

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 7

Concept and Constraints of Organic Farmers of Selected Districts in Kerala

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7.1. Introduction

Farming policies in Kerala have traditionally not favored organic agriculture in the strong has strong potential for organic farming. The problem is that Kerala is not working with appropriate organic standards and policies like many other countries. However, the policy makers are increasingly realizing that fact and are introducing many fiscal and risk reduction strategies to promote organic farming in the country.

Organic farmers are still facing some concerns, for instance, most of the organic products market oriented programs are an arrangement between trading companies are clearly dominant which put farmers at a disadvantage. In the process, they receive only a small part of the benefits of organic production. On the quality of certification programme, in Kerala has uneven systems. Moreover domestic verification and certification systems are time consuming and expensive. To grow organic farming in good way, policy makers should provide farmer-friendly data bases that deliver market knowledge could prove very cost effective. On the other hand the country should do away with fertilizer subsidies which are acting as hindrance and limiting the scope of adoption of organic agriculture in a big way (Government of Kerala Action Plan, 2020).

In fact organic farming in India is experiencing a real boom and the country has tremendous potential to grow crops organically and emerge as a chief provides of organic products in the international market is properly planned and executed in Kerala, organic farming has a market that is demand oriented. If organic farming is properly planned and executed, it will become important foreign exchange earner and money-spinner for farmers in Kerala. Organic farming in Kerala needs minute attention to market intelligence regarding which crops to grow, where to sell, distribution channels competition market access. There is also a need to identify and assign ample number of committed service providers who will act as transfer of technology to identified farmers and connect the certification agencies with the farmers in Kerala.

It is quite natural that a change in the system of agriculture in a country of more than a billion people are faces many problems and constraints in their farming

process. The most important constraints faced in the progress of organic farming 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 ‘panchayath’ levels.

Table 7.1
Problems Faced by the Organic Farmers in Kerala

Sl. No	Problems faced by the Organic Farmers
1	Lack of Awareness
2	Output marketing Problems
3	Shortage of Bio-Mass
4	High input cost
5	Marketing problems of organic inputs
6	Absence of appropriate Agricultural Policy
7	Lack of Financial support
8	Low yields
9	Inability to meet the export demand
10	Vested interests
11	Lack of quality standards for Bio-Manures
12	Improper Accounting methods
13	Political and social factors

Source: Government of Kerala Action Plan, 2020

The problems of organic farmers in Kerala are exhibited in Table 7.1. From the table 7.1., it is clear that there are specific problems as well as universal and a mixture of both among the most of the farmers. Major problems faced by the organic farmers. In the past 10-15 years, many farmers in Kerala other than those who continued the traditional methods have taken up organic farming quite earnestly. Those who reverted from modern intensive agriculture to organic farming had to face many immediate problems. Sudden withdrawal of the external inputs led to steep fall in yield. The high yielding varieties of seeds had to be replaced by indigenous ones. The gap of 30-40 years created vacuum in the knowledge of traditional agricultural practices. The prevalence of modern agriculture in the majority of the cultivable areas makes it difficult to maintain organic purity in the soil and atmosphere.

Moreover, the organic farmers are scattered all over the state with a few pursuing it seriously. While it has been proven beyond doubt that the organically grown food is much better in quality, it remains to be established that, in terms of total productivity and economic viability, organic farming can compare with modern intensive agriculture. In the India, the arable land availability will be reduced to 0.087 hectare per-capita if the population is stabilized by 2050. The biggest challenge will, therefore, be to produce more food with less land (Jose, 2006). So when farmers are trying to produce more out of this limited resource that eventually leading to the creation of an imbalanced agro-ecosystem. In order to ensure a sustainable resource use for long run, these resources need to be protected by a number of alternative farming methods which are coming up and organic farming is one among them.

Organic farming is gaining gradual momentum across the world along with the growing awareness of health and environmental consensus that has demanded production of organic food. While trends of rising consumer demand for organic foods are becoming evident, sustainability in agricultural production has become the prime concern in agriculture development (Bhattacharyya and Chakraborty, 2005). However, the greatest impact of organic agriculture is on the mindset of people (Ramesh et al., 2005). Through the adoption of organic agriculture, farmers are challenged to take on new knowledge and perspectives, and to innovate. This leads to an increased engagement in farming which can trigger greater opportunities for rural employment and economic up-liftment and finally to the empowerment of farmers and local communities.

The organic farming concept was rooted strongly among the farmers of Kerala a few years ago after witnessing a number of negative impacts of industrialized agriculture from different parts of the state. In order to make a change in the prevailing situation most of them were looking back to the sustainable traditional models that were organic by default and trying to adopt it. Since many of these efforts tasted success through the group efforts and it is necessary to know about these movements rather individual efforts. Thus, the primary study was conducted to understand and analyze the role of group movements in Kerala in spreading the organic farming throughout the state. The primary survey was conducted in Thiruvananthapuram, Thrissur, Palakkad and Wayanad districts of Kerala state with

an objective of understand more about the Economic impact of organic farming. The case study approach was followed to get an in-depth understanding about the issues related to the objective of the study (see chapter 3 for detailed data and methodology).

