Ecology, Culture, Ethnicity & Literature: Canada & India

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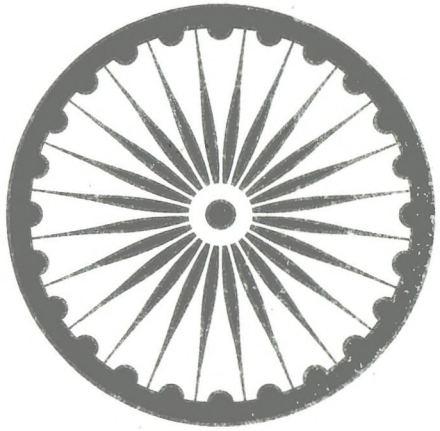

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13

{EMERGING TRENDS IN ORGANIC FARMING}

INTRODUCTION

For a long time, organic farming was limited to small groups of producers, processors and consumers: however, substantial growth has occurred over the past few years. The recent interest in organic products has been heightened by consumers" increased expectations regarding their food and the environment, especially following a number of crises or controversies involving conventional agriculture- mad cow disease, genetically modified organism (GMOs), etc .Organic farming is a holistic production management which maintains long-term fertility of the safe and natural way. Organic farming maintains Earth's natural balance and does not harm flora and fauna. Organic farming system rely on crop rotation, crop residue, animal manure, legume, green manure and off farm organic waste. It also uses mechanical cultivation, mineral bearing rocks and aspects of biological pest control to maintain soil productivity, to supply plant nutrients and to control insects, weeds and other pests. The soil is a living system that develops the activities of beneficial organisms. Organic agriculture has become an agricultural approach that not only produces safe food but in sound environment. The organic farming means farming in the spirit of organic or integral relationship between the soil, water atmosphere, plants, soil microbes, waste products from vegetables and animals of which the apex animal is the human being.

ORIGIN OF CANADIAN ORGANIC FARMING

The origin of organic farming can be found in two sources. The first source is "biodynamic", the principles of which were enunciated by R.Steiner, and Austrian thinker, in the 1920s. It is claimed that this form of agriculture, which draws upon "cosmic and telluric forces". "forms part of a broader concept of human nature and living things. In 1928, the biodynamic movement was the first to establish a brand name. "Demeter", certifying the origin of its products. The second source is

"Organic Agriculture" of the British Soil Association based on the q940 writings of Sir Albert Howard), which advocates composting and a return to an independent, farm-based agriculture. Both movements put the emphasis on soil life, i.e., fertilization and include a strong ideological component.

DEFINITION

Organic farming is based on a simple principle, namely strict respect for the links and natural balances between the soil, plants and animals (animals nourish the soil, which nourishes plants), to which is added the constraint of a prohibition against synthetic chemicals. From this principle and this constraint fertilizers and pesticides, plant and animal growth regulators, hormones, antibiotics, preservatives, etc.,

- A prohibition against chemical fertilizers and pesticides, plant and animal growth regulators, hormones, antibiotics, preservatives, etc.
- A prohibition against genetically modified organisms:
- A prohibition against soil less culture (which does not exclude greenhouse growing);
- The requirements, in the case of animal production, to allow free ranging, to use organically produced feed to limit animal density in buildings etc; and the requirement to observed conversion period is crop production before any "organic" commercial exploitation, etc.

TYPES OF ORGANIC FARMING

Traditional farming is that which is not influenced by green revolution.

The farming is done in the same way as forefathers have done.

Kitchen gardening is a type of organic farming as organic manures from kitchen waste is used. Alley cropping is planning trees and crops in alternate rows so that they give mutual benefit to each other.

Bio-intensive agriculture employs double digging or deep dug beds for intensive garden cultivations.

Perma culture ado vacates the planting of perennial three crops and employs the environment in planning farm activities.

Organic farming relies on the soil's natural fertility enhanced by materials like compost and vermiculture.

CONVENTIONAL FARMING

Conventional farming is the green revolution chemical farming. Conventional farming is the green revolution chemical farming. Conventional farming is otherwise called inorganic farming, chemical farming, non-organic farming, commercial or industrialized agriculture conventional agriculture is an industrialized agricultural systems characterized by mechanization, monocultures and the use of synthetic inputs such as chemical fertilizers and pesticides with an emphasis on maximizing productivity and profitability.

