

## Natural Farming: A New Hope for the Farmers of Himachal Pradesh

**Kapil Dev<sup>1\*</sup> and Ankita Mahajan<sup>2</sup>**

<sup>1</sup>PhD Scholar, Department of Social Sciences, Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan-173230 (Himachal Pradesh),

<sup>2</sup>Project Intern, Prakertitik Kheti Khushhal Kisan Yojna –SPNF, SPIU, Directorate of Agriculture, Shimla



\*Corresponding Author

**Kapil Dev**\*

E-mail: [sharmakapil2222@gmail.com](mailto:sharmakapil2222@gmail.com)

### Article History

Received: 8.05.2021

Revised: 14.05.2021

Accepted: 24.05.2021

This article is published under the terms of the [Creative Commons Attribution License 4.0](https://creativecommons.org/licenses/by/4.0/).

### INTRODUCTION

Agriculture is known as backbone of Indian economy. It is the primary source of livelihood for about 58 per cent of India's population and accounts for 17.8 per cent of the country's Gross Value Added (GVA) at current prices (2019-20). According to economic survey, India's agricultural sector has shown its resilience amid the adversities of COVID-19 induced lockdowns. The Agriculture and Allied activities clocked a growth of 3.4 per cent at constant prices during 2020-21 (first advance estimate) and India's agricultural exports grew 17.5 per cent to cross \$41.8 billion in 2020-21. Agriculture in India has transitioned from subsistence to commercial farming to meet the diverse nutritional requirements of a rapidly growing population. The use of external inputs by adoption of uniform, hybridized, and genetically modified crop varieties erodes genetic diversity of seeds, and reduces their capacity to adapt to changing climatic conditions. Himachal Pradesh is the only state in the country whose 89.96 percent population as per Census 2011 lives in rural areas. Agriculture and horticulture provide direct employment to about 69 percent of total workers of the state. So, the agriculture and its allied sectors account for about 12.73 per cent of the total GSDP. The share of agriculture and allied sectors in the Gross Value Added (GVA) declined from 15.35 per cent to 12.73 in 2019-20.

In India, the Green Revolution had a phenomenal impact on India's food production, but it also rendered the land infertile, led to extensive water consumption and aggravated groundwater loss. Increased use of fertilizers, hybrid seeds, pesticides has resulted in adverse impact on soil health and environment. Privatized seeds, inputs, and markets are inaccessible and high-priced for farmers.

Indian farmers progressively notice themselves during a vicious circle of debt, because of the high production prices, high interest rates for credit, the volatile market costs of crops, the rising costs of fuel based mostly inputs, and private seeds. More than a quarter of a million farmers have committed suicide in India within the last 2 decades. Therefore, in the search of eco-friendly and farmer friendly alternative system of farming, Zero Budget Natural Farming (ZBNF) is increasingly becoming popular among farmer communities. This farming practice believes in natural growth of crops without adding any fertilizer, pesticide or any other external input.

#### **What is ZBNF**

As the name suggests, it is the revival of an ancient practice that reduces farmers' direct cost and motivates them to use natural inputs, such as cow dung and cow urine. Zero Budget Natural Farming (ZBNF) is one such low-input, climate-resilient type of farming that encourages farmers to use low-cost locally-sourced inputs, eliminating the use of artificial fertilizers, and industrial pesticides. In other words, natural farming is a method of chemical-free agriculture drawing from traditional Indian agricultural practices. This aims to drastically cut production costs by ending dependence on all outside inputs and loans for farming. It is a system where the laws of nature are applied to agricultural practices and this concept has undoubtedly made an indelible mark on farming in India. It is based on the principles of agro ecology which is founded on cultural creativity that encourages ecological biodiversity by improving community relations, deepening mutual aid, increasing people's control over their lives, and placing all tools under the control of producers. It as an alternative approach which is also now promoted by the Government of India in a big way which is reflected by the recent initiatives and announcements. Some State Governments especially Andhra Pradesh, Karnataka, Maharashtra, Himachal Pradesh, Kerala and Madhya Pradesh have also joined the movement.

#### **Four-Pillars of ZBNF**

Zero-Budget Natural Farming (ZBNF), pioneered by an Indian agriculturist and Padma Shri awardee, Dr. Subhash Palekar, is built on four core principles. These four pillars of natural farming were as follow:

#### **ZBNF works on four pillars:**

1. **Beejamrit:** Seed treatment with cow dung and urine based formulations (Culture of micro-organisms & hormones). It is used to treat seeds, while concoctions using neem leaves and pulp, tobacco and green chilies are prepared for insect and pest management.
2. **Jeevamrutha:** Ensuring soil fertility through cow dung and urine concoctions (Best culture of fertility creating micro-organisms). It is a mixture of fresh desi cow dung and aged desi cow urine, jaggery, pulse flour, water and soil — on farmland. 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.
3. **Aachhadan:** Applying a layer of crop residues to the soil surface in order to prevent water evaporation and to contribute to soil humus formation.