7.2. Concept of Organic Farming in Kerala

The present study surveyed farmers and NGOs to understand and analyses the concept of organic farming in Kerala. Followings subsections mainly focus on the Concept of organic farming in Kerala. Subsequent sections analyses the constraints of organic farming for optimum cultivation in Kerala

7.2.1. ‘Thanal Organic Farming Society’: Urban Vegetable Growers

The people was utterly shocked while reading the news of human tragedy that had happened in the villages of Kasargod due to the indiscriminate aerial spraying of 'Endosulfan', in a government owned cashew plantation extended over an area of 4.700 acres, to wipe out the attack of tea mosquito bug. She had been totally disturbed after seeing the photographs of the victims from the regional newspapers. The pesticide tragedy was the main news in all dailies for nearly a month and continued even after. More than 500 deaths (official record) and several cases of physical deformities, mental disorders: nervous problems and pregnancy related complications were reported from 1995.

Even though helicopter spraying of the pesticide in cashew plantation was started in the late 1970s. Pronounced effects in humans were visible only from 1995 onwards. Besides these effects, water resources in the area were also seriously contaminated. ‘Usha’ was intensely reading all the related news since she was the director of an NGO called *Thanal*, a group of like-minded people working for the betterment of human as well as environmental health. The issue was close to the hearts of ‘Usha’ and her colleagues.

The evolution of the NGO called ‘Thanal’ is as follows. Usha was an agricultural graduate from Kerala Agricultural University and her keen interest to work for the society beyond the knots of government and politics had led her to the formation of Thanal, in 1986 with the support of her husband. Jayakumar in Thiruvananthapuram district of the state. *Thanal* in Malayalam means a '*shaded*

place that offers resting place to travellers on a hot sunny day and the organization was also working with the concept of providing a "*Gathering place for all living beings*".

This group of individuals under 'Thanal' had filed a case of public interest litigation against The Plantation Corporation of Kerala Ltd. in the High Court in the late 90s. Along with Thanal several other groups of people came to the forefront and after a long battle, 'Endosulfan' was banned in the state from the year 2001. In order to get a clear picture on pesticide use in the state. Thanal had done two projects under Centre for Developmental Studies (CDS), Thiruvananthapuram on Intensity of pesticide usage in Kerala in Rice, Bitter gourd and Cardamom. The results were annoying and they had found that the intensity of pesticide usage among the farmers was high compared to the statistics published by the state government. This was only. The first step of Thanal to the world of chemicals destroying our health and environment.

Thanal had resolved to take some concrete steps to ameliorate the situation. Their first attempt was the localization of chemical free food in the nearby areas of the organization. For this, Thanal had targeted a few interested housewives and retired people of the nearby place Azhukulam and they were promoted to grow chemical free vegetables in their homesteads for their family. These farmers were trained to prepare different organic inputs like compost. Panchagavya. Jeevamrita, five-leaf extract etc. in their homes as well as to identify and manage different kinds of pests and diseases.

There were people who did not have enough area for farming and they were trained to raise vegetables on terraces in pots and sacks. Thanal started to provide these landless farmers with different organic inputs on subsidized prices, Composting was another initiative of Thanal as a part of their '*Zero Waste campaign*', wherein they were using biodegradable wastes from the hotels and industries of Kovalam beach area for composting and supplying to these new organic farmers.

Over a period of time, many people of the neighbourhood also came forward to enjoy the benefits of growing and consuming pesticide/chemical free organic vegetables. As their interest grew, the production of organic vegetables also increased and resulted in surplus in each home that could be marketed to others. While looking

for a better option to market this surplus with each farmer. Thanal had ended up with a new project idea of Organic Bazar in 2003 so that they could sell these organic vegetables to the urban citizens of the district who did not have time for farming but wanted to enjoy a good healthy and safe diet.

There was no third party certification for the produce because all were producing primarily for their own requirements; both producers and consumers were living together in the same locale and sharing a mutual concern for chemical-free safe food. However, there was an internal control system through which field officers of 'Thanal' were inspecting the farmers in fields twice a week to monitor all activities as well as to provide further guidelines. The Organic Bazar was operating twice a week Wednesday and Friday in the evening time where rice and different vegetables were selling to the consumers. Through this farmers were getting more prices to their produce without any bargaining since the consumers were the demanders of quality.

The Organic Bazar with organic rice and vegetables had become a grand success among the community members since they had started the organic bazar with a small group of 20 farmers and that much of consumers and eventually that reached to a group of 300 farmers and nearly 500 consumers. This had led them to open one more monthly bazar on every second Saturday and with this, the organic bazar started to earn nearly Rs. 1,00,000 per month. The news about organic bazar was spreading to the other places of the district too through consumers and mass media channels and that was adding more and more producers as well as consumers to this chain.

The organic bazar caught the fascination of everyone in the neighbourhood and elsewhere. The Parents and Teachers Association (PTA) of the nearby Vellanad. School took the novel step of growing vegetables in pots by using organic inputs, where one pot was given to each student. There were nearly 3000 students studying in the school and they were promoted to spend their leisure time to look after their potted plants. They were cultivating almost all vegetables including carrots which were being cultivated only along the hill tracts. Gradually the students had started enjoying the bliss of growing vegetables under the supervision of their teachers.

When the news reached the office of Minister of Agriculture, with whom Thanal had a working relationship while preparing the organic farming policy of the

government: the Minister proposed Thanal to take up organic vegetable cultivation inside the Poojapura Central Jail premises. Since growing organic vegetables in the vacant lands of jail premises provides for useful employment to the jail inmates and also chemical free vegetables in their daily diet, the jail warden was also enthusiastic with this concept. Within a few years, the earnings from this venture reached up to Rs. 5, 00,000 per annum.

