

Sajeesh P. V. “ Economic impact of organic farming in Kerala: a micro level analysis”. Thesis. Research and Post Graduate Department of Economics, St. Thomas College (Autonomous), Thrissur, University of Calicut, 2021.

Chapter 5

Government Initiatives on Organic Farming in Kerala: Strategies and Constraints

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5.1. Introduction

It is quite natural that a change in the system of agriculture in a country of more than a billion people should be a well thought out process, which requires utmost care and caution. There may be several impediments on the way. An understanding of these problems and prospects will go a long way in decision making. The most important constraint felt in the progress of organic farming is the inability of the government policy making level to take a firm decision to promote organic agriculture unless such a clear and unambiguous direction is available in terms of both financial and technical supports, from the centre to the Panchayat levels, mere regulation making will amount to nothing .The following are found to be the major problem areas for the growth of organic farming in the Kerala.

5.2. Problems and Constraints of Organic Farmer in Kerala

Kerala government provides a action plan for promoting organic agriculture in Kerala, it improves the socio-economic condition of the organic farmers in Kerala. Organic farmers face several constraints while processing organic farms. The main problems faced by the organic farmers are

1. lack of Awareness
2. Marketing problems –Non availability of local markets
3. Shortage of Bio-Mass
4. High input cost
5. Absence of adequate agricultural polices
6. Less intervention and market support from the local government
7. Low yields
8. Inability to meet the export demand
9. Lack of quality standards to bio-manures
10. Improper accounting standard
11. Political and social factors

5.2.1. Lack of Awareness

It is a fact that many farmers in the country have only vague ideas about organic farming and its advantages as against the conventional farming methods. Use

of bio-fertilizers and bio pesticides requires awareness and willing on the part of the farming community. Knowledge about the availability and usefulness of supplementary nutrients to enrich the soil is vital to increase productivity. Farmers lack knowledge of compost making using the modern techniques and also its application. The maximum they do is making a pit and fill it with small quantities of wastes. Attention on the application of composts/organic manure is also lacking. The organic matter is spread during the months when the right moisture level is absent on the soil. The whole manure turns into wastes in the process. The required operation is of course labour intensive and costly, but it is necessary to obtain the desired result.

5.2.2. Output Marketing Problems

It is found that before the beginning of cultivation of organic crops, their marketability and that at a premium over the conventional produce has to be assured. Inability to obtain a premium price, at least during the period required to achieve the productivity levels of the conventional crop will be a setback. The main marketing problems faced by the organic farmers are lack of domestic organic markets and market pricing for organic products, branding, advertisement, and higher price to compare other farming products.

5.2.3. Shortage of Biomass

Many experts and well informed farmers are not sure whether all the nutrients with the required quantities can be made available by organic materials. Even if this problem can be surmounted. They are of the view that available organic matter is not simply enough to meet the requirements. The crop residues useful to prepare vermin-compost are removed after harvest from the farms and they are used as fodder and fuel. Even if some are left out on the farms termites etc destroy them. Experiments have shown that crop residues ploughed back into soil will increase productivity and a better alternative is conversion into compost. The small and marginal cultivators have difficulties in getting the organic manures compared to the chemical fertilizers, which can be bought easily, of course if they have the financial ability. But they have to either produce the organic manures by utilizing the bio-mass they have or they have to be collected from the locality with a minimum effort and cost. Increasing pressure

of population and the disappearance of the common lands including the wastes and government lands make the task difficult .

5.2.4. High Input Costs

The small and marginal farmers in India have been practicing a sort of organic farming in the traditional farming system. They use local or farm renewable resource and carry on the agriculture practices in an ecologically friendly environment. However, now the cost of the organic inputs is higher than those of industrially produced chemical fertilizers and pesticides including other inputs used in the conventional farming system. The groundnut cake, neem seed and cake, vermin-compost, silt, cow dung and other manures, etc. applied as organic manure are increasingly becoming costly making them unaffordable to the small cultivators. So the higher input cost is the one problem faced by the organic farmers in Kerala. The cost of organic inputs is very high in the local markets of Kerala. The chemical fertilizers are easy available in local markets. But the availability of organic manures is limited. The producers of the organic manures impose high prices to these manures. During the field discussion it is understood that shortage and cost of organic inputs are the serious constraints faced by the organic farmers in Kerala.

5.2.5. Marketing Problems of Organic Inputs

Marketing of organic inputs are other constraints faced by the organic farmers in Kerala. The chemical fertilizers very easy to available in local markets .The number of organic input stores are also very low in compare with chemical stores. The distances of organic depots are also high it causes increasing the cost of organic inputs. Bio-fertilizers and bio-pesticides are yet to become popular in the country. There is a lack of marketing and distribution network for them because the retailers are not interested to deal in these products, as the demand is low .The erratic supplies band the low level of awareness of cultivators also add to the problem. Higher margins of profit for chemical fertilizers and pesticides for retailing, heavy advertisement campaigns by the manufacturers and dealers are other major problems affecting the markets for organic inputs in Kerala.

5.2.6. Absence of an Appropriate Agriculture Policy

National self-sufficiency in food production, product and input supplies, etc. is vital issues which will have to be dealt with in an appropriate agriculture policy of Kerala. These are serious issues the solution for which hard and constant efforts along with a national consensus will be essential to go forward. Formulation of an appropriate agriculture policy taking care complexities is essential to promote organic agriculture in Kerala in a big way. The contribution of local self-governments and institutions like krishi bhavan and krishi vijana Kendra are very poor in the case of organic farming. Many strategies and policies are formulated by the government to promoting organic farming in Kerala. But the estimated progresses of these policies are not achieved. The main factor behind that the improper attention of the local self-government institution.

5.2.7. Lack of Financial Support

The developing countries like India have design a plethora of national and regional standards. In attune with those of the developed countries the adoption and maintenance of such a regulatory framework and its implementation will be costly. The cost of certification, a major component of which is the periodical inspections carried out by the certifying agencies, which have freedom to fix timings, type and number of such inspections appears- to be burden for the small and marginal farmers of course, the fees charged by the international agencies working in India before the NPOP we prohibitive and that was a reason for the weak response to agriculture even among the large farms in the Kerala. Supports for the marketing of organic products are also not forth coming neither from the state nor from the Union Governments. The financial assistance extended to the conventional farming methods are absent for the promotion of organic farming in India. During the field visit it is under stood that many of the organic farmers face the problem of financial crisis. During the conversion period the yield from the farm are low to compare with conventional land. There is no financial support from the government at this period to support organic farmers. Number of farmers expressed their fatigue that it is very difficult to survive this conversion period.

