

## **SUSTAINABLE FARMING PRACTICES IN INDIA: KEY CHALLENGES**

**Sreenivasaiah .K.N**

Associate Professor

Dept. of Economics, Government First Grade College for Women, Kolar, Karnataka

---

### **ABSTRACT**

In the name of special economic zones and mega projects, huge fertile agricultural lands are in industrial use today. Total land available for cultivation is declining. In spite of fast growth in other sectors, agriculture remains the backbone of the Indian economy. The sustainable agriculture development of any country depends upon the policy mix of their available natural resources. This paper attempts to analyse the issue and challenges of sustainable agriculture practices in India. Further, it aims to compare the sustainable agriculture system with the traditional system and the current system in practice, across the dimensions of sustainability. **Keywords:** Organic Farming, Sustainable Agriculture, Gross Domestic Product (GDP), Economic Growth.

### **INTRODUCTION**

The sustainable agriculture development of any country depends upon the judicious mix of their available natural resources. In fact, agriculture determine the fate of a country like India where about two-thirds of the population still lives in rural India with agriculture as its livelihood, in spite of the increasing urbanization that had been taking place from many decades. Therefore, if agriculture goes wrong, it will be really bad for the economy as the falling of agricultural growth not only affects employment but GDP too (thus increasing poverty). The larger objective for the improvement of agriculture sector can be realized through fast growth of agriculture, which depends upon increasing the area of cultivation, cropping intensity, and productivity. But for a country as India, increasing productivity is more important than the rest of the two. This is simply because of increasing urbanization, industrialization and the limited land size of the country. The productivity can be increased by two ways. First, increasing output by efficient utilization of available resources. Second, increasing output by variation of input. The first method is better with respect to productivity and sustainability. But due to increasing population, this method cannot provide a permanent solution. Thus, we can go for the second method, which may potentially cause environmental degradation in the economy and affect its sustainability. Therefore, there is need to tackle the issues related to sustainable agriculture development. India's growth story is service sector led. Manufacturing sectors growth remaining stagnant, relevance of agriculture is fast declining. Even though contribution from agriculture to national income and economic growth is fast receding still agriculture is capable of leading our growth path.

### **INDIAN AGRICULTURE SECTOR**

Agriculture is one of the most fundamental sectors of Indian economy. It is the source of livelihood for almost two third of the rural population workforce in the country residing in rural areas. Indian agriculture provides employment to 65% of the labor force, accounts for about 27% of GDP, contributes 21% of total exports and raw material to several industries. The livestock sector contributes a calculated 8.4% to the country GDP and 35.85% of the agriculture output dependent on agriculture; about 43% of India's geographical area is used for agriculture activities. The estimated food grain production is about 211.17 metric tons in

the country. The total geographical area comes under the agriculture are 329 MH out of which 265MH represent varying degree of potential production. The net sown area is 143 MH out of which 56MH are net irrigated area in the country. India is a vast country with variety of landforms, climate, geology, physiography, and vegetation. India is endowed with regional diversities for its uneven economic and agriculture development because of Agro-Climate Environment, Agro-Ecological Regions, Agro-Edaphic regions, Natural resource Development, Human Resource Development, Level of Investment and Technological Development.

## **IMPORTANCE OF SUSTAINABLE FARMING IN INDIA**

Sustainable development is the need of the hour. With the increase in population our compulsion would be not only to stabilize agricultural production but to increase it further in sustainable manner. Through organic farming a healthy interface between human resource and natural resources in general and commons in particular can be ensured. A humane approach to agronomy will mean a quality assurance for people and the environment. Thus, a natural balance needs to be maintained at all cost for existence of life and property for the present and future generation also. The obvious choice is organic farming. Organic farming emerged as a potential alternative for meeting food demand, maintaining soil fertility and increasing soil carbon pool. With more and more education, information and awareness people are going in for green products. The protection of environment through sustainable consumption is possible only through green products. With rising concern of health issues and food safety, many consumers have turned their site to organic products. The increased consumers' interest in organic food has been attributed among others to the growing demand for food free from pesticides and chemical residues. Organic foods promote balance among humans, other living organisms and the nature. It also promotes no artificial preservatives and best maintains the originality of food. This prevents excess use of harmful ingredients and thereby ensures health. According to Bello, "Agricultural development strategy for developing countries needs to be geared towards increasing the productivity of land under cultivation, with reduced cost, higher efficiency uses of inputs with little or no harm to both human and the environment. The prime requisite is the promotion of a healthy soil-plant-environment system to reduce Land degradation and abuse of the inputs. A new strategy of promoting eco-friendly farming is through the modification of the present systems of farming in the area of soil nutrient restoration to encourage the use of organic materials, termed organic farming." This paper discusses the problems and prospects of adopting this system in India.