After seeing the result, the Minister of Agriculture had planned to expand this new idea to 500 more schools in the district and released a fund of Rs.5000 for each school for organic vegetables cultivation. On knowing the case of organic vegetables cultivation in central jail premises, officers from the DPI (Department of Public Instruction), the office next to the central jail approached Thanal officials to help them to start organic banana cultivation in an area of 4 acres near their office. The number of schools promoting vegetable cultivation using organic inputs had increased in the district.

Through this organic movement, Thanal was also planning to bring back the traditional concept of at least one cattle in every homestead, the tradition that the state had lost somewhere in the past due to the pressures of modernization. Thus, the small effort channeled by the voluntary group of Thanal slowly became a big movement and that was spreading steadily to build a healthier future generation.

1. It is really a fascinating story about the focused hard work of a group of like-minded people who had made an impact through their innovative steps to turn around the culture of a society within a short span of time. Through the promotion of organic agriculture the NGO had shown the house wives and retired employees a new way of spending leisure time effectively to learn and earning something from their own homesteads and open terraces.
2. It had been observed that even though the target group was not farmers by profession, the NGO could transform their mind set to follow a new tradition that they had been lost somewhere in the past. Eventually, the people who were part of this organic movement could develop an enthusiasm in doing something good for the society and that promoted others to join the movement and take it forward.

3. The role of Thanal was not merely that of a change agent who had introduced some changes in a small group of people, but the actual promoters of this new innovation of growing organic vegetables. In this way they had roped in the emerging generation of young students of the schools of the district.
4. Thanal group had also worked on the developing required organic inputs like compost, manures and bio-pesticides in order to help promote organic growing of vegetables. They had also quickly responded by creating market network for selling surplus vegetables to other fellow citizens of the locale. In this way, all forward and backward linkages in growing and selling organic vegetables were appropriately taken care of at appropriate time.

7.2.2. 'Adat Organic Farmer's Welfare Society' and 'Adat Model'

The 'Kole wetlands' were believed to be formerly lagoons formed due to the recession of the sea and very productive for rice cultivation. The saucer shaped wetland area was surrounded by elevated fringes of land. These fringes were more or less dry and terraced for coconut plantation. Thrissur district was famous for the 'kole land' rice cultivation since 1916 and Adat village occupies a major fraction of the 'kole land' area of the district. Even from the earlier period, the kole land rice. Cultivation in 'Adat Model' was famous not only for its high productivity without the application of fertilizers and plant protection chemicals but also for the adoption of group farming method.

The farmers of the region were grouped themselves under one 'padashekham (a contiguous set of wetlands bound by waterways or other natural features)'. All the farming practices from land preparation till harvesting were done together in the 'padasekharam'. Being a continuous of land only through group activity rice cultivation was possible in 'kole land'. The first step was dewatering the field after the cessation of heavy monsoon with Petty and Para or by using a centrifugal pump and temporary earthen bunds were made to prevent further water intrusion into the field.

In the beginning two rice crops were raised in Kole wetlands, a summer crop punja in December/January-March/April and an additional crop kadumkrishi

(August/September-December/January) and farmers could enjoy a good profit from these two crops. However, due to inadequate management practices the fertility of the land had started to deteriorate after a period of time. In order to regain the high productivity of the kole land, farmers started to depend more on chemical fertilizers and as incidence of pest and diseases increased in the two cropping seasons of the year, they had started using chemical pesticides too. The management of this stress situations with more and more application of chemical pesticides over a period of time created pest resurgence as well as the outbreak of new pests in the area. To control new pests' newer chemicals were also applied as per the recommendation of the pesticide dealers. Eventually, the kole land rice cultivation once famed for its high productivity with minimum inputs became infamous for its overuse of pesticides.

As a result of the increased amount of input use, the cost of cultivation had also escalated and the farmers decided to take one crop cultivation in a year instead of two crop cultivation in a year. Through the years of experience they had identified that taking one crop in a particular time was giving best yield compared to taking two crops per year. Thus, the kole lands became single cropped area where a winter crop 'mundakan' (September/October - January/February) was raised after the heavy rainy season.

The situation created adverse impact on the sustainability of the kole land ecosystem too. The kole land ecosystem once known as a habitat for several identified and unidentified species of plants and animals, breeding sites for several commercial important aquatic species were disturbed and eventually destroyed because of the huge dumping of pesticides. During the period 2003, Mr. Baskaran Nair the president of 'Adar-Padasekhara Committee' had decided to take an initiative to make some changes to this distressing situation. He discussed his thoughts with other members of the committee and after a series of debates about the pros and cons of the problem; finally, they had decided to call for a meeting of all member farmers. Since dumping of fertilizers and pesticides was a common phenomenon in the kole-lands to maintain the high productivity they realized that the complete transformation of farming practices in a single step was not a feasible option. Thus, they had planned for a multistep approach of step by step removal of chemicals from the farmland.

The first target of the committee was removal of plant protection chemicals slowly from the kole-land rice cultivation. Though he could convince almost all the committee members about the alteration of their ecosystem due to the dumping of chemicals it was a tedious process to get support from all the farmers as high incidence of pest and diseases became an unmanageable phenomenon. Nearly 50 per cent of the farmers were against the committee's decision to do away with the pesticides because they were afraid of the huge loss due to high pest and disease problems.

