Review Article

THE ROLE OF ORGANIC FARMING FOR SUSTAINABLE AGRICULTURE: AN APPROACH TO ECONOMIC INTEGRITY

ABTRACT:

India is primarily known for its agriculture. Agriculture provides a living for over three-quarters of the people. As a result, any advancement in agriculture is inextricably linked to the happiness and delight of the people of this country. Agriculture in the Republic of India continues to face major issues as the population grows. The growth of high-yielding crop kinds awakens fertilisers and irrigation, and as a result of intense cropping techniques, weeds, insects, and pests emerge, wreaking havoc on the crop and its produce. Our economy is founded on property farming, particularly rainfed agriculture, in which vegetables play an important role in feeding humans, animals, and the environment. The Republic of India's most important post-independence worry has been feeding its fast expanding population. As a result, high-yielding varieties are utilised in conjunction with irrigation water, fertilisers, and pesticides. This combination of high-yielding production has aided the country's development of a food surplus in the same manner that soil health, environmental pollution, pesticide toxicity, and agricultural production property have aided the country's creation of a food surplus. As a result, agricultural systems that rely significantly on organic inputs rather than chemical fertilisers and pesticides are being rethought by researchers and experts. Organic agriculture would generate high-quality feed while also conserving the soil's and, as a result, the environment's health; however, whether large-scale organic farming will be able to feed India's huge population remains to be seen. India produces certified organic solutions as well as all types of food products, such as basmati rice, pulses, honey, tea, spices, coffee, oilseeds, fruits, cereals, flavouring medications, and their by-products. Non-edible fresh produce includes cotton, clothing, cosmetics, practical food products, body care goods, and products. With reference to property agriculture in northern India, the construction of those organic products and products is examined.

Keywords: ***Organic farming, sustainable agricultiure, cetified organic, vermicompost, soil fertility, organic products, crop productivity, nature conservation.***

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INTRODUCTION:

The organic agenda has its roots in Howard's artwork, which defined and theorised many of the viewpoints that have since become mainstream with the help of many who have become active in this community. Artificial fertilisers, herbicides, growth regulators, and animal feed materials are likely to be avoided or limited in organic farming. Natural, social, and economical integrity are the cornerstones of organic farming. (Stockdale *et.al*, 2001). Keeping long-term soil fertility by maintaining natural depend stages, fostering soil organic interest, careful mechanical intervention, nitrogen self-sufficiency through the use of legumes and organic natural techniques, effective recycling of organic materials such as crop residues and farm human waste and weed, and disease and pest control relying primarily on crop rotations and natural predators are just a few of the important element characteristics. To bridge the gap between NPK input and removal from the soil, a considerable emphasis is placed on preserving soil fertility by integrating all wastes into the soil, often through compost (Chhonkar, 2002). In order to meet their ever-increasing food demands, some countries have been compelled to use chemical materials and fertilisers to enhance farm output. Long-term and excessive use of chemical chemicals, on the other hand, has resulted in human and soil health problems as well as pollution. As a result, farmers in wealthier countries are being encouraged to convert their existing farms to organic farms.