## **OBJECTIVES OF THE STUDY**

- To examine the organic farming practices towards economic growth and development.
- To analyse the issues and challenges of sustainable agriculture of India.
- To find the future prospects and solution for India.

## **DIMENSIONS OF SUSTAINABLE AGRICULTURE PRACTICES**

The issues of sustainable development can be discussed under three broad types of farming systems: they are traditional production system, modern agriculture system and sustainable agriculture system. Further it has been comparing them across three dimensions of ecological, economic, and social sustainability.

## **A. Environmental Sustainability**

Many traditional and conventional farm practices are not ecologically sustainable. They misuse natural resources, reducing soil fertility causing soil erosion and contributing to global climatic change. But sustainable agriculture has some major advantages over traditional practices.

## **B. Economic Sustainability**

For agriculture to be sustainable, it should be economically viable over the long term. Conventional agriculture involves more economic risk than sustainable agriculture in the long term. Sometimes governments are inclined to watch export-oriented production systems as more important than supply domestic demands. Policies should treat domestic demand and in particular food security as equally important to the visible trade balance. It is a popular misconception that specific commodities promise high economic returns. But market production implies certain risks as markets are fickle and change quickly. Cheap Indian farmers without a market. As a World Trade Organization (WTO) signatory, the Indian government is under pressure to deregulate and open its economy to the world market so it cannot protect its farmers behind tariff walls. The main source of employment for rural people is farming. Trends towards specialization and mechanization may increase narrowly measured efficiency but they reduce employment on the land. Sustainable agriculture, with its emphasis on small-scale, labor-intensive activities, helps overcome these problems.

## **C. Social Sustainability**

Social sustainability in farming techniques is related to the ideas of social acceptability and justice. Sustainable agriculture practices are useful because it is based on local social customs, traditions, etc. Sustainable agriculture ensures that the burden and benefits are shared equitably between man and woman. While conventional farming focuses on a few commodities, sustainable agriculture improves food security by improving quality and nutritional value of food, and by producing bigger range of products throughout the years. Traditional farming was also driven by the caste and wealth oriented people.

## **ORGANIC FARMING IN INDIA**

Worldwide 1.6 million farm producers use organic methods and approximately 80 percent of these producers are in developing countries. The estimated global market for organic products in the year 2012 was approximately 70.1 billion US dollars. In India the organic food market is approximately of INR 5.6 billion and is an emerging opportunity for generation of employment and income at village level. India is blessed with and has the potential to produce all varieties of organic products due to its various agro climatic regions. Organic farming is an inherited practice in India and adds to our advantage. This holds the key for organic producers to tap the market which is steadily growing at 15 to 25 percent in the domestic market. Farmers living in lands untainted by pollutants and away from the perils of modernity are rediscovering the benefits of traditional and holistic farming that maintains soil health and bio-diversity. At present India ranks 33rd in terms of total land under organic cultivation and 88th in terms of the ratio of agricultural land under organic crops to total farming area. Today the land under organic cultivation is 4.43 million hectares and is increasing at steady rate. India is home to 30 percent of the total organic producers in the world, but accounts for just 2.59 percent (1.5 million hectares) of the total organic cultivation area of 57.8 million hectares, according to the World of Organic Agriculture 2018 report. India is world's largest organic cotton grower with more than 50 percent of total world's organic cotton. India exported more than 300 organic products for a volume of 69837 MT

realizing value of USD 157 million in 2010-11. Currently, India is emerging as a key player in the global arena, exporting over 300 products in 20 different categories to over 20 countries. Additionally, India is the largest exporter of organic cotton and houses the largest number of organic producers in the world. Alongside the developments pertaining to the global markets, the domestic markets are growing at a rate higher than the global average and are expected to keep growing at a 25 percent CAGR through 2020.

