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ORGANIC FARMING IN SPICES: THE CASE OF WAYANAD DISTRICT OF KERALA

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ABSTRACT

This study was conceived and attempted in the context of growing importance of organic farming all over the world, including India, during the last 15 years. Focus of the study was on Wayanad district of Kerala as it had proportionately large number of farmers cultivating spices and plantation crops. Organic farming was considered as a system and the one developed and coordinated by the Wayanad Social Service Society (WSSS) was taken for detailed study. Started as a programme in late 1990s, with a small group of around 150 farmers, it had grown with more than 10,000 participant farmers organized into around 400 local farmers groups, covering more than 10000 hectares of land under different stages of conversion. Internationally accepted certification, quality and reputation of the products, and support of government agencies helped export of spices at premium prices. Following three recommendations are made based on the findings of the study:

- (1) Formation and strengthening of groups of farmers should precede introduction of organic farming. Conversion should be the result of the collective learning, capacities and desire for change of the groups. (*Action: Support formation and strengthening of groups of farmers first; and help the groups to initiate and continue the conversion process*).
- (2) Introduction and continued practice of organic farming had defined stages and sets of activities over a period of time. A well defined and functioning system, along with a collective body of farmers and a coordinating/supporting institution are required to support the producers to pass through the stages and complete activities. (*Action: Develop and establish a proper system to consistently to support the farmers in introducing and continuing organic farming*).
- (3) Organic farming in mixed farming, followed mainly by the small and medium farmers, should be supported as it contributed to produce organic spices and food crops, and thereby meeting the objectives of safe food production and increased incomes from sale of spices. (*Action: Values of farmers on safe food and concerns on environment/ecology should be supported as it would directly contribute to production of safe spices in the mixed farming plots of Kerala*).

Key words: Organic farming; Farming system; farmer groups; collective sharing, certification and standard procedures

I. Introduction

This study was conceived and attempted in the context of growing importance of organic farming all over the world, including India, during the last 15 years. Both organic farming area and number of farmers/producers practicing organic farming methods increased substantially. Area increased from 11.0 to 43.7 million hectares and number of producers increased from 0.2 million to 2.3 million during 1999-2014. Still shares of area with organic farming in total agriculture land of Africa and Asia were only 0.1% and 0.3% respectively in 2014, compared to 2.4%, 1.1% and 4.8% for Europe, Latin America and Oceania, whereas more than two-thirds of the total organic producers were from Africa and Asia. In Africa and Asia organic farming is mainly in small holdings, with the average size of 2.13 and 3.96 hectares respectively, compared to the global average of 19.32 hectares and 34.21, 17.53, 185.02, 1431.48 hectares respectively for Europe, Latin America, North America and Oceania in 2014.

India had the largest number of organic producers in 2013/14, numbering 0.65 million (representing 29%) of the world total of 2.2 million. Area of organic agricultural land also showed significant increase during 2005-14, from 0.19 to 0.72 million hectares, forming about 0.4% of total agricultural land of the country. In other words, 99.6% of agricultural land in India practiced non-organic farming in 2014. Even though 29% of the organic producers of the World were in India, its share in area with organic farming was only 1.6%, as the average size of holding of organic land was only 1.11 hectares (compared to average size of holdings for Asia, Africa, and the world noted above). Because of the limited scope of this study, interesting questions relating to the above changes in organic farming in the world and India are not addressed in this study.

The study tried mainly to understand organic farming as a system. As a result, focus was the actors and processes, in a specific area and over a specific period. Wayanad district was selected for the study as it had proportionately large number of farmers cultivating spices and plantation crops. Period selected for the study was 2000-2015 in conformity with the changes in organic farming noted above. There were many farmers and agencies adopting different types of organic farming methods in Wayanad during the period. Attempts of most of them did, however, not develop into large and identifiable systems. But organic farming system started, supported and coordinated by the Wayanad Social Service Society (WSSS) was the major one in terms of number

of organized producers, area/locations covered, types and quantities of commodities, defined processes, procedures and related activities, and duration. Therefore the study focused on the system of WSSS.