Health awareness and, as a result, most people's readiness to gather the high-priced fruit are the most important factors affecting buyer demand for organic food. Customers that buy natural products are typically rich, well-informed, and health-conscious people who are motivated by strong consumer demand, low prices, and environmental concerns. As a result of these hidden advantages, organic farming is becoming more popular. Subsidies, client education, and help in the form of research, training, marketing, and advertising are all part of European government programmes aimed at boosting the third quarter. India's agricultural techniques date over 4000 years, and organic farming is remarkably close to what we see now in the United States. Agriculture of the Vedic period exhibited remarkable competence in soil fertility, seed selection, plant safety, sown seasons, and flower endurance in a variety of locations, according to Arthashastra (Sofia *et.al*,2006). Farmers in historic India followed natural legal principles, which helped to sustain agricultural productivity for a longer length of time. Organic farming has been rising at an unanticipated rate of 20% per year since the last decade (Avery, 2007). According to data, over 31 million hectares are under organic production, generating over 26 billion dollars in annual revenue (Yussefi et.al, 2003). Apart from the fact that organic food has been punished for relying on prior fertilisation to build up soil phosphorus (P) and potassium (K) before switching to clean, organic food has been scolded for relying on prior fertilisation to build up soil phosphorus (P) and potassium (K) (Greenland, 2007)). Agriculture is one of the most important areas for socioeconomic development in developing countries like India. It is necessary to ensure food security, alleviate poverty, and preserve critical organic resources (Rothschild, 1998), which can be accomplished through organic farming and other methods that do not jeopardise organic resources. The primary dilemma that motivates scientists is that feeding the ever-increasing population with natural food is extremely difficult (Moghtader et.al,2011). One of the key needs of low-

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income foreign locations is secure production and safe food supply. (Arshad *et.al*, 2012) to restore their reservoirs. As a result, among public coverage, the idea of food safety includes agriculture, the environment, work income, advertisements, health, and vitamins (Johan, 1999). In comparison to modern agriculture, ancient farmers have their own set of laws and standards for maintaining soil health (Chandra *et.al*, 2004). Whilst modern research discovered that thru the device of only organic inputs on my own the nutritional necessities of the crop could not be fulfilled, the need to mix the 2 office work so that you can reap higher crop yields. The interaction among inorganic and natural bear in mind might also additionally motive both decrease or increase soil vitamins, having a bet on the nutrient and planting cloth may be a query.

ORGANIC FARMING:

In Germany, the current age of organic farming began in 1924. Rudolf Steiner embarked on a path known as the "social medical foundation of agricultural growth," in which he considered the individual as a vital component of biological balance and specialised in living in harmony with nature (Paull, 2011). Pfeiffer developed biodynamic agricultural technology based on Rudolf Steiner's agricultural philosophy (Paull, 2009). In the year 1930, Hans Mueler, a political figure in Switzerland, promotes organic agriculture approaches, and Maria Mueler cultivates orchards using organic techniques (Simin *et.al*, 2016). In his e-book "An Agricultural Testament," Sir Albert Howard establishes the foundation for the organic farming movement and summarises his 25 years of research in Indore, India, which evolved into support for historic composting processes. With his experiments, he strongly established a relationship between soil, plant, and animal health (Heckman, 2006). Mokichi Okada, a Japanese farmer, began developing organic farming techniques in 1935. He highlights the importance of nature and agricultural production working together to increase yields by building soil humus and announcing a ban on synthetic agrochemicals and fertilisers. (Okubo, 1993). Likewise, Rodale J.I. of the United States has begun to practise organic farming. In 1942, he publishes his journal "organic farming," which nearly proves the restoration of natural soil fertility (Klonsky et.al, 1998). Organic farming progress began in the 1970s and continued until the 1990s (Simin et.al, 2016). In the 1960s, the organic agricultural industry began to expand internationally (Joachim , 2006). Particularly, it began to increase after the 1973 oil spill, when other people became aware of the importance of organic agriculture and its impact on the environment (Meyer et.al, 2012). Those were the years when new ideas, social changes, protests, and changing life patterns were at their peak. Humans are now thinking regarding sustainable development through environmental protection, proper supply usage, and natural meals through the use of organic agriculture. In the year 1970, the principles of ecological agriculture were introduced with the help of William Albrecht's method, which proved to be useful in expanding the concept of organic farming (Perkins et.al, 2003). As a result, IFOAM was founded in 1972. It grew to become the most crucial non-governmental organisation.

This contributes to the expansion of organic agriculture (Paull, 2010). Throughout this period, unique enterprises and agencies (e.g., FNAB, FIBL) of natural agricultural significance were founded. These organisations execute organic product criteria and play a role in attracting people's attention (Chandran et.al, 2018). Exquisite countries are gradually enacting organic agriculture legislation.

