

**Zero Budget Natural Farming: The Return to Nature****Manish Kumar<sup>1</sup> and Aakash Sunaratiya<sup>2</sup>**<sup>1</sup>B.Sc. (Hons.) Agriculture, Sri Karan Narendra Agriculture University, Jobner, Jaipur, Rajasthan<sup>2</sup>B.Sc. (Hons.) Agriculture, Jawaharlal Nehru Krishi Vishwavidyalaya, Adhartal, Jabalpur, Madhya Pradesh**SUMMARY**

Zero Budget Natural Farming (ZBNF) is a form of agricultural system redesign being practiced at scale in India, particularly in the state of Andhra Pradesh. ZBNF is an emerging set of agricultural practices designed dramatically to reduce farmers' direct costs (hence 'zero budget') while boosting yields and farm health through the use of non-synthetic inputs sourced locally ('natural farming'). Andhra Pradesh has set out the aim of 'rolling out' ZBNF to all 6 million of the state's farmers through a state-led programme of training and extension.

**INTRODUCTION**

The word budget refers to credit and expenses, thus the phrase 'zero budget' means without using any credit and without spending any money on purchased inputs such as insecticide and fertilizer etc. Natural farming means farming with nature and without chemicals. This is a form of low external input sustainable agriculture (LEISA). Rather an external form that doesn't shy away from suggesting that there is no need to use any external inputs. All inputs are to be locally sourced from in and around the village (or perhaps within the farm) in a symbiotic way. ZBNF uses mulching, soil protection techniques, natural pesticides and fertilizers. 98 to 98.5% of nutrients are taken from air, water and energy. Remaining 1.5% of nutrients taken from the soil are also available free of cost as it is taken from the prosperous soil which is enriched with these nutrients. Thereby helping in reducing irrigation requirements.

**History**

It was originally promoted by Maharashtra agriculturist Shri Subhash Palekar, for which he was honored with Padma Shri in 2016 (Anon., 2016). He was born on 2nd February, 1949 in Belora, a small village in the district of Amravati, Maharashtra, India. He grabbed a B.Sc. in Agriculture from Nagpur. Being dedicated towards the betterment of his village farm, after graduation, he experimented and revealed that continuous use of chemicals made the farm field barren. So, he decided to find an optimal solution. It has attained wide success in southern India, especially the southern Indian state of Karnataka where it first evolved. The movement in Karnataka state was born out of collaboration between Mr. Subhash Palekar who put together the ZBNF practices, and the state farmers' association Karnataka Rajya Raitha Sangha (KRRS). Mister Subhash Palekar studied natural systems and verified natural processes of the forest on his farm for six years since 1989-1985. He considered it as "Krishi ka Rishi" Padma Shri award (2016) Gopal Gourav award (2007) Basava Shri award (2005). Masanobu Fukuoka is considered as father of modern day - natural farming.

**Benefits of ZBNF**

- With the rising cost of external inputs (fertilizers and pesticides), which is the leading cause of indebtedness and suicide among farmers. According to the National Sample Survey Office (NSSO) data, almost 70% of agricultural households spend more than they earn and more than half of all farmers are in debt.
- Since in ZBNF there is no need to spend money or take loans for external inputs, the cost of production could be reduced and farming made into a "zero budget" exercise.
- This would break the debt cycle for many small farmers and help to envisage the doubling of farmer's income by 2022.
- At a time when chemical-intensive farming is resulting in soil and environmental degradation, a zero-cost environmentally-friendly farming method is definitely a timely initiative.
- The ZBNF method promotes soil aeration, minimal watering, intercropping, bunds and topsoil mulching and discourages intensive irrigation and deep ploughing.
- Citing the benefits of ZBNF, in June 2018, Andhra Pradesh rolled out an ambitious plan to become India's first State to practise 100% natural farming by 2024.

**Four Pillars of ZBNF****Bijamrita (Seed Treatment)**

**Preparation:** It is basically made up of water (20l), cow dung (5kg), urine (5l), lime (50gm) and just a handful of soil.

**Benefits:** The application of homemade seed treatment consisting of cowdung and urine to seeds and seedlings. Bijamrita is a seed treatment, equipped in protecting young roots from fungus as well as from soil-borne and seed-borne diseases.

**Jivamrita (Liquid and Solid Inoculants)**

**Preparation:** It is composed of the cow-dung (20 kg), urine (5-10 l), jaggery (20 kg) and dicot flour (2 kg) and is applied to the crops with each Irrigation cycle OR directly to the crops.

**Benefits:** Application of an in-situ culture of water cow manure and urine, legume flour and uncontaminated/virgin soil. It is used for seed treatment, protecting young roots from fungus as well as from soil and seed-borne diseases. It provides nutrients, but most importantly, acts as a catalytic agent that promotes the activity of microorganisms in the soil, as well as increases earthworm activity.

**Acchadana (Mulching)**

**Preparation:** It could be done by soil mulch, straw mulch or live mulch. soil mulching (avoiding tillage) straw mulching and line mulching.

**Benefits:** It conserves soil moisture, by reducing evaporation.

**Whapasa (Soil aeration)**

**Preparation:** The irrigation should be reduced and irrigation should be practiced only at noon, in alternate furrows.

**Benefits:** Building up of soil humus. It is appropriate proportion of air and water molecules present in soil. Palekar challenges the idea that plant roots need a lot of water, in-fact, what roots need is water vapour, and therefore, Whapasa is the condition where there exist both air molecules and water molecules present in the soil.

**CONCLUSION**

Saving on cost of seeds, Fertilizers and plant protection chemicals has been substantial. Because of continuous incorporation of organic residues and replenishment of soil fertility. Help to maintain the soil health. Now system of farming has free the farmers from the debt trap and it has instilled in them a renewed sense of confidence to make farming an economically viable venture. Chemical farming is less yield desi variety compared to hybrid and genetic modified (GM) variety while desi variety more yield obtain in ZBNF. “ The healing of the land and the purification of the human spirit is the same process. ”

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