In the following section the research questions of the study and methodology adopted are presented, with a brief review of literature relating primarily to organic farming in Kerala. The concept of organic farming and spread of the practices at the global, national and Kerala levels are briefly presented in section III. Spread of organic farming, particularly of spices, in Wayanad (taking the system of WSSS as the case) and the contributing factors are presented and discussed in section IV. Sustainability of the system is addressed looking at the key lessons, challenges and opportunities in section V. Lessons drawn from the study are used to suggest changes in policies and approaches in promoting organic farming in spices in Section VI.

Scope of the study was limited in terms of resources available. It was challenging to study organic farming practices in Kerala due to many reasons, ranging from absence of commonly accepted concept/definition of organic farming, processes, standards of procedures, defined systems and information on many important aspects and presence of categories of 'organic' producers and supporting agencies following different processes and procedures and everyone defending themselves. The system followed by WSSS was taken for the study as it addressed many of the above limitations. However, many valid/valuable information were still missing. Detailed data collection to fill the gaps were not attempted due to limitation of the study. As such the study may be considered incomplete and there is need for a more detailed and in-depth analysis in future. Even with these limitations, the study could bring out certain findings which are important enough to make suitable changes in policies and approaches of the government agencies in promoting and sustaining organic farming in Kerala and India

II. Research questions, methodology & review of literature

In this section, the research questions and methodology adopted are presented, with a brief review of literature mainly focusing on organic farming practices in Kerala.

II.1. Research questions

The study tried to find answers to the following questions, considering that the focus was on studying organic farming as a system:

- (a) Who were the main Actors in the Organic Farming System of WSSS and what were their roles and contributions in introducing, spreading and continuing organic farming, particularly in spices and plantation crops?
- (b) What are the main factors contributed to adoption and spread of organic practices by farmers of Wayanad, during the period 2000-12, focusing on the Organic Farming Programme of WSSS?
- (c) What are the key lessons, challenges and opportunities for sustaining the Programme?
- (d) Based on the key lessons of the Programme, what specific changes in approaches, policies and programmes of the government agencies are required to spread organic farming, particularly in spices?

The study did not try to find answers to the following important questions: (a) How profitable was organic farming compared to conventional methods? (b) How costs and benefits of organic farming varied across crops and size of holdings? (c) Was organic farming economically viable for the small farmers? If not why they continued? What strategies did they adopt to overcome any economic loss? Reasons for not addressing these questions were the following: (i) Scope of the study was limited; (ii) Organic farming was considered as a system with defined processes and actors; and (iii) there was no study of organic farming as a system in Kerala; and (iv) more importantly, any desirable changes in policies, approaches and strategies for promoting and sustaining organic farming are possible only if we understand it as a system involved many actors and defined processes.

II.2. Methodology

Methods used by the Study for finding answers to the above four research questions are presented below. Main sources of primary information were the farmers, the local farmers groups (LFGs) WSSS, and Krishi Bhavans.

(a) Selected Organic Farmers:

Twenty five member-farmers belonging to different size groups, organic farming certification stages (experience), growing different crops, and locations of Wayanad were selected as samples. Used the following techniques to collect information from them:

- ❖ Field visit for direct observation/verification of farming practices;
- ❖ Semi-structured interview with the farmer and, wherever possible, with other members of the household; and
- ❖ Verification of farm records kept by the farmers

(b) Local Farmers Groups (LFGs):

Five LFGs in different locations of Wayanad, involved in the organic farming programme of WSSS, were selected for data collection, and used the following methods:

- ❖ Focus Group Discussions (FGD) with the office bearers and team members of the Group; and
- ❖ Verification of group records.

(c) WSSS:

Information collected from the Programme Team of the organic farming Programme working at WSSS using focus group discussions and semi-structured interviews. Also verified secondary materials - periodic reports on different matters – membership of farmers, collaboration with (and support from) government and other agencies, performance of LFGs, production/procurement and supply of organic inputs, certification process – area conversion to organic practices, and production, procurement and marketing of organic products.

(d) Five selected Krishi Bhavans of Wayanad:

Selected Krishi Bhavans shared the nature and extent of collaboration with WSSS. Semi-structured interviews were conducted with the available staff members of the Krishi Bhavans.

Answers to the questions of sustainability and desired changes in policies and programs were also found by analyzing the information collected from the above four categories/sources. Scope and resources available for the study prevented interactions with other stakeholders and using other methods.

