

Organic Farming and Feasibility of Agricultural Systems

Durgesh Nandan¹

¹Department of Agriculture, Sanskriti University, Mathura Uttar Pradesh-281401, India.

Corresponding author:

Durgesh Nandan

Department of Agriculture, Sanskriti University, Mathura Uttar Pradesh-281401, India.

Abstract

The need of sustainable agriculture is fundamental, but it remains difficult to decide on how to move towards it. To what degree the idea of sustainable agriculture has practical significance is highlighted. In addition to the organic farming, sustainability is considered-a field that is increasing rapidly in many countries. The most essential challenge in India in the post-independence period has been producing enough amount of food for increasing population. Higher yielding crops are therefore used by irrigation water, pesticides infusions as well as fertilizers. This addition of high-yielding manufacturing technology has supported the country to grow a food in large amount and it leads to issues and problems in the soil health, pesticide toxicity environmental degradation and agricultural production sustainability. In the sense of this sustainability debate, the job of regulation through usage of synthetic agrochemicals, required amount of self-reliance of farming systems, as well as extent of production and the trade of agricultural goods are all discussed. Organic farming can provide good quality food which does not has an adverse impact on the health and climate of the soil; the question, however, large-scale of organic farming can provide enough amount of food for the huge Indian population.

Keywords: Agricultural Systems, Environmental Degradation, Fertilizers, Organic type of Farming, Pesticides, Sustainable Agriculture.

Introduction

The principle of the sustainability lies in discussions which exist presently the utilization of natural resources of the plants, however its intuitive objection there is no type of consensus on its significance. While there is no agreement on this basic dimension of sustainability, the paper highlights sustainable agriculture[1]. Therefore, improvement in using the concept of sustainability to change policy and management requires clarification of conflicting definitions, and careful examination of the assumptions that underlie them. The paper emphasizes on the sustainable agriculture, in which lack of consensus significance is consistent with the general trend for issues of “sustainability.” [2] The paper discusses the common themes which developed from attempts to establish sustainable agriculture as the first step towards explaining consequences for agricultural policy and practice, and describes the key streams inside the sustainable agriculture movement.

Several have contended that the organic farming as well as sustainable agriculture, for instance, are associated, others observes it as different concepts not to be equated with[1], [2]. So this paper explores relationship among organic farming system with the agricultural sustainability. The reason for concentrating on organic farming is the increasing growth in organic department in North America and Europe. Such growth has led to a total of 2.5 per cent of organic agricultural land. The increase in the need of for eco-friendly, “natural” or food goods free from chemical has led to a development of organic certification schemes in Europe and North America[3]. Such schemes are seen as ensuring customers that the goods they purchase are manufactured in this method, with number of agricultural inputs banned. Often discussed in the sense of agricultural sustainability are the impact of such schemes on farmers, as well as the result of expanding the world market of these products. This increases concerns size, sustainability as well as local organization of the sustainable agriculture of future.

1. Organic Farming

In India, organic farming is not a newer form of system which has been followed since ancient times. It is a farming method that aims primarily to cultivate the soil and to grow crops in this a manner as to maintain the soil intact and in good health by using organic waste (crop, waste, aquatic waste) and the other biological materials together with favorable microbes to release the nutrients in the crops for enhancing agricultural production in an environmentally friendly emission[4].

There are different number of meanings of organic farming in different sustainable agriculture. It is referred to by researchers as view of agriculture focusses at reflecting the fundamental. Researchers also demonstrate that the organic farming may generally point to utilization of living materials, and demonstrates the principle of 'wholeness,' which implies the “systematic connection or coordination of parts in a whole.[3], [5]” The concerns that inspired earlier exponents of the organic farming are integral member of existing agricultural sustainability discussion, involving- soil health as well as problems in structure, the increasing value of chemical fertilizers, the human health.

With population growth our duty will be not only to maintain agricultural production and to further raise it in a sustainable way. The researchers recognized that the “Green Revolution” with high input consumption has hit a plateau and is now supported by dropping dividend returns[5]. Therefore a natural equilibrium for the nature of life and property needs to be preserved at all costs. In current age, when such level of agrochemicals which are developed from fossil fuel and are not renewable and decrease in availability, the obvious option for that will be more important. The most important expositions of objectives and fundamentals of the organic farming is presentation of basic methods for the production and processing in and are shown in Table 1[3]. While statement becomes obvious, the principles extends to matters of justice as well responsibility beyond mere biophysical aspects[1], [2].

Table 1: The Principle Aims of Organic Production and Processing

S. No	Aim
1.	To produce food of high quality in sufficient quantity.
2.	To consider the wider social and ecological impact of the organic production and processing system.
3.	To interact in a constructive and life-enhancing way with natural systems and cycles.
4.	To develop a valuable and sustainable aquatic ecosystem.
5.	To promote the healthy use and proper care of water, water resources and all life therein.
6.	To maintain and increase long term fertility of soils.
7.	To minimize all forms of pollution.
8.	To produce fully biodegradable organic products.
9.	To process organic products using renewable resources.
10.	To produce textiles which are long-lasting and of good quality.
11.	To create a harmonious balance between crop production and animal husbandry.
12.	To use, as far as possible, renewable resources in locally organized production systems.

