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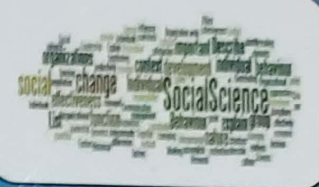
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Need Of Enhancing And Sustaining Agricultural

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Abstract: Indian economy is agrarian; hence the study of agricultural activity is essential. It is depend on several factors; but soil is an important element for agriculture. The ways of agricultural darken of our future particularly in agricultural sectors due to modern farming practices, particularly unplanned use of chemical fertilizer, pesticides and over irrigation. It outlines the problems which are beginning to become serious and suggest ways in which the situation might be improved. Soil management practices for sustainable agriculture in rain shadow through different ways are discussed and some suggestions are made on the future agriculture. Therefore we look and need of awareness enhancing and sustaining agricultural in rain fed area. Sustainable agricultural practices are internationally regulated and legally enforced by many nations, based in large part on the standards set by the International Federation of Organic Agriculture Movements.

Key words: soil degradation; organic farming, sustainable development, rain shadow agriculture.

Introduction

Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved. Organic farming was the original type of agriculture, and has been practiced for thousands of years. After the industrial revolution had introduced inorganic methods, some of which were not well developed and had serious side effects, an organic movement in rural India who created biodynamic agriculture, an early version of organic agriculture. Artificial fertilizers, initially with super phosphates and then ammonia-based fertilizers mass-produced using in agricultural practices. Similar advances occurred in chemical pesticides in the 1980, leading to the decade being referred to as the 'pesticide era'.

After 2001, drastic change in agriculture practices due to course of time dry farming converted into irrigated farm. As well as change in technology and development of agricultural practices. Nowadays village farmers rely more on chemical fertilizers and pesticides than the traditional resources. The pattern of modern agriculture in village has aroused public concern. Over environmental problems through modern agriculture practices, loss of natural soil productivity etc. and may have a negative impact on the soil environment. Chemical fertilizer applied to soil can provide crops with specific ingredient elements, but crops cannot take up all the nutrients added as fertilizer. Thus, farming practices which use heavy chemical fertilizers may cause some elements in the soil to be depleted and others to be deposited in excess, resulting in a worsening of the soil nutrients balance and reduced soil productivity. Some of the surplus chemicals may degrade the soil ecosystem and as pollutants.

Due to this reason organic farming is a topic which has received considerable attention in recent years from environmentalist, agriculturalists. In Pimpalgaon (Alwa) village sustainable agriculture has received very little attention, mainly because farming has been focused on maximizing yield. In terms of agricultural technology, the major components of sustainable agriculture are soil and water management, pest and weed control and nutrient cycling. Thus the soil is the key natural resource in agricultural production. This paper discusses awareness about organic farming for sustainable environment and agriculture in Pimpalgaon (Alwa) village of soil associated with agricultural productivity and soil management strategy for sustainable agriculture.

Methodology

The study is conducted in rural drought prone zone in Jamkhed tahsil. Cheap aim of study of this tahsil is to identify experience of farmers in agricultural area. Researcher visited to this village continuous and dialog with old and young farmers and share their experience about soil productivity, use of organic manures, changing nature of use of chemical fertilizers and pesticides, cropping pattern, production from their agricultural land. Researcher collected soil samples from irrigated and dry land area. Such soil tested in laboratory for further work. In this way only primary data collected from the study area for this article.



Result and Discussion:

Soil management

Improving soil quality for better plant growth has been a primary method of soil science. Loss of soil quality can result from mismanagement of soil resource in the absence of information of how to manage it properly. Soil management strategy for sustainable agriculture must be based on maintaining soil quality in the long term. Soil properties have changed due to intensive cropping, monoculture, over irrigation and use of agrochemicals. The present rates to use of fertilizers in this village reduce the soil fertility, so it is not appropriate to apply these to the soils in the future. Therefore awareness of the farmer in this village is essential to improve quality of soil for sustainable agriculture in their future life.

