IOSR Journal of Humanities And Social Science (IOSR-JHSS)
Volume 22, Issue 12, Ver. 10 (December. 2017) 92-97
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Organic Farming Practices for Sustainable Development in Rural Areas: A Study of Gopalpur Block of District Mandi (H.P)

Lalit Kumar Sharma[1]

ABSTRACT
Sustainable agriculture lays great emphasis on maintaining an agriculture growth rate, which can meet the demand for food for all human beings without draining the basic resources and emphasizes the conservation of its own resources. It has to be environmentally sound, resource-conserving, economically viable, socially supportive and commercially competitive. In agriculture, sustainability means development not only in terms of output but also the socio-economic and ecological parameters. Sustainable agriculture therefore has much in common with organic agriculture.

Organic farming is one of the several approaches which can meet the objectives of sustainable agriculture. As the term sustainability is currently used, it is an assertion about the future. It is a judgment about whether or not certain agricultural practices will conserve natural resources, improve economic returns and continue to enhance productivity.

KEYWORDS: Sustainable agriculture, Health hazards, Paramparagat Krishi and Conventional farming.

I. INTRODUCTION

Sustainable development has caught the imagination and action all over the world for many decades. Agriculture being largest sector of economy, especially in developing countries, sustainable agriculture is necessary to attain the goal of sustainable development. Sustainable agriculture is the successful management of the resources for agriculture to satisfy changing human needs while maintaining or enhancing the quality of environment and conserving natural resources.

Sustainable agriculture lays great emphasis on maintaining an agriculture growth rate, which can meet the demand for food for all human beings without draining the basic resources and emphasizes the conservation of its own resources. It has to be environmentally sound, resource-conserving, economically viable, socially supportive and commercially competitive. In agriculture, sustainability means development not only in terms of output but also the socio-economic and ecological parameters. Sustainable agriculture therefore has much in common with organic agriculture.

Organic farming is one of the several approaches which can meet the objectives of sustainable agriculture. As the term sustainability is currently used, it is an assertion about the future. It is a judgment about whether or not certain agricultural practices will conserve natural resources, improve economic returns and continue to enhance productivity and human lives on long term[2].

Modern agriculture largely depends on the use of fossil-fuel based inputs such as chemical fertilizers, pesticides, herbicides and labour saving but energy intensive farm machinery. While the application of such high input technologies has undoubtedly increased production and labour efficiency, there is a growing concern over their adverse effects on soil productivity and environmental quality.

By using agro-chemicals, fertilizers, pesticides and so on, no doubt we have solved our short-term goal, but are leaving a dangerous legacy for future generations. The fertilizers and pesticides reduce the capacity of soil, increase acidity and kill the earthworms and all microorganisms which give life to the soil. The chemical residues in the food products are also causing harm to human beings and cattle population. As a result many strategies have been emerging in managing natural resources for agriculture to make agriculture sustainable. One of such strategies that have become the necessity of the day is 'Organic Farming'[3].

[1] Project Officer, Institute of Integrated Himalayan Studies (UGC Centre of Excellence), Himachal Pradesh University, Summer Hill, Shimla-171005, Email: drlalitsharma72@gmail.com
[2] The World of Organic Agriculture in India, Report
[3] Ravuri Veeraghavaiah and K. Chandrasehkar,"Organic Farming: What, Why and How?", Agrobios ,Newsletter, Vol.4,No.1, June 2005.

II. CONCEPT OF ORGANIC FARMING

Globally and nationally, various agencies have sought to define Organic farming. The united Nation's Food and Agriculture Organization (FAO) states that "Organic Agriculture is a unique production management system that promotes and enhances agro ecosystem, health, biodiversity, biological cycles and biological activity and this is accomplished by single or combination of on-farm agronomic, biological and mechanical methods in inclusion of all synthetic off farm inputs.