Organic farming legislation were enacted in the US states of Oregon and California in 1974 and 1979, respectively (Morgera et.al, 2012). In addition, in the year 1985, France begins to formulate organic farming-related regulations. Trends in organic farming reached the new boom phase during the 1990s. Many trade organisations arose, and both government and non-government organisations began pushing the use of organic farming rather than artificial fertilisers. During this time, Germany hosted the most prominent and hence primary BioFach Fair, which provides the largest advertising platform for organic product development (Simin et.al, 2016). In 1990, the United States government implemented organic food laws, and the European Union's organic agriculture regulations were followed by the European Commission in 1991. Since the year 1994, these guidelines have been followed with the help of all European member countries. In the year 1999, organisations such as the FAO and IFOAM made changes to organic product manufacturing, combining marketing and huge labelling with the use of pointers on organic products. These programmes and legislation allow for a stronger position of natural property in agricultural tools, as well as environmental preservation, paving the path for long-term improvement (Morgera et.al, 2012, Rundgren, 2008).

PRINCIPLES OF ORGANIC FARMING:

The international Federation of organic Agriculture actions (IFOAM) shows 4 primary thoughts on which organic farming is based totally: fitness, Ecology, equity and Care.

- health – organic farming ought to decorate soil health for this reason maintaining vegetation, animals, people nevertheless due to the truth the planet.
- Ecology – organic farming want to assist organic cycles, dwelling systems and help in sustaining them.
- equity – It have to be constructed on sturdy relationships that inspire equity regarding the surroundings, social justice and sincere change.
- Care – organic farming need to be via with obligation, thinking about the environment and destiny generations.

The principle purpose is to marketplace splendid meals manufacturing in big quantity via boosting soil fertility, lowering pollutants, keeping off the use of insecticides and synthetic fertilizers, protecting genetic diversity and enhancing the organic farming tool cycles.

TYPES OF ORGANIC FARMING:

There are two types of organic farming that are essentially dominant:

- Organic Farming: is one in all of the rarer types of organic farming. It is because of the real reality that pure organic farming essentially is based upon on organic manure, fertilisers, and bio pesticides for the cultivation of vegetation. It strictly forbids any pretty inorganic chemical or insecticides for you to have an impact at the yield, honestly or negatively.
- Integrated Organic Farming: is one in all the categories of organic farming that combines the simplest of organic farming with nutrient control and blanketed pest control. Throughout this kind of farming, manufacturers develop plants the use of organic resources, as they'd in

organic organic farming. However, to reinforce its nutritional value and to protect the plants from pests, they are going to utilize extra inputs.

COMPONENTS OF ORGANIC FARMING:

Cropping rotation, vegetation remnants, biopesticides, biogas slurry, and other organic agricultural additives are all required. Vermicomposting has become an important part of organic farming because of its ability to improve soil fertility and vegetation development in a completely sustainable manner. The following are some of the aspects of organic farming:

