

# Scope of Organic Farming

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*Abstract- Organic farming is a modern and a sustainable form of agriculture that provides consumers fresh natural farm products. Organic farming works in synchronization with nature rather than against it. This objective is achieved by using techniques to improve crop yields without harming the natural environment as well as the people who live and work in it. Organic agriculture offers an exclusive amalgamation of environment-friendly practices, which require low external inputs, thereby contributing to increased food availability. Organic farming has a very positive influence especially on birds, insects, weeds, wildlife, and soil. Conventional farming is capital intensive, which requires more manufactured inputs and energy as compared to knowledge- and labor-intensive organic farming. Organic agriculture uses energy more competently than conventional agriculture.*

*As compared to conventional agriculture, organic farming produces cost effective food products, free of synthetic fertilizers and pesticides. It also provides employment opportunities and economic benefits to local communities. The methods utilized in organic farming are more costly and labor intensive, but prove to be more cost effective in the long run. Since organic agriculture supplies more greenhouse gases in the soil, the farmers across the globe can solve the climate disaster by switching to organic methods. In addition, organic agriculture has the potential to address food security issues.*

*Enough evidence is available to prove that organic crops are a better source of nutrients than their corresponding conventional forms. Organic systems give higher animal immunity and increased disease resistance to plants, with 50 % less mycotoxins in crops and a persistent shelf life. Organic foods have more plant secondary metabolites, higher micronutrient content, and more conjugated fatty acids for better human health, including lower incidences of non-communicable diseases. Organic agriculture merges modernism, custom, and science*

*to manage the shared surroundings encouraging fair relationship and high quality of life for everyone involved.*

## I. INTRODUCTION

Organic farming has engrossed much attention in current decades as a way to maintain farming production. At the same time, it has played an important role in dealing with the environmental harms rooted in traditional agricultural techniques. Organic farming not only produces fine and healthy food products but also improves the fertility and quality of soil. Organic food is grown and processed without using any synthetic fertilizers or pesticides (insecticides, herbicides, and fungicides), plant growth regulators, such as hormones, livestock antibiotics and human sewage sludge. Biological pesticides produced from natural sources can be used in the production of organic food. Some preventative measures have to be applied prior to adopting the latest technologies for organic agriculture due to considerable risks of unpredictable tools such as genetic engineering. Organic farming is based on ecological cycles, and procedures therefore diminish the use of exterior contributions. This minimizes resource utilization of the farms and restricts nutrient heaps in the system. It lessens the danger of phosphorus and nitrogen eutrophication and evades over fertilization. Organic livestock farming is based on environment friendly production, maintaining animals in good health, realizing animal benefit values thereby generating yields of high class. Organic livestock farming meets the demands of the rising number of consumers. Organic agriculture requires low external inputs, thereby contributing to increased food availability. It is a system based on generating food with negligible destruction to ecosystems, humans, or animals. Nevertheless, reviewers argue that organic farming may have lesser yields and would consequently require additional land to generate a similar quantity of food as conventional systems do, resulting in biodiversity loss and extensive deforestation, therefore

undermining the ecological benefits of organic procedures. The expected boost of human world population, above 2 billion by the middle of the century, spots the requirement of an increase in agriculture to deal with the high demands of feed, food, biofuels, and fiber to meet the needs of the population. It, in addition, plays a decisive role in bringing additional ecosystem services, for instance, those that guard the excellence of the environment. Organic agriculture tackles a lot of traits and makes use of the biological regulation methods to put back external input, protecting biodiversity at the same time.

## II. FOOD AND AGRICULTURE ORGANIZATION AND ORGANIC AGRICULTURE

As defined by Food and Agriculture Organization (FAO), “Organic farming is environmental friendly ecosystem management in which use of all kinds of synthetic input is eliminated.” In March 1999, organic agriculture was officially included into FAO’s agenda as a way to support sustainable progress. The interest of FAO in organic agriculture stems from its potential to contribute to rural development and global food security.

