

A GEOGRAPHICAL STUDY OF STATE OF ORGANIC FORMING IN SEONI DISTRICT

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ABSTRACT :- Organic farming system in India is not new and is being followed from ancient time. Organic farming is defined as cultivation without the application of chemical fertilizers and synthetic pesticides or genetically modified organisms, growth hormones, and antibiotics. Agricultural development policy for developing countries needs to focus on increasing the productivity of the land under cultivation, with lower costs, higher efficiency of products with little or no damage to both humans and the environment. 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. Organic farming promotes food security, especially for the small farmers operating in traditional or low-input systems through improvements in yields and incomes, enhancement of food availability through diversification and mixed farming as well as lower chances of crop failure in case of extreme climate events. The study was conducted to find out the knowledge level of organic farmers in Seoni District (MP). A total of 150 farmers were selected randomly treated as the sample for this study. A knowledge test was conducted through interview schedule for assessing their knowledge. It was found that majority of them had full knowledge level in significant percentage of organic farming practices like *in situ* incorporation of crop residues, selection of good seed, seed inoculation, application of FYM/Nadep compost, application of vermicomposting, use of biogas slurry, use of poultry manure, summer ploughing, hand weeding, use of Neem oil, use of light trap/pheromone.

KEYWORDS: Knowledge level, Organic farming; practices, Seoni Geographical area.

INTRODUCTION:-

Organic farming system in India is not new and is being followed from ancient time. It is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (bio-fertilizers) to release nutrients to crops for increased sustainable production in an eco-friendly pollution free environment.

Organic farming systems have attracted increasing attention over the last one decade because they are perceived to offer some solutions to the problems currently besetting the agricultural sector. Organic farming has the potential to provide benefits in terms of environmental protection, conservation of non-renewable resources and improved food quality (Charyulu et. all, 2017).

Agriculture is the most important livelihood strategy in India, with two thirds of the country's workforce depending on farming. Organic farming system in India is not new and is being followed from ancient time. The area under organic farming in India has been increasing steadily since 2000 after launching National Programme for Organic Production. Definition given by two International organizations also verifies this concept.

Promotion of organic farming does not mean total replacement of the use of chemical fertilizers and pesticides. In fact, organic manures and fertilizers should be used to supplement chemical fertilizers in increasing crop production and for maintaining health of the soil in total it. The approaches of Integrated Nutrient Management (INM), Integrated Pest Management (IPM) and integrated Soil and Water Management (ISWM) are advocated for sustainable agriculture production.

The Government of India has implemented a number of programs and schemes for boosting organic farming in the country. Among these the most important include (1) The Paramparagat (traditional) Krishi Vikas Yojana, (2) Organic Value Chain Development in North Eastern Region Scheme, (3) Rashtriya Krishi Vikas Yojana, (4) The mission for Integrated Development of Horticulture (a. National Horticulture Mission, b. Horticulture Mission for North East and Himalayan states, c. National Bamboo Mission, d. National Horticulture Board, e. Coconut Development Board, d. Central Institute for Horticulture, Nagaland), (5) National Programme for Organic Production, (6) National Project on Organic Farming, and (7) National Mission for Sustainable Agriculture (Yadav, M., 2017).

Concept of Organic Farming-

As per the definition of the United States Department of Agriculture (USDA) study team on organic farming “organic farming is a system which avoids or largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives etc.) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection (OFPA, 2010).

“Organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed of using synthetic materials, to fulfil any specific function within the system (FAO/WHO Codex Alimentarius Commission, 1999).

OBJECTIVES-

To study the level of knowledge of farmers about organic farming practices in the study area i.e. Seoni District (MP).

REVIEW OF LITERATURE:-

Nadia El-Hage Scialabba and Maria Mu“ller-Lindenlauf in their article discussed the mitigation and adaptation potential of organic agricultural systems along three main features: farming system design, cropland management and grassland and livestock management. The authors opine that in developing countries, organic agricultural systems achieve equal or even higher yields, as compared to the current conventional practices, which translate into a potentially important option for food security and sustainable livelihoods for the rural poor in times of climate change. Certified organic products cater for higher income options for farmers and, therefore, can serve as promoters for climate-friendly farming practices worldwide.

Jayasree Das and Deepro Bhattacharyya (2018) in their study explored the challenges faced by organic farming in Sikkim and to cite causes and remedies of such challenges. The author concludes that organic farming is the only viable alternative that has presented itself. In this context, the story of Sikkim takes the spotlight since it has shown the courage to be the only state in the country to produce crops in a completely organic manner.

Smita Bhutani, Simrit Kahlon and Monika (2018) in their study made an attempt to examine organic farming as an alternative agricultural system in the country. The cause of organic farming has been taken by a number of NGOs in different states and many state governments have drafted policies for promoting it. The bane of the system is low productivity, which fails to cater to the rising needs of increasing population. High levels of production, however, have recently been achieved in some areas in the country.