- Crop rotation: To maintain soil fertility and prevent insects, weeds, and diseases, plants should be cycled on the same ground for a period of years or longer to teach sustainable agriculture. Using legumes in rotation, for example, can boost soil fertility.
- Crop Residue: India has a fantastic potential to recycle nutrients from crop residues, cereal straw, and pulses at some stage during organic farming. Inoculating agricultural residues with fungal species improves soil physio-chemical characteristics and crop yields.
- In organic farming, organic manure is made from biological resources (plant, animal and human residues). Organic manure improves agricultural yields both directly and indirectly by increasing humic material uptake and assuring the utilisation of major and minor plant components via soil microorganisms.
    - Compost, FYM, and green manure make up bulky organic manure, which contain significantly fewer nutrients than specialised organic wastes.
        - FYM is for Farm Outside Manure, which is a well-decomposed mixture of dung, urine, farm muck, and residual materials (roughages or fodder).
        - Large volumes of garbage (vegetable waste, weeds, stubble, Bhusa, sugarcane trash, sewage sludge, animal waste, human and business waste) are converted into compost manure by anaerobic decomposition. Compost is similar to FYM in that it is helpful to a wide range of soils and plant life.
        - Green Fertilizer: By ploughing and incorporating undecomposed green plant tissues into the soil, green manuring increases the natural object and fertility of the soil. There is a natural count as well as nitrogen added to the manure crop (legume crop). Solar hemp (Crotalaria juncea), Dhaincha (Sesbania aculeata), Leguminous plant, Melilotus parviflor, Vigna sinensis), Berseem (Trifolium alexandrium), and other manure plants are frequently employed.
    - Oilcakes, blood meal, fishmeal, meat meal, and horn and hoof meal (targeted organic manures) are all organic and include more complete plant nutrients like nitrogen, phosphate, and potassium than bulky organic farming.
- Vermicompost is a type of organic farming or compost created by earthworms that dwell in the soil and consume organic waste before excreting it in digested form. These are high in macro and micronutrients, vitamins, growth hormones, and immobilised microflora, which are all necessary for plant growth.

WHAT DOES CERTIFIED ORGANIC MEAN?

Agriculture that has been grown and processed according to a set of uniform criteria established by USDA-approved autonomous state or private organisations is referred to be certified organic. All products that are labelled as "organic" must be certified. Annual submission of an organic system plan, as well as inspections of agricultural fields and processing facilities, are required for certification. Organic practises such as long-term soil treatment, buffering between organic farms and neighbouring ordinary farms, and record keeping are evaluated by inspectors. Inspections of the energy's cleaning and pest control procedures, problem storage and transportation, document maintenance, and audit management are all part of the quality check. Natural foods are gently processed without artificial additives or preservatives to keep them fresh. Organic certification forbids the use of synthetic agrochemicals, irradiation, and genetically modified food or components.

ECOLOGICAL PROFIT OF ORGANIC FARMING:

The influence of organic agriculture on natural assets promotes interactions in the agro eco system, which are important for agricultural production and environmental protection. Among the ecological services derived are soil formation and conditioning, soil stabilisation, waste recycling, carbon sequestration, nitrogen cycling, predation, pollination, habitat and biodiversity conservation, and inexpensive water (IFOAM, 1998). In all environmental impact metrics, organic agricultural plans are said to outperform conventional structures (floral variety, faunal variety, habitat variety, geography, soil natural rely, soil organic interest, soil form, eating away, nitrate leaching, pesticide residues, GHG emissions, nutrient use, water use, and power use). Traditional agriculture, especially when herbicides are employed, may have a higher customer fitness rate. (Conway and quite, 1991).

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PRESENT STATUS OF ORGANIC FARMING IN INDIA:

India's achievement in organic farming has given it a lot of capacity to create all types of natural products due to its various agro-climatic settings. Organic farming's hereditary way of life is a relatively new benefit in many American additives. This is an opportunity for natural producers to tap into a home market that is continuously growing in comparison to the export industry. India ranks tenth out of ten countries in terms of organically certified cultivable area, according to the "Agricultural and Processed Food Products Export Improvement Authority." The permitted area has 15% cultivable land (0.72 million hectares) while the remaining 85% (399 million hectares) is woodland land and wild site for small forest product gathering.

Table 1 : Data for Organic Products (2013-2014)

Total Production	1.24 MMT
Total quantity exported	194088 MT
Value of total export	403 million USD
Total area under organic cultivation that has been certified	4.72 million hectares
Increase in the value of exports compared to the previous year	7.73 approx.

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Organic products are shipped to the United States, multinational companies, Canada, Switzerland, Australia, New Zealand, Southeast Asian countries, the Middle East, the Republic of South Africa, and a variety of other countries. Soybean (70%) is the most popular product exported via Cereals & Millets, followed by Basmati (6%), processed food goods (5%), Basmati Rice (4%), Sugar (3%), Tea (2%), Pulses and Lentils (1%), dried fruits (1%), Spices (1%), and others.