However, the committee had decided to move forward with the group of supportive farmers. 'Jyothy', a short duration variety, developed for broadcasting as well as transplanting in problem areas like Kole lands was chosen by the committee as per the advice of agricultural officer of the panchayath Krishibhavan. Farmers broadcasted the sprouted seeds after seed treatment with bio-fertilizers as per the instruction of the Padasekhara Committee. Instead of the basal dose of chemical fertilizers they had incorporated neem cake, vermicompost, bone meal etc.

To manage the two important pests, the rice stem borer and leaf roller farmers were asked to use the Tricho cards. Different kinds of cards were used for controlling the two pests. Tricho cards for the whole area were purchased by the committee members from the State Bio-control Lab in Mannuthy, Thrissur of District. Then, the Tricho card pieces were stapled on leaves of rice plant under the supervision of the committee members and the agricultural officer in each and every farmer's fields. Whereas, the farmers who were against stopping use of pesticides decided to continue with the old procedure of pesticide sprays. As these two practices may nullify the effects of their efforts, the committee members started monitoring all the farmers' fields for the entire season to forcefully prevent the farmers from spraying any pesticides.

They used Icc (20.000 eggs) Tricho cards of two kinds for 1 acre land to control the two pests. The cost was only Rs.20 for Icc card and they repeated the procedure 6 or 7 times in a crop season. In this way, farmers could save a reasonable amount since the cost of Tricho cards for one season was just Rs.250/acre instead of Rs.750/acre for one spray previously. Further, the rest of the farmers were also convinced by the good results in controlling the pests and agreed not to spray any

pesticide in the following seasons. As a result of the continued effort for a gradual shift to organic they could completely eradicate the pesticide use and by the year 2009, they had reduced the use of fertilizers to 20 per cent.

In the marketing process too, the Padasekhara Committee acted as a middleman to ensure reasonable good price for their produce. The harvested rice from each farmer's field had been given to the Padasekhara Committee for group marketing and the committee fixed the price with the buyer. Usually, the whole produce was purchased by the Civil Supplies Corporation. In that case, the list of farmers along with the weight of the produce from his field as well as the bank account number was given to the Civil Supplies Corporation so that farmers get money deposited in their bank savings account directly from the buyer. This kind of group marketing had helped farmers to get a better price to their produce. In this process the Padasekhara Committee was also getting fixed margin money from the buyer as their commission and that has been used as a common fund for the activities of the committee.

In the year 2009, there was an effort to market the whole produce as "sorted rice under the brand name 'AdatRice' by the Padasekhara Committee and that had produced a good result all the way. The Committee transported all paddy grains to a modern rice mill in Emakulam district for milling, processing and packing. But the milling costs had increased due to high transport costs. Farmers got the best price for their produce compared to previous years but could not continue due to the non-availability of a good rice mill in Thrissur itself. This constraint kept them away from continuing with these kinds of intelligent marketing techniques in the following years. However, the entire sustainable model of farming was appreciated by different scientists, researchers and officials of the agricultural department and is popularly known as Adat Model farming.

1. The case of kole land rice farming in Adat village is a really fascinating chapter while looking at the time-line of organic farming development of the state. In this case study, the key actor was Mr. Bhaskaran Nair, the farmer who loved the nature-friendly farming. Even though there were obstacles initially, his effort could really turn around the distress situation prevailed in the kole lands of Adat and transformed it from a pesticide dumping point to a pesticide

free point with the help of participating farmers of the Padasekhara Committee.

2. It had been observed that in this case study, the farmers had started to feel the need for a change to transform their surroundings to its old pride and took the innovative step. Being determined that they were. They had searched for the right information with the help of agricultural officer and succeeded in utilizing all the reliable input sources for ameliorating their Kole land ecosystem.
3. There were obvious signs of more coordination and concerted collaborative group actions among the farmers when they started to taste the success for their group efforts to save the nature through the adoption of good agricultural practices. This led them to follow collective bargaining for their produce to get a more remunerative price and they made a pioneering effort to market the produce in a new brand name of Adat Rice. Though some obstructions restricted them to continue with that kind of innovative marketing they can take the advantage of that in future with the development of sufficient inputs.

7.2.3. The Sustainable Development Model of Tribal Farmers

The 'Muduva' tribe of Kuttanad colony emigrated from Travancore and Idukki areas during the 1950's and 60's. Their main occupations were agriculture and collection of minor forest produce. Expertise in the field of agriculture was their main strength. They were practicing shifting cultivation earlier (shifting in every two years) and considering the destruction caused to the forest through shifting cultivation. Kerala Forest Department earmarked an area of 29 hectre land for settlement and for agriculture purposes. The average land holdings of farmers range from 50 cents to 5 acre (500 cents) are categorized as small and marginal category. There were 48 families with 167 members settled in the colony and are engaged in agriculture in the area provided by the forest department.

The farmers were practicing an intelligent crop rotation system with Finger millet-Red gram-Maize-Paddy and also cultivates the vegetables like tapioca, and banana. They resort to the collection of wild cardamom and also cultivate cardamom

to some extent, which contributes a rich share of their income. They were following traditional farming and not applying any inputs except wood ash, dried and green leaves available in the farm itself. Since the forest department did not allow keeping cattle the manures from animals were not available in this area. Though the land was very fertile with high organic matter content and giving a good average yield for all crops lack of scientific cultivation practices had resulted in high rate of soil erosion and loss of highly fertile top soil. The source of water to this tribal area was small streams inside the forest and they had built check dams to store the water. From the check dams water was rechanneled to the low lying areas through pipes. They were depending on the same source for irrigation to the annual crops especially vegetables grown for the household purpose. Since, the agro-ecosystem inside forest was sustainable in nature, pest and disease attack of was below economic threshold level and required no application of pesticides or insecticides.