## **CHALLENGES OF INDIAN AGRICULTURE**

The central issue in agricultural development is the necessity to improve productivity, generate employment, and provide a source of income to the poor segments of population. Studies by FAO have shown that small farms in developing countries contribute around 30-35% to the total agricultural output. The pace of adoption of modern technology in India is slow and the farming practices are too haphazard and unscientific. Some of the basic issues for development of Indian agriculture sector are revitalization of cooperative institutions, improving rural credits, research, human resource development, trade and export promotion, land reforms and education. Developing countries are already producing a wide range of organic products are often faced by a number of constraints, such as lack of technical know-how, for example organic farming practices and production methods, and lack of market information like which products to grow, which markets and distribution channels to choose, competition, market access poses not only a technical problem but adds considerable costs to the product, which have to be borne by the consumer in one way or another. Further importers, food manufacturers, retail organizations and consumers also look for guarantee of Organic origin. Organic products are expensive. Organically produced foods should adhere to strict regulations like certification and intensive management. Organic farming is still faced with the problem of higher labour input in its operation. In-addition, organic farming is still hampered by lack of clarity: Consumers were not always sure about what was really covered by organic farming. Despite all constraints, Organic farming has mostly come from small farmers and is gaining acceptability in developing countries including India. In India one of the foremost problems is the financial constraint confronting the farmers in the initial ('conversion') phase of a switchover from non-organic to organic farming. Another hassle is the enormous amount of mandatory documentation involved that affects the illiterate farmers. And then there is the problem of inability to sell the produce at a premium price because at the transition period the products cannot be sold as 'organic'. Further, domestic marketing is underdeveloped in India.

## **CONCLUSION**

Organic farming in India needs both technical and institutional support. Systematic training with a strong network across regions is the need of the hour. Low cost and hassle-free certification need to be put in place. Even group certification can be encouraged through cooperatives and self-help groups. Well-developed domestic market circuits contracts, information, pricing should be set up. The Indian Council of Agricultural Research (ICAR) and the National Project on Organic Farming (NPOF) should play dynamic role in promoting organic farming not simply as a source of export revenue but as an alternative model of agricultural development. The organic farming sector needs to see where it stands in relation to these new developments. From mastering nature to nurturing its resources, there is already a paradigm shift. The agricultural technology needs to move from production oriented to profit oriented sustainable farming. New opportunities are opening the eyes of farmers, development workers, researchers, and policy makers like agro related businesses, dairy farming, poultry farming, aquaculture and fisheries. Now the time is to see the potential and importance of these practices not only for their economic interest but also as the basis for

further intensification and ecological sustainability. To conclude, a small-farm management to improve productivity, profitability and sustainability of the farming system will go a long way to ensure all round sustainability. For several years, conventional agriculture has been increasingly subject to strict environmental and animal welfare rules. The organic farming sector needs to see where it stands in relation to these new developments. From mastering nature to nurturing its resources, there is already a paradigm shift. There is need to identify suitable crops/ products for organic production that has international market demands. It will provide ample opportunity for employment and bring prosperity and peace in the nation. So, there is the urgent need for favorable policy initiatives to strengthen this sector. Such policies lay a solid foundation to promote sustainable development and the dream of sustainable development will be a reality.

## REFERENCES

1. Aggarwal, P. K. (2008). "Global Climate Change and Indian Agriculture: Impacts, Adaptation, and Mitigation" (PDF). *Indian Journal of Agricultural Sciences*. 10: 911–19.
2. Bhaduri, Anik, Upali Amarasinghe, and Tushaar Shah. "Future of Irrigation in India." Web. 14 October 2011
3. Dev, S. Mahendra (2008), *Inclusive Growth in India, Agriculture, Poverty and Human Development*, Oxford University Press, New Delhi
4. [http://permaculture.wikia.com/wiki/Organic\\_farming](http://permaculture.wikia.com/wiki/Organic_farming)
5. <https://boards.straightdope.com/sdmb/archive/index>
6. <https://boards.straightdope.com/sdmb/archive/index.php/t-419316.html>
7. [https://en.wikipedia.org/wiki/Talk:Organic\\_farming/Archive](https://en.wikipedia.org/wiki/Talk:Organic_farming/Archive)
8. Human alteration of the global nitrogen cycle: sources and consequences. *Ecol Appl* 7:737–750
9. Krishna, K. L., and Uma Kapila (eds) (2009). *Readings in Indian Agriculture and Industry*. Darya Ganj, New Delhi: Academic Foundation. ISBN 8171887384
10. Pandey Kiran and Sengupta Rajit. "India has the highest number of organic farmers globally, but most of them are struggling". (2018)
11. Raghavendra Rao and Hans V Basil. "Innovation in Marketing: E-tailing". *International Journal of Management, IT and Engineering* 5.7 (2015): 134-145.
12. Thottathil Sapna E. "India's Organic Farming Revolution: What It Means for Our Global Food System". University of Iowa Press, Iowa City (2014).
13. Vatsyayan Amit. "The Indian Organic Market. A New Paradigm in Agriculture". ASSOCHAM India (2018).
14. Vitousek PM, Aber JD, Howarth RW, Likens GE, Matson PA, Schindler DW, Schlesinger WH, Tilman DG (1997)