Information collected and used for the study was of quantitative and qualitative nature. Most farmers reported important qualitative factors in organic farming, reflecting their attitudes, beliefs, approaches and relations. Standardization of quantitative information from the farmers, LFGs and WSSS was not difficult, as there were defined, common and related formats and procedures were used by them; whereas it was difficult to standardize qualitative information. The study collected, analyzed and presented the findings from both types of information.

II.3. Review of Literature

The study used the published data of the International Federation for Organic Agricultural Movements (IFOAM), the leading and widely known organization involved in promoting organic farming across the world. IFOAM published data on most aspects of organic farming in the world – covering area, crops, production, number of farmers, etc. There are also country and crop specific studies. Information relevant for the study was examined and presented in the following section.

Study on the status of organic farming in Kerala was by Balachandran V (*“Future in the Past: A study on the status of organic farming in Kerala” Discussion Paper No. 82 Kerala Research Programme on Local Level Development Centre for Development Studies Thiruvananthapuram 2004*) provided a good summary of the concept of organic farming, and spreading of the practice in the world, India and Kerala. The study aimed to (a) form an inventory of organic farmers and their different practices; (b) document/analyse the character of organic farm and farming of selected farmers; (c) assess economic viability of selected organic farms; and (d) make suitable recommendations to the State for changes in policies and programmes on sustainable agriculture. The study focused on around 150 selected individual organic farmers, scattered in different locations of Kerala. However, the study did not consider organic farming as a system consisting of different actors, particularly groups of farmers learning and acting together, and their corresponding roles and relations with others.

Kerala State Organic Farming Policy, Strategy and Action Plan, Government of Kerala (2008) – one of the most widely known and used basic document of the Government on Organic Farming in Kerala - proposed 24 “strategies” with related statement of activities. (http://foodprocessingindia.co.in/state_pdf/Kerala/Kerala-Organic-Farming-Policy_2008.PDF).

Most of the proposed “strategies” looked like “objectives” stating what to achieve and not how to achieve, even though the proposed activities reflected the strategies in many cases. The processes - connecting the declared “objectives”, proposed “strategies” and corresponding “activities”, in a coherent and complementary manner - was not clear in the document.

Directorate of Research of Kerala Agricultural University, Thrissur published an “*Adhoc Package of Practices: Recommendations for Organic Farming*” in 2009. It contains the organic practices to be followed for selected of crops – food crops, rice, spices, plantation crops etc. It is technical in nature, focusing on, and useful to, individual farmers, and does not guide farmers on how to come together as a group, share, reflect, learn, plan and act. (http://www.keralaagriculture.gov.in/pdf/package_2015.pdf). It considers organic farming as a set of prescribed/desired activities and not as a system involving different actors and spheres.

Brief descriptions, with contacts and summary of activities of around 80 individuals and 15 institutions (including WSSS) practicing and promoting organic farming in Kerala are given in the following document: *Organic Farmers and Farms in Kerala* (www.ofai.org/wp-content/uploads/2011/04/Organic-Farmers-and-Farms-of-Kerala.pdf). The summarized information reflects the differences in understanding, practices and experiences of these farmers and institutions in organic farming. Irrespective of the differences in understanding and practice, organic farming remained mostly in the hands, and farms, of individual farmers in many parts of Kerala. Literature relating to their practices was mostly information brochures used for marketing their products.

III. Concept and spread of organic farming

III.1. Concept of Organic Farming

There are many definitions of organic farming, developed over time, given by many experts/organizations. These explanations are available in many documents on organic farming and therefore not reproduced and referred here. The study adopted the following definition given by the International Federation of Organic Agricultural Movements (IFOAM) as it was found most comprehensive and relating closely to the system of WSSS.

"Organic Agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic Agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved."

According to the above definition organic agriculture is based on four principles relating to Health, Ecology, Fairness, and Care. These principles were in response to the emerging concerns on diseases caused by indiscriminate use of chemicals in farming, damage to the ecological balance, unequal relationships between the producers and others in use and management of resources and sharing of incomes, and damages and loss of living organisms. The principles can be directly converted into objectives of organic agriculture, planning to achieve the desired results by effectively addressing the identified problems. The principles and the related elements are briefly presented below.

Principle of Health

Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible.

Principle of health comprises the following elements: (a) sustainability of eco-systems and living organisms; (b) promotion of preventive health and well being by production/consumption of high quality and nutritious food; and (c) avoiding use of harmful materials at all stages. Organic agriculture should aim to sustain the health of ecosystems and all organisms. Production is focused on high quality, nutritious food contributing to preventive health care and wellbeing. Thus it should stop using chemicals which are harmful.