To explore the possibilities to market organic certified produce of tribes with an additional margin an Organic Certification Project was initiated in the year 2009 that included the whole settlement area of 29 ha. The organic project was started by the initiative of Chief Executive Officer, FDA, Parambikulam-Mr. Sanjayan Kumar IFS and his subordinate Range officers Mr. Santhoshkumar.V and Mr. Harikrishnan. The project was running with an Internal Control System (ICS) managed by EDC with a joint participation of members from forest department and tribes. The ICS system was operated under the direct control of the Chief Executive Officer. FDA Parambikulam. Karimala Forest Range Officer and Pooppara EDC secretary was responsible to supervise the whole organic project implementation. The internal organic standard of the ICS will be based on India's NPOP standards and USDA NOP standards of production. To ensure soil nutrient improvement farmers were motivated to strictly adopt measures like crop biodiversity, crop rotation etc as well as measures to control soil erosion and water conservation.

To market the agricultural produce through ecoshops the prime requirement was the organic certification of the area and the certifying agency was Lacon Quality Certification (India) Pvt. Ltd. Under the project major crops were pepper, coffee, ginger, turmeric, kashurimanjal (*Curcuma aromatica*) and usual conversion requirement as per standard was 3 years from the last date of chemical application.

But, as the project area was located in the middle of dense forests and there was no chemical application history among the tribal farmers the chance of any outside contamination was zero. So after 1st year conversion period the ICS had submitted the request for reduction in conversion period.

Though all the factors to certify the area as organic were up to date and the final list of farmers along with the relevant details were sent to LACON the difficulty in the accessibility was keeping the area to be certified officially. To supervise the area of one farmer at least one whole day was not enough due to the hilly nature of the area with slippery rocks in between. However, being in the initial stage of certification. The organic farmers were allowed to sell their produce in the local market at their convenience. As and when the member farmers attain organic status, marketing facility for organic products will be arranged under the supervision of EDC. Based on requirement of the buyer the produce might be processed, packed and labeled.

1. The most significant factor in the case of this sustainable tribal agriculture was the location of the tribal settlement. As the area was isolated inside the forest there was less chances for the farmers to be a part of the development of chemical agriculture. Thus, the agriculture there moved to the category of organic by default.
2. Being inside the forest the farmers were far away from all the information sources and that had its own advantages as well as disadvantages. Because of the undulating terrain of the area the agricultural practices led to severe soil erosion and they were not aware of the protection measures. Through the organic farming project implemented by EDC they were motivated to take care of these problems.
3. The major constraint to the agriculture inside the forest was marketing. Since these tribal farmers did not have that much bargaining power middle men from outside took the advantage of that and that prevented these poor farmers from getting a better price for their produce. The intervention made by EDC was a good work to be appreciated as they can act as the middle man to get a reasonable profit to the farmers and thus they can improve their standard of living too.

7.2.4. Wayanad Organic Farming Society: Wayanad Tribal People

Wayanad, the district of Kerala state is famous for its tropical climate, lush green hills, valleys and forests and indigenous/tribal population. Historically, these indigenous communities had maintained their time-tested patterns of self-governance social institutions, agriculture and cultural heritage living in symbiotic relationship with the nature and forest. However, the district was rated as the most backward in overall development among the fourteen districts of the Kerala state.

The post independent governments of the district followed a development model of extraction of forest resources followed by intensive cultivation and plantation that soon led to depletion of natural resources and resulted in low productivity of their lands. The traditional sustainable subsistence agriculture became a matter of the past relegated to memory. The erratic trends in the global market led to wide fluctuation in the price as well as demand for cash crops. Vast forests were clear felled and food crops gave way for cash crops. Wayanad or 'vayalnadu'(in Malayalam) literally mean the home of paddy fields, transformed itself into a place rich in cash crops.

The cropping system of the homesteads also got shifted towards more towards the vegetables like Coffee, Pepper, Vanilla, Cardamom, Ginger, Turmeric and Cocoa. At present, coffee based cropping system is a notable feature of Wayanad model of cultivation. Pepper was grown mostly along with coffee in eastern parts of the district especially in Pulpally and Mullankolly areas. However, this intensively cultivated land could not sustain the production after a period of time and crisis in the agricultural sector began to take its toll. The outbreak of Quick wilt in the late 90s completely shattered the pepper cultivation, the major source of income of almost all farmers of the district and also led them to '*heavy indebtedness*'. Most of the farmers either looked up to newer means of economic progress like the tourism sector or began critically reviewing the strategy for achieving land sustainability. However, only the resourceful farmers could survive in this troubled situation and the resource-poor farmers continued to struggle to find a solution to sustain their lives. Some serious failure cases ended up with suicides and eventually farmers' suicides became a routine event in the Wayanad district.

In this context of the deterioration of survival mechanisms of vast majority of the agro-communities including the indigenous communities and the vanishing of the traditional knowledge and value systems of sustainable communities, various Non-Governmental Organizations (NGOs) of the state came forward to revitalize this worst agricultural situation prevailing in the district. Along with offering a number of solutions to protect natural resources, they had introduced the concept of organic farming too. As the district was famous for its overuse of agrochemicals to manage the existing high rate of incidence of pest and diseases, organic farming concept could catch the mind of a small group of farmers of Pulppally village.

