Kerala State Organic Farming Policy, Strategy and Action Plan

Vision

Make Kerala's farming sustainable, rewarding, and competitive, ensuring poison-free water, soil and food to every citizen.

Background

India has a glorious history of farming, starting probably from the 6th millennium BC in the Indus Valley, harnessing the annual floods and the subsequent alluvial deposits. The Indus Valley Civilization was founded on sustainable farming practices. Subsequently, our culture and ethos became reflections of the agricultural practices and it became mutually inseparable till recently. Harvest of the main crops is celebrated through out the country.

In Kerala, it went to the extent of identifying the farmland with Mother God or a female. Just like the female has to take rest after delivery, the farm land has also to be given rest for three months after the harvest; tilling is strictly prohibited during this period. Although it may look superstitious, the ecological reason behind this ritual is that tilling during monsoon leads to severe soil erosion and thus, is an unsustainable practice. Therefore, sustainability has been the hallmark of our farming system from time immemorial; growing the time tested, weather suited, traditional crops with or without additional organic inputs, but deeply interwoven with the ecological systems and climatic conditions.

The once flourished *Pokkali* cultivation in the coastal districts and the *Kaipad* farming system in Kannur district are testimonials to man's ingenuity in harnessing the natural events for farming, that too integrated farming, without affecting the natural ecological processes and without even any external inputs.

However, the so called modern agriculture-unmindful of the ecosystem principles so revered and practiced for centuries-led to seemingly irrevocable ecological and environmental catastrophes in the country. The Green Revolution essentially replaced the traditional varieties with high-yielding ones. These high yielding varieties now recognized as 'high input varieties' needed tonnes of fertilizers, to achieve the target growth. The crops and varieties alien to the soil attracted new pests and diseases and also outbreaks of existing pests. To combat them, came in huge quantities of pesticides. Input of these "exotic" elements into the traditional farming led to multitude of environmental issues.

The microorganisms declined; the soil lost its fertility and vitality; water demand increased and, the time tested traditional varieties disappeared. In short, the century old practices came to a halt. The eternal relationship between the farmer and farm land was lost. More importantly, sustainability of the agriculture systems collapsed, cost of cultivation soared, income of farmers stagnated and, food security and food safety became a daunting challenge.

Biodiversity in the agricultural fields has now become a history of the past. The farmland became silent; devoid of the croak of frogs, chattering of warblers, whistling of Whistling Ducks. The long tubular straw striven nests of the Baya weaver bird hanging on the fronds of

palm-a once spectacular sight-have disappeared from most localities. The insectivorous birds such as drongo, bee-eater, even the house sparrow became rare or locally extinct, indicating the collapse of the entire food webs of the farm land.

In the forestry sector, fortunately the use of pesticides has been much less. However, the aerial spraying of pesticides in India was first tried in Kerala in 1965 to control the teak defoliators in Konni forest division. It was noted that with in 48 hours nearly 162 non-target species of arthropods were knocked down.

The mentally and physically retarded and handicapped children in Padri village in Kasergod tell the world in unequivocal terms the tragedies and disasters that aerial spraying of pesticides could inflict on human life.

As a result of all these "modern" techniques, the air, water and the soil were polluted; most food grains and farm products were contaminated by pesticides. The run off from the farm land contaminated the wetlands - rivers, tanks, ponds, reservoirs, lakes and all water bodies-and the life in them. Fishes carried high levels of pesticides and also heavy metals, the latter as a result of the many chemical industries that sprang up to provide chemical fertilizers.

Health hazards became unimaginably high. Incidence of fatal diseases rose. Hospitals with modern amenities came up in the cities as profit making industries. Pharmaceuticals flourished.

Food crops became non-attractive, while cash crops became more remunerative. Rice fields have been filled up for non-agricultural activities. The area under cash crops expanded during the last 20 years (16% under rubber alone), while that under food crops plummeted (to just 9% of the total cultivated area). The monoculture of such economically valuable crops led to soil erosion and loss of soil fertility to a great extent. The advent of chemical intensive farming and its prevalence in Kerala for the past 50 years have resulted in the near stagnant levels of productivity of many of these economically important crops such as coconut, cashew, pepper, coffee, tea, cardamom and arecanut. Besides these, many regions in Kerala, like Wayanad started facing acute water scarcity. The State has taken note of it and given priority in the Eleventh Five Year Plan.

Over and above, the economic liberalization and WTO policies added to the woes of the farmers by bringing down the prices of agriculture commodities**.** They are caught in the debt trap owing to the loan taken to meet the high cost of farming, as it demanded more external inputs such as fertilizers, pesticides and water. These led to increasing instances of suicide by farmers. Investment in agriculture has essentially changed from the farmer to the industries supplying input to the farmer, and as a direct consequence, net income for farmers decreased while the industries supporting agriculture in the country flourished.

