

## ZERO BUDGET NATURAL FARMING (ZBNF): SECURING SMALLHOLDER FARMING FROM DISTRESS

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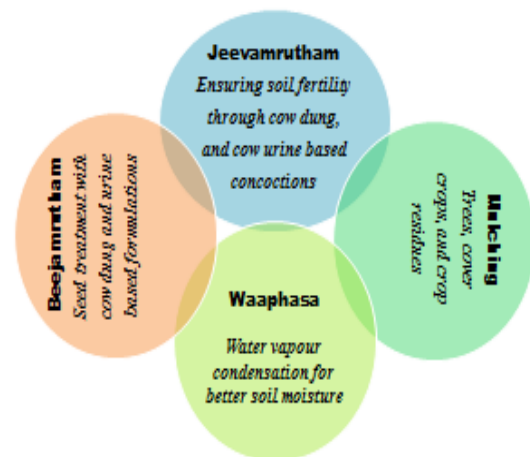
**A**lternative low-input farming practices have emerged in India and across the world likely to reduce input costs and higher yields for farmers, chemical-free food for consumers and improved soil fertility. Zero Budget Natural Farming (ZBNF) is one such low-input, climate-resilient farming that inspires farmers to use low-cost and locally-sourced and available inputs, eliminating the use of artificial/chemical fertilisers and industrial pesticides (Tripathi et al., 2018). ZBNF emerged as a distinctive method of farming requiring no monetary investment especially for purchase of key agricultural inputs like seeds, fertilizers and plant protection chemicals from the market or other sources. It has been observed that in recent time farmer grown hardy local varieties of crops without application of chemical inputs (fertilizers and pesticides). Since it is a zero-budget farming no institutional credit would be required and dependence on hired labor is also reduced to minimum (Padmavathy, 2011). Different agroecological principles like diversification, nutrient recycling followed by increasing beneficial biological interactions (Palekar 2006). ZBNF opposes external/chemical inputs or synthetic fertilizers use in the farming practices.

Agriculturist Subhash Palekar has popularised ZBNF practices across the country and identified four aspects that are integral to ZBNF

(1) *Beejamrutham*, an microbial coating/ treatment of seeds using cow dung and urine-based preparations;

(2) *Jeevamrutham*, an application of mixture of cow dung, cow urine, jaggery, pulse flour, water and soil for multiplication of soil microbes;

(3) *Mulching*, a layer/bed of organic material to the soil surface in to prevent/reduce water evaporation; and

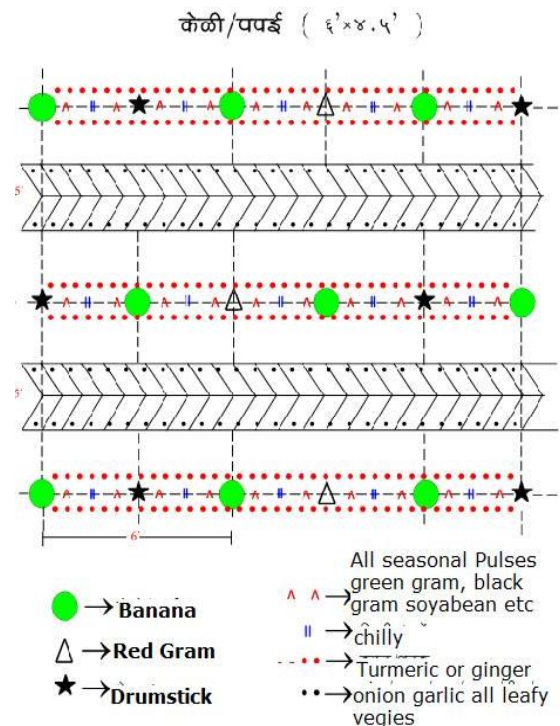


(4) *Waaphasa*, soil aeration through a favourable microclimate in the soil.

Practitioners clarified that ‘Zero budget’ does not literally mean that costs are ‘zero’, but it implies that the need for external financing is zero, and that any costs incurred can be offset by a diversified source of income which comes via farm diversification rather than dependence on one monoculture (APZBNF 2018).

**Figure 1. A version of the five-layer Palekar model.**

Palekar’s most popular model is what he calls the five-layer model; a type of agroforestry model which integrates trees with various levels of plant canopies, each layer at an optimum level to harvest the sunlight. It includes various crop and tree combinations, including living fences on the edges, and trenches for water harvesting. Farmers have further adapted this model according to their needs and in many states and many local versions Have been found. See Figure 1 to see a version of the model.



**Source: (BNNMurali2016)**

### ZBNF for combating Climate change

ZBNF is positioned as a solution to the debt crisis among Indian farmers. Most recent available figures by the government of India show that about 52% of the agricultural households in the country are in debt (NSSO, 2014). The Government of Andhra Pradesh has decided to transmute farming to Zero Budget Natural Farming (ZBNF) by the year 2022. AP Government has decided to approach 60 lakh (6 million) farming households to adopt Climate Resilient Zero Budget Natural Farming (CRBZBNF) as “a farming practice that believes in natural growth of crops without supplying any chemical fertilizers, pesticides or any other external inputs. The phrase Zero Budget refers to the zero-net cost of production of all crops (inter crops, border crops, multi crops). The inputs used for seed treatments and other inoculations are locally available in the form of cow dung and cow urine (RSS website).

## ZBNF as viable option for higher yield

Different farmers has adopted ZBNF and found that, Giddaiya, a local farmer of Andhra Pradesh, has been practising ZBNF (tomatoes, red gram and pearl millet) since last year on 2.02343 hectares (ha) after thorough government training. He observed the reduction in cost of cultivation of Rs 10000. Marappa Naidu has 4.04686 ha of land. Right now, practising ZBNF on five acres. He followed *navdhanya* concept where nine types of crops are grown to increase the yield. Similarly, InAnantapuram district, a 136 per cent higher yield in groundnuts under natural farming was observed. Naidu gets five quintals (1 quintal is 100 kg) of red gram under ZBNF compared to three quintals under non-ZBNF. In Gosanipalli village, around 150 farmers are practising ZBNF. Ramajaneyulu, a local farmer, has 0.81ha of land practising ZBNF for two years and witnessed nine quintals of groundnut as compared to six or seven under non-ZBNF. Besides groundnuts, he also grows onions, tomatoes, carrot and red gram (Niyogi, 2018).

## Conclusion

ZBNF has been emerged as a farming model for small and marginal farmers to overcome the farming distress and sustaining the livelihood and followed the basis of natural farming and keeping the health of family on top priority. It reduces farmers' costs through eliminating external inputs and utilising in-situ resources to rejuvenate the soil, simultaneously increasing incomes, restoring ecosystem/soil health and climate resilience through diverse, multi-layered cropping systems. These types of farming models having such a vibrant, encouraging results should be adopted and replicated in other state as in Andhra Pradesh. Now Indian government has also proposed in the budget 2019-20 for ZBNF. There is need to sustain the farming system for nutrition and developing a proper marketing and supply value chain inculcating the best possible options for standardised methods for validation and developing linkages and convergence with other departments.

## References

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