Comment [C8]: Cite reference to this data. This % is related to which period? It is necessary to inform, it must be given by the government.

Consistent with the Union Ministry of Agriculture and Farmers Welfare(as of March 2020), about 78 million hectares of farms are under organic farming in the united states which is 2% of the 140.1 million hectares of net sown place. Some states have led the way in enhancing organic farming insurance. Having 0.76 million hectares of land under organic farming, Madhya Pradesh takes the top spot of states, accounting for over a quarter of India's total organic agricultural area. Madhya Pradesh, Rajasthan, and Maharashtra make up around a third of the state's total area. 1/2 the arena below organic farming. The pinnacle 10 states account for approximately 80% of the complete vicinity underneath organic farming.

- States:
  - so far, Sikkim has been the only Indian country to completely become natural.
  - A majority of states have fine a tiny low part of their net sown vicinity below organic farming.
  - Even the exceptional three states (Madhya Pradesh, Rajasthan, and Maharashtra) that account for the maximum crucial location under natural cultivation have round 4.9%, 2.0%, and 1.6% respectively in their net sown location below organic farming.
  - a few states like Meghalaya, Mizoram, Uttarakhand, Goa, and Sikkim have 10% or extra in their net sown place beneath organic farming. All of those states lie the hilly areas, besides Goa.
  - most of the alternative states have however 10% of their net sown location under organic farming.
- Union Territories:
  - UTs like Delhi, Chandigarh, Dadra and Nagar Haveli, Lakshadweep, and Daman and Diu have 10% or extra of their net sown region underneath organic farming, but their agricultural region is notably very small.

ADVANTAGES OF ORGANIC FARMING:

The following are some of the advantages of organic farming:

- It uses pollution-reduction measures to keep the environment healthy.
- It allows for the development of agricultural output in a completely sustainable manner.
- It makes it possible to improve the soil's fitness.
- Organically grown agricultural items are of better quality. (length, taste, length, and scent are all longer).
- Organic farming increases the soil's water-retention capability.
- It improves nutrient availability, which is critical for plant development. (Vitamins, macro and micro)
- Natural farm goods are usually longer, taste better, and smell better (exceptional).
- Toxic substances are not present in the underground water beneath organic farming.
- Waste bulk density is reduced through vermicomposting.
- Auxins, a hormone-like compound found in vermicomposting, help plants develop faster.
- The soil's fertility and productivity will be improved by increasing the C:N ratio.

RESULTS OF ORGANIC FARMING ON SEVERAL FACTORS:

1. CROP PRODUCTIVITY: A well-known approach for enhancing crop yields is to increase natural dependency in the soil. According to Sharma and Mitra, the use of organic resources increased rice grain and straw output. Despite the fact that the same FYM boosted rice grain yields by 20% over NPK fertiliser, Ranganathan and Selvaseelan noticed that the programme employed mushroom and rice straw compost. According to Singh et al., 7.5 T FYM ha-1 equipment produced significantly higher grain and straw yields than unfertilized regions. All rice yield-related features were expanded with FYM developing charges. Dhaincha is a plant that is utilised in organic gardening.(*Sesbania aculeata L*.) Rice and chickpea grain yields have increased dramatically (Singh et.al,2001). Stockdale and colleagues (Stockdale et al.) published a study in 2002. Explain to both developed and developing countries the advantages of organic farming (environmental safety, biodiversity increase, and reduced power consumption and CO**2** emissions) (sustainable resources use, elevated crop yield without over reliance on expensive inputs, and environmental and biodiversity protection). Many academics believe that in an organically managed environment, inorganic agriculture is no longer a detrimental programme for the environment. Earthworms and bacteria collaborate in the biodegradation system to produce vermicompost, which is worm faeces mixed with worm castings. Macroelements including N, P, K, Ca, and Mg, as well as microelements like Fe, Mo, Zn, and Cu, were provided by vermicompost (Amir *et.al*, 2011).The nitrogen, phosphorus, and potassium contents of the vermicompost were 0.74, 0.97, and 0.45 percent, respectively (Pal, 2002). Organic farming's crop productivity is comparable to that of

