e ISSN–2321–7987 | ●●● Article ●●● |Visit us : *www.researchjournal.co.in*|

The organic farming: Is the future farming

Davinder Singh[1] and Rajkumar[2]
[1]Punjab Agricultural University, Ludhiana (Punjab) India
[2]C.C.S. Haryana Agricultural University, Hisar (Haryana) India
(Email : sonu.dj184@gmail.com)

Organic agriculture has grown out of the mindful efforts by inspired people to create the best possible relationship between the earth and men. It aims at sustaining and increasing the productivity by improving soil health and overall improvement of agro-ecosystem. The total area under organic certification in India is 5.71 M ha with a production of 1.35 MMT of certified organic products. Organic production currently accounts for only 1% of global agricultural land, despite rapid growth in the last two decades.

Relatively small yield gaps between organic and conventional farming of vegetables is an indication of its potential as an alternative to improve the sustainability of vegetable production growing systems. It will also overcome coming challenges related to the invasion of new pests due to pesticide resistance and stresses related to climate change. Organic systems show efficient resource utilization and enhance, in long-term, microbial, floral and faunal diversity contributing to crop resilience by using practices like crop rotation, cover crops, mulching, manuring, and pest management by biological means.

Why organic farming is required: Green revolution technologies such as greater use of synthetic chemicals like fertilizers and pesticides, high-yielding varieties of crops, greater utilization of irrigation potentials etc. has increased the production output in most cases. However, continuous use of these high energy inputs leads to decline in production and productivity of various crops as well as deterioration of soil health and environments while further negative impacts of modern high-tech agriculture are:

- Imbalance in production
- Dependency on synthetic chemical fertilizers
- Increase in pesticide use
- Reduction in quality of the produce
- Ground water depletion
- Extinction of gene pool
- Environmental pollution
- Imbalance in social and economic status

How it will advances the ecosystem prosperity? : The recent decade has seen a serious concern over the issue of environmental pollution. Consequently, attempts have been made by many institutions, both public as well as private, to promote sustainable growth especially in regards to health and ecology. So, the organic agricultural practice can be benefitted for the all organisms on earth.

- Organic farming discourages environmental exposure to pesticides and chemicals
- Builds healthy soil
- Help to combat erosion
- Fights the effects of global warming
- Supports water conservation and water health
- Supports animal health and welfare
- Encourages biodiversity

Nutritional food safety : Organic crops had 18 to 69 per cent higher concentrations of antioxidant compounds than the conventionally grown plantsthat's why consumers who switch to organic fruit, vegetables, and cereals would get 20 to 40 per cent more antioxidants. Sometimes, crops harvested from organically managed fields contain pesticide residues, the levels are usually 10-fold to 100-fold lower in organic food, compared to the corresponding, conventionally grown food as well as pesticide residues are 3 to 4 times more in conventional foods than organic ones, as organic farmers are not allowed to apply toxic, synthetic pesticides. So, from here we can estimate the quality of the organic products as compared to the conventional ones.

Further, organic plants have a habit to produce more phenols and polyphenols to defend against pest attacks and related injuries when the people consume the organic plant products such aids phenols and polyphenols to the consumer's body that help to prevent diseases promoted by oxidative-damage like coronary heart disease, stroke and certain cancers.

Key to feed the world sustainably :

– Two agricultural practices-multi-cropping *i.e.* growing numerous crops together on the similar field and crop rotation-that would significantly reduce the organic-to-conventional yield gap to 9 per cent and 8 per cent, respectively.

– Leguminous crops, such as beans, peas and lentils show non-significant yield difference when grown organically and conventionally.

– In severe drought circumstances, which are likely to rise with climate change, organic farms have the potential to produce high yields because of the greater water-holding capacity of organic farm soils.

– Organic agriculture is more moneymaking for farmers because consumers are ready to pay more. Higher prices can be acceptable as a way to compensate farmers for providing ecosystem services.

– If you look at calorie production per capita we were generating more than enough food for 7 billion people now, but we waste 30 to 40 per cent of it. It's not just a matter of generatingplenty, but making agriculture environmentally pleasant and making sure that food gets to those who want it.

More awareness required : There is less alertness at the producer level on the difference between conventional and organic farming. There is confusion between natural and organic products and limited understanding of the health benefits of organic products. In addition, consumers are faced with a plethora of decisions around brands — imported or domestic, product quality, authenticity of claims and certifications. It is serious for companies involved in the organic food business to upsurge awareness among consumers in small cities. People across all income groups should have access to organic food. This can be enabled by different means such as establishing community agricultural farms or with "grow your own food" programmes. Where diffusion is low, smaller sized packs can help encourage trial.

Worthy work : The courage shown by farmers to convert from conventional to organic is creditable. Kerala has more than 1 lakh farmers practicing organic farming. The Centre's statement for distribution of Rs. 1 billion for organic market development and Rs. 3 billion for the participatory guarantee scheme is admirable.

Sikkim is an organic state with 75,000 ha of land under organic cultivation based on an initiative that started in 2003. Meghalaya aims to convert 200,000 ha under organic farming by 2020. So, positive results are showing up with time.

Integrated approach : Single type of farming is not able to feed the whole world. Rather, what's needed is an integration of systems, "a balance of organic and other innovative farming systems, including integrated farming, conservation agriculture, agroforestry, livestock and other productive systems.

Policies should be like that to remove the barriers that delay the expansion of organic agriculture. Such hurdles include the lack of access to labour and markets, costs of transitioning to organic certification, and shortage of appropriate infrastructure for storing and transporting food. Financial and legal tools are essential to encourage the acceptance of innovative, ecological farming practices. It is the best insurance policy that India can have for its population with healthier performance on productivity, economic viability, environmental impact, and social well-being.

Focusing only on higher yields at the cost of other sustainability columns (economics, environment and society) is not the food production system that India needs. What India needs is an combined system that gives equal importance to all sustainability dimensions across the value chain and thus helps establish a healthy and well-fed society which can be achieved through organic agricultural practices.

Received : *27.09.2017* ***Revised :*** *29.10.2017* ***Accepted :*** *13.11.2017*