III. ORGANIC FARMING IN INDIA

The Ministry of Agriculture & Farmers Welfare is promoting Organic Farming as a sub- component under National Mission on Sustainable Agriculture (NMSA). Under the scheme, financial assistance is provided for setting up of mechanized Fruit and Vegetable market wastes; agro wastes compost units, setting up of liquid carrier-based bio-fertilizer, bio-pesticide production units. In order to promote participatory certification of Organic Farming in a cluster approach, Paramparagat Krishi Vikas Yojana (PKVY) was formulated in year 2014-15. The various components of NMSA are: (a) adoption of organic farming through cluster approach under Participatory Guarantee System (PGS) certification, (b) support to PGS system for online data management and residue analysis, (c) training and demonstration on organic farming, (d) organic village adoption for manure management and biological nitrogen harvesting, have been clubbed together under PKVY[4].

The organic farming is being promoted through Saansad Adarsh Gram Yojana in the selected villages adopted by Hon'ble Saansads in their constituencies.

Organic farming preserves soil quality and diversity in crop production, and avoids hazards to the environment on a long-term basis. Organic farming as a means to sustainable agriculture has benefited farmers. The certified cultivated area under organic farming has grown from 4.55 lakh ha in 2009-10 to 7.23 lakh ha in 2013-14, with around 6 lakh farmers practicing it. But, still, the total area under organic farming is insignificant compared to the net sown area of 140 million hectares. In terms of exports also, exports of organic food at about 1.6 lakh tonnes and at an estimated value of USD 220 million is less than 1 per cent of global exports. Against this backdrop, to provide a major fillip to organic farming in India, the existing components of organic farming under the NMSA have been put together under a new programme called "Paramparagat Krishi Vikas Yojana". The programme envisages development of 10,000 organic clusters and provides chemical-free inputs to farmers and increase the certified area by 5 lakh hectare within a period of 3 years. Under this, every farmer in a cluster will be provided an assistance of Rs. 50,000 per hectare in 3 years towards conversion to and adoption of organic farming and towards market assistance[5]. The main objectives of the programme are given below:

IV. ORGANIC FARMING IN HIMACHAL PRADESH

The State has diverse agro-climate conditions and due to its favorable positioning in the Himalayan region, has great scope for promotion of Organic farming. The use of chemical fertilizers and pesticides in the State is very low and 80% of the area is rainfed. The State Government formulated a Policy on Organic Farming in 2010 and has covered 30,110 farmers with an area of 17,848 ha under Organic farming. During current financial year 2000 hectare additional area is being covered under organic farming. During 2015-2016 200 Villages will be converted into complete Bio- Villages. During current financial year 20,000 Vermi-Compost Units with 50 per cent assistance will be set up.

The main points in the Himachal Pradesh State Government Policy on Organic Farming (2010) are as under:

i) The vegetable and fruit business of Himachal farmers can transform drastically by adopting organic farming.

ii) Integrated farming system is the strength of Hill farming. Agriculture-Animal husbandry is complimentary and supplementary enterprises which provide livelihood to the agrarian population in one hand and reduce dependence on synthetic external inputs on the other.

iii) The expansion of tourism to rural areas by involving villagers in rural home stays is being promoted in the state.

iv) The National Missions on sustainable agriculture and horticulture development emphasize promotion of good agriculture practices as necessary components of the agriculture development approaches for which organic farming is the best known tool.

v) Opportunity for addressing poverty alleviation and rural development in Himachal through organic farming: International Alliance for Organic Agriculture, set up under the patronage of FAO, by IFOAM and several other agencies, have recognized the potential of organic agriculture sector to contribute to achieving the Millennium Development Goals, one and seven.

[4] Smita Bhutani, Simirt Kahlon, Organic Farming in India: An Alternative Agriculture System.

[5] Saima Siddique, Madeeha Hamid, July,(2014) Organic Farming.

vi) Organic farming also acknowledges farmers innovations and experiences and Integrate indigenous or traditional knowledge with larger agriculture development processes, thereby, showing respect to the farmers as shapers of the future.