The national policies of opening retail sector to national and multinational companies pose great threat to our food sovereignty and right to safe food. The enhanced ‘food miles’ led to increased carbon emission, further increasing the load of green house gases. The potent danger of introducing Genetically Modified crops, monopoly of seeds by national and multinational corporate bodies could very well be the last straw on the camel’s back for the farmers of Kerala.

Many farmers have realized that they are fighting a loosing battle with the "high yield variety - fertilizer-pesticide pack" of Green Revolution. They have also realized that the degradation and disruption of the fragile ecosystems of the 'God's own country' are the chief culprits for the water scarcity, nutritional insecurity, loss of primary productivity and agrarian crisis being faced by the State.

The farmers in Kerala are convinced that the only way is to return to the traditional sustainable ways of cultivation without harming the ecosystem. Thus the organic farming, a system with the broad principle of 'live and let live', came up which was recognized nationally and internationally.

Organic agriculture is not limited to crop production alone, but encompasses animal husbandry, dairy, fisheries, poultry, piggery, forestry, bee keeping, and also uncultivated biodiversity around.

By and large, there is an increasing awareness among the consumers also on the deleterious effects of pesticides and hence, there has been a high demand for organically cultivated food produces. Therefore it has become a solemn responsibility of the Government to encourage organic farming to ensure poison-free food at affordable price to every citizen.

There have been demurs and doubts on the practicability of organic farming on the ground that the production would plummet and the country would once again be forced to yet another food crisis. This is quite unfounded. Success stories on high productivity of organic farming are now abundant. The Food and Agriculture Organization reports at the International Conference on Organic Agriculture and Food Security 2007 as follows: "*Conversion of global agriculture to organic management, without converting wild lands to agriculture and using N-fertilizers, would result in a global agricultural supply of 2640 to 4380 kcal/person/day. Sustainable intensification in developing countries through organic practices would increase production by 56 per cent. Organic yields on average are comparable to conventional yields; although yields do decline initially when converting from high-input systems and almost double when converting from low-input systems".* It also has found that organic farms use 33 to 56 per cent less energy per ha than conventional farms.

Worldwide, as of now, more than 22.81 million hectares of land area is managed organically and the market of organic food is around $30 billion. It may be noted that Cuba, a country with 42,402 sq. miles of land and with 11.3 million people, is completely organic.

A brief history of organic farming

Pesticides have been in use in agriculture since Second World War and from the very beginning there have been concerns about the commercialization of chemical pesticides**.** Rachel Carson's, "Silent Spring" published in 1964 brought out the scientific certainties of the impacts of pesticides on environment. Although DDT was banned in the developed world in the 1970's, and its use in the agriculture fields of developing countries later, varieties of toxic pesticides found their way into the farms .The scientific predictions of Rachel Carson became true and the public, especially farmers and scientists, the world over realised the dangers of

pesticides. This led to the beginning of non-chemical farming. Researches and trials of traditional methods and also new models of soil and crop management began to appear.

For the last 4-5 decades scientists have been trying to find out a sustainable agricultural system. One of the prominent personalities among them was Sir. Albert Howard, the Advisor for Agriculture in India from 1905 to 1924. "An Agricultural Testament", written by him, is considered to be the first authentic book on organic farming in India. "Indoor method" in organic composting was also worked out first by him.

The permaculture (permanent agriculture) experiments of Bill Mollison and Holmen in the 1970's gave hope to many farmers the world over. The permaculture wave had its impact in Kerala too and since then many farmers have started experimenting this methodology and they found that this is one of the best practices for Kerala with its topographical peculiarities and high rainfall so as to conserve soil and water and improve productivity of their farms.

In a report submitted in 1983 to the Department of Agriculture of the United States, Robert Papendick and James Parr, agriculture scientists of the same department, had emphasised the crucial need for focussing research on sustainable agriculture to replace the farming systems being followed using chemical pesticides and fertilizers.

The infamous Bhopal tragedy of 1984 was an eye opener to a larger section of people in India and abroad. Discussion on alternatives began seriously. Publication of the book "One Straw Revolution" in 1984 by Masanobu Fukuoka (a Japanese scientist turned farmer), on his success in natural farming for the last half a century and, translation of his book into Malayalam in 1985 were timely in channelising such discussions in Kerala. Biodynamic farming was another method of organic farming which attracted many farmers.

