

GROW ORGANIC – PROTECT THE ENVIRONMENT

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Abstract

Global population growth in recent decades, combined with evolving industrialization, and climate change has an immediate negative impact on the environment. Organic farming is a widespread alternative production practice having serious interrelationship with the society, economy, and ecology state worldwide. The aim of this scientific research is to prove the organic agriculture as an environmental protection approach. The paper is also an appeal to farmers, citizens, scientists, and governments for more understanding, applying, and supporting the organic farming to spare the nature. Organic farming today is close to the agriculture practiced by our ancestors. Namely, the production of agricultural products and animal husbandry in a way that protects human health and the environment.

Key words: organic farming, sustainability, climate change, environment protection

INTRODUCTION

Global population growth in recent decades, combined with evolving industrialization, and climate change has an immediate negative impact on the environment. The increased population requires extra food, which in turn requires the production of more and more agricultural products to feed the inhabitants.

Due to environmental problems of conventional agriculture in many countries, most agricultural policy makers are considered organic farming system as a new approach of environmental protection to achieve food security and sustainable agricultural development [17].

Sustainable development ensures a growing standard of living and protection and improvement of the environment [1].

In recent years significantly increased interest in organic agriculture, in response the increasing environmental degradation, deterioration in the quality of food and the growing threat to public health of the human population [3].

It is not only an agricultural method of providing healthy food to inhabitants, but also a certain way to protect our nature [4].

Organic farming devoid of the use of any chemical or genetically modified inputs, in which the biological potential of the soil,

organic sources and underground water resources are conserved and protected adopting suitable cropping pattern including agro-forestry and methods of organic replenishment. It is environmentally enhancing agriculture: What we want is farming model that leave the environment better than it was before. We want the soil more fertile, the landscape more diverse, the forest healthier and the wildlife more prolific. Parameters of proper environmental considerations are clean air, clean water, healthy plants, and animals [6].

Organic farming is based in principle on increasing soil organic matter content by using natural fertilizers [16].

Organic agriculture is ecologically sustainable and therefore good for the environment. The fertilization of fields with organic amendments such as manures and compost provide both essential plant nutrients and a carbon source for soil microorganisms. The favourable structure created by the microbes helps improve the soil's resistance to erosion [8].

Everything in life is dependent on our soils, the sun, and water. When larger number of people are involved with the soil, food and the basics of life, the world will become a better place. In today's world, this is easy to forget, because we are a mobile society that can

move away from the consequences of our actions; if the soil is poor, plow up another field. In the future, we will not have that luxury; we must improve what we have [10].

MATERIALS AND METHODS

The goal of the current scientific paper is to prove the organic agriculture as an environmental protection set of actions. The study is based on detailed peer reviewed scholarly research and secondary external data base collections. The conducted qualitative and benchmarking analysis methods consider organic farming from an ecological point of view and outline its significant benefits for the natural habitat.

We found that the organic farming is a helpful agricultural approach to environmental safety functioning and development.

Conclusions are made and future actions are being recommended.

RESULTS AND DISCUSSIONS

Agriculture is the world's largest industry. It employs more than one billion people and generates over 1.3 trillion USD worth of food annually. Pasture and cropland occupy around 50 percent of the Earth's habitable land and provide habitat and food for a multitude of species. When agricultural operations are sustainably managed, they can preserve and restore critical habitats, help protect watersheds, and improve soil health and water quality. But unsustainable practices have serious impacts on people and the environment.

The need for sustainable resource management is increasingly urgent. Demand for agricultural commodities is rising rapidly as the world's population grows. Agriculture's deep connections to the world economy, human societies and biodiversity make it one of the most important frontiers for conservation around the globe [18].

It's impact on the environment has improved, but there is still much to do. In recent years, there have been some encouraging signs that the agriculture sector of OECD countries is capable of meeting its environmental

challenges. Farmers in many OECD countries have made improvements in the use and management of nutrients, pesticides, energy, and water, using less of these inputs per unit of land. Farmers have also made good progress in adopting more environmentally beneficial practices, such as conservation tillage, improved manure storage, or soil nutrient testing [11].

A major case for organic farming rests on its ability to reduce or eliminate many of the worst environmental consequences of modern production systems, including loss of wildlife and wildlife habitats, pollution of the environment and the excessive usage of non-renewable resources [9].

Benchmarking analysis has been used to compare the conventional and organic agriculture effects on the natural habitat. The results are presented in Table 1.

Table 1. Summary of the environmental impact of organic farming (compared with conventional farming)

Indicator		Assessment of impact	
		Per unit area	Per unit yield
Ecosystem	Biodiversity	+	+
Soil Quality	Organic matter content	+/~	+/~
	Biology	+/~	+/~
	Structure	+/~	+/~
	Erosion susceptibility	+/~	+/~
Water Quality	Nitrate leaching	+	+/~
	Phosphorus loss	~	~
	Pesticides	+	+
	Human pathogens	~	~
Air Quality	Ammonia	+	~
	Nitrous oxide	~	~
	Methane	+	-
	Carbon dioxide	+	+
Resource use	Energy efficiency	+	+
	Nutrient balance	+	+/~
	Controlled wastes	+	+
Key:			
+	Organic is better than conventional		
-	Organic is worse than conventional		
~	No difference between organic and conventional		

Source: The Department for Environment, Food and Rural Affairs (DEFRA) and Own Research.