Plants need nitrogen, phosphorus, and potassium, as well as micronutrients and symbiotic relationships with fungi and other organisms to flourish, but getting enough nitrogen, and particularly synchronization so that plants get enough nitrogen at the right time is likely the greatest challenge for organic farmers. Crop rotation and green manure help to provide nitrogen through legumes which fix nitrogen from the atmosphere through symbiosis with rhizoidal bacteria. Intercropping, which is sometimes used for insect and disease control, can also increase soil nutrients, but the competition between the legume and the crop can be problematic and wider spacing between crop rows is required. Crop residues can be ploughed back into the soil, and different plants leave different amounts of nitrogen, potentially aiding synchronization. Organic farmers also use animal manure, certain processed fertilizers such as seed meal and various mineral powders such as rock phosphate and greensand, a naturally occurring form of potash which provides potassium. Together these methods help to control erosion.

Mixed farms with both livestock and crops can operate as lye farms, whereby the land gathers fertility through growing nitrogen-fixing forage grasses and grows cash crops or cereals when fertility is established. Farms without livestock may find it more difficult to maintain fertility; and may rely more on external inputs such as imported manure as well as grain legumes and green manures, although grain legumes may fix limited nitrogen because they are harvested.

Weed management

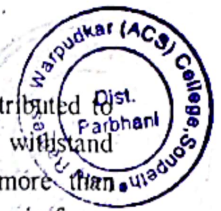
Organic weed management promotes weed suppression, rather than weed elimination, by enhancing crop competition and phytotoxic effects on weeds. Farmers integrate cultural, biological, mechanical, physical and chemical tactics to manage weeds without synthetic herbicides. Organic standards require rotation of annual crops, meaning that a single crop cannot be grown in the same location without a different, intervening crop. Organic crop rotations frequently include weed-suppressive cover crops and crops with dissimilar life cycles to discourage weeds associated with particular crop. Farmers strive to increase soil organic matter content, which can support microorganisms that destroy common weed seeds. Other cultural practices used to enhance crop competitiveness and reduce weed pressure include selection of competitive crop varieties, high-density planting, tight row spacing, and late planting into warm soil to encourage rapid crop germination.

Controlling other organisms

Organisms aside from weeds that cause problems in agricultural practices include nematodes, fungi and bacteria. Farmers use a wide range of Integrated Pest Management practices to prevent pests and diseases. These include, but are not limited to, crop rotation and nutrient management; sanitation to remove pest habitat; provision of habitat for beneficial organisms; selection of pest-resistant crops and animals; crop protection using physical barriers, such as row covers; and crop diversification through companion planting. Examples of beneficial insects include minute pirate bugs, big-eyed bugs, and to lesser extent ladybugs, all of which eat a wide range of pests. When these practices are insufficient to prevent or control pests in farming may apply a pesticide. With some exceptions, naturally occurring pesticides are allowed for use in agriculture, and synthetic substances are prohibited. Pesticides with different modes of action should be rotated to minimize development of pesticide resistance.

Productivity

Various studies find that new agriculture versus traditional agriculture, organic crops yielded 91%, or 95-100% along with 50% lower expenditure on fertilizer and energy, and 97% less pesticides, or



100% for corn and soybean, consuming less energy and zero pesticides. The results were attributed to lower yields in average and good years but higher yields during drought years. Organic farms withstand severe weather conditions better than conventional farms, sometimes yielding 70-90% more than conventional farms during droughts. Organic farms are more profitable in the drier areas. Organic farms survive much better, retaining 20 to 40% more topsoil and smaller economic losses at highly significant levels than their neighbors. Contrary to widespread belief, organic farming can build up soil organic matter better than conventional no-till farming, which suggests long-term yield benefits from organic farming.

Profitability

The decreased cost of synthetic fertilizer and pesticide inputs, along with the higher prices that consumers pay for organic produce, contribute to increased profits. Organic farms have been consistently found to be as or more profitable than chemical farms. Without the price premium, profitability is mixed. Organic production was more profitable and given price premiums.