## III. BACKGROUNDS

Organic farming is a type of agriculture practiced by early farmers for thousands of years. A full organic food production system is one of the most flexible and oldest agro ecosystems. Inorganic methods were introduced by Industrial Revolution with severe side effects. An organic revolution was started in Central Europe in the mid-1920s by Rudolf Steiner. He created biodynamic agriculture system, which are considered to be an old version of organic agriculture system. Organic agriculture was developed by Albert Howard in the 1940s in England as an independent field. Though organic farming is primitive in its widest sense, Sir Albert Howard started the post Industrial Revolution organic movement, for which he is known as the “father of organic farming.” Since then, the production of organic food has moved from small experimental garden plots to outsized and huge farms with their products sold under a unique organic label. Modern organic farming, from its start until now, has

contributed only a small part of the total agricultural output. The increase in ecological knowledge in the general population has altered the former supply-driven movement into a demand-driven movement. Many farm products are produced according to conventional methods in the developing countries, but these methods, although similar to organic farming, are not yet licensed. In some cases, economic reasons have forced the farmers of the developing world to transform.

## IV. PROBLEMS CAUSED BY CHEMICAL AGRICULTURE

### 4.1 Environmental Problems

The current intensive agriculture system causes many problems, including:

- Artificial herbicides and fertilizers are easily washed away from the soil, polluting lakes, rivers, and water courses.
- The long-term use of artificial fertilizers results in soils with low organic matter content, which is prone to erosion by rain and wind.
- Increased dependency on artificial fertilizers, which are required every year in greater amount to produce the same crop yield.
- Artificial chemicals deteriorate the soil microorganisms resulting in poor structure of soil as well as decreased aeration and nutrient availability.
- It becomes a great challenge to control pests and diseases as they become resistant to artificial pesticides. The number of natural pests decreases because of pesticide use and habitat loss.
- Thinning of eggshells of birds.
- Increased extinction of preying birds.
- Adverse effects on wildlife.
- Environmental imbalance.

### 4.2 Effects on Human Health

- Toxic residues cause skin reactions and allergic sensitization.
- Unfavorable and adverse effects on nervous system, peripheral neuropathies, and impairment of nervous system.
- Disturbance of endocrine system
- Carcinogenicity
- Suppression of immunity

- Prolonged exposure to small amount of pesticides residues in food commodities can lead to:
  - i. Spontaneous abortions and increase in miscarriages.
  - ii. Initiation of early puberty in girls. Undesirable effects on male reproductive system.
  - iii. Effects on kidney, liver, and brain.
  - iv. Deformities and abnormalities in newborn babies.

## V. CONVENTIONAL FARMING VERSUS ORGANIC FARMING

Organic agriculture system consists of management practices without using artificial fertilizers and high input of energy. This may affect storage of soil organic material in the long run. Some of the analysis of existing data indicates that overall organic yields are usually less than traditional yields but under certain conditions (better management practices, specific crop types, and growing circumstances), yield of organic farming systems can be increased.

## VI. WHY ORGANIC FARMING

Organic farming helps to provide long-term benefits to people as well as the environment. Other environmental advantages of organic farming include supporting local food markets, increased biodiversity, improved soil quality and reduced pesticide pollution and packaging waste, and water usage. Besides its potential to alleviate poverty and economic gains, organic farming proves to be valuable in a number of ways. Some of its benefits are listed below.

### 6.1 Environmental Benefits

Organic farming protects the environment from harmful effects, which arise from the use of synthetic inputs, specially pesticides, fertilizers, and hormones. Fertilizers and pesticides release dangerous toxic chemicals into soil and water. Some pesticides can cause harm to the environment or on direct exposure, they can prove to be toxic and dangerous to human health. Children are at a higher risk than adults to direct exposure, since the toxic effects of pesticides are often more severe in children than adults (Committee on Pesticides in the diets of Infants and Children). Agriculture, without pesticides and chemical fertilizers, might deliver in a number of situations, but outputs would be less than traditional farming.