The reasons which led to chemical farming is lack of awareness about the harmful effects of chemicals, lack of farming knowledge, easy influence of foreign technology, population explosion and increased demand for food.

Conventional food is cheap because hidden subsidies and costs are involved that are not seen in the pricing system. Environmental and health costs never enter the picture Many agriculture inputs for conventional farming are given industrial subsidies, these are not available to the organic farmer

BIOPESTICIDES

Biopesticides is an important group of pesticides that can reduce pesticide risks. The two types of biopesticides are biochemical and microbial. Biochemical pesticides may have a similar structure to and function like, naturally-occurring chemicals and have bib-toxic modes of action.

Insect pheromones are naturally occurring chemicals that insects use to locate mates. Pheromones are often used to detect of monitor insect population or to control them.

Microbial insecticides come from naturally -occurring or genetically altered bacteria, fungi, algae, viruses and protozoan. They suppress pests by

- producing a toxin specific to the pest
- causing a disease
- preventing establishment of other micro-organism through competition

An example of a microbial pesticide is Bacillus thruringiensis. It is a naturally occurring soil bacterium that is toxic to the larvae. It is toxic to caterpillars of moths and butterflies. These can be used in controlling mosquitoes and black flies. Biopesticides in general have narrow target range and a very specific modes of action, are slow acting, have a

relatively critical application times, suppress rather than eliminate, a pest population and have limited field persistence and a short shelf like. They are safer to humans and the environment than conventional pesticides and they do not present any residue problems.

Organic Manures

Organic manures are natural products used by farmers to provide food (plant nutrients) for the crop plants. A. There are a number of organic manures like farmyard manure, green manures, compost prepared from crop residues and other farm waste, vermin compost, oil cakes and biological wastes animal bones, slaughter house refuse.

Organic manures increase the organic matter in the soil. Organic matter in turn releases the plant food in available from for the use of crops. These manures also enable a soil to hold more water and also help to improve the drainage in clay soils. They provide organic acids that help to dissolve soil nutrients and make them available for the plants. Bacterial and fugal activity increases in the soil. My corrhizal fungi which make other nutrients are available to plants thrive in soil where the organic matter content is high.

Types of Organic Manures

Green Manuring: It is the practice of growing a short duration, succulent and leafy legume crop and ploughing the plants in the same field before them from seeds.

Compost: It is well decomposed organic wastes like plant residues, straw, water hyacinth, saw dust, animal dung and urine earth from cattle sheds, waste fodder, kitchens wastes, human habitation waste, compost making is the process of decomposing organic wastes in a pit under medium high temperature.

Organic Farming Trends in Canada

The organic farming movement in Canada emerged in the 1950s, but significant development occurred only in the 1970s. During that decade, six provinces had organizations uniting organic farmers: in 1974, McGill University set up the Ecological Agriculture Projects program, which later became an information clearinghouse for the whole of Canada, Certification bodies were developed in the 1980s, and various levels of government increased their involvement in research and development in this sector of the farming industry.

In 1999, it was estimated that there were between 1,500 and 2,000 certified farmers in Canada, but there is little data on their production. Nevertheless, since the year 2000, Statistics Canada shows that

approximately 4.9% of Canadian fruit and vegetable growers consider themselves to be organic farmers. This amounts to approximately 640 farms, which account for almost 2% of the land area used for commercial vegetable growing in /Canada. The farms are generally small-less than 5 acres in size.

The organic food industry is dominated by imports from the United States and the European Union, which account for 80% of the Canadian market. Even though local sales are one of the cornerstones of organic farming, international trade is becoming increasingly im0rotant. It is estimated that 85% of Canadian organic production is exported and that the demand for such products as cereals and oilseeds is steadily increasing.

GOVERNMENT MEASURES ON BEHALF OF Canadian ORGANIC FARMING

A Specific Organic Farming Policy

Because organic farming is "sector within a sector". It is affected by most of the programs and regulation implemented by the federal government for Canada's agricultural sector. For example, federal income support programs such as the Net Income Stabilization Account (NISA) , crop insurance or the disaster assistance program are made available to both conventional and organic farmers. There is no federal policy directed specifically to the organic farming industry. Some countries including the European Union have such policies to promote organic farming. They usually offer financial incentives to encourage a changeover to organic farming. Consequently, the amount of land area is Europe converted to organic farming has increased, as has the volume of certified organic products sent to foreign markets.