Sustainability

Traditional ways like use of organic manure in agriculture can be more conducive to food security in India. That it is more likely to be sustainable in the long-term and that "yields had more than doubled where organic or near-organic practices had been used" and that soil fertility and drought resistance improved. Agriculture imposes negative externalities upon society through land and other resource use, biodiversity loss, erosion, pesticides, nutrient runoff, water usage, subsidy payments and assorted other problems. Positive externalities include self-reliance, entrepreneurship, respect for nature, and air quality. Organic methods reduce some of these costs. It has been proposed that organic agriculture can reduce the level of some negative externalities from agriculture.

Soil conservation

It is alarming problem in developing countries like India. Role of Government organization and NGO to encourage farmer to increase plantation on uncultivated area, such plantation support to built of good soil for sustainable agriculture in this village. It is essential to awareness among farmers about vegetation cover and their role for eco-friendly environment and sustainable agriculture in Pimpalgaon (Alwa) village for future life.

Traditional agriculture emphasizes closed nutrient cycles, biodiversity, and effective soil management providing the capacity to mitigate. Organic agriculture can decrease fossil fuel emissions and, like any well managed agricultural system, sequesters carbon in the soil. The elimination of synthetic nitrogen in organic systems decreases fossil fuel consumption.

Biodiversity

A wide range of organisms benefit from organic farming, but it is unclear whether organic methods confer greater benefits than conventional integrated agri-environmental programmes. Nearly all non-crops, naturally occurring species observed in comparative farm land practice studies show a preference for organic farming both by abundance and diversity. Birds, butterflies, soil microbes, earthworms, spiders, vegetation, and mammals are particularly affected. Lack of herbicides and pesticides improve biodiversity fitness and population density. Many weed species attract beneficial insects that improve soil qualities and forage on weed pests. Soil-bound organisms often benefit because of increased bacteria populations due to natural fertilizer such as manure, while experiencing reduced intake of herbicides and pesticides. Increased biodiversity, especially from beneficial soil microbes have been proposed as an explanation for the high yields experienced by some organic plots, especially in light of the differences seen in a 21-year comparison of organic and control fields.

Capacity building: Traditional agriculture can contribute to ecologically sustainable, socio-economic development, especially in developing countries. The application of organic principles enables employment of local resources e.g., local seed varieties, manure, etc. and therefore cost-effectiveness. Local and international markets for organic products show tremendous growth prospects and offer creative producers and exporter's excellent opportunities to improve their income and living conditions.



In the last two decades, drastic changes of thinking of farmers in Jamkhedtahsil. It has been increasing agricultural production. Nowadays, farmer faced with difficult environmental problems that arise in agricultural ecosystems. Agricultural scientist is urgently required to provide economically acceptable alternative to help these problems. Sustainable development through organic eco-friendly agriculture may be defined as an agriculture system which gives farmers to profitable livelihood while conserving agricultural resources and environmental quality. Good soil management is a core component. Soil testing should be the first step in managing soil for sustainable agriculture, so we can know the problems are now and what kind of problems are arise in the future. Excessive use of chemical fertilizers and over irrigation has become a cause of environmental pollution. Therefore, recycling of nutrient in agriculture is essential and it should be evaluated continuous.

Traditional agricultural methods are internationally regulated and legally enforced by many nations, based in large part on the standards set by the International Federation of Organic Agriculture Movements. Large amount of village fertile surface soil are being lost as a result of soil erosion. In recent years, fallow land has been increasing. Therefore, proper management of agriculture practices and measures to control soil erosion are necessary. At present livestock farming is essential, but it is not easy to small farmers. Nowadays encourage and aware about organic farming. Farmers to treat their farm wastes and such waste convert them into organic matter. So, as to development the best combination of current technology and traditional farm practices is an important to development of sustainable agricultural practices in this village.

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