The prime effort to make the district organically green was from this small voluntary group of farmers of the district in the beginning of this millennium year. As a result of the conversion to organic practices they could produce only less from their farmland initially: the situation again put these farmers in a dilemma. This was evident especially in black pepper, one of the major cash crops known as "black gold" in those days due to its high price. The average yield had fallen down to 1 quintal/acre from 10 quintals/acre.

In order to get a better price for their produce, they decided to proceed with organic certification of the farmlands. But, there were no authentic certifying agencies in the state during that period and finally they had put an end to their search with Bangalore based IMO Control Pvt. Ltd. However, the certification cost was high and they had paid nearly Rs.150000/- to the agency to get the land certified. Though the land was certified successfully, marketing of the produce was the next problem before this innovative group of farmers as they were not aware of how to market their produce in export market. The difficulty to find suitable markets for the produce coupled with the low yield after conversion again put them in financial crisis and the neighbouring people started to look scornfully at their failed initiative. This condition had tempted a few member farmers to show reluctance to continue any further with organic practices in their farmlands.

While searching for a better alternative to market their produce as well as to attract more farmers to organic farming they were introduced to the concept of fair trade with the help of Mr. Tomy Mathew, the Managing Director of Elements Homestead Products Pvt. Ltd., one of the major organic exporters from Kozhikode

district of Kerala. With the advice of Tomy Mathew and Fr. Joy Kochupara, a unit of Fair Trade Alliance Kerala (FTK) was started in Pulpally with a group of 60 organic farmers in the year 2006. The Fair Trade Alliance Kerala (FTK), a farmer led movement focusing solely on justice concerns in trade. This new step of the organic movement was a new ray of hope for them to go on with the challenging situation. Through this they could avoid middlemen and thus to ensure good price for their produce in the international market. That was enough to compensate the initial low yield problems in organic farming.

The certification for FTK was done by Fair Trade Labeling Organization (FLO) in 'Bonn' in Germany. Compared to the former initiative the certification cost was less with FIK since the organization bears a hand to lessen the burden on individual small farmers. The premium fund that had been coming back to the Fair Trade Alliance Kerala (FTK) account after each trade was the source for this activity. Fair Trade certification was mainly doing for perennial cash crops such as Cashew, Coffee and Spices. There were two evaluations each year in the farmer's field as a part of Internal Control System (ICS) of Fair Trade Alliance Kerala (FTK). In order to monitor the activities of FTK there was an audit in each year by the FLO officials and so all the activities had been done in a transparent way without any ambiguity.

The Fair Trade Alliance Kerala (FTK) and Elements had trading relationships with partners in Switzerland, Italy, France and the UK and offering a reasonable support price to the farmer for each crop in all crop seasons. Still, the member farmers had the freedom to sell their produce even in the domestic market in situations where the open market price is high compared to the international fair trade price. This flexibility had been attracting more and more farmers to this organic movement and the number of organic farmers under FTK had risen to nearly 600 by the year 2010. In this way the movement was spreading slowly throughout the Wayanad, the home of the different spices and beverage crops.

In addition to FTK, there were nearly sixteen non-governmental organizations of the district who were also promoting organic farming. Wayanad Social Service Society (WSS) Vanamoolika Herbals, Indian Farmers Movement (INFARM). Organic Wayanad etc. were some of the good examples in spreading the concept of organic farming in the district. As a result of the synergistic effect of all these efforts.

Total number of organic farmers in Wayanad had moved to 5762 covering an area of 3982 hectares by the year 2010. It is a persuasive story of a group of farmers who put the corner stone of a big movement that had spread evenly to all the corners of the district. Even though this small group of farmers was not led by any non-governmental organizations they succeed not only in the accomplishment of their goal but also could motivate others too, to join hands with them.

The farmers of ‘Pulpally’ had decided to adopt organic agriculture in a stage when nature started to fight back with severe outbreak of pest and diseases that had devastated their agriculture and livelihood too. However, they could take the advantage of high demand and high price for organic coffee and other spices in the international market with their own effort. The case study clearly revealed the determination a group of farmers in a struggling situation with continuous failures. Their sheer confidence to move forward, without being disturbed by any mockery till they tasted the success.

7.2.5. Concept of Organic Farming

Even though the four cases from the four districts of the state discussed as above were similar in spreading the ‘concept of organic farming’ among farmers, there were a number of differences too among them. Yet, each case had its own uniqueness with respect to the background, philosophy, group dynamics and socio-economic condition and context of evolution. However, an attempt is made here to derive a common understanding of generalizations of the cases.

The underlying philosophy of each case was found to be different though that was unintentional. In the first case, influence of ‘Fukuoka's philosophy’ was dominant and in his words a community that can't manage to produce its own food will not last long (Fukuoka, 1978) whereas in rest three cases along with this profit factor had shared the importance. There were differences in the group formation process too like in the first and third case; farmers were motivated by an external agency though the two situations were different. Whereas the second and fourth cases were farmer-led movements where farmers themselves identified the problem as well as the need for change and they came to the forefront not only to led the group but also to follow the principles first and thus to motivate others too. It was observable from the case studies

that out of the four cases only two were concentrating on food crops like rice and vegetables whereas the rest two were concentrated on economic oriented crops mainly spices and beverage crops that can earn high price in export market. While adopting organic farming, it is important to understand along with the elite group who can import even their food items our country includes a number of hungry people too.