Comparative analysis shows that organic farming has many favourable variances in favour of the biodiversity. Such as: positive effect on soil state and condition – level of nitrogen and phosphorus; ammonia control through manure production and its storage management. Regarding organic animal husbandry, the methane and carbon emissions going into the soil have relatively low levels. This is due to the typically small size of the organic holdings. Organic farming has lower energy use than the conventional. Generally, even not in once, organic agriculture can produce many environmental benefits [5].

Natural resources are depleted under the influence of weather and external conditions, as well as under the influence of strong industrialization and subsequent pollution. The use of many pesticides and herbicides in conventional agricultural production also has a strong negative effect. Organic farming has a positive effect on most natural resources - soil, water, air, chemical elements, and minerals. Therefore, it has a significant ecological role in the improvement and protection of the environment [7].

It our opinion, it is also important to mention here that climate change is the defining challenge for human development and ecological well-being in the 21st century. Agriculture is both affected by climate change but also contributes to it. organic farming systems utilize traditional skills and knowledge, manage with weather extremes, and enhance productivity and resilience. One major criticism of organic agriculture is that productivity is lower compared to intensive conventional agriculture [13].

The production approach and methods of organic farming can be considered as a closed system, from the production of fertilizers, seeds, officially authorized organic preparations, cultivation of crops and animals and the use of their residues throughout the production cycle. All this proves that organic farming is a secure production and management driver aimed at slowing down climate change and preventing possible catastrophic consequences in the future [15].

At present, climate change is one of the greatest challenges facing the globalized

world. Weak populations in developing countries will be particularly affected by global warming, of which developed countries are the main drivers. According to our study, a global rise in temperature of 2°C above pre-industrial levels could irreversibly change the face of the world. The need for sustainable and climate-friendly development is clear.

We believe that environmental protection must be a priority for every country in the world and that constant measures must be taken in the production of agricultural products. Stopping the use of pesticides is one of the boldest actions to protect the environment. For example, we also found that this is exactly the step that Switzerland intends to take – likely it will be the first European country to ban their use in agriculture. Of the countries around the world, only Bhutan has completely banned the use of artificial pesticides [2].

As organic Agriculture is based on four important principles namely the principles of Health, Ecology, Fairness, and Care, according to the global organic organization IFOAM ‘These principles are the roots from which Organic Agriculture grows and develops. They express the contribution that Organic Agriculture can make to the world. Composed as inter-connected ethical principles to inspire the organic movement in its full diversity, they guide our development of positions, programs, and standards’. Ecosystems all over the world are under pressure, threatening the productive potential of the world’s natural resources and compromising the future fertility of the planet. it is clear we need to go down a new path. Organic agriculture is part of the solution [14].

We agree to IFOAM that organic farming takes a holistic approach that cares for our precious nature by producing clean and good food as well as sustaining the agri-ecosystems. In this regard, we absolutely support the United Nations’ sustainable development goals report, which is concentrated on exploring and proving the organic farming as their tool of achievement. For about a decade now, the plan aims to use organic farming to achieve half of its

environment protecting goals. The main ones are reducing the negative results from conventional agriculture; increasing the positive impact on climate change; biodiversity improvement; clean soil and water resources, and their appropriate and responsible management; an enhancement in benefits for people's health and providing them with normal healthy living environment [12].

CONCLUSIONS

Based on the conducted scientific research we can conclude that our environment faces many challenges at present. Industry and conventional agriculture have a huge adverse impact on its condition and development.

As an agriculture production method organic farming can help and protect the environment. It can be achieved in reducing the harmful emissions by several production methods such as skilful soil tillage, control and care, correct selection of crop rotation and animal husbandry, fully compliant with the requirements of organic production of agricultural products.

There are established advantages and disadvantages of the organic farming, and in terms of environmental protection, its advantages are much more. Regarding the identified shortcomings, our advice is to constantly conduct scientific ecological, economic, and sociological research to analyse and assess the state and changes in organic farming and its direct impact on the environment.

The results of our research prove that organic farming is ecologically sustainable and has the full potential to apply best environmentally friendly practices optimizing the available natural, climatic and production resources; and considering the health of future generations. It can successfully and categorically attain and provide better humans and nature life.

Categorically, organic agriculture is very close to the agriculture practiced by our ancestors. Namely, the production of agricultural products and animal husbandry in

a way that protects human health and the environment.

Nowadays, considering its specific features and requirements, it can be well implemented, supported, improved, and developed as a modern alternative and long-term strategy for maximizing human well-being and providing an appropriate economic, social, and natural base for future generations.

Additional complex management and production strategies, methods and guidelines need to be developed for the study, promotion, and support of organic farming worldwide.

Meanwhile, Grow Organic – Protect the Environment!

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