2. Sustainable Agriculture

Hodge summarizes some of trends in modern farming which have pointed questions about the long-term sustainability of current production systems[6]:

This is expressed especially in its strong dependence on chemical fertilizers, its dependency on subsidies and cost aid and its externalized costs like risks to other value of species, and the degradation of environment, loss of habitat and problems to health and welfare of human.[7]”

‘Sustainable agriculture implies an efficient system of practices of plant as well as animal production with a site-specific application that will[6]:

- a) meet human food as well as fiber demands in long term;
- b) improve the quality of the ecosystem and the natural resource base on which agricultural economy depends;
- c) make most effective use of the non-renewable resources and on-farm resources maintain economic viability of farm operations;
- d) improve quality of farmer’s life.

The emphasis is laid on organic farming, especially connection to principle of sustainability. There is several factors for this accent. One is organic farming surpasses other “environmentally friendly” approaches in agriculture[8]. Second, in several countries it's a quickly developing agricultural sector. There are number of reasons for this expansion, and differs across countries. Public awareness has risen in response to ongoing food safety, animal welfare issues and concerns about environmental effects of industrial farming[6], [7].

3. Regulation as well as sustainability on organic farming

Some of the procedures of organic agriculture that distinguishes it from other of previously established alternative trends in agriculture is that it comprises of a legislative background. A full collection of certification methods regulate organic agriculture, from movement of soil to dining table[1]. This history of the regulation makes it considerably easier to address what organic farming really is, since there are established requirements that producers must follow[4]. While these standards vary across distinct organic bodies among the national boundaries, the standards form a basis on basis of debate could be focused.

No real question indicates that the concepts of sustainable farming and the organic farming have been closely connected. However, there is discrepancy about the precise nature in its relationship. To some of 2 are associated, to other it is misguides to equate them[5]. Given the variety of interpretations of organic farming, the consensus about what is required for organic production are in complete contrast to the controversies and disputes raging about the essence of agricultural sustainability. Any of the work on historical value of relationship among the system of agriculture and sustainability of communities they serve highlights the argument that this type of farming system does not need to be new, mechanized which use synthetic chemicals fundamentally unsustainable[4], [5], [8].

For an aggregate calculation, it is difficult to balance given the impact of organic production on farm margins, productivity of soil as well as rural employment. Not too troublesome if results points in same direction, but if one starts to understand trade-offs when one variable rises and another falls, then this aspect is more important across various dimensions[3], [4]. It is an problem that will not be addressed simply by greater awareness of the impacts of various production systems; even with full information on impacts, one still have to acknowledge in some respects trade-offs of progress towards goals followed by reversals in other. Despite this difficulty in trade-offs, the use to make decision about goals, concept of sustainability as a target is still useful, instead of a

destination[8]. Thought of this manner, convergence to sustainable agriculture can be seen as an asymptotic process.

4. Perspectives and Issues on Sustainable Agriculture

The paper focuses on the agricultural sustainability, as well as its relationship to different methods to agriculture. It has given utterly purposely no new concepts of sustainability or sustainable agriculture[9]. These have resulted from acknowledging the view that sustainable farming is seen as a method instead of a rigid set of the production practices. Sustainable practices differ temporarily and temporally, and it can only be fully defined retrospectively. It's not just a matter of tools as well as inputs however the method where they're being used. It increases the chances of considering sustainability as such a concept that this has little sense, and must be removed[7], [8]. A consequence of this interpretation of agricultural sustainability was that the development of yet more abstract interpretations of the term appears to give little to benefit. For the many, a preferred choice has been to incorporate their idea of more sustainable agriculture[2]. While agricultural production may not occur in isolation from rest of society, there is potential to regulate much of the system, to be able to alter certain aspects of it, and to try to put into action one's vision of the agricultural sustainability[9].

One such problem is to what degree any agriculture system is connected to an unsustainable society. These ties can take the form of acquired inputs, electricity, or farm output sales[1], [4], [7]. It was noted that lack of agreement on the exact meaning of organic farming and the agricultural sustainability is a concern when addressing their relationship. A significant development in this regard is the existence of established guidelines for organic production. These principles provide a solid basis for discussion and debate in a research area plagued by different understandings, interpretations and meanings[10]. The issue that emerges thereafter is that one may actually seek to restrict organic production to what has been found in those criteria, while organic production goes far beyond that for those involved. Hence organic farming can be seen as being pushed in two separate directions.

For those that do not see the sustainable agriculture as inherently requiring the end of large-scale farming is crucial[3], [8]. One who wants to close the gap among the producer as well as consumer, and the processes through which food is produced, falls into "same variations of size, distance and regulate as regular food system" regulates major issues[10].