5.2.8. Low Yields

In many cases the farmers experience some losing yields on discarding synthetic inputs on conversion of their farming method from conventional to organic. Restoration of full biological activity in terms of growth of beneficial insect's populations, nitrogen fixation from legumes, pest suppression and fertility problems will take some time and the reduction in the yield rates is the result in the interregnum. It may also be possible that it will take years to make organic production possible on the farm. Small and marginal Farmers cannot take the risk of low yields for the initial to-3years on the conversion to organic farming. There are no scheme to compensate the during the gestation period. The price premiums on the organic products will not be much help as they will be dispersed one significant Quantities of organic farm product are made available. The output of organic farming is low in the initial stage of conversion and it shows an increasing slowly. The transformation period the yield is too low and the conversion period the organic farmers have less experience in applying organic manures and organic pesticides. The preparation of organic inputs is also need the expertise helps. The case studies conducted by the researcher it is understood that output creation through organic methods require adequate time and knowledge. They also advised group farming method is most important strategies for improving the quantum of output.

5.2.9. Inability to Meet the Export Demand

The lack of domestic markets, the organic farmers are compelled to produce for export market. The quality standards of organic products in the export markets are preferably high to compare the domestic markets. The farmers are very difficult to assure quality of these products. So they are failed to produce for export demand. India is known in the world organic market as a tea supplier and good potential to export Coffee, vegetables, sugar, herbs, spices and vanilla. Spite of the several initiatives to production and export organic produces from the country, the aggregate production for export came to only about 14000 tones. Trading corporation is also engaged in exporting of organic fruits, vegetable, coffee from India .The country could export almost 85percent of the production indicating that demanding not a constraint in the international markets for organic products

5.2.10. Vested interests

Hybrid seeds are designed to respond to fertilizers and chemicals. The seed, fertilizer and Pesticide industry as also the importers of these inputs to the country have stake in the conventional farming. Their opposition to organic farming stems from these interests

5.2.11. Lack of Quality Standard for Bio Manures

The need for fixing standard and quality parameters for bio-fertilizers and bio manures has risen with the increasing popularity of organic farming in the Kerala. There are a very large number of brands of organic manures, claiming the high levels of natural nutrients and essential elements. But most farmers are not aware of the pitfalls of using the commercially available bio manure products while the concept of organic farming itself lays the great stress on the manures produced on the farm and the farm and farmers, household, many of the branded products available in the market may not be really organic. Elements of chemicals slipping into the manures through faulty production methods could make the product not certifiable as organic. The process of composting which is a major activity to be carefully done is achieved usually by one of the two methods, vermin-composting or microbe composting (Tschirley, 2005)

While the former is ideal for segregated waste material without foreign matter, microbe composting is suitable for large scale management of solid wastes, especially in cities and meters. Even though the farmer is using manure produced by different methods, proper parameters for bio manure are yet to be finalized. Most farmers are still unaware of the difference between bio-manure and bio-fertilizer, it is point out while bio manure contains organic matter which improves the soil quality, and bio-fertilizers are nutritional additives separated from the organic material, which could be added to the soil, much like taking vitamin pills. Bio-fertilizers do nothing to enhance soil quality while the loss of soil quality has been the major problem faced by farmers in Kerala in these days.

5.2.12. Improper Accounting Method

An understanding of the real costs of erosion of health, the loss of welfare of both humans and other living things and the computation of these costs are necessary

to evaluate the benefits of organic farming. These costs will have to be integrated effects of in organic agriculture. An economic evaluation of the bad effects of in organic agriculture and internalization through environmental taxes is proposed for a market based approach to promote organic farming in Kerala. Basically the farmers in Kerala has a minimum awareness of keeping accounts properly this will makes difficulties in the calculation of expenditure and agricultural practice. It is a problem faced by the organic farmers in Kerala. Qualitative elements of organic farming are not considered for accounting. The environmental and ecological sustainability of organic practices are not considered. The reasons behind the actual market fluctuations are also neglected in organic accounting process.

5.2. 13. Political and Social Factors

Agriculture in Kerala is subject to political interventions with the objectives of dispensing favours for electoral benefits. Subsidies and other supports from state government is a one of the crucial determinant of the growth of organic farming in Kerala. Government controlled prices of inputs like chemical fertilizers The public sector units' dominant role in the production of fertilizers government support/floor prices of many agricultural products supply of inputs like power and water either free of cost or at a subsidized rate are the tools often used to achieve political objectives. Any movement for the promotion of organic farming in Kerala will have to counter opposition from the sections who benefit from such policies in the conventional farming system. In the absence of alternative employment opportunities and other considerations, the organized workforce particularly in the public sector fertilizer, pesticide and seeds industries is also likely to oppose moves on the part of the government to promote organic farming on large scale.

5.3. Strategies for Promoting Organic Farming in Kerala

The Government of Kerala introduces many policies and strategies in co-ordination with the agriculture department to promote organic agriculture in Kerala, (Government of Kerala Action Plan for Promoting Farming, 2007)

5.3.1. Ensure Seed Sovereignty of the Farmers and the State

Establish seed villages begin programmers 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. Begin at the farmers, group levels, seed banks and seed cooperatives to produce, store share and supply good quality seeds. Production programmers along with them KAU and other institutions of agriculture research. Develop storage facilities protection measures using traditional methods Ensure maintenance of traceability chain mandatory at the Local Self Government Institution level by the 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 Declare and ensure GM free villages and state Establish a mechanism to regulate the prices of seeds Ensure supply of locally suitable seeds in each agro-climatic zone

5.3.2. Phase out Implementation of Organic Farming Policy

Conduct an initial assessment of the status of organic farming in the state including cultivated, certified and non-cultivated wild organic areas in the state .develop a clear road map to convert 20% of the total cultivable area, focusing on potential crops and areas, to organic every year, and achieve total conversation in the five year plan. Develop a clear plan of action with budgets for incorporation into the planning process of Local Self Government Institutions for phasing in organic farming in the State. Special thrust should be initially given to complex, diverse and risk areas such as rain-fed districts and tribal districts (Kerala Government action plan,2007).

5.3.3. Compact Area Group Approach in Organic Farming

Encourage the formation of organic farmers groups, clups, self help groups and cooperatives for the purpose of cultivation, input production seed/seedlings/planting materials production, certification and marketing . Each group should be of a minimum five members as stipulated under the marketing .Each group

should be of a minimum five member as stipulated under the participatory Guarantee System of certification. Group approaches of organic farming encourage productivity of the organic farms and increase the attitude of farmers toward organic farming.

