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**INTEGRATED SUSTAINABLE FARMING**

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*“Read More,  
Grow More”*



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# INTEGRATED SUSTAINABLE FARMING

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**S**ustainable farming is a type of farming in which the food demand of the present generation is fulfilled without compromising the ability of the future generations to meet their needs and demands.

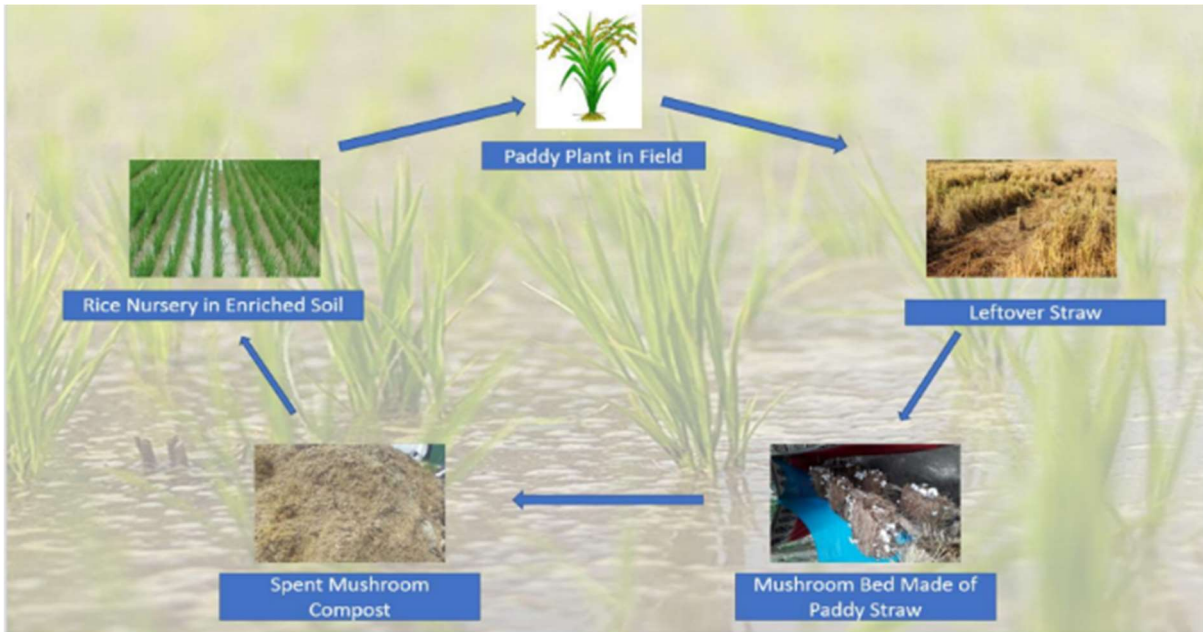
Earlier the world was by default organic in nature. Later during the 19th and 20th century with the development of urea and DDT, the world started converting itself into inorganic. It was essential to increase the production of food to feed the world population, which increased at an exponential rate. It is expected that by 2050 the world population will be around 10 billion. Therefore, the agriculture sector has to increase around 50% of its present food production to feed the world.

Post-independence India's population increased and its agriculture was subsistence in nature. India's production was also very low and India faced a food crisis during the 1950s. As a result, to increase its agricultural production the green revolution was introduced which led to the introduction of an inorganic form of cultivation. The green revolution showed prominent results and immediately became one of the most successful revolutions in Indian history post-independence. India became one of the largest producers; consumers, and exporters of agricultural and allied products. However, during the introduction of fertilizers and

high-yielding variety seeds and pesticides, its long-term consequences on the environment were not considered. In addition to this, India achieved a grim milestone of being one of the countries which are affected highest by environmental pollution. Furthermore, the contribution of the agriculture sector was highest towards achieving this milestone.

Now after 60 years of the green revolution we as a country realized the ill effects of inorganic agriculture and are looking towards other ways of farming. The type of cultivation which will help in increasing the food production, which will not affect the environment but instead will help in conserving the biodiversity, will be economically suitable to the farmers and will be sustainable. Thus, the solution to all the above-mentioned criteria is Integrated Sustainable Farming.

Integrated Sustainable farming is a type of cultivation that follows the principle of circular economy, i.e., nothing goes to waste, every product gets used in something or the other form. E.g., In paddy cultivation, after harvesting paddy, the straws left in the field can be used for different purposes such as feed for livestock, raw material for mushroom production, can be applied for mulching, raw material for compost preparation, etc. If the straw is used for mushroom farming, after harvesting of mushroom, the mushroom bed can be used for compost preparation and that compost can be applied in the field as manure. Alternatively, if the straw is used in the field as mulching, it will help in the conservation of soil moisture, prevent weed growth, and eventually will get decomposed in soil and will increase soil fertility. In this way, every product gets reused by either being a raw material for others or can be utilized as feeding material of livestock, moreover, it an



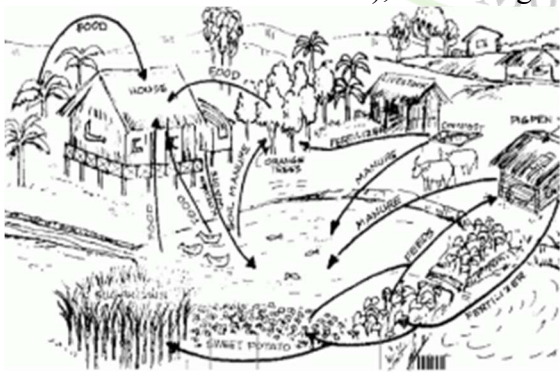
### Principle of Circular Economy Applied in a Paddy Farm

be applied for compost preparation in the end. In integrated sustainable farming, the cost of cultivation is very low. It is because the inputs such as fertilizers, pesticides, herbicides are not bought, instead are prepared in the farm itself using the products from the farm.

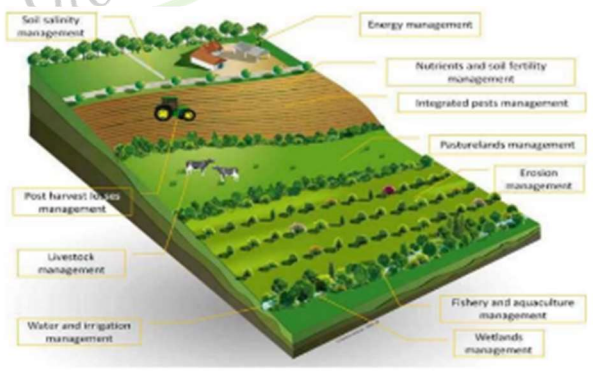
E.g., for fertilization of the soil, manures such as compost, vermicompost, liquid manure (Panchagavya), etc. can be prepared using the inputs from the farm itself. For pesticides, organic pesticides in the farm can be prepared such as neem-based pesticides- Neem Seed Kernel Extract (NSKE), pesticides prepared from the paste of garlic and chilly (helps in preventing attack of soft-bodied insects), increasing the

population of the green praying mantis which is a predator for most of the larva, or following Integrated Pest and Diseases Management (IPDM) practices.

India has come a long way from facing a food crisis to being one of the largest exporters. Meanwhile, during this period of conversion, we took nature for granted, and it's a high time we have to look towards our nature and try to conserve it and preserve it. Integrated Sustainable Agriculture is the solution. It will help us in preserving nature by reducing the percentage share of agriculture in pollution and will also help us in increasing the income of the farmer by reducing the cost of cultivation.



**Integrated Sustainable Farm (ISF)**



**Management Practices in an ISF**