5. Organic Farming, Synthetic Chemicals, and Sustainability

The diagrammatic representation used to highlight this point in his paper are of the form displayed Figure 1 [7]. This indicates that the organic farming reports for a certain sustainable and some non-sustainable agriculture, although some non-organic farming methods also make a contribution to sustainable agriculture[7].

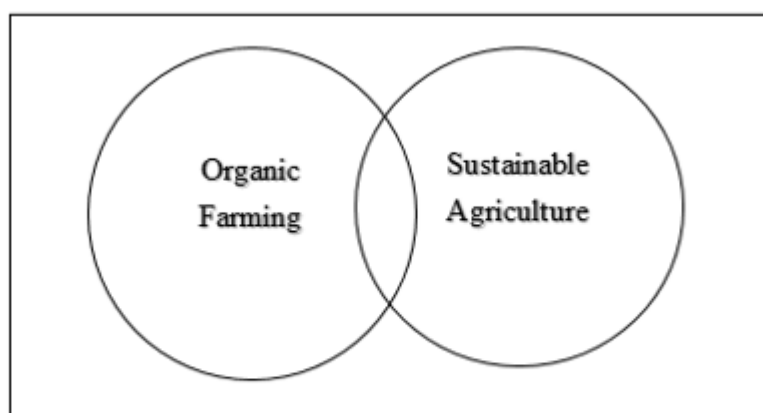


Figure 1: View of Sustainable Agriculture and Organic Farming as Two Related, But Distinctly Different Concepts

To some extent, choosing synthetic chemical use as a classification here is ambiguous, even if the prohibition of these inputs is one of the distinguishing features of the organic farming systems[9], [10]. This group of the synthetic chemical inputs together poses problems. Putting mineral fertilizers in same group as synthetic pesticides can result as much from an antipathy to science and agricultural industrialization as from scientific categorization. The fertilizers, for example, provide nutrients same as organic manure, much more soluble form. Different types of pesticides biocidal agents that have no natural counterpart. Therefore it is highly debatable to consider all varieties of chemical inputs [3], [5]. Nonetheless, since the use or prohibition of these inputs describes many agricultural systems, these are used here.

Forms of organic and biodynamic farming involve agricultural practices which may be put in this field. Another group of farming systems that could be found here, it could be argued[1], [7]. Use of agricultural machinery on the farms, powered by the fossil fuels, to manufacture products for send back to 'unsustainable' society can be seen as undermining the sustainability of these farming systems.

It is observed that while sustainable farming are being promoted uniformly, there is significant disagreement as to the basis about which systems must be assessed[10]. The question of whether farms must be self-sufficient, the extent to which they can interact with agricultural production. This debate illustrates why it is incorrect simply to associate those codified farming activities with agricultural sustainability[11].

CONCLUSION

This paper focuses on the agricultural sustainability, as well as its relation to different methods to agriculture. It has given utterly purposely no new concepts of sustainable agriculture. The sustainable activities differ temporarily and spatially, and may only be fully defined retrospectively. One such problem is to what degree any agriculture system designed to be sustainable is connected to a society which is unsustainable. The effort to create excessively prescriptive explanations of sustainable agriculture is of small value, but it should be clear about the general idea one has for these systems.

If there is an inconsistency between the sustainability ethics of green farming, some of which could be synonymous by rejection of the consumerism, as well as the reality of organized, high-amount industrial food markets, where it requires to be discussed to help the discussion on sustainable agriculture. Some of those that do not see the sustainable agriculture as inherently requiring the end of large- farming, who predict that this sector will continue production of food for such an urban population with less to no interaction with producers of agriculture, then larger control and enforcement of quality is important.

REFERENCES

1. J. P. Reganold and J. M. Wachter, "Organic agriculture in the twenty-first century," *Nature plants*. 2016.
2. M. S. Meier, F. Stoessel, N. Jungbluth, R. Juraske, C. Schader, and M. Stolze, "Environmental impacts of organic and conventional agricultural products - Are the differences captured by life cycle assessment?," *Journal of Environmental Management*. 2015.
3. J. Leifeld, "How sustainable is organic farming?," *Agric. Ecosyst. Environ.*, 2012.
4. K. M. Nielsen, "Organic farming," in *Encyclopedia of Ecology*, 2018.
5. H. L. Tuomisto, I. D. Hodge, P. Riordan, and D. W. Macdonald, "Does organic farming reduce environmental impacts? - A meta-analysis of European research," *J. Environ. Manage.*, 2012.
6. K. Garrett, "Sustainable agriculture," in *Environmental Management in Practice: Compartments, Stressors and Sectors*, 2013.

7. M. a Altieri and C. I. Nicholls, Sustainable Agriculture Reviews. 2012.
8. M. S. DeLonge, A. Miles, and L. Carlisle, "Investing in the transition to sustainable agriculture," Environ. Sci. Policy, 2016.
9. M. Pergola et al., "Composting: The way for a sustainable agriculture," Appl. Soil Ecol., 2018.