V. NEED OF ORGANIC FARMING

With the increase in population our compulsion would be not only to stabilize agricultural production but to increase it further in sustainable manner. The scientists have realized that the 'Green Revolution' with high input use has reached a plateau and is now sustained with diminishing return of falling dividends. Thus, a natural balance needs to be maintained at all cost for existence of life and property. The obvious choice for that would be more relevant in the present era, when these agrochemicals which are produced from fossil fuel and are not renewable and are diminishing in availability. It may also cost heavily on our foreign exchange in future[6].

VI. METHODOLOGY

The present study was carried out in the Gopalpur Block of Sarkaghat Teshil of district Mandi (H.P). The district has gone agriculture intensification and diversification, which has both pros and cons. Moreover, the horticulture university is located in the district where the scientists has been testing new technologies and guiding people about the new technological advancement through their extension activities. Thus, the person has been trying the method and direction of the scientists and in such a situation it becomes imperative to study the impact of such programmes.

The district has switched over to cultivation off-season vegetables, mushrooms and floriculture. Though the farmer in the districts has been practicing the organic farming, but as a result of the green revolution, the people switched over to use of chemical fertilizers, which has impacted the fertility of soil. Then again people started renewal of organic farming. Thus the impact made by organic farming practices can best be studied in this district. Following areas were selected for the purpose.

The study was carried out in the Gopalpur Block of Sarkaghat Teshil of district Mandi (H.P). The samples of 40 respondents were selected randomly from six villages of three Panchayat. Interview method, observation method were used for the collection of the data from the study area. The researcher also got involved in the ceremonial occasions for observation.

VII. RESULTS AND DISCUSSION

All respondents were involved in agriculture and have agriculture as main occupation. The respondents were selling their produces in the market and also through online. All the respondents were selling their produce in the market. There are no other resources which help them to sale their produce in other ways such as online market etc. Department of Agriculture is pioneer to conduct programs and workshops to provide the information to the farmers to improve the production and system of agriculture. Thus, the respondents were asked whether they have joined any such programme. The data shows that out of 40 respondents, 28 (70 per cent) participated in the training programs, while 12 (30 percent) did not attended any program. It is clear that farmers practicing organic farming have already been trained and sensitized.

VIII. SHIFTING FROM CONVENTIONAL TO ORGANIC FARMING

In the study area, all the respondents shifted their land from conventional farming to organic farming because they have witnessed many health problems which are caused due to the use of chemicals, insecticides and pesticides etc. Conventional farming is not good for soil and as well for all living beings. It harms the soil very badly hence this is main reason they have converted their land into organic. The study shows that all respondents converted conventional farming to organic farming. It was observed that they were not satisfied with the income generated from organic farming but were happy to know that this is good for their health as well as for their family.

Organic manures are natural products used by the farmers to provide food (plant nutrients) to the crop plants. There are a number of organic manures like farmyard manure, green manures, compost prepared from crop residues and other farm wastes, vermicompost, oil cakes, and biological wastes-animal bones, slaughter house refuse. The study also shows that all the respondents were using the organic manure in their field meant for organic farming. It was also observed that the respondents were preparing it at their own level from animal wastes as well as kitchen wastes.

Organic manures increase the organic matter in the soil. However, organic manure should not be seen only as carrier of plant food. These manures enable soil to hold more water and improve the drainage in clay

[6] Manish Anand,(2015), Green Growth and Agriculture in Himachal Pradesh, Department of Environment, Science and Technology Government of Himachal Pradesh.

soils. These provide organic acids that help to dissolve soil nutrients and make them available for the plants. Out of 40 respondents, 21 (52.5 per cent) respondents were of the view that this type of manure reduces acidity in soil. Only 12 (30 per cent) respondents gave the reason that it increases crop production, while remaining 7 (17.5 per cent) respondents gave reason that it was beneficial for the soil. In nutshell, majority of the respondents use manure to reduce acidity in soil which increase the productivity.