The very sustainability of agriculture assumed serious concern in the discussions among the farmers and organizations in Andhra Pradesh, Karnataka, Tamil Nadu, Gujarat, Maharashtra, Punjab and Kerala during the same period. The total external dependence of farmers for agriculture inputs had started affecting their economies leading to desperation among farming communities and ultimately to agrarian crisis. As an alternative, to make farming sustainable, Low External Input Sustainable Agriculture (LEISA) thus gained momentum in many places, especially sustainable among small and marginal farmers. The agriculture crisis that began in the late 1990s further strengthened this movement. Many individuals and organizations started interacting with farmers to make them understand the problems of the modern agriculture.

Thus, from a simple beginning, organic farming later matured to such dimensions as women's empowerment, seed conservation, development of seed banks, value addition and, more importantly, food and nutritional security. It took only 10-15 years for this transition and the results are encouraging.

Currently there are a number of certified organic farmers in the state, those cultivating cash crops such as spices, tea, and coffee, mainly targeting export market and also non-certified organic farmers who focus on food crops and biodiversity. All of them, whether certified or not, focus clearly on soil health improvement. Kerala also has an accredited organic certifying agency catering to the needs of the farmers.

Some of the farming systems such as *Pokkali* and *Kaipad* cultivation, cultivation of *Jeerakasala* and *Gandhakasala* varieties of paddy in Wayanad and, homestead farming systems all over the state are default organic. Studies have established the economic viability and productivity of homestead farms in the State and elsewhere. Recently the Adat panchayath in Thrissur district has started organic cultivation of rice in an area of 2,500 acres, promoting integrated farming system, which is known as Adat model. Similarly Marappanmoola in Wayanad has another model organic farming system involving hundreds of farmers.

Marketing of organic produce is also being experimented in many places like Organic Bazaar in Thiruvananthapuram, Eco-shops in Thrissur and Kozhikode and, Jaiva Krishi Sevana Kendram in Kannur. Self help groups of women are encouraged to undertake organic farming of vegetables in some panchayats.

There is a rich potential for promoting organic farming in Kerala in the light that intensity of inorganic agriculture here is not that severe compared to that in other States in the country. While the national average consumption of fertilizers and pesticides during 2002-2003 was 90kg/ha and 288g/ha respectively, it was only 60kg/ha and 224g/ha respectively in Kerala. This points to the positive side of agriculture in Kerala in terms of the already low levels of consumption of hazardous chemicals and, therefore, chances of redeeming farmers to organic agriculture are quite high.

Realising the ground realities, the State Department of Agriculture commenced organic farming promotional activities since 2002-03. In the following year, the Department set up a cell for Promotion of Sustainable Agriculture and Organic Farming. It has also launched two brands, namely 'Kerala Organic' and 'Kerala Naturals' to market organic farm produces. Currently, about 7,000 farmers practice organic farming in the State as per NPOP standards, covering a total area of 5750 ha. But non-certified organic cultivation area, assessments of which have not been done, is expected to be much more than this.

Benefits of organic farming

- Makes agriculture more rewarding, sustainable and respectable.
- Sustains soil fertility by preventing the loss of soil and leaching of minerals.
- Protects and enriches biodiversity - micro organisms, soil flora and fauna, plants and animals.
- Requires less water and promotes water conservation.
- Improves and maintains agro ecosystem and natural landscape for sustainable production.
- Depends mostly on renewable on-farm resources.
- Encourages consumption of renewable energy resources- mechanical and other alternate sources of fuel.
- Includes domestic animals as an essential part of organic system which helps maintaining soil fertility and also increases the income of farmers.

- Ensures pollution free air, water, soil, food and, natural ecosystems.
- Improves agro-biodiversity (both varieties and crops).
- Protects and enhances traditional knowledge in farming, processing and seed improvement leading to its protection for the future generations.
- Reduces the cost of production through locally suitable methods and inputs.
- Produces adequate quantity of nutritious, wholesome and best quality food and develops a healthy food culture.
- Reduces the food - mileage and, thereby, carbon emission.

The State Government have seized of the importance of organic farming and, realized the health hazards and un-sustainability of chemical farming as it clearly states in its Biodiversity Strategy and Action Plan that the state has to have an organic farming policy to protect its rich biodiversity and thus sustain various livelihoods dependent on this precious resource.

Organic Farming Policy, Strategy and Action Plan

Objectives

1. Make farming sustainable, remunerative and respectable.
2. Enhance natural soil fertility and productivity.
3. Ensure soil and water conservation.
4. Ensure agricultural bio-security and food and nutritional security.
5. Create and ensure domestic market for organic products controlled by the farmers.
6. Avoid the use of agrochemicals and other hazardous material and, ensure chemical - free water, soil, air and food.
7. Ensure seed, food and sovereignty.
8. Promote biodiversity based ecological farming.
9. Ensure quality control in organic inputs and agricultural produce
10. Enable human health promotion by providing safe agricultural products and commodities
11. Conservation and extension of traditional knowledge related to agriculture.