5.3.4. Soil Quality and Ensure Water Conservation Measures

Ensure organic farming approach in all watershed development areas and extend support including capacity building and financial assistance for soil and water conservation measure through ongoing watershed development programmes. The government integrates the various institutions presently involved in watershed management and introduce organic farming as a key component. Kerala Agricultural University and other research institutions should develop suitable crop combinations and locally suitable technology, through participatory research with farmers. Encourage landowners and part-time farmers to utilize their lands for organic farming, if left unutilized, failing which Local Self Government Institution should take action to ensure the same. 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 reaching of existing bore wells, open wells and ponds, and other conservation measure so as to improve ground water table and also conserve top soil. Establish testing facilities for soil, water micronutrients and microorganism at least at the block and introduce the system of providing Soil Health Cards. Promote bio-fencing and thus help ensure soil and water conservation and, availability of GREEN manure and green leaf manure. Conduct training programmes for resource persons at the Local Self Government Institution Level on soil and water conservation measures.

5.3.5. Promote Mixed Farming Approach

Make crop-livestock integrated farming as part of organic farming, with women centered ownership and management in the farmer households and groups. Develop Bee-keeping, fisheries and similar enterprises as part of the mixed farming programme. Promote decentralized production of livestock feed from locally available resources, but excluding spurious ingredients such as growth promoters and hormones. Document and popularise traditional knowledge related to animal health care. Develop linkages between organic farmers and livestock growing farmers for

exchange of manure for fodder . Encourage mixed cropping of trees and medicinal plants through organic farming.

5.3.6. Conservation and Improvement of Agro-Biodiversity

Documents related to agro-biodiversity and related traditional knowledge and practice, both cultivated and un-cultivated, in each Panchayat Encourage the establishment of model agro-biodiversity conservation farms under the supervision of kishikaryas Develop programmes for farmers to collect, Purify and multiply traditional seeds. encourage protection of traditional agricultural systems and agricultural heritage of Kerala.

5.3.7. Encourage the Use of Renewable Energy Sources

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. Develop appropriate small farm machinery for reducing energy, cost and drudgery. Organic farming methods encourage the use of renewable energy resources.

5.3.8. Organic Farming in Education Institutions

Introduce organic farming in educational institutions through academic inputs. A specific campaign shall be started among students to ensure that they take organically grown food. 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 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. Promote children-farmer interfaces in each school, which shall include visits to organic farms. 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 (Mithra, 2006). The ICDS can also be encouraged to supply organic food processed and prepared through SHG's for the Anganwadi's. Provide

suitable incentives to baby food industries that use organic inputs and processes. The discussion with agriculture officers in the selected districts it is revealed that krishibhavans take initiatives to promote organic agriculture in school level. Mid-day meal programmes are established programmes in all schools, for ensuring the quality of noon meals in the schools in participation with school students. The School authorities and representatives of local bodies are instructed organic vegetable farming in the schools level. It is the real encouragement of the students to enter in to organic farming

5.3.9. Reorient Research and Extension

Kerala Agricultural University conducted various studies in various agricultural practices. The Kerala Agricultural University 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. The Kerala Agricultural University shall develop package of practices and model demonstration farms for organic farming in different agro-ecological zones. 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. Develop participatory research programmes with organic farmers on all aspects of organic farming. Identify and screen native livestock fish breeds which are locally adaptable and resistant to parasites and diseases. Develop herbal remedies for control of diseases and pests of livestock, crops, and fish. Research in the field of organic farming will help the development in Kerala organic farming. The Discussion with agro scientists in the agricultural university, It is understood that people are more conscious about chemical health hazards but the involvement of the youth in farming practices are decline. The recent time the majority of the farming work is done by the migrated labour from other states under the supervision of land owners. It was the major reason for organic agriculture sector becomes static position.

5.3.10. Phase out Chemical Pesticides

The over consumption of chemical pesticides inversely effect to the environment and reduce the environment sustainability. To 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. Through necessary legislation stop the sale and use of the highly toxic Class-1a and 1b pesticides as a preliminary step. Declare and maintain ecologically sensitive areas with rich biodiversity and natural resource base as Chemical Pesticide and Fertilizer-Free Zones. 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. Strictly prohibit the sale of pesticides to children, pregnant women and non-farmers generate a database on the non-agricultural use of pesticides and regulate its sale and use. It is the time for driven out the chemicals from the farm land to protect our environment and human beings for future generations

5.3.11. Local-Self Government and Organic Farming

Local self-government plays important role to promote organic farming in Kerala by integrating the various government departments and schemes. The major departments are agriculture, animal husbandry, forest, fisheries local bodies, finance, revenue, industries etc. and other milk marketing societies, farmers organizations, Societies, Self-help groups and various farming associations are integrated their activities together for speedy approval and implementing organic farming.

India is growing at a rapid pace and so is the use of technology in the growing sectors of the country. A major mass of the population is still dependent and practicing agriculture as its primary source of income. India has been in a continuous tryst with its farming infra, practices and associated communities since independence. With the sector still contributing around 15-20% to the national GDP of the country over few decades, and its diverse cum changing needs across its regions, India has been driving necessary and timely interventions at Industry, Institution, and individual farmer level for its constant manifestation.

Measures or interventions to cater to the larger farming community are of utmost necessity given the diverse needs of farming in India. As one positive amendment of the existing policy or introduction of fresh clauses to benefit the growing aspirations or expectations of any farmer, may hamper farm's productivity in

the longer run. For instance, increased subsidy on chemical fertilizer purchases by the farmer groups may deteriorate the soil health in the long run which as well, worsens the cash flow a farmer may have to budget y-o-y. In this direction, introduced technology-driven aids like the soil testing centers across the country have made a considerable impact on the farmer's choice of crop, cropping pattern, level of mechanization and irrigation solutions.

5.3.12. Organizational Set-up for Promotion of Organic Farming

Set up a Three-tier system for implementation of the Organic Farming Policy, Strategy and Action Plan. Set-up and Organic Farming Authority of Kerala (OFAK) with the primary goal of promoting organic farming and facilitating an effective, smooth and time-bound transition of the State's agriculture from the conventional chemical intensive farming to the sustainable organic farming. The Authority would act as an umbrella model integrating agency for organic farming and related programmes of the various departments. It would also be an agency to liaison with national and international bodies in this matter, and would also access, generate funds, grants and support for implementation of the strategies. The Authority will consist of a General Council and Executive Committee. The better organizational set up in the field of organic farming brings the growth and development of organic farming in Kerala.