IX. INCOME FROM ORGANIC FARMING

Agricultural income refers to income earned or revenue derived from sources that include farming land, buildings on or identified with an agricultural land and commercial produce from a horticultural land. Agricultural income is defined under section 2(1A) of the Income Tax Act, 1961. The data shows the satisfaction of farmers from the income generated by selling the organic produce of their fields. When the respondents were asked about the satisfaction from their income 26 (65 per cent) were found satisfied, while 14 (35 percent were not satisfied with this occupation. This is due to reason that organic produces is sold out at higher prices as compared to non-organic produce due to its positive effect on human health.

Shifting from conventional to organic farming had made any change on the respondent's neighbors and they also shifted their conventional farming into the organic farming in the study area. The organic mode of farming made the impact on the respondent's neighbors and adopted this system in their fields. The respondents enquired about this impact in the study area. The table 4.19 shows that 32 respondents (80 per cent) were influenced by this farming system and they converted their fields into the organic farming. Only 8 respondents (20 per cent) not got such motivations.

X. AWARENESS REGARDING GOVERNMENT SCHEMES

The Government has already implemented number of schemes to help the farmers in increasing their productivity by reducing cost of cultivation, achieving higher yield per unit area and by realizing remunerative prices. The balanced use of fertilizer will also enhance productivity and ensure higher returns to the farmers. The respondents of the study area were enquired to find out the awareness level of the schemes launched by the government. The Majority of the respondents, i.e. 25 (62.5 per cent) were aware about the schemes, while remained 15 (37.5 per cent) were not aware about the schemes.

XI. SOIL TESTING AND FARMER'S AWARENESS

Soil test based nutrient management has emerged as a key issue to increase agricultural productivity since optimal use of nutrients, based on soil analysis can improve crop productivity and minimize wastage of these nutrients, thus minimizing impact on environmental leading to bias through optimal production. Deficiencies of primary, secondary and micronutrients have been observed in intensive cultivated areas.

The respondents of the study area were interviewed whether the soil testing I.D. done by the department. Data shows the awareness level of the respondents regarding the soil testing meant for the productivity in their fields. The majority of the respondents 36 (90 per cent) were found aware about the soil testing, while only 4 (10 per cent) respondents were not aware about it.

XII. DYNAMICS OF ORGANIC FARMING: PROBLEM & ISSUES

Seeds and inputs are the main ingredients of agriculture. Both are highly regulated by governed and government policies. While the government provides subsidies for chemical fertilizers and pesticides, there is no such provision for organic inputs. Farmers are mainly dependent on their resources and traditional methods and so, often use half-baked information. In fact, availability of certified organic seeds is a major issue in organic farming, hence most of the times the farmers are forced and advised to use the conventional seeds only, as they could be treated with chemicals.

The study shows that 30 respondents (75 per cent) were getting the seed locally, while 10 respondents (25 per cent) were facing as non-availability of seeds locally.

The respondents were asked whether they were satisfied from the government policies and programs or not. Many farmers already converted from their farm from the conventional to organic one. To find out the satisfaction level of the respondents, they were enquired about the policies and programs being run by the government in Himachal Pradesh. A majority of the respondents 31 (77.5 per cent) were found satisfied, while remaining 9 (22.5 per cent) were found unsatisfied from these schemes.

XIII. CONVENTIONAL FARMING VS. ORGANIC FARMING

The respondents shifted from conventional farming to organic farming after knowing the health hazards caused by the conventional farming. It provides food security to people besides improving the soil and providing nutrients to the soil. Data shows that those 16 (35 per cent) respondents stated the reasons that it provides food security and 13 (33.33 per cent) respondents gave the reason that it was good for their health.

Only 8 (25 percent) respondents agreed that it improves the health and only 2 (3.33 per cent) respondent stated that it improves the soil and is important for sustainable development. The study makes it clear that majority of the respondents shifted from conventional agriculture to organic farming due to health reasons.

