

ZERO BUDGET NATURAL FARMING

It is impossible to have a healthy and sound society without a proper respect for the soil

GS-3:- ENVIRONMENT

CONTEXT	Finance Minister Nirmala Sitharaman thrust zero budget farming into the spotlight in the first Budget speech of the 17th Lok Sabha earlier this month, calling for a “back to the basics” approach.
WHAT IS ZBNF ?	✓ Zero budget natural farming (ZBNF) is a method of chemical-free agriculture drawing from traditional Indian practices. ✓ It involves the application of nature’s principles in farming. It practises no-till, no chemical use in farming. ✓ It was originally promoted by Maharashtrian agriculturist and Padma Shri recipient Subhash Palekar, who developed it in the mid-1990s as an alternative to the Green Revolution’s methods driven by chemical fertilizers and pesticides and intensive irrigation.
COMPONENTS	The “four wheels” of ZBNF are ‘Jiwamrita’, ‘Bijamrita’, ‘Mulching’ and ‘Waaphasa’. ✓ Jiwamrita is a fermented mixture of cow dung and urine (of desi breeds), jaggery, pulses flour, water and soil from the farm bund. This isn’t a fertiliser, but just a source of some 500 crore micro-organisms that can convert all the necessary “non-available” nutrients into “available” form. ✓ Bijamrita is a mix of desi cow dung and urine, water, bund soil and lime that is used as a seed treatment solution prior to sowing. ✓ Mulching, or covering the plants with a layer of dried straw or fallen leaves, is meant to conserve soil moisture and keep the temperature around the roots at 25-32 degrees Celsius, which allows the microorganisms to do their job. ✓ Waaphasa, or providing water to maintain the required moisture-air balance, also achieves the same objective.
BENEFITS	✓ ZBNF promotes the application of jeevamrutha — 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. ✓ The ZBNF method also promotes soil aeration, minimal watering, intercropping, bunds and topsoil mulching and discourages intensive irrigation and deep ploughing. ✓ In ZBNF, yields of various cash and food crops have been found to be significantly higher. ✓ E.g. yields from ZBNF plots were found on average to be 11% higher for cotton than in non-ZBNF plots. ✓ The yield for Guli ragi (ZBNF) was 40% higher than non-ZBNF. ✓ Input costs are near zero as no fertilizers and pesticides are used. ✓ Profits in most areas under ZBNF were from higher yield and lower inputs. ✓ Planting multiple crops and border crops on same field provides varied income and nutrient sources.

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CASE STUDY	✓ According to 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. ✓ In States such as Andhra Pradesh and Telangana, levels of indebtedness are around 90%, where each household bears an average debt of ₹ 1 lakh. In order to achieve the Central government's promise to double farmers income by 2022, one aspect being considered is natural farming methods such as the ZBNF which reduce farmers' dependence on loans to purchase inputs they cannot afford ✓ Andhra Pradesh rolled out an ambitious plan to become India's first State to practise 100% natural farming by 2024. It aims to phase out chemical farming over 80 lakh hectares of land, converting the State's 60 lakh farmers to ZBNF methods.
CONCLUSION	✓ An enabling institutional mechanism could be set up to promote the technology. ✓ The Andhra Pradesh experience is also being monitored closely to judge the need for further public funding support. ✓ The programme can have a positive effect on many of the sustainable development goals. ✓ As ZBNF is applied in India's various agro-ecological zones, making farmers the innovators is essential. ✓ Agricultural scientists in India have to rework their strategy so that farming is in consonance with nature.

QUES:-EXPLAIN THE COMPONENTS AND BENEFITS OF ZERO BUDGET NATURAL FARMING (ZBNF) .