5.4. Organic Farming and Good Agricultural Practices

The state government proposed to assist organic farming, the main components of the scheme is assistance for certification, empowerment of GAP clusters promotional assistance for GAP clusters, green manuring, and model units for organic manure preparation and safe to eat food production including participatory guarantee system, certification through vegetable fruit promotion council in Kerala. Organic farming of fruits and vegetables are promoted through VFPCCK. The central Assistance sponsored scheme Paramparagat Krishi Vikas Yojana (PKVY) is also be utilized for promoting organic farming and developing organic clusters. In order to promote the organic agriculture assistance is provided to procurement of quality seeds, land preparation, and other cultivation requirements and promotion of crop production activities in tribal lands to ensure the food and nutritional security to tribal

people. The table 5.1 shows the assistance provided by the state government for promoting organic agriculture. An amount of Rs.50 lakh is providing for assistance to formation of organic clusters under proper registration and certification. An Amount of Rs.25 lakh is earmarked for Attappady tribal village programme to support traditional crops from production to marketing and Rs.6 lakh is provided for cultivation of traditional millet in idukki district.

Table 5.1
Assistance for promoting Organic Agriculture in Kerala (2019)

Sl.No	Particulars	Amount (Rs. in lakh)
1	Formation of New organic clusters	50.00
2	On farm production of bio-inputs	50.00
3	Assistance for Eco shops for marketing	25.00
4	Organic farming of fruits and vegetables through SHGs and Certification	75.00
5	Support for implementation	40.00
	Total	240.00

Source: Source: Research Institute of Organic Agriculture Statistics, 2020

The market development activities by VFPCCK will be in convergence with the similar activities carried out by the Department of Agriculture Technology dissemination, trainings and campaigns shall be organized jointly with the Department of Agriculture.

Table 5.2
Expenditure Incurred for Factors strengthening for Organic agriculture In Kerala (2019)

Schemes	Amount
Market Development	970
Market intervention support for price stabilization	2000
Share capital to Horticrop.	20
Assistance to Kerala State Ware housing Corporation for construction of Godown cum Agriculture complex	30
Assistance to Kerala State Ware Hosing corporation for Computerizaion	10
Total	3030

Source: Research Institute of Organic Agriculture Statistics, 2020

The Government of Kerala provides various schemes for promoting and strengthening organic agriculture in 2019. The weekly markets will be established with the support of local self-government. An amount of Rs.3030 lakhs were allotted for strengthening organic markets. The table 5.2 shows Rs.970 lakh is for market

development and Rs.2000 lakh for market intervention and support for price stabilisation. Support will be provided only to select existing markets having turn over Rs.2 lakh per market with in a grade markets. The table 5.3 shows the expenditure for strengthening organic markets in Kerala. Government of Kerala will be provided support to select existing markets having turnover Rs. 2 lakh per markets. An amount of Rs.150 lakh is earmarked for operational expenses of urban and rural wholesale markets and districts procurement centres and Rs.40.00 lakh for agro mark net and market intelligence. The establishment and functioning of these markets will be introduced in accordance with e-NAM guidelines to facilitate unified markets for agricultural commodities. Karshakamithra engaged for effective coordination of marketing of surplus farm produce including the use of social media for marketing of surplus farm produce including the use of social media for marketing.

Table 5.3
Expenditure for strengthening Organic agriculture markets in Kerala (2019)

Sl.No	Component	Amount(Rs. Lakh)
1	Operational expense of wholesale markets and districts procurement centers	150.00
2	Agro marknet & Market Intelligence	40.00
3	Additional support to Weekly markets	50.00
4	Market development activities of VFPCCK	500.00
5	Prices Board	80.00
6	Engaging Karshaka Mithras and training and postal based service	75.00
7	Participation in Agrifair	20.00
8	WTO cell-Operational expenses	5.00
9	Online market platform(New)	50.00
10	Share capital to Horti crop	20.00
11	Market intervention support for price stabilization	2000.00
12	Assistance to Kerala state ware housing corporation for computerisation	10.00
13	Assistance to Kerala state ware housing corporation for construction of godown cum agriculture complex	30.00
	Total	3030.00

Source: Research Institute of Organic Agriculture Statistics, 2020

An amount of Rs.75 lakh is earmarked for engaging Karshaka Mithras for participating interstate and national level agriculture fair shops, to gain more exposure to farmers and entrepreneurs for which Rs.20.00 lakh is set apart. An amount of Rs. 80.00 lakh is set apart for the functioning of Agricultural Prices Board and conducting market study by board and Rs.50.00 lakh is earmarked for developing online market platform.

The objective of the component on market intervention support for price stabilisation is to launch procurement operations through designated agencies on selected agricultural commodities during harvesting seasons with the view to guarantee remunerative prices to the growers. The outlay is meant for providing incentives to the procuring agencies based on the terms and conditions prescribed by the Government of Kerala. Out of an amount of Rs.3030.00 lakh an amount of Rs.2000.00 lakh is spent for market intervention support and Rs.20.00 lakh is set apart as share capital to horti-crop. The e-vipani portal functioning in the call centre at Small framers Agribusiness Consortium (SFAC) will continue with the activities of tapping the markets opportunities for ensuring maximum price for framers produce and linking farmers. An amount of Rs.30 lakh is set apart for Kerala state warehousing corporation of godown cum agriculture complex and an amount of Rs.10.00 lakh for computerization of Kerala state warehousing corporation.

5.5. Bio-Diversity and Promotion of Organic Farming

It is proposed to conserve the traditional and indigenous varieties available in different crops, including paddy and millets, especially in tribal habitats by providing assistance for cultivation and multiplication of seeds of these varieties by tribal, local farmers Clusters and other organizations. Provision under the scheme would be utilised for procurement and distribution of seeds of these traditional varieties for promotion of cultivation in other areas and districts. The organic farming cell at the Directorate of Agriculture will maintain a register of the indigenous varieties of all crops. An amount of Rs.25.00 lakh is earmarked for the scheme. The centrally sponsored programmes 60% of the state share on Krishi Umathi Yojana from the central government and remaining 40% share assured by the state. As part of this rationalisation of CSS, the number of schemes was reduced and new concept of umbrella schemes was introduced incorporating the schemes suitable to the state and having the flexibility to implement and design sub-schemes. The central budget will provide allocation under each umbrella scheme based on a transparent criterion. In order to facilitate scheme implementation for development of organic farming in Kerala.