Principle of Ecology

Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.

Key elements of the principle of ecology include: (a) ecological systems; (b) ecological processes and recycle; (c) specific operations; (d) site specific operations; (e) ecological balances; (f)

adaptation to local conditions, ecology and scale; (g) efficient management of materials and energy; (h) genetic and agricultural diversity; and (i) protection of common environment including landscapes, habitats, biodiversity, air and water.

Principle of Fairness

Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities.

Main elements of the principle of Fairness include: (a) equity, respect, justice and stewardship among people and their relations with other living beings; (b) fairness at all levels and to all parties – farmers, workers, processors, distributors, traders and consumers; (c) food sovereignty; (d) reduction of poverty; (e) quality of life; (f) socially and ecologically just; (g) holding Trust for future generations; (h) systems of production, distribution and trade – open and equitable; and (i) account for real environmental and social costs.

Principle of Care

Organic Agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

Elements of the principle care include: (a) organic agriculture as a dynamic, living and responsive system; (b) balance of increasing production with sustainability of health of soils, eco-systems and people; (c) adoption of ecological processes, bio-diversity and cycles adapted to local conditions; (d) adoption of appropriate technologies and rejecting unpredictable ones; (e) combination of tradition, innovation and science; (f) continuous review, learning and required changes; (g) respect for the values and needs of all stakeholders; (h) promotion of fair relationships; (i) concern for future generations; (j) promotion of participatory and transparent processes; and (k) promotion of health and well-being of quality of life.

The above definition, principles and elements consider organic farming as a system, with defined principles, processes and conditions for adopting and sustaining it. Organic farming is therefore more than rejection of use of chemicals and pesticides and use of non-chemical materials and traditional methods of farming. Adoption and sustainability of the practice require essentially: (a)

clear understanding of the concept, principles and related elements; (b) willingness and capacity to initiate the most appropriate processes, review and learn from outcomes; and change the processes if/when required (without ignoring the principles); and (c) practicing the principles at all stages, from production to consumption.

Given the complexity of the processes and type and number of stakeholders involved, producers interested in organic agriculture, especially the small farmers, cannot be expected to adopt and sustain organic farming on their own in an isolated manner. First and foremost they need support of their fellow farmers who are closer to them, at all stages. They need to establish constructive and fair relations with all other key actors of the chain from production to consumption. Small producers require the support of agencies to reach out to the consumers located away at different parts of the world. Considering the above challenges in adopting and sustaining organic farming practices, it would be interesting look at the spread of the practice at the global, Indian and Kerala levels, during the last 15 years.

III.2. Spread of Organic Farming

III.2.1. Global Level

Area and number of farmers with organic agriculture have increased substantially in the world during the last 15 years. Area under organic agriculture increased by four times from 11.0 million hectares to 43.7 million hectares and the number of producers increased by ten times from 0.2 million to 2.3 million during the period 1999-2014 (Table 1 below). Greater increase in the number of farmers, compared to increase in area, is a clear indication of adoption of organic farming by more small farmers. Average area owned by an organic producer declined from 55 hectares in 1999 to 19 hectares in 2014. This would also mean that conditions require for adoption and continuity of organic farming are becoming increasingly favorable to the small producers.

Table 1: Organic Agriculture Land and Number of Producers in the World – 1999-2014

Year	Organic Agricultural Land (million hectares)	No. of Producers (Million)
1999	11.0	0.2
2000	14.9	0.3
2001	17.2	0.4
2002	19.8	0.4
2003	25.7	0.4
2004	29.8	0.5
2005	29.0	0.7
2006	30.1	0.9
2007	31.5	1.2
2008	34.4	1.4
2009	36.3	1.8
2010	36.0	1.6
2011	37.4	1.8
2012	37.5	1.9
2013	43.1	2.0
2014	43.7	2.3

Source: FiBL-IFOAM-SOEL-Surveys 1999-2015

Organic Agriculture Worldwide: Key results from the FiBL-IFOAM survey on organic agriculture worldwide 2015 & Julia Lernoud and Helga Willer Research Institute of Organic Agriculture (FiBL), Frick, Switzerland © FiBL 2015

However, only one percent of the agricultural land in the World was covered with organic farming in 2014, even with the steady and significant increase in area during the period (Table 2 below). There was also wide variation in terms of share of organic agricultural land in total agricultural land across different regions, with Africa and Asia having only 0.1% and 0.3% respectively compared to 2.4% in Europe and 4.1% in Oceania. Given the very small share of area of organic agriculture in the World, there is great potential for increasing the area, especially in Africa and Asia. .