Hungry people cannot eat that which is produced for export as the category includes spices, beverages and other non-food items that meant for earning a few more dollars. In nutshell, for a better organic development we need to go beyond farming systems as well as cash crops and start to think about localization of food systems so that the whole system can be supported. To achieve this, rural communities should be motivated to organize themselves in groups to produce for their own needs. Most of the effective organic farming innovations were generated locally through local communities. Many communities were struggling in India to find an ideal farming system that is meaningful to them. Some of them had identified that by organizing themselves: they could enhance their bargaining power and earn enough to raise their standards of living. In the spread of organic farming throughout the country the same principle had the edge and most of the efforts to shift our agriculture to organic were from the small groups of farmers. Over the last couple of decades, numerous groups as well as individual farmers had entered the organic farming sector. Some of them were concerned with ecological health of their surroundings while some were guided by a greater insight into sustainable farming. However, the success of a group could easily motivate others to take challenges organic farming movement in Kerala. The case studies have reinforced the fact that group approach to organic farming would yield encouraging results. The concept of organic farming and constraints are interrelated to some extent. The present study examined and analyses the constraints of organic farming and it is explained in the subsequent section.

7.3. Constraints to the Promotion of Organic Farming in Kerala

Ability of organic farming to restore and maintain the sustainability of the agro-eco-system and its abilities to provide safe food to the society with affordable costs of production is innumerable. The farmers met a lot of skepticism; the Kerala state announced organic farming policy in 2007 for strengthening organic farming in

Kerala. Organic farmers of the state had started experimenting with organic farming for various reasons. The increasing demand for organic products in developed countries and the extensive support for organic farming by the Indian government may be seen as the key factor the development. The new and strategic organic farmers have succeeded in exploiting the advantages of organic farming, yet some others were in the transition process of slow and steady movement.

The major constraints coming in the way of adopting organic farming as the bias towards chemical farming, appropriate use of local varieties, high cost of certification, bias in incentives lack of research and extension support poor marketing ad lack of awareness among farmers and consumers. Organic farming as unorganized markets for organically grown produce, low premium for organic produce lack of knowledge about organic farming innovations no government subsidies for organic farming. The present study gives main focus to identify various constrains faced by the organic farmers.

Table 7.2
Kruskal-Wallis Statistics for Constraints in Organic Framing

Sl. No	Particulars	Values
1	Observed Value (K)	551.542
2	Critical Value(K)	31.482
3	DF	6
4	P-Value (Two-tailed)	<0.00001
5	Alpha	0.05

Source: Computed from Primary data

The major constraints were categorized into seven groups. These constraints are identified through collecting the primary data from 200 sample organic farmers from the selected districts their response was most severe, severe, not severe and the farmers response score were converted into ranks for one way analysis of variance using a non-parametric test, It is used for comparing two or more independent samples of equal or different sample size. Constraints and its relative intensity with respect to statistical analysis are exhibited in table 7.2, 7.3, 7.4 and 7.5. The table 7.2 shows the Kruskal Wallis statistics and its level of significance for constraints in organic farming.

The observed K value of 200 farmers is perceptions towards their constraints that are 551.542. As the computed P value is less than the significant level at one

percent ($P < 0.01$) that can be predicted that the influence of the constraints to the promotion of organic farming is according to farmers perception. To identifying the major constraints multiple comparison procedure was adopted

Social Constraints

Personal Constraints

Ecological Constraints

Technological Constraints

Economic Constraints

Certification Constraints

Marketing Constraints

Based on the available information from primary survey, different constraints are coming in the way of promoting organic farming were enlisted from the selected organic farmers, agricultural officers and agricultural scientists. Twenty-eight constraints are identified and categorised into seven groups. 'Social Constraints' are those constraints which are related to society and organic farming. 'Social constraints' sub-divided into lack of group initiatives in field of organic farming, poor quality produce due to hesitation of neighbours to adopt organic farming, ongoing debate about the relevance and need of organic farming, in ability to produce organic food for all. 'Personal-constraints' are those constraints which are personally affected by the organic farmers. More specifically, it includes lack of interest to gain more information, lack of concern, fear of profit loss, declining interest due to lack of owned resources. 'Technological-constraints' are related to adoption of agriculture technology in the field of organic farming. The main 'technological-constraints' are shortage of disease free planting materials, lack of timely information, Non-availability of enough organic inputs, lack of unique packages of practices.

'Ecological-constraints' are those constraints which are related to environment sustainability and organic farming. Loss of eco system for viability to produce good crops, destroyed link of ecosystem functions, high Pest and disease problems. 'Ecological and economic constraints' and certification constraints are related to the ecological balance, economic soundness of organic farmers and constraints related to various certification problems are identified in the primary survey of the selected

districts in Kerala. The table 7.3 shows the comparison of different constraints faced by the organic farmers in promotion of organic farming in Kerala. It can be seen from the table 7.3, the mean Rank corresponding to the marketing constraints is more and hence it was the major constraint to the promotion of organic farming. Certification constraints and Economic constraints are also the main constraints with Mean ranks (915.407 and 883.86) so it can be concluded that marketing certification and economic constraints are the most severe constraints faced by the organic farmers. Technological and ecological constraints were severe constraints to compare rest of the constraints. The organic farmers in rural area belong to the less education group and their financial position is comparatively low these are the main reason to certification and economic constraints. It is indicated that social constraints are different from each other. The pair-wise comparison of the social constraints with mean of ranks is exhibited