Therefore, generating the massive amount of the worldwide diet will need agricultural methods together with the use of fertilizers. Organic agriculture more or less constantly supports more biodiversity and usually has a positive environmental impact per unit of land.

It does not essentially have a positive impact per unit of production. Organic cereals and milk, all produce elevated greenhouse gas (GHG) emissions per unit of product than their traditionally farmed counterparts. On the other hand, organic olives and beef have lower emissions in majority of the cases. On the whole, organic foodstuff requires less energy input, but extra land than the traditional products. Studies show that organic farming system provides greater biodiversity as compared to the traditional farming system due to decreased soil changes and chemical application. Organic farming has a positive and favorable influence especially on birds, insects, weeds, wildlife, and soil flora and fauna. All non-crop species exhibit partiality for organic farming system in terms of both diversity and abundance. An average of 30 % more species reside in organic farms. Butterflies, birds, beetles, spiders, earthworms, mammals, soil microbes, and vegetation are particularly affected. The birds' number and species show higher density in organic farms. Agro-biodiversity or agricultural biodiversity is a division of biodiversity, which consists of all shapes of life directly significant to agriculture, and can subsist equally in a farm and crossway farms. Ecologists have disagreed that at the farm level, a boost in on-farm variety and a range of overlying collection of species improve the level of agricultural biodiversity. This amplifies crop resilience and ecological firmness.

### 6.2 Economic Benefits and Profitability

Various studies have revealed that organic crops use 97 % less pesticides and yield 95–100 % higher along with 50 % lesser expenditure on energy and fertilizer. Hence, organic agriculture consumes zero pesticides and less energy. High prices that consumers disburse for organic products along with decreased cost of pesticide inputs and synthetic fertilizers add to increased profits. Organic farms have always been found to be more profitable as compared to the conventional farms. According to the FAO, "Organic farming is a pioneer to establish energy reducing

practices by using organic principles. Organic principles, which emphasize farm-level self-sufficiency, incorporation of externalities and environmental stewardship, can be improved to form plans for limiting the use of fossil fuel-based energy in organic farming. Especially in the post-production handling sections, advancements done in order to decrease the consumption of energy can affect the traditional parallel sectors.” In the majority of cases, 30–50 % less energy is consumed by organic farming as compared to the traditional farming:

- Organic agriculture typically uses energy more competently than conventional agriculture.
- Organic agriculture often needs about one-third additional manual labor hours as a substitution for energy-intensive inputs used in traditional agriculture. Modern chemical-dependent farming methods:
  - Lessen soil of nutrients
  - Demolish important soil microorganisms
  - Contribute to global climate change and desertification
  - Oversupply farmlands with toxic fertilizers, herbicides and pesticides, which then move into groundwater, rivers, lakes, and oceans. For example, numerous regions of Minnesota, which is the most important farmland, are now facing the problem of increased nitrogen in drinking water. Health risks of nitrogen include a potential correlation with cancer, in addition to reproductive and thyroid problems in both livestock and humans.

Organic agriculture is about 30 % more efficient to produce the same amount of food as compared to the traditional farming. Conventional farming is capital intensive, which requires more manufactured inputs and energy as compared to the traditional organic farming which is knowledge and labor intensive. The system engages large skilled and semi-skilled/unskilled labor for various tasks to be performed (sowing, planting, cultivating, rearing, maintenance, aftercare, harvesting, cleaning, washing, grading, bar coding, labeling, packing, transporting, and marketing) in order to follow a strict code of “organic farming”.

Serious issues are being raised about the energy-intensive nature of these methods and their unpleasant outcomes on soil yield and environmental excellence.

Organic agriculture is capable of supporting about three to 4 billion people.

In a study of 1,144 organic farms conducted in UK and Republic of Ireland, organic farms engaged more workers as compared to the conventional ones.