Table 2: Organic Agricultural Land and Share of Total Agricultural Land, and average size of area per producer, in different Regions of the World in 2014

<i>Region</i>	<i>Organic Agriculture Land (incl. in conversion areas) - hectares</i>	<i>Share of total agricultural land (%)</i>	<i>No. of Organic Producers In 2014</i>	<i>Average size of area per producer (hectares)</i>
Africa	1,263,105	0.1	593,050	2.13
Asia	3,567,474	0.3	901,528	3.96
Europe	11,625,001	2.4	339,824	34.21
Latin America	6,785,796	1.1	387,184	17.53
North America	3,082,419	0.8	16,660	185.02
Oceania	17,342,416	4.1	12,115	1431.48
Total	43,662,446	1.0	2,260,361	19.32

(Data of 59% countries) *Source: FiBLE Survey 2014*

THE WORLD OF ORGANIC AGRICULTURE; STATISTICS AND EMERGING TRENDS, 2016 (Tables 3, 4 & 5) (<http://www.organic-world.net/yearbook/yearbook-2016.html>); PDF Version ISBN FiBL978-3-03736-307-2 – ISBN IFOAM 978-3-944372-15-0

Average size of holdings of organic agricultural land also varied across different regions of the World; with 1431.48, 2.13 and 3.96 hectares respectively in Oceania, Africa and Asia. Capacities, skills, management systems, practices, techniques, crops grown, opportunities and constraints of the small producers of Africa and Asia may be quite different to those of the large producers of Oceania and other parts of the World. Scope of this study excludes any detailed analysis of these aspects.

Table 3: Area under Selected Organic Crops in the World – 2005-2013

<i>Year</i>	<i>Area (Million Hectares)</i>				
	<i>Cereals</i>	<i>Cocoa</i>	<i>Oilseeds</i>	<i>Coffee</i>	<i>Total Organic Area</i>
2005	1.43	0.07	0.15	0.31	29.0 (100)
2007	1.87	0.15	0.25	0.54	31.5 (100)
2009	2.42	0.21	0.45	0.55	36.3 (100)
2011	2.51	0.23	0.82	0.63	37.4 (100)
2013	3.31	0.23	0.80	0.73	43.1 (100)

Source: FiBL-IFOAM-SOEL 2006-2015, Organic Agriculture Worldwide: Current Statistics; Helga Willer and Julia Lernoud, Research Institute of Organic Agriculture (FiBL), Frick, Switzerland; BIOFACH 2015, 11.2.20

Area under cereals, cocoa, oilseeds and coffee accounted for only a fraction of the total area forming around 7% in 2005 and it increased to around 12% in 2013. The factors contributing to increased production of selected organic crops need to be analyzed in detail. Only a detailed analysis across countries and crops, over a period of time will show whether the increases are due to pull factors (of the market) or due to push factors (forcing the producers to change).

It is important and interesting to find answers to these questions: Why more and more small producers of Asia and Africa adopt organic farming? How different and efficient are their practices compared to the large farmers of developed countries? What are their products – food crops, oil seeds, spices? For whom they produce – own consumption or export? If for export, how they compete with the large farmers at the global level?

III.2.2. Organic Farming in India

India had the largest number of organic producers in 2013/14, numbering 0.65 million (representing 29%) out of the world total of 2.2 million. However, in terms of area the share of India is only 1.6% (0.72 million hectares out of the total 44 million hectares) because the average size of organic land was one of the smallest in the world (1.11 hectares compared to the world average of 28.52 hectares). In terms of share of organic agriculture land in total agricultural land of India is at the bottom among the top 10 countries; only 0.4% of the total agricultural land is organic in India compared to the world total of 1%. In other words, 99.6% of agricultural land in India practices non-organic farming in 2013/14.