XIV. CONCLUSION

Although, commercial organic agriculture with its rigorous quality assurance system is a new market controlled, consumer-centric agriculture system world over, but it has grown almost 25-30% per year during last 10 years. In spite of recession fears, the growth of organic is unaffected. The movement started with developed world is gradually picking up in the developing countries. But, the demand is still concentrated in the developed and most affluent countries. Local demand for organic food is growing. India is composed for faster growth with growing domestic market. Success of organic movement in India depends on domestic markets.

India has traditionally been a country of organic agriculture, but the growth of modern scientific, input intensive agriculture has pushed it to wall. With the increasing awareness about the safety and quality of foods, long term sustainability of the system and accumulating evidences of being equally productive, the organic farming has emerged as an alternative system of farming which not only address the quality and sustainability concerns, but also ensures a debt free, profitable livelihood option.

Major problems of the respondent involved in organic farming

It was also observed that the respondents were facing the following problems:

- **Lower yields**- Farmers of the study area were facing the problems related to the lower yields as compared to the conventional farming.
- **Insufficient Market mechanism**: the respondents were also facing the problems related to the selling of their produces and hence they moved to sell their produces out of the state and online companies like big basket.
- **Lack of awareness about the policy and programs:** Many of the respondents were not aware about the policies and programs related to the organic farming. In this regard, the awareness program, workshop and camps may be organized in the study area to promote the organic farming.
- **Non-availability of the organic seed-** Some of the farmers were of the view that they were not getting the best quality seed in the area. The availability of best quality seed for higher yield should be ensured by the department concerned.
- **Lack of water-** Some farmers were facing the problems related to the sufficient water in their fields. The water supply should be proper for agricultural activities. For this problem the harvesting of rainwater may installed.

THE WAY FORWARD

In order to address the issue of price disparity, improvement in fertilizer policy is a must. The following policy measures are needed:

- Balanced use of organic and inorganic fertilizers has a direct impact on soil fertility. Present policy may be revisited to promote both inorganic and organic fertilizers. Efforts may be made to move towards direct cash transfer on unit area basis so that farmers are free to choose between chemical fertilizers and organic fertilizers on their own as per soil health status/fertility.
- In short-medium term, gradual and reasonable increase in price of urea along with its inclusion under Nutrient Based Subsidy (NBS) scheme is a desirable policy option.

Nutrient use efficiency varies from fertilizer to fertilizer; even nutrient use efficiency of a similar kind of fertilizer may vary depending upon its composition/coating and form (granulated/powdered). At present subsidy is given on fertilizers depending upon the content of nutrients in the fertilizer. The present subsidy regime does not take in to account the nutrient use efficiency of the fertilizer due to which, there seems to be no initiative on part of industry on research and development of new efficient/better products. The ambit of NBS scheme may be made broader to consider nutrient use efficiency of fertilizers so that the focus is on efficient uptake of nutrients by the plants. Water-soluble fertilizers need to be promoted by bringing them under subsidy regime.

1. Organic agriculture should be integrated into the curriculum for primary and secondary schools.
2. Specialized institutions involved in training for organic agriculture should be supported. Higher education in organic agriculture should be developed.
3. Special research program should be established for organic research, and the sector should be involved in priority setting.
4. Regional cooperation in marketing, standards, conformity assessment and R&D should be promoted.

REFERENCES

[1]. Antle and Pingali (1994). Pesticide, productivity and farmers health: a Philippine case study. American Journal of Agriculture Economics, 76 :418-430

[2]. Dasgupta (2005). Pesticides traders perception of health risks ; Development economics research group the world bank and Department of Economics University of the West Indies

[3]. Devi, Indira(2007). Pesticides or Healthicides? An attempt at estimating the health costs of pesticides applicators. Newsletter; South Asian Network for Development and Environment Economics (17) Working Paper 20,3p.

