



Sustainable Agriculture

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Abstract: sustainable development is an organizing principle for meeting human development goals while also sustaining the ability of natural systems to provide the natural resource and ecosystem services on which the economy and society depend. Sustainable development got prominence after 1987 Brundtland report and only after that sustainable agriculture also got prominence. The concept of sustainable agriculture in itself is very vague and difficult, which makes its usage and working much more difficult. Our objective in this research paper is to advance a society of sustainable agriculture from a social science and governance point of view by identifying areas of security and concern amidst the emerging definition of sustainable agriculture. We begin by examining the multidimensional nature of sustainability which is generally understood to have three overarching dimensions environmental, social and economic.

Introduction

Sustainable agriculture is the process in which a large amount of food is produced without depleting the earth's resource and without polluting the environment. It is agriculture that follows the rules of nature and develops such decisions and systems of raising livestock that are as self-sustaining as nature itself. Sustainable agriculture includes social values and rural people have contributed a lot in the success of sustainable agriculture. In the beginning of the 21st century sustainable agriculture is common set of practices and a farm model of economy, but it is still in its initial stage.

How do we achieve sustainability

Farmers and all other agricultural idea holders have prepared strong rules, principals, guidelines on the basis of economic justice for the guidance of sustainability. Producers and researchers are making improvements in sustainable agriculture every year and farmers are getting a lot of profit from this improvement. Government officials and the college of agriculture are promoting sustainable practices. Every year more and more farmers are taking this knowledge and from this knowledge farmers earn both economically and personally from this sustainable agriculture.

DEFINITION OF SUSTAINABLE AGRICULTURE

- “Sustainable agriculture refers to a range of strategies for addressing many problems that effect agriculture” (LOCKERTZ, 1988)

- The successful management of resource for agricultural to satisfy changing human needs while maintaining or enhancing the natural resource base and avoiding environmental degradation (TACC GIAR, 1988).

Characteristics of sustainable agriculture

- Sustainable agriculture not only reduces the control of farming on the environment but also gives the farmer more control over their livelihood.
- In sustainable agriculture, plants and animals together have proved to be systematically useful.
- The main goal of sustainable agriculture is to provide production and profit on one hand.
- Sustainable agriculture is a way to increase food production that is healthy for humans and animals.
- Sustainable agriculture practices Does not harm environment.
- Sustainable agriculture is a humanitarian approach.
- Sustainable agriculture Provides fair wage for farmers.
- Sustainable agriculture Avoid unnecessary use of insecticides, pesticides and herbicides.

Methods of sustainable agriculture:

1. Crop rotation: crop rotation is one of the most powerful techniques of sustainable agriculture. Crop rotation is the practice of planting different crops sequentially on the same plot of land to improve soil health, optimize nutrients in the soil, and combat pest and weed pressure.
2. Permaculture: is a system for growing crops, plants etc that cause little damage to environment and therefore continue for a long time. Permaculture aims to develop a landscape that will be self-sustaining and productive for generations.
3. Hydroponics: is the technique of growing plants using a water- based nutrient solution rather than soil. In hydroponics plants are grown completely in absence of soil.
4. Aquaponics: is a way to grow your own fish and vegetables at the same time. You can feed the fish and the fish feed your plants through their waste output. There is no need to use fertilizers because the fish provide rich nutrients for the plants.
5. Mulching: is referred as spreading various covering materials on the surface of soil to minimize moisture losses and weed population and to enhance crop yields.
6. organic farming: Organic farming can be defined as a system of management and agricultural production that combines a high level of biodiversity with environmental practices that preserve natural resources and has rigorous standards for animal welfare.

7. Agroforestry: Agroforestry is a collective name for land-use systems and technologies where woody perennials (trees, shrubs, palms, bamboos, etc.) are deliberately used on the same land-management units as agricultural crops and/or animals, in some form of spatial arrangement or temporal sequence.

Conclusion:

Sustainable agriculture is a way of balancing future food demand with increasing demand for food production. As the population increases day by day, there is change in the income of the people, demography also changing, people's food preferences also changing, so there is also change in the demand of the future population.

Due to the increasing climate change and the decrease in non-renewable resources, now another challenge has come in front of scientists and policy makers that how to make resources available for the increasing demand for food.

Sustainable agriculture is a new method through which we can solve all these problems and do agriculture in an integrated way so that all problems related to food production can be solved.

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