traditional farming in low-input agriculture. (Tamaki *et.al*., 2002) Rice growth was higher under ongoing organic farming than it was under conventional farming, according to the findings. In low-capability locations, agroeconomic analysis of growing maize using compost and liquid manure fertilisation revealed much better overall performance than existing typical farmer practises of a blended software programme of manure and mineral fertilisers. The yields of maize grain were eleven to seventeen percent higher than those obtained using conventional methods. (Onduru *et.al*, 2002). Crop productivity in the first year in an organically managed setting does not match that of following As organic materials are supplied to the organic manipulation machine, soil fertility levels grow over time (Yadav et.al ,2003). Furthermore, Surekha (2007) observed that the usage of organic fertilisers resulted in a constant increase in grain yield over time. Organic rice manufacturing inputs increased by 46, 25, and 22 percent above conventional rice production in three different sites, according to Chan et al. (2008), although rice yields only rose by 55, 94, and 82 percent, respectively. However, the higher organically grown charge prices in the marketplace balance the cost of a lesser yield with more inputs (Chan et.al, 2008). Veggies are acutely aware of the natural resources of nutrients that are both beneficial to farmers and profitable to them. According to Kalembasa (Kalembasa, 1996), a vermicompost utility of 15 kg in accordance with centare produced a very excellent tomato crop output. The reaction of chilli peppers was examined by Singh et al. in 1997. (Capsicum annuum L.)Vermicomposting was discovered to promote microbial sports activities. Vermicompost improves the flora's performance, resulting in more branches and fruits. In brinjal, Tomar et al. **(1998)** employed vermicompost to achieve the highest yield (97 g plant1) (Solanum melongena L.). Using vermicompost, Kalembasa and Deska were able to produce significantly more sweet peppers (*Capsicum annum* L. Var. Grossum). Reddy et al. 1998 noticed one of most plants top at harvesting, days to the first flowering, and branches plant1 with the application of vermicompost (10 T ha1). According to Tomar et al., vermicomposting equipment considerably enhanced the leaf area in carrots (*Daucus carota* L.) blossoms. Vermicompost had the highest impact on tomato root and fruit weight, according to Samawat et al. 2001. In a hundred vermicomposed treatment, fruit, shoot, and root weights increased by 3, 5, and ninefold, respectively. Vermicompost used at five t ha1 or ten t ha1 boosted pepper flora more than inorganic fertilisers. (*Capsicum annuum* L.) shoot weight and leaf area (Aranchon et.al, 2003). Vermicompost at 200 g/plant + FYM at 250 g/plant yielded tomato cv. S-22 and cabbage, according to Choudhary et al (*Brassica oleracea* L.Var. capitata) cv. Golden Acre, whilst vermicompost at 100 g plant1 + FYM at 500 g plant1 produced the bulk of k and soil organic carbon. Hashemimajd et al. (2004) found that the treatments vermicompost (RDM + sewage sludge + rice husk) digested better than the control (soil + sand) shoot but also root dry depend (DM) of tomatoes.