Table 4: Top Ten Countries in terms of Number of Organic Producers – 2013/2014

<i>Rank</i>	<i>Country</i>	<i>No. of organic producers</i>	<i>Organic Agriculture Land (Hectares)</i>	<i>Average size of organic land/producer (hectares)</i>	<i>Share of organic agriculture land in total agricultural land of the country (%)</i>
1	India (2013)	650,000	720,000	1.11	0.4%
2	Uganda	190,552	240,197	1.27	1.7
3	Mexico (2013)	159,073	501,364	3.15	2.3
4	Philippines	165,974	110,084	0.66	0.9
5	Tanzania (2013)	148,610	196,537	1.32	0.5
6	Ethiopia (2013)	135,827	160,987	1.19	0.5
7	Turkey	71,472	491,977	6.88	2.0
8	Peru	65,126	263,012	4.04	1.2
9	Paraguay	58,258	54,444	0.93	0.3
10	Italy	48,662	1,387,913	28.52	10.8
11	World Total	2,260,361	43,662,446	19.32	1.0

Source: Figure 10 : The Ten Countries with largest number of Organic Producers 2014; THE WORLD OF ORGANIC AGRICULTURE; STATISTICS AND EMERGING TRENDS, 2016 (Tables 3,4 & 5) (<http://www.organic-world.net/yearbook/yearbook-2016.html>)

Data on organic agriculture in India are available only from early 2000s. The Ministry of Commerce launched “National Programme on Organic Production” (NPOP) in 2000, with defined National Standards for Organic Production (NSOP). There are more than 30 accredited certification agencies for certifying organic farms. Government of India started many programmes to promote organic farming during the last 10 years; major ones are (a) the National Project on Promotion of Organic Farming (NPOF-DAC), National Horticultural Mission, and Rashtriya Krishi Vikas Yojana (RKVY), Indian Council of Agricultural Research (ICAR) started supporting research needs through the programme Network Project on Organic Farming – ICAR. Many State Governments, and their local self-government institutions (Panchyats and Urban bodies), promoted organic farming on their own. In addition, many Non-Governmental Organisations (NGOs) working at national, regional and local levels were involved for a long time in promoting organic farming in India, with or without government collaboration. As a result of the increased focus on organic farming by the Government agencies and non-governmental organizations area under organic practices has been increasing in India, as shown in Table 5 below.

Table 5. Organic Agricultural Land in India

Year	Million hectares
2005	0.19
2006	0.43
2007	1.03
2008	1.02
2009	1.18
2010	0.78
2011	1.08
2012	0.50
2013	0.51
2014	0.72

Source: Figure 67, India: Development of the Organic Agricultural Land 2005-2014

However, area under organic certification in 2013-14 in different States of India varied, reflecting the performance of the States in adopting organic farming practices. Major States, in terms of area are Madhya Pradesh, Maharashtra, Rajasthan, Sikkim, Orissa, Gujarat and Uttar Pradesh. The performance of smaller States like Sikkim (with 60,843 hectares and Goa (with 12,325 hectares) may be noted indicating that a larger proportion of their total agricultural land is under organic certification. Total area under different organic farming practices would be higher as it is not mandatory that all producers following the practices get their farms certified. Based on observations of the study in Wayanad it is found that certification is still mostly related and confined to marketing of the produce. Therefore actual area under organic farming will be larger and number of farmers practicing it will be more than those certified and listed by the certifying agencies.

Table 6. State-wise Area Under Organic Certification in 2013-14 (excluding forest area)

Sl.No.	State Name	Organic Area (in Ha)
1	Andaman & Nicobar Islands	321.28
2	Andhra Pradesh	12325.03
3	Arunachal Pradesh	71.49
4	Assam	2828.26
5	Bihar	180.60
6	Chhattisgarh	4113.25
7	Delhi	0.83
8	Goa	12853.94
9	Gujarat	46863.89
10	Haryana	3835.78
11	Himachal Pradesh	4686.05
12	Jammu & Kashmir	10035.38
13	Jharkhand	762.30
14	Karnataka	30716.21
15	Kerala	15020.23
16	Lakshadweep	895.91
17	Madhya Pradesh	232887.36
18	Maharashtra	85536.66
19	Manipur	0
20	Meghalaya	373.13
21	Mizoram	0
22	Nagaland	5168.16
23	Odisha	49813.51
24	Pondicherry	2.84
25	Punjab	1534.39
26	Rajasthan	66020.35
27	Sikkim	60843.51
28	Tamil Nadu	3640.07
29	Tripura	203.56
30	Uttar Pradesh	44670.10
31	Uttaranchal	24739.46
32	West Bengal	2095.51
	Total	723039.00