**Mulching:** There are three types of mulching:

- **Soil Mulch:** This protects topsoil during cultivation and does not destroy it by tilling.
- **Straw Mulch:** Straw material usually refers to the dried biomass waste of previous crops, but it can be composed of the dead material of any living being.
- **Live Mulch** (symbiotic intercrops and mixed crops): It is essential to develop multiple cropping patterns of monocotyledons (monocots; Monocotyledons seedlings have one seed leaf) and dicotyledons (dicots; Dicotyledons seedlings have two seed

leaves) grown in the same field, to supply all essential elements to the soil and crops.  
**Vafasa-moisture:** Soil aeration mixed with water vapours through a favorable micro climate in the soil 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.



In natural farming, insect-pests and diseases are managed through the use of various kashayams (decoctions) made with cow dung, cow urine, and plant extracts. The cow urine and dung used in the preparations of natural inputs are to be only from indigenous cows.

#### Scenario in Himachal Pradesh

Agriculture in Himachal Pradesh is a way of life for the agrarian population as nearly 70 per cent population is directly or indirectly dependent on this sector. The on-going diversification drive has conclusively proved that economic prosperity of hill farmers lies in growing vegetables and production of fruits. Himachal Pradesh is progressing actively to become a natural state. The state government scheme named as ‘Prakritik Kheti Khushal Kisan Yojna’ has a vision of enhancing farm income in harmony with nature by adopting low cost climate resilient Subhash Palekar Natural Farming System.

Under “Prakritik Kheti Khushal Kisan Yojna of Government of Himachal Pradesh, more than one lakh farmers has been trained in different districts of the state and it is proving to be blessing for farmers. The State Project Implementing Unit (SPIU) of the

scheme along with its district officials is actively working on this platform. They are organizing large number of awareness camps, publishing books, using digital platform to aware people about this concept. Even the farmers of remote areas of the state are practicing natural farming and getting useful results. The cost effective approach of natural farming with efficient use of locally available resources is the main advantage. The requirement of efficient marketing system is need of an hour. The State Project Implementation Unit (SPIU) under Prakritik Kheti Khushal Kisan Yojna (PK3Y) is aiming to build a platform for certification and development of efficient marketing system for farmers based on ‘transparency’ and ‘traceability’ and fetching better prices for the produce.

#### Why is ZBNF important?

- Farmers depend on loans.
- Ecological benefits.
- Increasing cost of farming inputs
- Increasing debts of farmer
- Increasing demand for safe food
- Unstable market price.

### Advantages of ZBNF

Natural farming is an eco friendly approach aiming to provide better returns to the farmer. As all resources are locally available, there are less expenses and higher returns.

#### Advantages:

- Reduced input cost, Improvement in yields.
- Elimination of chemical pesticides and promotion of good agronomic practices.
- Reduce cost of cultivation and to make farming a sustainable viable livelihood option.
- improve soil fertility, porosity, water infiltration, water holding and soil micro flora & fauna
- Promote regenerative agriculture, improve soil biodiversity and productivity.
- Ensure decent livelihoods to smallholder farmers.
- Restore ecosystem health through diverse, multi-layered cropping systems.
- Women's empowerment and nutrition.

#### Way Forward

There is a host of structural marketing issues which needs to be addressed first before aiming to achieve the ambitious goal of ZBNF. For example:

- Strengthening of agricultural market infrastructure.
- Extending the procurement mechanism to all food grain and non-food grain crops to all States.
- Implementation of price deficiency payment system for selected crops.
- Fixing minimum support prices (MSP) in consonance with the cost of cultivation.
- Abolishing minimum export price for agricultural commodities.
- Enacting legislation on 'right to sell at MSP' needs immediate attention.
- MGNREGS must also be linked with farm work in order to reduce the cost of

cultivation which has escalated at a faster pace over the past few years.

### CONCLUSION

The concept of natural farming has immense potential to increase the income of farmers and providing better returns. This new system of farming requires patience as it will take time to convert degraded land into fertile land. No doubt, this system is little bit labor intensive but its feature of reducing the input cost compensates all other problems. As there is increasing demand of safe food globally, this system can successfully fulfill that demand. The eco friendly approach of natural farming is protecting soil health, soil microbes and enhancing fertility of soil. The major constraint is effective marketing system for the farmers practicing natural farming. Farmers are in need of fetching better prices for natural produce. At last, It can be concluded that we need a global transition to a more resilient and sustainable agriculture to save these natural resources for our future generations.

### REFERENCES

- Anonymous (2020). Zero Budget Natural Farming in India. ([www.fao.org](http://www.fao.org)).
- Anonymous (2020). Himachal Pradesh: the official website. <https://sphfhp.nic.in/SPNF/en-IN/schemes.aspx>.
- GOAP (2017). Status Note on Zero Budget natural Farming (ZBNF) in AP (mimeo), personal communication.
- Malo, M. (2020). Zero Budget Natural Farming: Let's Go Beyond Organic Farming. *Agriculture and Food e-Newsletter* 2(5), 418-421.
- Palekar, S. (2014). <https://www.palekarzerobudgetspiritualfarming.org/>
- Website, (2019). <https://www.drishtiis.com/dily-updates/daly-news-editorials/zero-budget-natural-farming>.