

## General Studies-3; Topic – Indian Agriculture

### Zero Budget Natural Farming (ZBNF)

#### 1) Introduction

- India, being an agriculture-focused nation, is highly prone to various farming complications which vary according to change in the geographic area.
- Ensuring food security, producing more with less resources and building the resilience of smallholder farmers are important in creating a food-secure future.
- In Budget 2019, the Union Finance Minister Nirmala Sitharaman reiterated the concept of zero Budget Farming.

#### 2) What is zero budget farming?

- The term zero budget farming or zero budget natural farming (ZBNF) was first coined in Karnataka.
- Subhash Palekar is a seasoned agriculturalist who devised the term zero budget natural farming (ZBNF).
- It is the set of agricultural methods which are intended to boost farmers' income by minimising the operating expenses and other variable cost heads.
- It is a farming practice that believes in natural growth of crops without adding any chemical fertilizers and pesticides.
- ZBNF is done using natural ingredients that reduce cost of production on inputs.

#### 3) Features of ZBNF

- The four wheels of ZBNF are Bijamrita, Jiwamrita, Mulching and Waaphasa.
- Bijamrita is a natural way of seed treatment using local cow urine and cow dung.
- Jiwamrita is made using water, local cow dung, local cow urine, jaggery, dal flour and soil.
- Waaphasa is the aeration in the soil.
- ZBNF is different from organic farming.
- Intercropping is an important feature of ZBNF.
- Practising composting on the farm itself, so that soil organic matter increases.
- Insects and pests are managed using neem leaves, neem pulp and green chillies

#### 4) Need for zero budget farming

- Large number of farmers remain under debt following which they are not able to avail the basic facilities and further, they are not capable of expanding their agricultural output.
- Privatised seeds, high-quality chemical fertilisers, and other expensive crop-related inputs are typically inaccessible by small-scale farmers and peasants.
- A huge chunk of Indian farmers find themselves in a vicious cycle of debt.
- 'Zero budget' farming promises to end a reliance on loans and drastically cut production costs.
- Chemical farming did not give farmers much income. Organic farming is also expensive. Both chemical and organic farming lead to global warming as they release green house gases on large scale.

#### 5) Green Revolution to gene revolution have come under severe criticism because of

- Massive loss of local agrobiodiversity and associated traditional knowledge.
- Undermining of seed sovereignty.
- Increased dependence on credit to purchase proprietary seeds, insecticides and pesticides.

- Indebtedness on part of farmers due to low monetary returns from agriculture.
- Stagnation in productivity.
- Low value of agricultural produce.
- Farmlands are reporting high soil toxicity due to the use of pesticides and fertilisers, thus jeopardising public health.

### 6) Benefits of ZBNF

- According to the Food and Agriculture Organisation, the zero budget natural farming can help in eliminating chemical fertilisers and other crop-specific additives.
- Diminish the farmers' burden by reducing several fixed and variable costs.
- Can assist a large section of small-scale farmers to get out of the debt and increase their operating efficiencies.
- They also contribute to sustainable practices in terms of health of soil and the environment.
- Anyone who is having half an acre of land can start ZBNF.
- Women's empowerment and nutrition.

### 7) Concerns / Challenges

- In Maharashtra, a considerable number of followers have returned to practicing chemical farming as they failed to improve their incomes with ZBNF.
- ZBNF is quite a difficult proposition at this stage in cotton rich places.
- The soils which have lost their natural nutritional value owing to injudicious use of chemicals will not support organic farming unless their vitality is renewed
- Farmers do not own indigenous seeds or sufficient number of cattle which are a prerequisite for this type of cultivation.
- **There are no concrete answers available for**
  - a. Will ZBNF reduce the cost of production and raise farmers' net returns from cultivation?
  - b. How much output per hectare this practice yields in comparison to chemical farming?
  - c. Are farmers equipped with appropriate training and availability of livestock for urine and dung?
  - d. Will ZBNF be appropriate for high-value commodities?
- The successful cases of ZBNF are too less to make it a policy mandate.

### 8) Way Forward

- The government has to take a collaborative effort in creating awareness about the applications and benefits of ZBNF.
- A resource and awareness centre can be established as a part of promoting zero budget farming in India.
- Agricultural scientists in India have to rework their strategy so that farming is in consonance with nature.
- We need a global transition to a more resilient and sustainable agriculture that is less dependent on agrochemicals and draws more on natural biological and ecosystem processes.
- The commodities under ZBNF will also face marketing problems unless the government extends price support.
- The government should increase public investment in irrigation and agriculture markets, which can propel farmers to make investments and achieve higher incomes from farming.