5.6 Agro Service Centres and Service Delivery

Agro Service Centres (ASC) is established at block level to facilitate integration of various services. The main services provided by agro service centres are mechanization, ATMA based extension, credit support, weather advisory services, soil testing support and other technology based services to promote organic farming in Kerala. In order to provide full-fledged service to the farmers at a single point, it is necessary that the various requirements of farmers such as agricultural inputs, farms related information like credit, marketing, financing, registration are brought under a service centre. The agro service centers support transfer of technology and service delivery. The local self-government is expected to provide additional infrastructure support to the agro service centres. These centres act as technology and information disseminating centres with facilitating role in field visits. A mobile farm clinic is also established at the block level and grama panchayat level to provide solution to the field problems equipped with audio visual and online support. The agro service centres work to support all promotion activities of organic farming as well as mechanization.

Table 5.4

Expenditure for Factors Strengthening for Organic Agriculture Markets (2019)

Sl. No	Component	Amount(Rs. Lakh)
1	Establishment of new Krishi centres	250.00
2	Strengthening of existing Karshika Karma Sena	60.00
3	Strengthening existing Agro service centre/Krishisree centres based on business plan	50.00
4	Group insurance schemes to members of Karshika Karma Sena	20.00
5	Operational Expenses including wages to mobile clinic	110.00
6	Functional expenses of KSANM	200.00
7	Honorarium to data entry operators of NEGP	210.00
	Total	900.00

Source: Research Institute of Organic Agriculture Statistics, 2020

5.7. Revitalisation of Agriculture Sector in Wayanad

The agrarian economy of Wayanad district has been under distress in recent years. Wide fluctuation in prices has brought in high degree of instability in farm incomes. The State and Central Government have come out with intervention packages for the revival of the livelihood of the affected population. Wayanad district

plays the first position in production of wide varieties of organic products and export of organic products among the 14 districts.

In addition, it is informed by the organic farmer in the wayanad districts, natural calamity during south west monsoon period of 2018 and 2019 has caused huge crop loss and destruction of land. The overall production and output of the organic sector was declined in the flood. The fertility of soils is declined due to high soil erosion in the flood. The government of Kerala takes many initiatives to revitalize the organic lands in wayanad. To revive the integration on Pepper cultivation in the district is already in the declining phase due to the incidence of pests and diseases, loss of standards due to insect agrarian economy of the district, it is proposed to implement a cafeteria of focused intervention, with appropriate backward and forward attack as well as declining productivity. Integrated Pepper Development Programme promoted for which an amount of Rs. 1000.00 lakh is set apart. Assistance for planting new standards, area expansion of pepper, whole farm development, integrated management of quick wilt, pepper rehabilitation programme, establishment of nurseries, area wide integrated pest management, grafting, production of planting materials from orthotropic shoots, setting up of nurseries, micronutrient application, dolomite application to correct acidity, root development activities and other need based support are the activities supported under this component

Table 5.5
Expenditure Incurred for Revitalization of Agriculture Sector in Wayanad (2019)

Sl. No	Component	Amount (Rs.Lakh)
1	Integrated pepper and coffee Development	1000
2	Area expansion of nutmeg, ginger and turmeric	125
3	Restoration and flood mitigation	210
	Total	1335

Source: Research Institute of Organic Agriculture Statistics, 2020

A comprehensive planting material production strategy will be evolved with the support of nurseries supported in previous years. Tree spices especially nutmeg, has been severely damaged in the consecutive floods and landslides of 2018 and 2019. To revive the crop in the Wayanad district an amount of Rs.50.00 lakh is set apart under the component area expansion of nutmeg. Cultivation of other spice crops like ginger and turmeric will also be rejuvenated. This includes Rs. 20.00 lakh set apart for

rejuvenation of other spice crops like ginger and turmeric. The project implementation will be carried out in integration with the leads. Wayanad is the worst affected district in the floods and landslides of 2018 and 2019. Heavy damage has been caused to the farmer fields due to landslides. An amount of Rs.285.00 lakh is set apart for restoration and flood mitigation programmes in Wayanad district through the Department of Soil Survey & Soil Conservation. The component wise break up is shown above:

5.8. State crop Insurance Scheme

The crop insurance scheme was in operation covering 25 major crops grown in the state since 1995 was restructured in 2016-17 by bringing considerable enhancement in the crop loss compensation. The crop insurance scheme is a supportive measure to organic farmers because the agro-climatic situation of Kerala has a rapid change in modern period. So the forecasting of weather is very difficult. The farming systems and crop rotations of Kerala depend upon the various agro-climatic zones. So the crop insurance scheme is a supportive measure to organic farmers from the unexpected loss of their farms. The crop insurance fund is operated with contributions from the participating farmers by way of registration fee and premium and government contribution. In addition to the existing crops, minor fruits apiculture and floriculture will also be included under the scheme. An amount of Rs.2000.00 lakh is earmarked for the scheme during 2020.

5.9. Krishi Padasala-Approach for promoting Organic Farming

The farmers have to be made aware of the concept organic cultivation as well as updated on scientific and technologies aspects at fields at field level for profitable cultivation with the objective of imparting knowledge to farmers on these aspects an amount of 50.00 lakh is earmarked exclusively for krishi padasala approach. The main objective of this krishi padashala approach is providing adequate training and demonstrations to the organic farmers in the related fields. The Krishi padashala approach provides a gate way to trained organic farming practices. This will result in the output and confidence level of the organic farmers in Kerala. Under this scheme the farmers have a good provision to clear their doubts and time based advice for their farming practices. These training and awareness programmes proposed under the

various schemes will be coordinated and conducted by Samithi. Krishi bhavan plays an important role for promoting krishi padasala approach. With the support of Krishi bhavans, the farmers sale their organic products by arranging organic melas at ural level.

5.10. Post-Harvest Management & Value Addition Programmes

Small farmers agro business consortium is an exclusive society focused on increasing income of small and marginal farmers through aggregation and development of agro business. SFAC has pioneered the formation and growth of framers producers and organisations and farmers producers companies for promoting organic agriculture. The table 5.6 shows the expenditure incurred for post-harvest management in organic products in Kerala. The governments provide support for organic farming units to sustain in organic farming. The maximum support for the individual units will be limited to Rs.50 lakh. An amount of Rs.200.00 provided for supporting value addition units and marketing under government sector, co-operative sector, Kudumbasree units in a project based manner. Out of this amount of Rs. 50.00 lakh is earmarked for promotion of value addition in organic rice and marketing .An amount of Rs.50.00 lakh incurred for operational expenses of SFAC. Apiculture and production of honey and its value added products have immense potential in Kerala state. The support for apiculture and honey production will be continued for the benefit of honey growers and promotion of value added honey products through state horticulture mission. An amount of Rs.25.00 lakh is set apart for promoting apiculture.