Krishnaprabu S., (2019) in his study considers that there is scanty information on organic technology for all crops. Systematic research on development of suitable varieties/hybrids, plant nutrition and IPM techniques may lead to the increasing demand of organic produce both in retail marketing and export. The authors conclude that the farmers need to be organized in a group/ association for crop cultivation such as, Organic Farming Association of India, Institute of Natural Organic Agriculture.

METHODOLOGY:-

The Seoni district of M.P. is comprised of 08 blocks out of which 05 blocks were selected randomly in which maximum area was covered by the organic farming in the duration of 2022-23. The Seoni, Barghat, Kurai, Lakhnadon and Chapara blocks were selected for the present study. 10 villages selected randomly from the selected blocks. After that 15 respondents were selected randomly from each selected village. Thus a total 150 respondents had the sample for the research. The data were collected with the help of interview schedule which was prepared on the basis of objectives of the study.

RESULT:-

Organic farming is a holistic management system, which enhances agro ecosystem health, utilizing both traditional & scientific knowledge. Organic agriculture systems rely on ecosystem management rather than external agricultural inputs. Organic agriculture is an environmentally and socially sensitive food supply system. The primary goal of organic agriculture is to optimize the health and productivity of independent communities of soil life, plants, animals and people.

KNOWLEDGE LEVEL ON ORGANIC FARMING TECHNOLOGY PRACTICED BY THE FARMERS OF SEONI DISTRICT (M.P.)-

TABLE - 1: Management of plant nutrients and pests

| Practice | FK | % | PK | % | NK | % | Frequency (n) |
|--|-----|-------|----|-------|----|-------|---------------|
| A. Integrated Plant Nutrient Management | | | | | | | |
| In situ incorporation of crop residues | 75 | 50.00 | 37 | 24.67 | 38 | 25.33 | 150 |
| Selection of good seed | 71 | 47.33 | 54 | 36.00 | 25 | 16.67 | 150 |
| Seed inoculation | 78 | 52.00 | 40 | 26.67 | 32 | 21.33 | 150 |
| Application of FYM/Nadep compost | 100 | 66.67 | 50 | 33.33 | 0 | 0.00 | 150 |
| Raising green manure and incorporation | 58 | 38.67 | 64 | 42.67 | 28 | 18.67 | 150 |
| Application of vermicomposting | 67 | 44.67 | 63 | 42.00 | 20 | 13.33 | 150 |
| Use of biogas slurry | 105 | 70.00 | 43 | 28.67 | 2 | 1.33 | 150 |
| Use of amrit pani | 18 | 12.00 | 54 | 36.00 | 78 | 81.00 | 150 |
| Use of amrit sanjivani | 17 | 11.33 | 72 | 48.00 | 61 | 40.67 | 150 |
| Use of marka khad | 41 | 27.33 | 79 | 52.67 | 30 | 20.00 | 150 |
| Use of litter | 98 | 65.33 | 49 | 32.67 | 3 | 2.00 | 150 |
| Use of khali khad | 32 | 21.33 | 66 | 44.00 | 52 | 34.67 | 150 |
| Use of press mud | 54 | 36.00 | 72 | 48.00 | 24 | 16.00 | 150 |
| Use of poultry manure | 66 | 44.00 | 60 | 40.00 | 24 | 16.00 | 150 |
| Use of tank silt | 43 | 28.67 | 67 | 44.67 | 40 | 26.67 | 150 |
| Use of sing khad | 30 | 20.00 | 78 | 52.00 | 42 | 28.00 | 150 |
| Use of Neem khali | 32 | 21.33 | 67 | 44.67 | 51 | 34.00 | 150 |
| B. Integrated pest Management | | | | | | | |
| Summer Ploughing | 114 | 76.00 | 36 | 24.00 | 0 | 0.00 | 150 |
| Hand weeding | 106 | 70.67 | 29 | 19.33 | 15 | 10.00 | 150 |
| Use of neem oil | 87 | 58.00 | 52 | 34.67 | 11 | 7.33 | 150 |
| Use of neem leaf extract | 50 | 33.33 | 78 | 52.00 | 22 | 14.67 | 150 |
| Use of tobacco decoction | 22 | 14.67 | 59 | 39.33 | 69 | 46.00 | 150 |
| Use of light trap/pheromone | 73 | 48.67 | 55 | 36.67 | 22 | 14.67 | 150 |
| Installation of bird perches before flowering | 30 | 20.00 | 81 | 54.00 | 39 | 26.00 | 150 |
| Spray of the NPV/ early infestation stage | 17 | 11.33 | 71 | 47.33 | 62 | 41.33 | 150 |
| Use of cow urine | 49 | 32.67 | 69 | 46.00 | 32 | 21.33 | 150 |

| | | | | | | | |
|--|-----|-------|----|-------|----|-------|-----|
| Use of rotated fermented curd milk | 27 | 18.00 | 81 | 54.00 | 42 | 28.00 | 150 |
| Use of ipomiya | 31 | 20.67 | 55 | 36.67 | 64 | 42.67 | 150 |
| Tricoderma | 104 | 69.33 | 37 | 24.67 | 9 | 6.00 | 150 |
| Use of chilli / garlic | 33 | 22.00 | 53 | 35.33 | 64 | 42.67 | 150 |
| FK = Full Knowledge, PK = Partial Knowledge, NK = No Knowledge | | | | | | | |

Practice wise knowledge level of farmers Table 1 regarding recommended organic farming Practices (n=150). The data show in the Table 1 indicates level of knowledge of all respondents about organic farming practices. It is evident from the Table that regarding *in situ* incorporation of crop residues, 50.00 percent had full knowledge, 24.67 percent had partial knowledge and 25.33 percent had no knowledge. Regarding selection of good seed, 47.33 percent had full knowledge. 36.00 percent had partial knowledge and 16.67 percent had no knowledge. Regarding seed inoculation, 52.00 percent had full knowledge 26.67 percent had partial and 21.33 percent had no knowledge.