FAO put the objectives succinctly: "Organic agriculture improves food access by increasing productivity, diversity and conservation of natural resources, by raising incomes and by reducing risks for farmers. Improvement also results from sharing of knowledge among farmers. These benefits lead to poverty reduction and a reversal of rural outward migration. Policy requirements to improve food access include: increasing farmers' rights to seeds, local

varieties and biodiversity; expanding fair-trade systems along the full value chain; evaluating current emergency aid and procurement programmes; and strengthening the rights of indigenous farmers".

Strategies and Action Plan

General approach: The mission to convert Kerala into an organic State is to be achieved focusing on potential crops and areas in a phased and compact manner with the aim of converting a minimum of 10% of the cultivable land into entirely organic every year and thus achieving the target within five to ten years. On completion of the third year of implementation of the organic farming policy, a Committee of experts comprising representatives of farmers and scientists should make a comprehensive assessment of the farmer's well being, economy and environment and, only after rectifying the drawbacks, if any, can the policy be implemented in rest of the areas.

Definition of organic farmer

A farmer may be defined as 'Organic Farmer' provided he/she adherses to and practices the following three essentialities of organic farming.

(1). a farmer who practices mixed farming

including food crops.

(2). a farmer who ensures the conservation

of soil and water.

(3). a farmer who conserves the

biodiversity of the farmland.

Strategy 1

Ensure seed sovereignty of the farmers and the State

Action

1.1 Establish seed villages exclusively for organic farming.

1.1 (a) Begin programmes for the production of seeds, seedlings, planting materials and, traditional animal breeds at the Panchayat level, so as to become self-sufficient in the availability of good quality local seeds, both indigenous and breeder seeds developed by the KAU and other institutions of agricultural research.

1.1(b) Begin at the farmers' group levels, seed banks and seed cooperatives to produce, store, share and supply good quality seeds, including those which are traditional and location specific.

1.1(c) Promote farmers who can produce organically, good quality seeds and develop participatory seed production programmes along with the KAU and other institutions of agricultural research.

1.1(d) Develop storage facilities/protection measures using traditional methods

1.2 Ensure maintenance of traceability chain mandatory at the Local Self Government Institution level by the Biodiversity Management Committees (BMC) with regard to seeds produced, sold, transferred and shared in the Panchayat to protect the farmers from spurious low quality seeds, including hazardous genetically modified seeds

1.3 Declare and ensure Genetically Modified(GM) free villages/panchayats and State

1.4 Establish a mechanism to regulate the prices of seeds

1.5 Ensure supply of locally suitable seeds in each agro-climatic zone

Strategy 2

Implementation of organic farming policy in a phased manner

Action

2.1 Conduct an initial assessment of the status of organic farming and farmers in the State including cultivated, certified and non-cultivated wild organic areas in the State.

2.2 Develop an action plan with an objective of converting annual crops such as grains, fruits and vegetables to organic within five years and the perennial crops with in 10 years.

2.3 Develop a clear plan of action with budgets for incorporation into the planning process of the Local Self Government Institutions for phasing in organic farming in the State.

2.4 Special thrust should be initially given to complex, diverse and risk prone areas such as rain-fed districts, drought-prone districts, food crop producing districts and tribal districts.

2.5 All agricultural practices to be launched in the tribal belts of Kerala should compulsorily be organic.

Strategy 3

Compact Area Group approach in organic farming

Action

3.1 Encourage the formation of Organic farmers groups, especially women organic farmer groups, clubs, SHG's and cooperatives for the purpose of cultivation, input production, seed/seedlings/planting materials production, certification and marketing.

3.2 Each group should be of a minimum five members (as stipulated under the Participatory Guarantee System of Certification)

3.3 Models such as Vegetable and Fruit Promotion Council of Kerala (VFPCK), Maarappanmoola Cooperative Society, Adat Cooperative Society for paddy, GALASA, Compact Area Group approach of Kannore KVK, Harithasree may be adopted.

3.4 Encourage Kudumbasree, Vanasamrakshana Samithi, Theera SVS, Grama Haritha Samithi to develop organic farming enterprises

Strategy 4

Strengthen soil and ensure water conservation measures

Action

4.1 Declare the existing sacred groves, ponds and mangroves as protected areas and ensure their conservation.

4.2 Ensure organic farming approach in all the watershed development areas and extend support including capacity building and financial assistance for soil and water conservation measures through ongoing watershed development programmes.

4.3 Integrate the various institutions presently involved in watershed management and introduce organic farming as a key component.

4.4 Adopt appropriate agronomic practices suitable to the agro-ecological conditions as well as the topographical conditions at the micro watershed level and, discourage/restrict inappropriate crops and cropping practices.

4.5 Kerala Agricultural University and other research institutions should develop suitable crop combinations and locally suitable technology, through participatory research with farmers.