Table 5.6
Expenditure Incurred for Post-Harvest Management in Kerala (2019)

Sl. No	Components	Amount (Rs.Lakh)
1	Assistance to small and medium agro processing Units	400
2	Assistance to individual or self-help groups based on value education units at micro level	300
3	Support of value addition units and marketing in Govt. Sector/PSUs/Co-operative/Kudumbasree units	200
4	Promotion of apiculture and production of honey and its value added products through FPOs	25
5	Operational support of SFAC	75
6	Assistance to Kerala Coconut Development Corporation for value added products.	100
7	Support to Agri-start up and agri-business incubators	100
8	FPO post development and maintenance	10

Source: Research Institute of Organic Agriculture Statistics, 2020

5.11. Office Automation in Agricultural Sector

This scheme aims to implement ‘e-Office’ in Agriculture Department. It envisions developing IT and communication infrastructure like Virtual Classroom Facility in various locations/offices and Mini Computer Labs at Directorate, in the Office of the Agricultural Production Commissioner, 14 Principal Agricultural Offices, Call Center, RATTCs, FTCs and other training centres for the promotion of Organic agriculture. To strengthen the IT and e-Governance initiatives, procurement of latest hardware, computing and networking devices, software, procurement for development of other IT and e-Governance infrastructure and their maintenance and high speed connectivity are essential and to be met from this scheme.

The table 5.7 shows the expenditure incurred by the Kerala government to provide infrastructure facilities in agriculture office in the entire state. An amount of Rs.250 lakh is allotted in 2020. These amounts are allotted under the preparation of E-Office (Rs.80 lakh), establishment of virtual classroom and computer training and facilitation centers (Rs.30lakh), cyber extension (Rs.10lakh), and connectivity to various offices (Rs.100 lakh). The 40% of the total allocated expenditure is used to connectivity of various offices at districts and state level. Rs.10 lakh is allotted for procurement of computers, accessories, networking and site preparation. The post-harvest management schemes mainly focused on the post-harvest methods to their outputs. Programmes related to conversion of organic inputs into final goods. The post harvesting plans are improve the conditions of local markets assuring quality and price stabilization of the organic products in the entire Kerala. This programme is help to improve the space utility, time utility of the organic products in Kerala.

Table 5.7
Expenditure incurred IT Infrastructure in Kerala (2019)

Sl. No	Components	Amount (Rs. Lakh)
1	E-office	80
2	Establishment of virtual classroom and computer training and facilitation centres.	30
3	Cyber extension	10
4	Connectivity to various offices	100
5	Procurement of computers, accessories and networking and site preparation	10
6	Development of management information system and DBT	20
	Total	250

Source: Research Institute of Organic Agriculture Statistics, 2020

5.12. Development of Flowers and Medicinal plants

Table 5.8 reflects the expenditure incurred for the development of fruits, flowers and medicinal plants, an amount of Rs. 2515.00 lakh is set apart during 2021-22. It is envisaged that 25 percent of beneficiaries of the project will be women.

Table 5.8

Expenditure incurred for Development of Fruits and Medical plantation in Kerala (2019)

Sl. No	Components	Amount (Rs. Lakh)
1	Development of Fruits	2190
2	Development of Flowers	100
3	Development of medical plants	50
4	Procurement, trading and processing of jackfruit through VFPCCK.	75
5	Subhiksha Keralam	100
	Total	2515

Source: Research Institute of Organic Agriculture Statistics, 2020

A massive programme for fruit development introduced in 2020 in the state with the objective of popularizing cultivation of fruit crops will be continued. Production and supply of planting material, area expansion programmes, management, harvesting, cold storage, processing, value addition and marketing, supply chain development and all programmes for holistic fruit promotion and enhancement of farmer's income will be supported through this scheme. Thrust will be given for promotion of exotic fruits like litchi, rambutan, avocado, mangosteen etc. in addition to indigenous fruits. Homestead and commercial cultivation of fruits promoted.

Table 5.8 shows an amount of 2190.00 lakh is earmarked for fruit development in the state, for progeny orchards, propagation, and production enhancement through area expansion, irrigation support, hardening units, popularizing fruit plants for homesteads as well as commercial cultivation giving thrust to exotic fruits. Development of indigenous fruits like banana, pineapples etc are also included in the programme. The facilities available with the Departmental Farms /nurseries shall also be utilized for development of orchards. An amount of 500.00 lakh is set apart for cold chain development in banana and other tropical fruits

5.15. Rice Development

The scheme on rice development thrusts upon promotion of paddy cultivation in the state through group farming and area expansion programmes like fallow land cultivation, single crop to double crop and upland rice cultivation concentrating on the rice growing agro ecological units with natural endowments for augmenting rice productivity. The cultivation of organic rice is very appreciable in wayand, Thrissur and Alapuzha and palakad districts. Kerala is the prime exporter of organic rice. Jeerakashala, Adatt matta, Wayanadan Organic matta these are the different varieties of organic rice available in domestic and foreign markets.

Table 5.9 shows an outlay of Rs. 11614.00 lakh is provided for rice development during 2020 an amount of Rs.300.00 lakh is earmarked for cultivation of paddy in the fallow lands under Subhiksha Keralam. Rice fallows will be brought under sustainable cultivation with the active involvement and convergence of Mahatma Gandhi National Rural Employment Guarantee Scheme The implementation will be as per the guidelines issued as part of the subhiksha Keralam programme. The project was continued in 11th Plan with an allocation of Rs. 101.00 crore where as in the 12th Plan, the project merged into the Central Sector Scheme National Mission on Sustainable Agriculture (NMSA) under program component Soil Health Management with total outlay of Rs 293 crores (out of which Rs. 57 crore meant for continuation of NCOF) for the activities of organic farming as mentioned below.

1. Promotion of organic farming in the country through technical capacity building of all stake holders including human resource development.
2. Technology dissemination & strain supply.
3. Statutory quality control of bio fertilizers and organic fertilizers under the Fertilizer Control Order (FCO, 1985).
4. Promotion of low cost Participatory guarantee system-India (PGS-India) for organic certification.

5. Promotion of production of quality organic and biological inputs by support for organic input production units under Capital Investment Back Ended Subsidy Scheme through NABARD.
6. Awareness and publicity through print and electronic media.

