well as **agriculture minister** have also been talking about promotion of natural farming at various occasions.

- Recently, the Prime Minister urged all state governments to introduce natural farming. The Prime Minister observed, “We need to unlearn the wrong practices that have crept into our agriculture.”
- Andhra Pradesh has been promoting natural farming for some time now. Australian soil microbiologist and climate scientist Walter Jehne has said, “regenerative *agricultural practices adopted in Andhra Pradesh have fundamentally changed the economic viability of farming and enormously empowered local communities to take charge of their future.*”

STATES COMING FORWARD

- States such as **Andhra Pradesh, Himachal Pradesh, Gujarat, Haryana, Karnataka and Kerala** are promoting natural farming. Andhra Pradesh is the frontrunner among all states in implementing [natural farming programme](#) at a mass scale.

What is Natural farming?

- Natural farming is related to soil microbiology. It involves **chemical-free farming and livestock-based farming methods**.
- It is a diversified farming system that integrates crops, trees and livestock, allowing the optimum use of functional biodiversity.
- It has many indigenous forms in India, the most popular one is practised in Andhra Pradesh called **Zero Budget Natural Farming (ZBNF)**.

- People often use the term natural farming, if most **farm inputs** used are managed from the **farm system** or from nearby **local ecosystems**. Under organic farming, externally purchased farm inputs like bio-fertilisers and vermin-compost are also used on farm.

How Natural farming is different from other methods?

- **Modern agriculture** is based on the principle that the soil has to be replenished by chemical nutrients such as nitrogen and phosphorous, depending on the intake by the crop. Using chemical inputs reduces the microbe population and hinders this natural process.
- **In organic farming**, similarly, the soil is replenished by applying organic manure like cow dung. But since cow dung contains very little nitrogen, massive amounts have to be applied, which may be difficult for a farmer to arrange.
- **Natural farming** works on the principle that there is **no shortage of nutrients** in soil, air and water, and healthy soil biology can unlock these nutrients.

How are the soil nutrients managed in Natural farming?



COMPONENTS OF NATURAL FARMING



Beejamrit

The process includes treatment of seed using cow dung, urine and lime based formulations.

Whapasa

The process involves activating earthworms in the soil in order to create water vapor condensation.



Jivamrit

The process enhances the fertility of soil using cow urine, dung, flour of pulses and jaggery concoction.

Mulching

The process involves creating micro climate using different mulches with trees, crop biomass to conserve soil moisture.

Plant Protection

The process involves spraying of biological concoctions which prevents pest, disease and weed problems and protects the plant and improves their soil fertility.

- **cow dung-based bio-stimulant is prepared locally by fermenting dung with cow urine, jaggery and pulses flour.** The requirement of dung is very low compared to organic farming, just about 400 kg for an acre of land.
- The fermented solution when applied to fields increases the **microbial count** in the soil, which supplies the plants with essential nutrients (*Jivamrit*).
- This farming method also **uses a host of other interventions.** Seeds are treated with cow dung-based stimulant which protects young roots from fungus and other soil and seed-borne diseases (*Beejamrit*).
- The fields are managed to have **some green cover around the year** to aid carbon capture by plants from the air and nurture the soil-carbon-sponge. This also **keeps the microbes and other organisms like earthworms alive** which **helps the soil become porous and retain more water** (*Whapsa*).
- During the cultivation of main crops, **crop residues are used as mulch** (*Acchadana* or *Mulching*) to retain soil moisture and **prevent the growth of weeds.**
- Growing multiple crops in the same patch of land also raises soil fertility.

What are the advantages of shifting to Natural farming?

- **Small and marginal farmers** who spend a lot of money on chemical inputs will **benefit the most** by taking up this type of farming.
- **Improving farmers' income:** The use of chemical fertilizers and pesticides can be replaced with locally prepared stimulants while maintaining comparable yields. This will reduce cost of cultivation by 60-70%. Natural farming also makes soil softer and enhances the taste of food. Thereby, it can result in **higher net income for farmers.**
- **Reduce the dependence on credit:** A panel survey of 260 farm households which were surveyed in 2018-19 and 2019-20, found that natural farming reduced the dependence on credit, freeing many farmers from exploitative and interlinked input and credit markets.

- **More flexible than organic farming:** Organic farming is more about certification, while natural farming is a gradual process. But, there is relative flexibility in natural farming for adoption. This makes it easier for small farmers to transition.
- **Benefit end consumers:** At present, consumers are forced to purchase food with chemical residues in it. Certified organic food is more expensive, but the sheer cost savings in natural farming can **ensure safe food at affordable prices.**
- **Helps in combating climate change:** Natural farming not just create cost savings for farmers, but also ensure **higher carbon fixation into the soil,** which can mitigate climate change.
- Natural farming based land management and farming practices can rehydrate and re-green the global landscape. Further, it can meet fertility (requirements of soil) and the nutritional integrity of the food.
- **Reduce Ocean acidification:** Since natural farming eliminates chemical fertilisers and pesticides, it reduces ocean acidification and marine pollution from land-based activities. It also helps to reduce the contamination and degradation of rivers and oceans, like contamination of ammonium nitrate in fertilisers, and hazardous chemical pollutants from pesticides into rivers and oceans.

ILL-EFFECT OF CHEMICALS ON ENVIRONMENT AND HUMAN HEALTH

■ Harmful effects Of chemical fertilizers:

1. Water pollution
2. Soil acidification
3. Contribute to the release of green house gases.

■ Harmful effects of pesticides –

1. Asthma
2. Birth defects
3. Cancer
4. Hormone disruption
5. Depression etc

CONCLUSION

- In conclusion I feel natural farming could play a major role in sustainable Agriculture. It fits perfectly in the people, planet and profit philosophy. Natural farming focus is to farm in harmony with nature, producing food that is safe and healthy for all to eat and with lower overhead cost, generates a nice profit for the farmers. Although many challenges stand in the way of implementation of natural farming in the large scale.

A close-up photograph of a green rice panicle, showing the developing grains. The background is a soft-focus green field with bright, circular bokeh light spots, suggesting sunlight filtering through the leaves.

Thank you