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ALTERNATIVE FARMING SYSTEMS FOR A SUSTAINABLE AGRICULTURE

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ABSTRACT

This study has on agricultural sustainability, and its relationship to various alternative agricultural systems. The importance of sustainable agriculture has risen to become one of the most important issues in agriculture. The interrelationships between agricultural production and the natural environment means that we are far from knowing which methods and systems in different locations will lead to sustainability. It is extremely difficult to determine agricultural practices are sustainable or not. Organic agriculture and good agricultural practices (GAP) are the best suitable options for a sustainable agriculture. In this study, these two alternative farming systems are focused on.

Key words: Agricultural sustainability, organic agriculture, good agricultural practices (GAP).

1. INTRODUCTION

In the last decade, the importance of sustainable agriculture has become one of the most important issues in agriculture. This study examines the relationship between agricultural sustainability and various alternative agricultural approaches.

Sustainability is based on the principle that we must meet today's needs without compromising the ability of future generations to meet their own needs (Lichtfo, 2009). The aim of sustainable agriculture is to maximise the net benefits of society from food production and ecosystem services.

Conventional agriculture is no longer suitable for protecting ecosystems and humans. Sustainable agriculture is an alternative to solving the basic and applied issues related to food production (Lal, 2008). Conventional agricultural practices can reduce the ability of ecosystems to provide goods and services. For example, high application of fertilizers and pesticides may increase nutrients and toxins in underground water and surface waters.

Some of the developments in the modern agricultural system have raised doubts about the long-term applicability of existing production systems. Agricultural sources, both spatial and sectoral uses of inputs to consume an increasing proportion of cash. It makes a narrower genetic base dependent on it and has more impact environment. This is mainly due to its intensive dependence on chemical fertilizers and pesticides, its dependence on subsidies and price support, and other threats to species, environmental pollution, habitat destruction and external costs associated with human health and welfare (Tilman etc., 2002).

While traditional agriculture is driven by almost only productivity and profit, sustainable agriculture integrates biological, chemical, physical, ecological, economic and social sciences in a comprehensive way to develop new agricultural practices that are safe and do not harm our environment (Rigby and Cáceres, 2001).

For increased crop yield, nitrogen efficiency, phosphorus and water use, ecological applications, pesticide and antibiotics use, and some livestock production applications require major changes. Sustainable agriculture needs farmers and other farmers sensitive to the production of both food and ecosystem services.

The presence of both agricultural products and ecosystem services is essential for human quality of life. However, new agricultural practices, which greatly increased global food supply, have created unwanted and harmful effects on the environment and ecosystem services, and have increased the need for more sustainable agricultural methods.

2. RURAL DEVELOPMENT AND AGRICULTURAL SUSTAINABILITY

The definition of rural development, the social, cultural and economic differences between the city and the country are the basic assumptions of the acceptable balance. In other words, rural population, especially in the fields of migration and employment, aims to be solved by developing unconsciously. The rural population has to maintain the acceptable population rate. The desire for rural development of the inhabitants of rural areas provides individuals and communities who are willing to give up their rural backgrounds or cultures and are in line with the new living conditions. In order to make an effort in this direction, it is necessary to look at them from a moral and material point of view. It also reveals the need to create a sense of help for them. These communities have to be open to all economic, social and cultural developments with this feeling.

Global growth in food demand is predicted in the coming years. For this reason, intensive food production, sustainability and ecosystem results are very difficult. In order to ensure the sustainability of agricultural and ecosystem services , it will be important to meet new incentives, policies and requests for improvement without endangering human, animal and environmental health in environmental integrity.

3. ALTERNATIVE FARMING SYSTEMS

3.1. Organic Farming for Sustainable Agriculture

Scientific research has shown for a long time that sustainability is absolutely necessary (Prety, 1994). The relationship between agricultural production and the natural environment has a density and complex structure. Therefore, it has become compulsory to know which methods and systems will lead to sustainability in different places. It is extremely difficult to understand whether most agricultural practices are sustainable. It is only possible to know whether conventional agricultural practices are one of the sustainable techniques. Sustainable production management of a agricultural application in terms of natural resources is based on the hypothesis. Today, a production technology defined as sustainable must maintain its productive capacity over time and be sustainable. This means that a continuous monitoring and re-evaluation is required. The focus here is on the relationship between organic farming, and especially with the concept of sustainability.