Regarding application of FYM/Nadep compost, 66.67 percent had full knowledge and 33.33 percent had partial knowledge. Regarding raising green manure and incorporation, 38.67 percent had full knowledge, 42.67 percent had partial knowledge and 18.67 percent had no knowledge.

Regarding application of vermicompost 44.67 percent had full knowledge, 42.00 percent had partial knowledge and 13.33 percent had no knowledge. Regarding use of biogas slurry, 70.00 percent had full knowledge, 28.67 percent had partial knowledge and 1.33 percent had no knowledge. Regarding use of amrit pani, 12.00 percent had full knowledge, 36.00 percent had partial knowledge and 81.00 percent had no knowledge.

Regarding use of amrit sanjivani, 11.33 percent had full knowledge, 48.00 percent had partial and 40.67 percent had no knowledge. Regarding use of matka khad, 27.33 percent had full knowledge, 52.67 percent had partial knowledge and 20.00 percent had no knowledge. Regarding use of litter, 65.33 percent had full knowledge, 32.67 percent had partial knowledge and 2.00 per cent had no knowledge. Regarding use of khali khad, 21.33 percent had full knowledge, 44.00 percent had partial knowledge and 34.67 percent had no knowledge.

Regarding use of press mud, 36.00 percent had full knowledge, 48.00 percent had partial knowledge and 16.00 percent had no knowledge. Regarding use of poultry manure, 44.00 percent had full knowledge, 40.00 percent had partial knowledge and 16.00 percent had no knowledge. Regarding use of tank silt, 28.67 percent had full knowledge, 44.67 percent had partial knowledge and 26.67 percent had no knowledge. Regarding use of sing khad, 20.00 percent had full knowledge, 52.00 percent had partial knowledge and 28.00 percent had no knowledge. Regarding use of neem khali, 21.33 percent had full knowledge, 44.67 percent had partial knowledge and 34.00 percent had no knowledge.

In summer ploughing, 76.00 percent had full knowledge and 24.00 percent had partial knowledge. Regarding hand weeding, 70.67 percent had full knowledge, 19.33 percent had partial knowledge and 10.00 percent had no knowledge. Regarding use of neem oil, 58.00 percent had full knowledge, 34.67 percent had partial knowledge and 7.33 had no knowledge. Regarding use of neem leaf extract, 33.33 per cent had full knowledge, 52.00 per cent had partial knowledge and 14.67 had no knowledge. Regarding tobacco decoction 14.67 percent had full knowledge 39.33 percent had partial knowledge and 46.00 per cent had no knowledge.

Regarding use of light trap/pheromone trap, 48.67 percent had full knowledge, 36.67 percent had partial knowledge and 14.67 had no knowledge. Regarding installation of bird perches before flowering, 20.00 percent had full knowledge, 54.00 percent had partial knowledge and 26.00 percent had no knowledge. Regarding spray of NPV/ at early infestation stage 11.33 percent had full knowledge, 47.33 percent had partial knowledge and 41.33 percent had no knowledge. Regarding use of cow urine, 32.67 percent had full knowledge, 46.00 percent had partial knowledge and 21.33 percent had no knowledge.

CONCLUSION:-

Organic farming is a part of Indian culture that values conservation of nature and life on earth as the ultimate philosophy. The popularity of organic food is growing dramatically as consumer seeks the organic foods that are thought to be healthier and safer. It is a new venue for export earnings, but the export potential is a short-term reward; restoration of environmental health is the long-term reward, which will influence all aspects of life of the people. Moreover, the organic produce market is now the fastest growing market all over the world including India. Therefore, action plans for developing organic farming should be part of a larger plan for nature conservation and health of the community and the land, and should be relevant to the social, economic and cultural ethos of Madhya Pradesh. Organic Food Industry has been blossoming in India; it has to be recognized as a separate industry. Both the Government and private players need to develop a strong policy to benefit producers, processor and consumers as a whole. There is an immense potential and scope for organic farming to grow in India if fed with steady investment and benefits on both existing and new initiatives.

The findings of this investigation are very much useful in creating awareness amongst the farmers to reduce use of chemical materials. Modern agriculture based on the use of chemical fertilizers and pesticides certainly has helped to increase farm productivity however the high cost of these chemical input, their environmental effects and implications to human health have prompted both farmers and agricultural researches to develop alternative farming techniques. Organic farming is the solution to mitigate the above problem; organic farming is becoming increasingly popular in the developing countries.

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