4.6 Encourage landowners and part-time farmers by providing adequate financial support to utilize their lands for organic farming, if left unutilized.

4.7 Formulate legislative measures to rejuvenate and protect traditional water resources including fresh water lakes, *surangas* and ensure rain water conservation, restriction of bore wells, especially in dark zones and recharging of existing bore wells, open wells and ponds, and other conservation measures so as to improve ground water table and also conserve top soil.

4.8 Establish testing facilities for soil, water, micronutrients and microorganisms at least at the block and introduce the system of providing Soil Health Cards.

4.9 Promote bio-fencing and thus help ensure soil and water conservation and, availability of green manure and green leaf manure

4.10 Conduct training programmes for resource persons at the Local Self Government Institution level on soil and water conservation measures

4.11 Avoid use of plastics in agricultural practices. Coir and other natural fibres should be encouraged to prepare shade for nurseries and flower farming.

Strategy 5

Promote a mixed farming approach for livelihood security and ecological sustainability

Action

5.1 Make crop-livestock (including poultry) integrated farming as part of organic farming, with women centered ownership and management in the farmer households and groups. Emphasis may be given to Kerala's traditional farming approach of integrated farming of dominantly coconut with cattle and poultry.

5.2 Develop Bee-keeping, fisheries, duckeries and similar enterprises as part of the mixed farming programme.

5.3 Promote decentralized production of livestock feed from locally available resources, but excluding spurious ingredients such as growth promoters and hormones.

5.4 Document and popularise traditional knowledge related to animal health care.

5.5 Develop linkages between organic farmers and livestock growing farmers for exchange of manure for fodder.

5.6 Encourage mixed cropping of indigenous trees and medicinal plants through organic farming.

5.7 Promote proven and successful practices developed by farmers.

5.8 Tax relaxation shall be given to the land holding with maximum forest and wild trees.

Strategy 6

Conserve and improve agro-biodiversity and undomesticated biodiversity

Action

6.1 Document agro-biodiversity and related traditional knowledge and practice, both cultivated and un-cultivated, in each Panchayat.

6.2 Encouragement in the form of financial support may be given for the establishment of model agro-biodiversity conservation farms.

6.3 Develop programmes for farmers to collect, purify and multiply traditional seeds.

6.4 Encourage protection of traditional agricultural systems such as *Kaipad, Pokkali* and *Kole* and *Kuttanad* as "agricultural heritage of Kerala"

6.5 Promote indigenous rice varieties such as navara, jeerakasala and gandhakasala and also other traditional indigenous varieties of crops.

Strategy 7

Launch a state-wide intensive campaign on organic farming in the form of a popular movement: "Jaiva Keralam"

Action

7.1 Organise Organic Mela's in all districts.

7.2 Begin state-wide awareness programmes for the promotion of organic farming focusing on the advantages of organic produce and harmful effects of chemical-based farming.

7.3 Produce handouts, publications of case-studies and best practices, video films, posters and other awareness materials to reach out to all sections, especially women.

7.4 Organize workshops, seminars and exchange programmes for consumers, teachers, traders, farmers, government and semi-government officials in the related area.

7.5 Ensure the strict enforcement of the provisions of the Food Adulteration Act, 1954, and rules 1955, and bring suitable legislations to notify and enable Agriculture Officers, Veterinary Doctors and similar professionals as Inspectors under the Act and also establish quality and adulteration testing facilities at district level.

7.6 Encourage setting up of organic kitchen gardens, organic orchards in urban and rural households.

Strategy 8

Ensure availability of quality organic manure to the farmers

Action

8.1 Encourage, with adequate support, the availability of biomass in the organic farm itself, through programmes such as crop rotation, tree crops, cover crops, leguminous crops, green manure and green leaf manure.

8.2 Provide support for cow, buffalo, duck, fish, poultry and goat, preferably traditional breeds, to organic farmers/groups to ensure integrated farming and the availability of farmyard manure and urine.

8.3 Required changes in the exisiting Cattle Breeding Policy may be made to ensure availability of indigenous varities of cow and bufallow to the organic farmers.

8.4 Encourage the production of various types of compost in the farm itself, including vermi-composting and biogas slurry.

8.5 Formulate special programmes for increasing the biomass and organic manures, especially in rain-fed cultivation areas where soil depletion is high, so as to drought proof the farm.

8.6 Encourage indigenous species of earthworms and effective microorganisms in composting.

8.7 Establish a decentralized system to produce organic manure from biodegradable organic waste segregated at source.

8.8 Ensure the quality of the organic manure and establish a centralized testing laboratory to monitor the same.

8.9 Discourage burning of all organic materials in the field, which could be utilized as manure.

8.10 Under the leadership of the "Padasekhara Samithi" and other farmer groups draw the benefits of the provisions of the National Rural Employment Guarantee Programme to ensure production of green leaves and extraction of silt from the rural ponds, tanks, reservoirs, streams and rivulets for augmenting the fertility of the farm lands.