In its report entitled pesticides- making the right choice for the protection of Health and the Environment, the House of common standing committees on environment and Sustainable development recommended in 2000that the government develop an organic agriculture policy for the transition from pesticide-dependent farming to organic farming. This policy should include tax incentives, an interim support program during the transition period, technical support for farmers, the development of postsecondary organic farming programs and enhanced funding for research and development (R&D) in organic agriculture.

In its response, the government recognized the importance of the sector and maintains that it support its expansion through existing and future research and market development programs and services. Virtually all the programs directed in agriculture in general affect organic farming.

because the government has adopted a "decoupling" approach between support program and production-related decisions. In this way it does not favor certain agricultural practices over others; regardless of weather they are conventional, organic or other. It should be noted, however, that in the calculation of payments to farmers, traditional programs are based on prices lower that those applicable to organic production (crop insurance programs) or on incomes (NISA), which are often lower in organic production.

Advantages of organic farming

Protects Future Generations: Food choices made now determine the child's future health.

Prevents Soil Erosion: Soil is the foundation of the food chain in organic gardening. In conventional farming the soil is chemically fertilized. Soil is the foundation of the food chain in organic gardening. In conventional farming the soil is chemically fertilized. Soil structure is neglected and the top soil washed away.

Protects Water Quality: Pesticides and other chemicals widely contaminate groundwater and rivers and pollute the primary source of drinking water in conventional farming. In 2003, CFTRI found that Linda e and chlorpyhriphos were ubiquitous, being present in all the sample of commercial carbonated beverages. DDT and metabolites were found in 58 per cent of samples higher than E.U .limits Organically derived plant nutrient are slow to leach from the soil, making them less likely to contribute to water pollution than synthetic fertilizers.

Keep Chemicals off the Plate: Some residual pesticides pose greater health risks for certain segments of population, including the sick, the elderly and children. Pesticides and herbicides present in the food, when consumed may cause cancer, birth defects, nerve damage, infertility and genetic manipulations.

Protects Farm Workers: Farm workers health is in serious problem in developing nations where pesticide4 use is poorly regulated.

Help small farmers: Most organic farms are small, independently owned family farms of less than 100 acres. Organic farming could be one of the few survival tactics left for family farms.

Supports a True Economy: Although organic foods might seen more expensive than conventional foods, conventional food prices don't reflect hidden consist such as pesticide regulation and testing, hazardous waste disposal and clean up and environmental damage. If the hidden environmental and social costs of chemically produced conventional produce are added to that produce, it would be more than double the price of organic food.

Promotes Biodiversity: The conventional farmer uses monoculture, the planning of large plots of land with the same crop year after year. This approach leaves the soil lack in natural minerals and nutrients, which have to be replaced by chemical fertilizers in increasing amounts. Single crops are also more susceptible to pests, making farmer more reliant on pesticides. Some insects have become genetically resistant to certain pesticides. Organic farmers encourage natural predators on their farms and content with a smaller harvest. They also practice crop rotation to add health and energy to the soil.

For Better Taste: Organic food tastes better than conventionally grown food

G. E. Free: Certified organic food does not contain genetically engineered organisms. Organic food does not undergo irradiation

Save Energy: Modern farming uses more petroleum than any other industry

Encourage Biodiversity: Organic farmers grow top quality produce without causing harm to birds or wildlife.

Conserves Natural Resources: Instead of using non-renewable petroleum based fertilizers, organic farmers recycle natural material by turning them into fertile soil. Strict guidelines ensure the safety of organic compost.

Protects the Environment: Environmental effects include death of marine animals and wide spread nitrate contamination of drinking water wells. Organic farmers do not use any herbicides or gum grants and they use no toxin insecticides or fungicides.

Encourages Animal Welfare: Organic livestock farmers can manger their animals without the food. But the standards for manure and soil health in organic farming go much further

Encourages Animal Welfare: Organic livestock farmers can manage their animals without the routine use of antibiotics and other drugs because they run a healthy, balanced system: and using natural many animals on a given area. Keeping a mixture of species wherever possible and using natural many animals on given area, keeping a mixture of species wherever possible and using natural organic feedstuff

Certification organic products in India

Certified organic products are those which have been produced, stored, processed, handled and marketed in accordance with precise technical specifications and certified a "organic" by a certifications body.