### 6.3 Health Benefits

Food for starving population, fiber for clothing, and feed for animals and even, in a number of cases, fuel for vehicles come from worldwide agriculture. Consequently, in the world’s temperate climates, human agriculture has displaced 45 % of temperate forests, 50 % of savannas, and 70 % of grasslands. Agriculture is one of the main sources of GHG emissions; the most important cause of deforestation in the tropics and a recurrent basis of water pollution and nonrenewable groundwater mining. A number of farmers have turned to the organic methods. Such a kind of farming is destined to reduce human health and environmental impacts by evading the use of chemical pesticides, synthetic fertilizers, and antibiotic or hormone treatment for livestock. The use of industrial methods, predominantly synthetic nitrogen fertilizer, has fed the human population during the previous century. Currently, there is no noticeable evidence of any health benefit of consuming organic over conventionally produced food products.

Individual studies have taken into account a variety of potential impacts, including residues of pesticides. Pesticide residues provide a second channel for health effects. The organically produced vegetables and fruits are likely to contain less agrochemical residues than their conventionally grown alternatives. Nitrate concentration might be less, but the potential health impact of nitrates is arguable. The users trust that organic products are healthier than traditionally grown products. Research has shown that organic products contain less nitrate content, because larger amount can cause cancer of the alimentary tract and methemoglobinemia in infants.

## VII. ORGANIC FOODS

Some studies have revealed and also some consumers think that organic products are rich in flavor and nutrients. The organic products are sold at high prices as compared to the conventional food products. Since

organic foods are grown via more labor-intensive production methods, they are sold at high prices.

### 7.1 Organic Certification

Organic certification is a certification procedure for manufacturers of organic products. In common, a few trades in food manufacture are certified including farmers, retailers, food processors, seed suppliers, and restaurants. Organic farmers are qualified to assure that their agricultural techniques comply with principles of organic manufacture to reassure consumers, retailers, and wholesalers that their products are really organic. Necessities differ from country to country and normally engage a set of manufacturing principles for raising, storage, packaging, processing, and delivery that comprise:

- Human manure sludge fertilizers are not employed in feed of animals or development of plants.
- Prohibition of artificial chemical inputs not on the National List of Allowed and Prohibited Substances (e.g., pesticides, food additives, antibiotics, fertilizer etc.), irradiation, GM organisms and the use of sewage mud.
- A complete written record of manufacturing and sales proceedings (audit trail) should be kept.
- Firm substantial separation of organic goods from noncertified goods.
- Carrying out periodic on-site assessment.

Organic certification deals with increasing international demand for organic food substances as well as guaranteeing quality, avoiding deception and supporting commerce of food. Such an official recognition was not compulsory in the early days of the organic association. With the passage of time, as organics have developed fame, the small-scale producers trade their goods straight to farmers' marketplace. Mostly customers are buying organic products through established channels, for example, supermarkets.

### 7.2 Hazard Analysis

A number of significant food safety hazards to consider in an organic farm may comprise:

1. Microbiological contagion from fish emulsion fertilizers or compost.
2. Quality of water used for washing or processing the produce.

3. Pest control methods.
4. Contamination from exterior sources, for instance transport suppliers.
5. Clean-down measures.

## VIII. ORGANIC FARMING METHODS

The overarching objective of organic farming as defined by IFOAM is as follows:

Organic agriculture is a manufacture system that maintains the health of soil and people. It depends on biodiversity, ecological procedures, and cycles modified to confined circumstances. Organic agriculture merges modernism, custom, and science to do well to the shared surrounding and encourages just relationships and a high quality of life for each and every one involved. Miscellaneous "organic fertilizers," e.g., cattle dung compost, farmyard manure, MSW compost, sewage sludge, poultry droppings, plants bio-fertilizers, microbial inoculants, and earthworm vermicastings, are used for agriculture all over the world where farmers are unable to afford expensive chemical manures. Most studies reflect that organic farming could increase the quantity and variety of total fungi and total bacteria in soil.