Strategy 9

Ensure farm inputs for organic farming

Action

9.1 Implement programmes for the production of seeds, seedlings and other planting materials, manure, plant protection materials at the farm with the help of agriculture department, Agricultural university, at local level.

9.2 Encourage Farmers Associations/Clubs/Cooperatives/Companies of farmers, SHG's/Youth groups at the local level to produce need based farm inputs.

9.3 Link organic municipal solid waste segregated at source, especially from markets, hostels, densely populated areas and other institutions including night soils to farms through such means as simple and cost-effective decentralised composting, biogasification and vermi-composting and thus ensure organic matter recycling. Organic waste treatment plant should be made compulsory for the flats.

9.4 Conduct training programmes for local resource persons for producing good quality input, quality testing and for such related aspects at the Local Self Government Institution level.

9.5 Formulate legislative measures to empower the Local Self Government Institutions, reputed NGO's for ensuring quality of inputs, including necessary rules, guidelines, standards, monitoring and testing procedures and establishment of laboratories.

9.6 Establish special financial assistance schemes, and/or link existing support schemes to groups to start production facilities for farm inputs.

9.7 Develop local linkages for low cost input materials to farmers and ensure markets for good quality input materials at reasonable price

9.8 Steps may be taken to formulate the organic farming packages developed by the Agricultural University in collaboration with organic farmers. Priority may be given for crops like banana, ginger, pine apple, vegetables, pepper, cardamom, paddy etc.

9.9 Prepare a database on the organic content of the soil in different zones of Kerala.

9.10 Ensure the quality of fruits and vegetables coming from other states.

Strategy 10

Capacity Building for farmers, implementing officers, agencies, and local self-government members

Action

10.1 Conduct orientation, training and exposure visit programmes.

10.2 Group of 10-20 unemployed youth in each Panchayat (50% women) in the model of kudumbasree would be designated as "Karshaka Sevakar", trained in all facets of organic farm management supported through Local Self Government Institution programmes to assist farmers in organic farming.

10.3 Develop the existing Agro-clinics of the Department of Agriculture into Organic Farming Resource Centres and the staff should be given training on organic farming.

10.4 Create awareness on organic farming practices among the agriculture officers in the Agriculture Department.

Strategy 11

Develop Model Sustainable Organic Farms in the State

Action

11.1 Every Local Self Government Institution would develop model organic farms in select farmers' fields.

11.2 Research Stations in each agro-ecological zones under the KAU and other agricultural institutions should be converted to organic management systems, and thus become a field study centre for students, farmers and peoples' representatives.

11.3 Such farming areas could be made as part of the responsible tourism programme.

Strategy 12

Ensure and improve the health and wellbeing of the tribal through special tribal agriculture programmes.

Action

12.1 Ensure adequate nutritional food availability for tribals, whose traditional agriculture has been degraded.

12.2 Develop specific programmes for the rejuvenation of their traditional agriculture and knowledge protection.

12.3 Ensure sustainable collection of minor forest produce and facilitate the fair marketing of these produce through organic outlets.

12.4 Formulate specific schemes to provide tribal children with their traditional food at least once in a day.

12.5 Develop village (*ooru*) level seed banks of their traditional crops and medicinal plants.

12.6 Integrate watershed programmes, NREG etc in the rejuvenation of tribal agriculture**.**

Strategy 13

Establish Producer Companies promoted by organic farmers

Action

13.1 Facilitate establishment of Organic Farmer Producer Companies or similar concerns as an organic farmers promoted enterprise with share investment by the organic farmers and the LSGs

Strategy 14

Establish storage and transportation facilities

Action

14.1 Establish separate and decentralized storage facilities for organic farm produce to ensure its organic integrity and help farmers in certification processes.

14.2 Provide separate local transportation facilities for organic produce to nearby domestic markets.

Strategy 15

Promote farm level processing, value addition and encourage the use of organic farm produce in food industry

Action

15.1 Encourage farm processing by farmers groups, SHGs and Farmer Producer Companies for value addition.

15.2 Ensure value addition does not compromise organic produce quality by facilitating testing and evaluation of processes with help from KAU and other research institutions.

15.3 Encourage organic food-based industry in Kerala to procure and use organic produce in their products.

15.4 Set up food industries at manageable decentralised levels in the State with special incentive packages.

Strategy 16

Develop diverse channels for marketing of organic produce

Action

16.1 Set up separate markets/facilities for organic produce certified by the PGS process through the existing channels of marketing of Agriculture products such as the Milma, Supplyco, Horti-corp, Haritha and People's Market.