Organic agriculture is widely perceived as more environmentally friendly than conventional agriculture. Organic agriculture as a form of sustainable agriculture environmental protection, more suitable for Biodiversity, cultural landscape, such as providing the policy receives important support for reasons such as. Consumers prefer organic products that are manufactured without synthetic chemicals and adhere to high animal health and environmental standards. Organic farming certainly has the potential to fulfill these expectations. Unfortunately, the number of organic farms and production in Turkey is insufficient.

In the United States, organic sales are around 47 billion dollars in 2016, and food sales is 8.4%. Sales of organic food products increased by 8.8% in 2016 (OTA, 2017). In general, organic food purchasing trends continue and expand the craze of organic and natural foods. Enhanced infrastructure and increased distribution channels will pave the way for further growth in this area. In addition, the use of organic foods has increased to meet the demands of catering companies, restaurants and other hospitality industry. It provides a great commercial wholesale street for organic food suppliers. The aim is to develop environmental and economic sustainable production systems that maximize trust in the farm for human and other resources, and to provide ecological and biological processes and interactions with renewable resources. "Lampkin" (Prety, 1994), one of the objectives and principles of Organic Agriculture, the International Federation of organic farming movements (IFOAM, 1998) presented the objectives and principles of Organic Agriculture. The basic standards for production and processing are given in Table 1.

Table 1. The Principle of Organic Production and Processing

Produce adequate quantities and quality food ingredients.
To be able to interact peacefully with natural systems and sustainability.
To consider the social and ecological effects of organic production enterprises.
To promote and develop micro-organisms, soil, flora and fauna, biological cycles of their systems.
To develop a valuable and sustainable water ecosystems.
Long-term fertility of soils to protect and increase.
To ensure the protection of the genetic diversity of the production system and its environment, including the protection of plant and wildlife life.
With water and water resources to promote proper care of all life there.
Use as much renewable resources as possible in locally organized production systems.
Create a harmonious balance between plant production and animal husbandry.
Minimize all types of pollution
To ensure the processing of organic products using renewable sources.
Producing organic products that can be completely biodegradable.

3.2. Good Agricultural Practices for Sustainable Agriculture

Good agricultural practices are official inspections that verify that fruits and vegetables are produced, packaged, handled and stored as safely as possible to minimize the risk of food safety hazards. The concept of good agricultural practices serves as a reference tool for deciding on sustainable and socially acceptable practices and outcomes at every stage of the production process. Implementation of the gap should therefore contribute to sustainable agriculture and rural development.

The food safety Protocol, known as the good agricultural practices (gap), is currently being tested on the global food quality assurance system. Good agricultural practices (gap) are becoming widespread worldwide in the principle of sustainability as a production system that protects the environment, human and animal health. Good agricultural practices (gap) are examined as production management system. This particular standard implements codes of conduct developed by a consortium of major European retailers that address health and safety issues for producers and consumers, as well as working conditions in agriculture and environmental management issues. In good agricultural practices, pesticides and fertilizers can be used as controlled and supervised. In this respect, it is different from organic agriculture.

4. CONCLUSIONS

A common consensus has been reached on the importance of sustainability and to be a target for agriculture. Extensive interpretations of agricultural sustainability have emerged with different basic objectives. Sustainability is interpreted as an approach to agriculture developed in response to concerns about the effects of Agriculture. It is necessary to and here to sustainable ideologies and practices in their own interests and to avoid concerns about the threat of Agriculture. It seems useful to interpret sustainability as an approach and to motivate change. In order for sustainability to be a useful criterion in directing the change in agriculture, the characterization must be accurate, system oriented, quantitative, predictive, stochastic and diagnostic (Hansen, 1996).

Two ways are recommended for sustainable resource management in agriculture. The first is organic agriculture and production. The second is good agricultural practices (GAP) because organic production is a difficult and expensive process. The gap provides easier and more practical sustainability environmental management. The gap is also a controlled and controlled production management (Karkacier and Karabaş, 2013).

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