### 8.1 Chemical Control

The pest problem cannot be solved by the pesticides. Insecticide use has amplified tenfold, whereas crop fatalities from pest spoil have doubled in the past 50 years. Three significant causes of why natural power is preferable to pesticide use are given below:

#### 8.1.1 Safety For People

Synthetic pesticides can rapidly discover their mean into watercourses and food chains. This can generate health risks for humans. Human health can also be debilitated by population consuming food (especially vegetables and fruit) holding remains of pesticides sprayed on the produce. Around the world, there are an estimated 1 million cases of poisoning by pesticides each year. Approximately 20,000 of these result in death. The majority of the deaths occur in tropical countries, where chemical pesticides prohibited in the USA or Europe are still available.

#### 8.1.2 Cost

As natural techniques do not involve purchasing matter from the exterior, using natural disease and pest

control is frequently cheaper than applying chemical pesticides.

### 8.1.3 Safety for the Environment

Chemical pesticides can have a number of harmful effects on the environment. They are:

- Useful insects can be killed by chemical pesticides. The equilibrium between pests and helpful predators can be disturbed by only one spray.
- Artificial chemicals can reside in the bodies of animals and in the environment causing troubles for several years.
- Insect pests can rapidly turn out to be resistant to synthetic products and are no longer restricted over a small number of breeding cycles. This means that stronger chemicals or enlarged quantity are subsequently required, generating more environmental, health, and economic problems.

## 8.2 Natural Control

The organic farmer can manage pests and diseases in a number of ways by:

- Raising vigorous crops that experience fewer harm from pests and diseases.
- Selecting crops with an innate resistance to particular pests and diseases. Local varieties are superior in resisting diseases and local pests as compared to introduced varieties.
- Avoiding the phase when the pest does the majority harm by timely planting of crops.
- Companion sowing with other crops (garlic, onion) to keep the pests away.
- Picking or trapping pests from the crop.
- Recognizing diseases and pests properly. This will stop the farmer from unintentionally eradicating helpful insects or wasting time. It is hence useful to know preferred host plants, breeding habits, predators of pests, and life cycles.
- Using crop rotation to check a carryover of pests to the subsequent period and breaking pest cycles.
- Providing a natural environment to promote natural predators that manage pests.

## 8.3 Weed Management

Weed management in organic farming is not a simple job, mainly in regions where labor for hand weeding is not reasonably priced or is scarce. On the other hand, the standard must be similar as in any traditional

cropping scheme, i.e., weed competition desires to be prohibited in turn to attain the highest crop yields. This essentially involves weeding with nonchemical substances, however, this has to be done accurately at the precise time to get rid of weeds during the supposed significant phase of weed competition. Organic schemes also need the use of precautionary techniques prior to raising the crop and to set up a sensible crop rotation. Decayed seedbed preparation to kill the weeds manually or mechanically is an extremely fine choice to hold up the launch of weed competition. The use of green manure and cover crops, as well as mounting soil fertility, may possibly assist to manage a number of weed varieties. The common techniques used to put off weed competition in organically raised crops are elevated seeding rates and companion cropping with small-seeded legumes and narrow seed spacing/cross seeding.

Organic weed management encourages weed inhibition, to a certain extent, by promoting phytotoxic effects on weeds and crop competition. Organic farmers integrate biological, cultural, chemical, physical, and mechanical strategy to control weeds without artificial herbicides. Organic principles say that a single crop cannot be raised in a similar place without a different, dominant crop. Thus, organic standards need rotation of annual crops. Crops with different life cycles depress weeds linked with a particular crop. The weed-suppressive cover crops are repeatedly incorporated in organic crop rotation. Organic farmers struggle to amplify soil organic material content, which can hold up microorganisms to demolish ordinary weed seeds. Additional cultural procedures used to improve crop competitiveness and lessen weed force include high-density planting, tight row spacing, choice of viable crop ranges, and delayed planting into lukewarm soil to promote quick crop germination. Physical and mechanical weed control procedures used on organic farms can be generally classified as.