Table 5.9
Expenditure incurred for office Rice Development in Kerala

Sl. No	Components	Amount (Rs. Lakh)
1	Group farming	6473
2	Area expansion	155
3	Registered seed Growers programme/Seed Village	250
4	Loyalty to owners of cultivable paddy land	4000
5	Special assistance for Pokkali, Kaippad cultivation	200
6	Assistance for immediate	136
7	Operationalisation of paddy and wet land Act	50
8	Assistance for immediate repair and maintenance of damaged Bunds- de and repair silting, repair of machineries etc	50
9	Subikshakeralam	300
	Total	11614

Source: Research Institute of Organic Agriculture Statistics 2020

All farmers opined that the fundamental need is to create awareness in the society on the ill effects of modern agriculture and the positive qualities of organic agriculture. It was suggested that the government and other institutional agencies should support development of model organic plots in the different regions of the state where farmers can learn the techniques. While rapid transition to organic farming is not advisable, even phased reversion can cause temporary financial risk, which can be reduced if there is support from the authorities. Some of the farmers disagreed –their opinion is that each farm should become self-sufficient in their manure requirements. As more and more farmers turn to organic methods, it was felt that organic farming experts should guide new farmers. Marketing of the organic produce was one area that required projection. As there are at present no methods in Kerala for quality assurance, this has to be developed and the produce graded accordingly. Many of them felt that the NGO sector has a major role in propagating organic farming. It was suggested that local networks of farmers should be formed and they should be given opportunity to interact with others farmers. Environmental problems such as industrial pollution, dams, deforestation, land reclamation, etc. have to be addressed and rectified for agriculture to sustain in the state. Further, scientific

research has to be conducted into every aspect of organic farming so that it is acceptable to all. During the primary survey and regular field visit it is understood that there are many policies and programmes are

5.16. Prospects of Organic Farming in Kerala

Kerala agriculture should be able not only to maintain but also must strive to increase the production of food grains. It appears that given the availability of organic infrastructure, minimum efforts for conversion due-to the low use of chemical farming methods and the limit of the public investment, organic farming can be progressively introduced. The potential areas and crops, which fulfill the above constraints, could be explored and brought under organic agriculture. The rain fed. Tribal, north-east and hilly regions of Kerala, agriculture production in these areas is still almost on the traditional eco-friendly lines and making the farmers aware of the methods of organic farming may not be very difficult.

A strategy to prevent sudden and substantial yield losses is to convert to organic production in phases to reduce the risks during the initial years. The question of the vast requirement of organic matter to the country's farms in order to switch over to organic agriculture is also answered. Chemical fertilizer is applied only in 30 per cent of the cultivated area, which is irrigated, and the remaining land is under rainfed agriculture with almost no fertilizer application. Also the rainfed area under cultivation accounts for only 40 per cent of the food grain production of the country (Veeresh, 2003). The introduction of organic farming in these areas will allay the fears of a sudden sharp decline of food Production which many fear may drive the nation to food imports. Thus the demand for biomass for the production of organic manures can also be controlled in a phased manner. Moreover, the simple technologies with low input use have been developed for dry farming and they can be transferred to the farms for organic cultivation. The resulting increases in productivity and sustainability of production will increasingly contribute to the betterment of Ac economic condition of the dry- land farming community, which is one of the poorest in the country.

An estimate indicates that about 600 to 700 million tones of biomass are available to be converted to manure. Such conversion increases the nutrient value

from 0.3-04 to 1-2 per cent. Attempts can also be made to increase the supply of biomass by allocating a portion of the cultivated area to grow tree manure crops. These plants can be harvested to be used for making composts. Schemes can be devised to grow green manure crops in the public lands on the lines of the social forestry programmes. There are several alternatives for supply of organic soil nutrients like vermi-composts and bio fertilizers exist. Technologies have been developed to produce large quantities of these nutrients. Crop specific bio fertilizers for cereals, millets, pulses and oil seeds are also available vermi-composting and bio-fertilizer manufacturing can be undertaken to increase the supply of organic manure to meet the demand.

The basic rules and regulations for accreditation and certification of organic products are in place in Kerala. A Congenial socio-cultural environment prevails in kerala for the promotion of organic agriculture. The farmers of Kerala had been practicing eco-friendly agriculture for centuries till the advent of the 'green revolution' which was based on the conventional farming methods prevailed in the western countries. Still many small and marginal farmers, because of many reasons, have not fully adopted the conventional farming and they follow more or less the traditional environment friendly system. Organic farmers mainly use local or own farm derived renewable resources and manage self-regulated ecological and biological processes for their farming practices. As pr the discussion with organic farmers groups in the selected districts, it is revealed that many of the farmers are engaged in agro related activities. Number of farmers has cattle farming and own live stocks, these live stocks directly or indirectly provide manures for organic farming. This has become necessary to cultivate the acceptable levels of crop, livestock and human nutrition products and above all to protect both the crops and humans from pests and diseases through the use of bio-chemicals and bio fertilizers. Such a situation is suitable for making the farming community aware of the organic farming methods to make the switch over less troublesome.

Kerala can enjoy a number of benefits from the adoption of organic farming. The price premiums for the organic products are the main high light of organic farming. But the price of organic organic products are high the real benefits of these price is enjoyed by the sellers. Organic farmers only enjoy the farm price. The farm

price of organic products is low in compare with market price of these commodities. There is no adequate mechanism to support the minimum price to the organic farmers. Another important benefit of organic farming is conservation of the natural resources in terms of improved soil fertility and water quality, prevention of soil erosion, preservation of natural and agro-biodiversity are major benefits. As a result organic farming is favorably affect to the environment and its stability .organic farming methods conserve the nature for future generation without compromising the needs of present generations. Economic and social benefits like generation of rural employment, lower urban migration, improved household nutrition, local food security and reduced dependence on external inputs will be large gains in the Indian conditions. The protection of environment and the consequent increase in the quality of human life will be other contributions of organic farming. Recent period the overconsumption of chemical fertilizers leads to the negative impact on human beings and the society. On the other side organic farming methods are conservation methods to the environment and people.

There is a good demand for organic products in the domestic market, but the supply of the organic products are low which is not matched by supplies. The linkages between the two do not exist which in turn discourage production. The wholesalers/traders play a major role in the distribution of organic produces as they originate from the small farms. The wholesales and traders collect the organic outputs from the farm itself. The NGOs and registered organizations with the help of government support for exports. These will effects of the conventional-farming system are felt in Kerala in terms of the unsustainability of agricultural production, Environmental degradation, health and sanitation problems, etc. Organic agriculture is gaining momentum as an alternative method to the modem system. It appears that India is lagging far behind in the adoption, of organic farming. So far, the only achievement seems to be the laying down of the National Standards for Organic Production (NSOP) and the approval of 4 accreditation agencies (all government bodies) whose expertise is limited to a few crops.