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2. SOIL FERTILITY: Soil fertility is number one name for that chargeable in order to increase the efficiency of any and all farming systems Soil fertility refers to a soil's ability to deliver vitamins to crops, as well as the soil's ability to provide nutrients to plants (Swift and Palm, 2000). Natural recall amount contents are a crucial component indication for assessing soil quality

since they have an influence on the soils bodily residences (porosity, water infiltration, bulk density, and water protecting capability) all at once. It has been proven that as organic waste decomposes, macro and micronutrients are released into the soil, allowing plants to flourish. Using organic fertilisers and improving soil health by cultivating optimal soil physical conditions for plant growth and development can result in higher crop productivity over time. (Gaur *et.al*, 2002). The addition of organic material in fresh form reduces soil response by absorbing soil as well as plant nitrogen for breakdown. The soil reaction and natural rely decomposition can both be increased with the addition of inorganic nitrogen. It is used to elevate the pH of the soil from 6.0 to 6.5, which reduces the population of large leaf weeds in urban areas (Rafay et.al, 2014). To assess the effects of various natural ingredients like compost, farm yard manure (FYM), and Sesbania manure on soil chemical residences and fertility popularity on their own and in combination with chemical fertiliser. Rice and wheat plants were produced after the medicines were applied. After the harvest of each crop from all of the remedies, soil samples were collected, transported to the laboratory, arranged, and analysed for a variety of criteria. After each of the plants, the pH and SAR of the soil were decreased to their specific degrees, which guided all of the treatments. When compared to FYM and Sesbania manure, the role of compost has expanded (Sarwar et.al, 2009). By increasing soil organic matter content, natural input in agricultural farm equipment is expected to promote carbon sequestration. The findings that soil carbon concentrations rise in organically treated soil are, however, debatable (Hongyeng *et.al*, 2014).

3. SOIL BIODIVERSITY: Organic agriculture's cornerstone is improving soil fertility. Natural approaches offer excellent conditions for soil biotic and abiotic property through crop rotations and strip cropping, green manuring and natural fertilisation (animal dung, compost, crop residues), low tillage, and avoidance of pesticides and herbicides. According to study undertaken in Europe, organically managed soils have been proven to considerably boost natural interest, general density, and the types of soil bacteria. Vitamin recycling and soil form are aided by biodiversity.
4. NATURE CONSERVATION: Without a question, farmers are the most essential managers of natural resources. Several studies show that organic agriculture protects non-agricultural biodiversity and provides a viable alternative in areas where human sports are permitted. Most significantly, the large land area around the included areas need agro-environmental management that ensures the landscape's safety and integrity. There is no cause to fear the loss of the organic world or pollution of air, water, and soil if farming surrounding and linking covered regions uses natural procedures. These buffer zones are essential for conservation success inside the covered regions. Humans' capacity to diplomacy in harmony with nature and get skills and knowledge from their land is enhanced by organic farming. Because the majority of the land has traditionally belonged to nearby villagers, organic farming allows them to maintain some control over their property, preserve land and biodiversity through their farming practises, reap the benefits for themselves while also conserving and beautifying the natural environment. Organic farming's direct influence on ecosystems may be seen at

several sizes, including on-farm, farm margins, and the general environment. While being on biodiversity has been discussed in the preceding parts, the next sections will focus on organic agriculture's interactions with the larger landscape, notably inclusion areas and buffer zones.

5. RURAL DEVELOPMENT: Furthermore, organic and integrated farming are viable options on a variety of levels, contributing to thriving rural economies through long-term improvement. Indeed, new job prospects in agriculture, processing, and allied services are already visible within the natural area's rise. Further to the environmental blessings, the ones farming structures can convey sizable advantages to the monetary machine and additionally the social concord of rural regions. The provision of financial assistance and various incentives to farmers who convert to organic agriculture is intended to aid the region's growth while also guiding related organisations toward the organic phenomenon.