Once conformity with organic standards has bee verified by a certification body, the product is afforded a Label. This label will differ depending on the certification body but can be takes as an assurance that the essential elements constitution and "organic" product have been met from the farm to the market.

To quality a certified organic, a field of corn, for example, would have to

- ensure a cultivation record which proves total non-contamination from any non-organic material
- be free of chemical fertilizers for three years
- be free herbicides /pesticides for three years
- seed must not be from genetically-modified sources
- include a buffer zone between organic plants and non-organic plants.

Certified organic labels, National Mandatory, Indian National Standards for Organic products, Organic farming Association of India -Organic labeling system.

Canadian National Standard

The adoption of a Canadian organic farming standard constitutes the first true federal government intervention directed specially to the "sector" of the farming industry. The standard, approved in June 1999 by the standard council of Canada, was developed jointly by the Canadian General Standards Board and the Canadian Organic Advisory Board (COAB) , as organization that represents the interest of groups of organic farmers and certification bodies throughout Canada.

Although the organic farming industry is satisfied with the national standard, there is disagreement over the certification procedure to be adopted. The COAB was formed in 1992 as an advisory board with a mandate to represent the interests of organic producers throughout Canada, it made possible cooperation between the stakeholders of organic farming and those in the federal government involved in developing the standard. Some stakeholders would like the COAB to be recognized as the certification body for the national standard, with responsibility for the inspection and accreditation of business seeking certification.

Others believe that there is still need for consultation on the choice of the certification body. In British Columbia and Auebee, two provinces that have long experience with provincial organic standard. Many of those concerned think that it is not appropriate for an advisory board to become a national certification body. Moreover, these provinces already have provincial certification bodies that they would like to see

accredited as certification bodies for the national standard.

Certification in the USA

Since October 2002, all foods labeled organic will have of USDA seal. Organic food is created with out conventional pesticides or petroleum-based fertilizers and the animal products are free of antibiotics and growth hormones. USDA accredited certifiers determine the product is organic.

Non-diary beverages, milk, cream, packaged fresh produce, frozen yogurt, cold cereals, chips, snacks, bread and baked goods, cheese and alternative cheese and tofu are some of the organic products available in the USA. Some definition are explained below.

- 100 percent organic: Products are made form entirely organic ingredients:
- Organic: products that contain 95 percent organic ingredients
- Made with organic ingredients: products w2ith this claim most contain 70 per cent organic ingredients
- Some organic ingredients: products contain less than 70 percent organic ingredients.
- 100 percent natural: Food contains no chemical ingredients but are not organic
- No GMOs : No genetically-modified foods are used as ingredients
- Hormone-free: animals were not fed hormones Certified organic products are generally more expensive that their conventional counter parts (for which prices have been declining) for a number of reason.
- Organic food supply as of now is limits as compared to demand
- Production costs foods are typically higher because of greater labor inputs per unit of output.

- Post-harvest handling of relatively small quantities of organic foods result in higher cost because of the mandatory segregation of organic and conventional produce, especially for processing and transportation
- Marketing and the distribution chain for organic product is relatively inefficient and costs are higher because of relatively small volumes.

In the domestic market, several NGOs and individuals have set up their own distribution net work for organic products. They are giving a guarantee of organic quality in an informal way, which is based largely on trust rather any rules and regulations. The informal systems now exist in almost all the major cities and certain other pockets.

By conclusion, as demand for organic food and products is increasing, technological innovations and economics of scale should reduce costs of production, processing, distribution and marketing for organic products. The farmers of India and Canada have been practicing eco-friendly agriculture for centuries. Even now many farmers use local renewable resources and manage self regulated ecological and biological processes. India can enjoy a number of benefits from organic farming, major among them being conservation of natural resources improved soil fertility and water quality, prevention of soil erosion, preservation of biodiversity, generation of rural employment, lower urban migration, improved household nutrition, local food security and reduced dependence on external inputs. The protection of environment and the consequent increase in the quality of human life will be other contributors of "Organic farming".