5.17. Institutional Mechanisms and Organic Farming in Kerala

The institutional framework for sustainable agriculture development covers a spectrum of formal bodies, organizations, networks, and arrangement that are

involved in its policy making or implementation activities. An ideal institutional frame work enhances the integration of the three pillars ecological, (social and economic) of sustainable development. In order to spread the organic movement throughout the state the government of Kerala came with new policy on organic farming. The policy document promises the integration of different institutions of better implementation for the better implementation of the policy throughout the state.

The present study was aimed to study the existing organisational networks and institutional mechanisms for the promotion of organic farming in the state. Kerala is famous for its position of exports of organic products and also pioneering efforts in the organic farming movement. So it was important to find the various institutions and other organizations involved in the promotion activities of organic farming in Kerala. The following institutions were selected

1. Kerala Agricultural University
2. Organic Cell , Department of agriculture ,Kerala
3. Non- governmental organisatons (NGOs)
4. Certification agency.

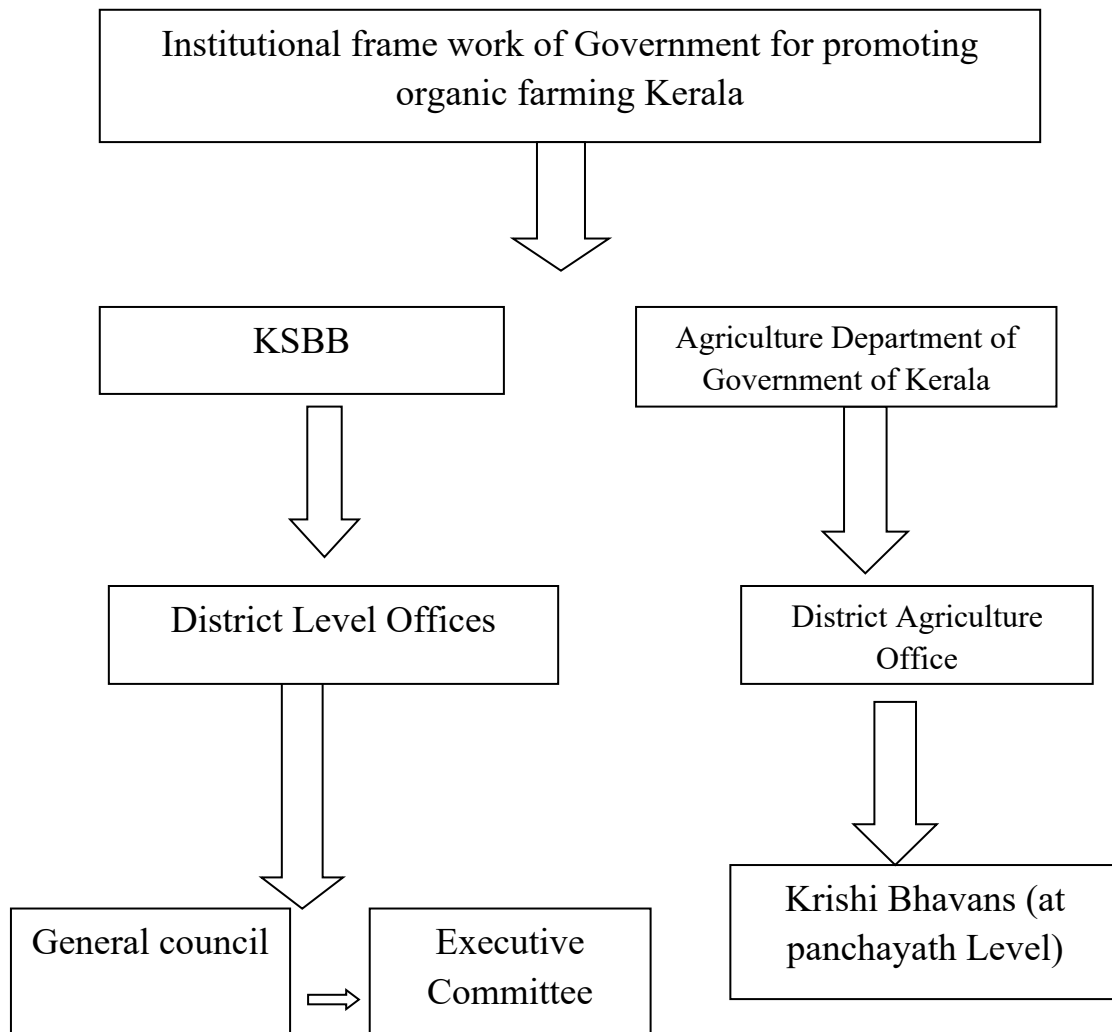
Interview with the head of these institutions revealed that many formal and informal institutions are involved in the promotion activities of organic farming in Kerala. Discussion helps to indentifying the main categories of institutional network that could make a positive impact on organic farming. The institutional network is as follows.

1. Government
2. Non- Governmental organizations
3. Certification agencies
4. Farmer's Society
5. Educational Institutions
6. Family

The state government was promoting organic agricultural practices through the implementation of new programmes and policies. The main agencies are engaged

with these activities on behalf of government are Kerala state biodiversity Board (KSBB) and the agriculture department. The primary responsibilities of these institutions are formulation of the state organic farming policy and the latter was doing the implementation.

Chart 5.1
Institutional Mechanism for promoting Organic farming in Kerala



Source: Kerala State Action Plan, 2015

Farmers' groups, one of the important components of the institutional network were also playing a crucial role in the organic farming movement. A case study presented on adat model exhibits the importance of farmers' groups for promoting organic farming. The major farmers' associations formed through the efforts of organic farmers of the state were identified from Marappanmoola of Wayanad district, Karunapuram of Idukki district and Thaloor of Alappuzha. The first two groups were mainly cultivating organic spices and beverage crops whereas the third group was concentrating on organic rice and vegetables. The majority of organic farmers are the members of the Padashekara samithi, Self Help Groups, Krishibhavans and combined efforts of other local institutions make organic farming more fruitful.

Educational institutions play an important role to make a good attitude toward organic farming among the young generations. Among the different educational institutions, schools play a fundamental role in the promotion of organic agriculture by cultivating organic vegetables for their midday meals. Krish bhavans provide all necessary support to the schools for promoting organic agriculture through providing high quality seeds, ensuring the availability of green manures, and promoting simple input development technology units like composting and vermi composting within the school compound. There is no doubt in the fact that the different institutions have a good access to each corner and play a major role in promoting organic agriculture. Among the different networks, the farmers' groups and Non-governmental organisations play the most important role in promoting organic agriculture in Kerala.