6. POLLUTION FROM BIOMASS BURNING: When a forested area, shrub, or rangeland is cleared for agriculture, biomass burning releases soot, dirt, and trace gases. Traditional uses of burning include "reduce and burn" tropical farming, "firing" Savannah lands with pastor lists to encourage fodder growth, and clearing fallow ground and throwing off agricultural wastes, particularly rice. This combustion has had far-reaching global consequences and has increased pollution in tropical places far apart from the source of the flames. As a result of these trends, there should be a significant reduction in emissions from biomass burning. After wood extraction, deforestation is usually completed by burning, or a hearth is hired to dispose of the residual vegetation. The expected decrease in the rate of deforestation will halt the rise in pollution. Despite the fact that full-size grazing structures appear to be dominating, the change from large to widespread cattle production methods will reduce rangeland burning. Organic agriculture may be viewed as a manufacturing machine that favours renewable resources, recycling, and returning nutrients from waste products to the land. With the acknowledgment of cattle, organic agricultural establishments lay a strong priority on animal welfare and, as a result, the use of organic foods. Organic farming avoids the use of synthetic insecticides, herbicides, artificial fertilisers, boom promoters, and gene manipulation, as well as the prophylactic use of antibiotics and, as a result, the zoo technical use of hormones, and instead relies on the environment's very own processes for insect pest control and illnesses in evolving flora and rearing farm animals. Natural farmers, on the other hand, employ a wider range of tactics to help ecosystems and prevent pollution.

CONCLUSION:

Organic farming allows for the production of high-quality food without compromising soil health or the environment on a long-term basis. There may be a need for standardisation of adequate organic resources for a certain crop, as well as a thorough search for profitable markets to make the most out of the output. Due to its duties to provide food and nutritional safety, the entire location fundamentally cannot raise the cash for a one-time nature vacation. This would give the region with enough job possibilities, as well as riches and peace. Organic farming ensures that our soil will be able to sustainably feed the United States for a long time. The most frequent consumers and proprietors of the earth's natural resources are farmers and individuals who dwell in the woods. Agricultural sports that build self-regenerating food structures are the foundation for land management, which encompasses both domesticated and wild biodiversity. In terms of the links between agriculture and nature conservation, the sustainable management of farms, as well as the exact agricultural and environmental guidelines, entails a high level of responsibility.

Meeting food demands while also safeguarding the natural world's heritage might be a global project using market-based overall incentives that pay farmers. Organic agriculture may face this problem head-on by using the following strategies:

- providing market-based overall incentives that pay farmers for their environmental stewardship actions, therefore preserving their economic viability;
- reversing the dramatic traits in biodiversity loss by replacing polluting farming practises with techniques that can reverse the dramatic traits in biodiversity loss;
- Participation of the community in land protection is essential.

Organic agriculture has demonstrated its potential to "create" biodiversity at the smallest bit ranges in addition to commodities. However, it is reasonable to expect that in remote areas, organic farming may cause a disruption to natural environments, notwithstanding the helpful resource of human involvement. In any case, it brings us one step closer to a solution to a number of the challenges that traditional agriculture poses to biodiversity. Organic farming should be considered since it is the most appropriate starting point from which greater conservation aspirations, if they exist, may be created. Its remarkable proliferation might be a cost-effective biodiversity covering option. Research and development are vital for a better understanding of complicated ecological tactics, as well as the fact that farmers have manageable potential. Organic agriculture has the potential to revolutionise agriculture if it is given the attention it deserves as the primary tool for environmental protection. A social commitment to assisting organic agriculture is required to reconcile biodiversity protection with food production. As a result, organic farming combats pests and illnesses without the use of

pesticides, which can be damaging to human health as well as the health of domestic and wild animals. Encouraging and protecting flora and wildlife through the creation of adequate habitats and the reduction of the use of hazardous pesticides. Creating a relaxing and enjoyable atmosphere in which to choose and play; keeping up with the times by paying attention to new scientific discoveries and ideas, as well as providing high-quality content. Organic agriculture isn't usually a closed system. The possibility of using all renewable organic belongings for farm production while taking into account eco-machine and environmental safety in a way that allows for long-term usage of farm inputs is accessible. Organic gardening employs novel horticultural techniques, emphasising the value of genetic diversity and, eventually, the preservation of endangered plant species. As a result, organic farming is a viable option for ensuring safe food and a healthy environment.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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Comment [C10]: Update references, preferably the last 5 years, starting in 2018.

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