16.2 Encourage direct marketing/linkages by farmers groups with end user institutions such as schools, hostels, hotels, hospitals, Ayurveda centres, SHG's making food products and food-based industries in the State.

16.3 Encourage institutions such as schools, hostels, hospitals and government institutions to procure local organic produce following rules and specific guidelines.

16.4 Disallow large private retail corporations through suitable legislations.

16.5 Encourage existing vegetable, fruits and grocery vendors to promote organic products

16.6 Facilitate the establishment of organic farm produce outlets in all the districts, with the help of Governmental and Non governmental organizations.

16.7 Ensure that the tourism industry, through the Responsible Tourism Initiative, source organic produce from local producers as much as possible for their hotels and resorts.

Strategy 17

Develop a simple certification process in the State for all organic farmers

Action

17.1 Encourage through specific scheme the implementation of an internal control system for organic farmer group.

17.2 Encourage the Participatory Guarantee System of Certification for small and marginal farmers to supply to the domestic market.

17.3 NGOs accredited by the PGS Council of India shall be authorised to help implement and monitor the PGS system in the State

17.4 The State will develop an Organic Kerala Certification and a logo and, "Jaiva Keralam" shall be developed as a brand. Since each country is following different norms, crops aimed at export may go for third party certification.

17.5 Fix local standards for quality testing and certification.

17.6 Ensure that every organic farmer who is doing organic farming for three years is given the certificate free of cost.

17.7 Include organic livestock rearing, (Animal husbandry) in the certification system

Strategy 18

Provide financial incentives for promoting organic farming

Action

18.1 Provide interest-free loans to organic farmers, especially small and marginal farmers. Credits linked to banks shall be subsidized through Central/State Governments.

18.2 Set in place production linked incentive system supports.

18.3 Promote revolving funds system.

18.4 Provide assistance during conversion period; two years for annual crops and three years for perennials.

18.5 Introduce a State led insurance scheme for small and marginal organic farmers

18.6 Introduce pension for organic farmers.

Strategy 19

Encourage the use of renewable energy sources

Action

19.1 Assistance in terms of expertise and finances should be given for use of biogas plants, solar energy and wind energy units wherever feasible to reduce dependence on external energy sources.

19.2 Develop appropriate small farm machinery for reducing energy, cost and drudgery

Strategy 20

Introduce organic farming in education institutions

Action

20.1 Introduce organic farming in educational institutions, prisons and juvenile homes, through academic inputs. A specific campaign shall be started among students to ensure that they take organically grown food.

20.2 Set up a system in all schools in Kerala to have organic vegetable and fruit gardens as well as paddy, in potential regions, as part of inculcating among the children the love for organic farming and biodiversity conservation and, perpetuation in their households. Necessary support schemes may be formulated and implemented through the Local Self Government Institutions.

20.3 Encourage schools to have seed banks and seed farms in the premises, wherever feasible, to produce and supply good quality seeds for the use in their nearby regions.

20.4 Promote children-farmer interfaces in each school, which shall include visits to organic farms.

20.5 Encourage schools to link with organic farmers for supply of rice, vegetables, fruits, pulses, milk, egg and honey as part of the noon-meal and nutritional supplement programmes. The ICDS can also be encouraged to supply organic food processed and prepared through SHG's for the Anganwadi's.

20.6 Provide suitable incentives to baby food industries that use organic inputs and processes.

20.7 Develop a curriculum for school students on organic farming.

20.8 Publicity through the Farm Information Bureau.

Strategy21

Reorient Research, Education and Extension

Action

21.1 The KAU would set up a special multi-institutional special task force to re-orient the Research, Education and Extension systems to support the Organic Farming Policy and the transition of the State's agriculture to organic farming.

21.2 The KAU shall develop package of practices and model demonstration farms for organic farming in different agro-ecological zones.

21.3 Introduce as part of the course curriculum, both at under and post graduate levels, interactions with leading organic farmers, groups and NGO's promoting organic farming in the state.

21.4 Develop participatory research programmes with organic farmers on all aspects of organic farming, ensuring a monthly remuneration for the farmers of the participatory research programme.

21.5 Research and inventories so as to recognize and document existing practices of organic farmers.

21.6 Identify and screen native livestock/fish breeds which are locally adaptable and resistant to parasites and diseases.

21.7 Develop herbal remedies for control of diseases and pests of livestock/ crops/ fish.

21.8 To institutionalise the above, an Organic Farming Research Institute (OFRI) may be set up.

Strategy 22

Phase out Chemical Pesticides and Fertilizers from the farming sector

Action

22.1 Ensure phased restriction/ban of sale and use of chemical agricultural inputs such as fertilizers, pesticides, fungicides and weedicides parallel to the implementation of the organic farming policy in the region.