[4]. Joshi and Jha. D. (1991). Farm level effects of soil degradation in sharda sahayak irrigation project. No .11, IFPRI.

[5]. K. Yadav, (2014). Organic Agriculture, National Centre of Organic Farming, Department Of Agriculture and Cooperation, Government of India.

[6]. Kaihura, B.J. (2003). Land use changes and their impact on agriculture biodiversity in Rajendernagar, Hyderabad.

[7]. Keven, (1975). Insecticide fenitrothion and its effect on wild bee pollinators in Andhra Pradesh , 7: 301-09.

[8]. Lantican, F.A. (2000). Vegetable program area research planning and prioritization discussion paper series no.2000-07.

[9]. Lucos and Obien, (1999). Characterization and economics analysis of intensive cropping systems in rainfed low lands of Ilocas. Experimental Agriculture. 35 (2): 211-224.

[10]. Manish Anand, (2015). Green Growth and Agriculture in Himachal Pradesh, Department of Environment, Science and Technology Government of Himachal Pradesh.

[11]. McLaughlin A. and Mineau, P (1995). The impact of agriculture practices in biodiversity: Agriculture, Ecosystem and Environment, 55(3): 201-212.

[12]. Maredia and Pingali, (2001). Environmental impacts of productivity – enhancing crop research: FAO pp36.

[13]. National Centre of Organic Farming, National Project and Organic Farming, Department of Agriculture and Cooperation, Government of India.

[14]. Oldeman, J.H.M. (1991). The extent of human-induced soil degradation, pp.27-33.

[15]. Partap, U. (2003). Cash crop farming in the Himalayas: The important of pollinator management and managed pollination. Mountain Development (2003/1). Kathmandu :ICIMOD

[16]. Pingali, P.L. (2001). Environment consequences of agricultural commercialization in Asia. Environment and Development Economics, (6): 483-502.

[17]. Ravuri Veeraghavaiah and K. Chandrasehkar,"Organic Farming: What, Why and How?" Agrobios Newsletter, Vol.4, No.1, June (2005).

[18]. Rola and Pingla, 1993. Pesticides, rice productivity and farmers health, An economic assessment. International Rice Research Institute.

[19]. S.S. Rana, (2011),Concept of Organic Farming, Department of Agronomy, College of Agriculture, CSK Himachal Pradesh Krishi Vishvavidyalaya, From http://www.hillagric.ac.in/.

[20]. Saima Siddique, Madeeha Hamid, July (2014) Organic Farming.

[21]. Shetty (2004). Socio-ecological implication of pesticide use in India; Economic and Political Weekly: 39(49): 5261-5267.

[22]. Shetty, (2000). Sustainable agriculture practices and food security in environment management and audit, New Delhi. Pp. 36-43.

[23]. Shetty, P.K. (2004). Socio-ecological implications of pesticides use in India; Economics and Political Weekly: 39 (49):5261-5267.

[24]. Smita Bhutani, Simirt Kahlon, Organic Farming in India: An Alternative Agriculture System.

[25]. Sneh Gangwar, Aditi Mahavidyalaya, 7th September, (2015). Organic Agriculture "Its Concepts, Scenario and Distribution, University of Delhi, Retrieved From http://www.krishisanskriti.org/.

[26]. Srivastava, (1996). Biodiversity and agriculture implications for conservation and development, pp.321.

[27]. Szmedra, P. (2001). What price agriculture productivity? Pesticides and health of sugarcane farmers in Fiji; Development in Practices, 11(1): 91-96.

[28]. The World of Organic Agriculture in India, Report.

[29]. Underwood (1992). Impact of human activities on the Himalayan honeybees. In: Honeybees in Mountain Agriculture. LR Verma (Ed), pp. 51-57.ICIMOD: Nepal.

[30]. Yudelman, M. (1989). Sustainable and equitable development in irrigated environments.