- Tillage—rotating the soil between crops to integrate crop remains and soil alterations; eliminate accessible weed development and set up a seedbed for planting
- Cultivation—upsetting the soil after seeding
- Cutting and Mowing—eliminating apex enlargement of weeds

- Thermal weeding and flame weeding—using heat to kill weeds
- Mulching—jamming weed appearance with plastic films, landscape fabric, or organic materials or herbicidal use, a few naturally supplied chemicals are acceptable. These include corn gluten meal, certain formulations of acetic acid (concentrated vinegar), and essential oils. A small number of choosy bioherbicides based on fungal pathogens have also been built up.

#### 8.4 Crop Rotation

Crop rotations are at the heart of organic agriculture and aid organic methods to shield our surrounding. They engage in altering the form of crop developed in one area on a usual basis. Organic farmers sow alternating groups of plants (brassica, cereals, roots, and legumes) to put in fertility and stop diseases and pests from strengthening.

A few plants, like clover, provide nutrients to the soil, whereas potatoes and wheat consume nutrients. Rotations frequently comprise of a “rest” phase for individual plots or fields, where “green manure” or grass such as clover is grown for a season or further to add fertility. This is known as planting “ley.” Although using crop rotation may sound old fashioned, it is a more effective and sophisticated method than chemicals. Using chemicals to fertilize the soil frequently merely supplies crops with three basic elements (nitrogen, potassium, and phosphorous) that they require to grow before supplying them with each and every nutrient that they require. In addition to making sure that soil nutrients do not get exhausted, crop rotations check the buildup of diseases and pests, which assist organic producers to prevent the use of pesticides. When a farmer grows the similar crop in one field year after year (known as monoculture), the pests and diseases that attack the crop set up and get enlarged in number with time. Nonorganic producers rely on pesticides to deal with the pest and disease. On the contrary, organic farmers stay away from this by growing discontinuous crops that are susceptible to different diseases and pests every year, stopping several from getting established in the similar location.

Crop rotations have a lot of significant functions:

1. They assist to manage diseases and pests.
2. They help to preserve soil fertility.
3. They help out to maintain soil structure and soil organic matter levels.
4. They make certain that sufficient nutrients are accessible to different crops each year.

In general, organic farming decreases environmental pollution and liberate GHGs from food manufacture.

#### 8.5 Soil Management

Plants require potassium, phosphorus, and nitrogen, in addition to micronutrients. Green manure and crop rotation facilitate to give nitrogen through legumes (the Fabaceae family), which fix nitrogen from the atmosphere through symbiosis with rhizobial bacteria. Intercropping, which is occasionally used for disease and insect management, can add soil nutrients, but the rivalry among the crop and the legume can be challenging, and a greater gapping among crop lines is necessary. Organic farmers use animal manure and developed fertilizers such as a variety of mineral powders like greensand, rock phosphate, and seed meal. Collectively, these techniques assist to manage erosion. In a number of cases, pH might have to be altered. Except in the USA, few compounds such as magnesium sulfate, aluminum sulfate, soluble boron products, and iron sulfate are permitted in organic farming. Diverse farms with both crops and livestock can function as lay farms, whereby the land collects soil fertility through increasing nitrogen-fixing grasses such as *alfalfa* or white clover and raise cereals or cash crops as soon as soil fertility is established. Farms exclusive of livestock may discover it more complicated to preserve fertility and could depend on peripheral contributions, such as grain legumes and green manures. Horticultural farms raising vegetables and fruits, which function in confined circumstances, are frequently more dependent upon exterior inputs.