22.2 Through necessary legislation stop the sale and use of the highly toxic Class-1a and 1b pesticides as a preliminary step.

22.3 Declare and maintain ecologically sensitive areas with rich biodiversity and natural resource base (e.g. water bodies), as Chemical Pesticide and Fertilizer-Free Zones.

22.4 Regulate the sale and use of pesticide through necessary legislations, enforcing a prescription based system ensuring that pesticides are sold only on a case-to-case basis after obtaining prescription from the Agriculture Officer.

22.5 Strictly prohibit the sale of pesticides to children, pregnant women and non-farmers

22.6 Generate a database on the non-agricultural use of pesticides (e.g.: household, storage, food processing, construction) and regulate its sale and use.

22.7 Review and regulate promotional activities and advertisements of pesticides as per the FAO Code of Conduct and Guidelines for Pesticide Use.

22.8 Conduct periodical analysis of water, soil, milk and crops at the district level where pesticides continue to be used and the data made public.

22.9 Precautionary measures should be taken before using exotic organisms for biocontrol programmes.

Strategy 23

Integrate the programmes and activities of various departments, local self-governments and organizations

Action

23.1 Integrate the various government departments, institutions, civil societies, and their schemes in a harmonious manner duly considering organic farming principles and local situations. These include government departments such as Agriculture, Animal Husbandry, Forest, Fisheries, Local Bodies, Finance, Revenue, Industries, Tribal, Khadi and Village Industries; Financial Institutions, State Corperation Department; institutions, such as Kerala Agriculture University, ICAR institutions in the state; Commodity Boards for Spices, Coffee, Tea, Coconut and Rubber; APEDA, MILMA and other milk marketing

societies; Farmers' Organisations and Societies, Self Help Groups; Organic Farming Associations and, NGOs promoting organic farming

Strategy 24

Organisational set-up for promotion of organic farming

Action

24.1 Set up an Organic Kerala Mission to implement the organic farming policy, strategy and action plan and ensure their success. Since the coordination of the various departments is vital for the some, a General Council to be chaired by the Honourable Chief Minister and, since the policy has to be implemented by the Agricultural Department, an Executive Committee to be chaired by the Honourable Minister for Agriculture will supervise and guide the functioning of Organic Kerala Mission.

General Council:

Honourable Chief Minister	-	Chairman
Honourable Minister for Agriculture	-	Vice Chairman
Honourable Minister for Fisheries	-	Member
Honourable Minister for Animal Husbandry	-	Member
Honourable Minister for Local Self Governance	-	Member
Honourable Minister for Finance	-	Member
Agriculture Development Commissioner	-	Member
Secretary, Agriculture Department	-	Convenor
Presidents of District Organic Farming Societies	-	14 Members
Representative of the Kerala Agricultural University	-	1 ''
Representative of the Agricultural Department	-	2 ''
Representatives of research institutions	-	3 ''
Representatives of line departments	-	6 ''
(Fisheries, Animal husbandry, Local Self Government, Finance, Forest and Directorate of Indigenous Medicine)		
Plantation Corporation - Managing Director	-	''
Spices Board – Chairman	-	''
Tea Board – Chairman	-	''
Coffee Board – Chairman	-	''

Rubber Board – Chairman	-		‘’
Coconut Development Board – Chairman	-		‘’
Kerala State Agricultural Prices Board – Chairman	-		‘’
Representatives of NGOs working in the field of agriculture (to be nominated by the Govt.)			
Kerala State Biodiversity Board – Chairman	-		‘’
Additional Director, Soil Survey, Conservation Department	-		‘’
Chief Engineer, Irrigation Department	-		‘’
Director, State Horticulture Mission	-		‘’
C.E.O., Vegetable and Fruit Promotion Council	-		‘’
Representative of the Planning Board	-	1	‘’

Executive Committee:

Hon. Minister for Agriculture	-	Chairman
Secretary, Department of Agriculture	-	Member
Secretary, Department of Animal Husbandry	-	Member
Secretary, Department of Fisheries	-	Member
Secretary, Department of Local Self Government	-	Member
Chairman, Kerala State Biodiversity Board	-	Member
Director, Department of Agriculture	-	Convenor
Representatives of Kerala Agriculture University	-	Member
Director, Animal Husbandry	-	Member
Director, Fisheries	-	Member
Director, Department of Ayurveda, Traditional Medicines	-	Member
Representative, Kerala State Planning Board	-	Member
Representative of organic farmers	-	2 Members
Representative of NGOs working in the field of organic farming	–	2 Members

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20. *Strategy 13*

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21. *Strategy 14*

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22. *Strategy 15*

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23. *Strategy 16*

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24. *Strategy 17*

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