Table 7.3
Comparison of Constraints in the Promotion of Organic Farming Based on Mean

Sl.No	Constraints	Frequency	Mean of Ranks
1	Social Constraints	200	247.702
2	Personal Constraints	200	452.473
3	Ecological Constraints	200	647.845
4	Technological constraints	200	788.452
5	Economic Constraints	200	883.868
6	Certification Constraints	200	915.407
7	Marketing Constraints	200	978.015

Source: Computed from Primary data

Among the social constraints four specific social constraints were considered that is lack of group initiative in organic farming, poor quality produces due to negative externalities, Debate about the relevance and need of organic farming, inability to produce organic food for all. The p -value is less than 0.01. The inability to produce enough organic food was the most severe constraint faced by the sample organic farmers among the four social constraints. Lack of interest to gain more information, lack of concern about organic farming, fear of profit and loss, personal interest of the organic farmers are considered as the personal constraints faced by the organic farmers, Kruskal-Wallis statistic for personal constraints P- value is less than 0.01, it shows the significant difference among the personal constraints. Out of four sub-constraints declining the personal interest due to inability to make sufficient farm

resources was the most severe personal constraint, fear of loss in farming due to low output was the another major constraint.

Table 7.4
Computed value of Kruskal-Wallis Test

Sl.No	Constraints	Observed Value (K)	Critical Value(K)	DF	P-Value	Alpha
1	Social Constraints	477.895	7.815	3	<0.0001	0.05
2	Personal Constraints	19.947	7.815	3	<0.0001	0.05
3	Ecological Constraints	110.517	7.815	3	<0.0001	0.05
4	Technological Constraints	61.538	7.815	3	<0.0001	0.05
5	Economic Constraints	298.179	7.815	3	<0.0001	0.05
6	Certification Constraints	89.648	7.815	3	<0.0001	0.05
7	Marketing Constraints	39.767	7.815	3	<0.0001	0.05

Source: Computed from Primary data

Technological constraints are sub divided in to four categories, shortage of quality planting material (disease free), Lack of information, Non availability of organic inputs, Lack of unique package practices. Organic farming materials re locale-specific and mainly use the locally available materials.

Table 7.5
Comparison of Different Economic Constraints with Mean Ranks

Economic Constraints	Mean rank
Initial low price for products	276.345
High input cost	350.224
Lack of Government support	358.437
Initial yield losses	620.000

Source: Computed from Primary data

It is difficult to follow a unique method of organic production for all crops because agro climatic zone and fertility of the soil is different from one farm to another, the Technological intervention in the field of organic farming may improve the status of organic farming in Kerala. Technological backup is the real impediment in the progress of organic farming movement. Loss of eco system, inability to reconstruct link of eco system, High pests and disease problems, Time lag to obtain positive response. The main ecological constraints faced by the organic farmers are requirement of long period to get positive response from the agro system was the most severe ecological constraint. The main economic constraints are initial low price for the produce, high input cost, lack of government financial support and initial yield of losses. It can concluded that the single most economic constraint faced by the organic

farmers to promote organic farming was initial yield losses in the first few years from the period of conversion to conventional farmland to organic farm land. The table 7.6 shows that in the analysis of different factors related to certification constraints was associated with higher cost of organic certification process with mean rank (479.187) and the duration for certification process with men rank (457.625) these two constraints are the major certification constraints faced by the sample farmers.

Table 7.6

Comparison of Different Certification Constraints with Mean Ranks

Certification Constraints	Mean rank
Standards for the certification process	304.437
Lack of certifying agencies in near places	363.75
Long Period certification process	457.625
Higher cost of organic Certification	479.187

Source: Computed from Primary data

The dimension of grading and certification constraints is on par with that of lack of awareness about the grades for the agricultural products and inaccessibility to reliable distribution channels market information. So here it can be concluded that in general the small organic farmers were observed to be ignorant on the market and consumer preferences and quality standards and so usually fail to produce high quality produce required for the market.

Table 7.7

Comparison of Different Grading and Marketing Constraints

Certification Constraints	Mean rank
Selection & development of target markets	326.485
Lack of market information	315.735
Lack of awareness about grading	424.595
Inability produce high grade products with limited resources	448.187

Source: Computed from Primary data

The result of analysis for different constraints coming in the way of organic movement it was understood that all the enlisted constraints were important in promotion of organic farming. However, those related to the economic and marketing aspects plays a major role in creating obstacles to promotion of organic farming. The consumption of organic goods is a costly option for ordinary people, a huge population Kerala belongs to this group. They are forced to consume similar goods

produced through the conventional methods. It has a direct impact on the development of sufficient organic markets for organic produce. In the present context of lack of adequate domestic markets organic farmers are forced to produce for international organic markets. In international market demand for organic products and price were high but the standard are also high to compare domestic markets. For competing international markets grading of the organic products are the prime factors.

The organic farmers are still facing a dilemma because of the inability to meet a high quantity of organic manures to match the nutritional requirements of crops to produce in global markets. The economic constraints are mainly focused to the small and marginal organic farmers. The proper intervention of the government and providing subsidies to the farms and farmers to encourage organic farming. New organic farmers show a good and positive attitude towards the organic farming, organic farmers express their genuine interest for environment sustainability, but initial yield loss was the dampener for their attitude. At the outset the initial yield loss along with the lack of grading and marketing opportunities and certification procedure was the major constraint faced by the sample organic farmers.