#### 8.6 Controlling Other Organisms

Nematodes, arthropods (e.g., mites, insects), bacteria, and fungi are organisms other than weeds, which form the basis of problems on organic farms. A broad range of integrated pest management techniques are used by organic farmers to avoid diseases and pests. These comprise, however, are not restricted to, nutrient management and crop rotation, providing environment for advantageous organisms, sanitation to eradicate pest territory, crop protection using physical obstacles,

crop diversification by companion planting or founding of polycultures, and collection of pestresistant crops and animals. Organic farmers frequently rely on the use of advantageous organisms to diminish pest populations (biological pest control). Examples of advantageous insects include big-eyed bugs, minute pirate bugs, and ladybugs (which are likely to fly away). Natural insecticides permitted to use on organic farms include Pyrethrum (a chrysanthemum extract), *Bacillus thuringiensis* (a bacterial toxin), rotenone (a legume root extract), neem (a tree extract), and spinosad (a bacterial metabolite). These pesticides are used by less than 10 % of organic farmers regularly. These are, at times, called green pesticides, since they are usually considered to be environment-friendly and safer. Pyrethrum and rotenone are mostly controversial, since they perform by affecting the nervous system just like the majority of traditional insecticides. Rotenone is awfully toxic to fish and is able to provoke symptoms similar to Parkinson's disease in mammals. Naturally resulting fungicides acceptable for use on organic farms include the fungus *Trichoderma harzianum* and bacteria *B. pumilus* and *B. subtilis*. These are chiefly successful for diseases attacking roots.

#### 8.7 Genetic Modification

A key feature of organic agriculture is the refusal of genetically engineered animals and plants. Though resistance to the utilization of every transgenic technology in organic agriculture is powerful, some agricultural researchers persist to support incorporation of transgenic technologies into organic agriculture as the most favorable way to sustainable farming, predominantly in the developing countries. In the same way, a few organic growers question the justification behind prohibiting the use of genetically engineered seeds as they view this sort of biotechnology to be steady with organic standards.

### IX. CAUSES OF LOW ADOPTION OF ORGANIC FARMING

In organic farming, the foremost challenges are management of nutrients and increase of yield. Although adaptation to organic agriculture often comes with a decrease in crop yield, proponents of organic agriculture highlight the sustainability mainly

due to improvement in organic material-associated soil excellence. Based on current research on methods driving soil organic material turnover, though, it somewhat comes into view that low-input agroecosystems may convert to lesser competence in terms of substrate use by heterotrophs which might have an effect on soil organic material storage space in the long run. A collection of field statistics verifies lower use competence in some organic soils and thus questions the claim of a largely sustainable use of the soil reserve in organic agricultural methods.

### X. CONCLUSION AND FUTURE PERSPECTIVES

Organic farmers depend greatly on versatile understanding of soil science and ecology. Modern organic farming methods are used to guarantee fertility and pest/weed control with conventional techniques of crop rotation. Organic farming has to be implicated as a feasible option compared to conventional approaches in agriculture. Thousands of farmers have transformed to this method as a result of a higher demand for organically developed foodstuff. Organic farming also involves access to food by dropping threats of disease, raising productivity and biodiversity over the lasting period, and giving means for limited manufacture and access to food. Other advantages of organic agriculture beyond the purely financial ones include conservation of natural resources, health protection, risk reduction, increased flexibility to adverse weather, and farmer authority through the attainment of knowledge and higher dependence on limited inputs. Sustainable earnings in organic farming would not only include safe food production but also shielding of natural environment and maintenance of limited assets. Today, the organic agriculture sector is one of the fastest growing food segments, thrust to which is provided by many factors like introduction of policies that prove to be encouraging for organic agriculture, taking away of government funding on agricultural inputs, controversial debate on genetic modification related to food safety and crisis aggravated by foot and mouth and mad cow diseases and dioxin-contaminated food. On the demand side, forceful marketing and promotion strategies of supermarkets and retailers have produced new marketing prospects in northern countries. Food retailing chains have played a significant role in



promoting the market growth for organic food products.

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