

SUSTAINABLE DEVELOPMENT OF VILLAGE THROUGH ZERO BUDGET NATURAL FARMING

R.L. Deshmukh

Department of Botany, Pemraj Sarda College, Ahmednagar-414001.

ABSTRACT :-

Zero budget natural farming is a farming practice that believes in natural growth of crops without adding any foreign elements. The word zero refers to the zero net cost of production of all crops. The inputs used for seed treatments and other inoculations are locally available in the form of cow dung and cow urine. A zero budget natural farming practicing farmer has lower cost of inputs and thus has better capacity to increase income. At the same time, ZBNF crops help in retaining soil fertility and are climate change resilient.

Keywords :- Zero Budget Natural Farming, Inoculations, Soil Fertility, Climate Change, Sustainable Development.

INTRODUCTION :-

Due to overuse of chemical fertilizers number of problems are created in agriculture viz. ground water pollution, salinity of soil, high cost of crop production, etc. To overcome all these problems there is a need of zero budget natural farming to avoid farmer's suicides.

Zero budget natural farming is technique of farming in which there is use of cow dung, cow urine, organic wastes generated in the farm and minimum tillage. All these practices make soil fertile and alive. In this farming one should use local varieties of crop plants. Weeds and farm wastes should be incorporated in the field to increase the carbon content of soil. Various steps in zero budget natural farming are as follows-

METHODOLOGY:-

1. **BIJAMRUTA :-** It is the first wheel of zero budget natural farming. It is used for seed treatment before sowing of crops. For seed treatment mixture of cow dung (one kg), cow urine (one litre), handful of soil, lime (50gm) is added in 20 litres of water. This mixture is allowed to soak for overnight. Seeds to be sown are treated with bijamruta by sprinkling it on seeds. Seeds are rubbed with hands gently. Seeds are dried in shade and are immediately sown in the field. In case of vegetable seedlings, roots of seedlings are dipped

in bijamruta for five minutes and transplanted immediately. Due to bijamruta lot of beneficial bacteria are added in soil. Also it acts as a fungicide.

2. **JIVAMRUTA :-** It is the second wheel of zero budget natural farming. It is an inoculant made of dung of desi cow, cow urine, soil, gram flour and jaggary. In desi cow dung crores of bacteria are present in one gram of soil (Palekar Subhash 2016) . These bacteria make soil fertile. Various indigenous (desi) cow varieties are Khilar, Dangi, Gaulau, Geer etc. with the help of one cow we can maintain fertility of 30 acres of land. At least once a month jivamruta should be applied. In one application 10kg of cow dung, 5 litres of cow urine, 2kg of jaggary, 2kg of gram flour, handful of soil from bund is used. For making jivamruta above constituents are taken in 200 litres plastic drum or cement concrete tank. All constituents are dissolved in water and final volume is made 200 litres. It is allowed to ferment for 2-3 days in shade. Mouth of the drum should be covered with the gunny cloth. Within one week jivamruta should be used in the field. It is better to add it while irrigating the land. Jivamruta can also be sprayed on crop plants.

In rainfed agriculture we can use ghanajivamruta instead of jivamruta. Ghanajivamruta is prepared by addition of 20 litres of liquid jivamruta in 200kg dry dung manure. It should be covered with gunny cloth for 48hrs. (Palekar Subhash 2016). During this period fermentation takes place. After sufficient drying it is filled in gunny bags and applied during sowing.

3. **MULCHING :-** This is the third wheel of ZBNF. Mulching is application of thin layer organic matter at the base of crop plants to create favourable microclimate in soil. Mulching in ZBNF can be done by using cereal straw, uprooted weeds, living crop plants, etc. Mulching favours growth of earthworms and other beneficial organisms in soil. Mulching should be 6"-9" inches in thickness. Various advantages of mulching are as follows:-

- a) Mulching controls weeds,
- b) It saves 50% water.
- c) It improves soil texture.
- d) Stepwise decomposition of organic matter is beneficial for crop growth.

4. **WAAPHASA :-** It is the presence of sufficient moisture and aeration in the soil. Waphasa condition favours activity of roots. Soil should have 50% water and 50% air for maintaining waphasa. Excess irrigation should be avoided.

CONCLUSION :-

As ZBNF is having number of benefits, we can make sustainable development of village through Zero budget natural farming. In ZBNF tilling of soil is done by various natural agents like rat, moles, ants, earthworm, decaying roots of weeds. Food produced by ZBNF method gives us long life, health, strength, happiness, etc. It also gives clean environment. It saves farmer from suicide as there is no debt through ZBNF. About 40 lakhs farmers from India are practicing this method in our country.

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