Source: APEDA (2013-14)

Commodities produced with organic practices in India during 2010-11 are presented in Table 7 below. Major commodities include medicinal and herbal plants (1.792 million MTs); cotton 0.55 million MTs; oil seeds - excl. Soyabean (0.36 million MTs); and fruits and vegetables (0.335 million MTs). The figures on total area under in different States, and production of different crops, in organic farming show the enormous need and potential for promoting organic farming in India.

Table 7. Production of Different Organic Commodities in India (2010-11)

Sl. No.	Products	Production ('000 MTs) In 2010-11
1	Cotton	552.4
2	Cereals and Millets (excl.rice)	171.7
3	Rice	176.7
4	Pulses	42.7
5	Fruits and Vegetables	335.9
6	Tea	27.7
7	Oil seeds excl. soyabean	360.9
8	Coffee	13.1
9	Dry fruits	52.4
10	Medicinal & Herbal plants	1792.0
11	Miscellaneous	221.2

The following questions on organic farming in India are important to address and the questions are not addressed by this study due to its limited scope.

How and why the spread of organic farming differed among different States and regions within States? How the procedures and standards (and definitions) of organic farming varied across States and crops? Who were the organic producers – small, medium or large farmers? Which were the crops grown and activities in organic land – food crops (cereals, pulses and oil seeds), industrial products like cotton and jute, spices including plantation crops, livestock production? For whom they produced (who were the consumers of) organic products – own consumption, domestic or external market? Who were the main institutional actors promoting organic farming? How the policies and approaches of the Government influenced spread of organic farming? What were the positive impacts of organic farming on the livelihoods of the producers, health of the consumers and ecology of the land?

III.2.3. Organic Farming in Kerala

There is growing importance of organic farming in Kerala over the years. Safe-food and health concerns are considered to be the main reasons. Factors contributing to the spread need to be examined in detail. However, even with the growing importance only there were only 15,020 hectares of certified organic area in Kerala in 2013-14, (Table 6 above). As stated the area under different organic practices (and conversion processes) should be higher as many farmers do not get their organic farm certified as such, as the purpose of organic farming was mainly not to get the certificate. Absence of formal certification by accredited agencies restricts classification of land under organic farming and collecting details of the same across plots/villages and over time.

Major agencies were involved, directly and indirectly, in promoting organic farming in Kerala belonging to the categories of (a) Government Agencies; (b) Non-Governmental Organizations and (c) Groups of Farmers. In addition, there were many isolated/independent farmers not attached to any formal groups, programmes or agencies. Major government agencies involved in promotion of organic farming were the Department of Agriculture, Panchayath Raj Institute, Agricultural University of Kerala, State Horticultural Mission, State level offices of the Commodity Boards (Spices Board, Tea Board, Coffee Board) and NABARD.

The involvement of local self government institutions (Panchayaths and urban bodies) in promoting organic farming during the last 15 years needs special mention. Almost all Panchayaths in Kerala have initiated poison-free agriculture, as part of their programmes, with particular focus on vegetables and fruits like banana. Results in terms of adopted practices including use of inputs, number of farmers, area and crop covered, and production and marketing of the commodities, showed considerable variations. It is observed that (a) there was growing concern on poisonous food and interest to promote organic farming; (b) most products were mostly uncertified and sold at local levels; (c) media and local government agencies particularly the Krishi Bhavans, Kerala Horticulture Development Corporation, and State Horticultural Mission were actively supporting the groups. (Ref. Reports of different Panchayaths in Kerala).

Non-Governmental Organizations (NGOs) of Kerala were active for a long time in promoting poison-free agriculture. However, they used different concepts, followed different approaches and methods. Concepts by the NGOs used included: sustainable farming, organic farming, poison free

farming, low external input agriculture, bio-diversity, safe food etc. Most approaches focused on mobilizing farmers and doing experiments with them, with or without support of other agencies. Major non-governmental organizations supporting organic farming during 2000-13 in Kerala were the following:

(a) *Wayanad Social Service Society (WSSS), Manathavady* - voluntary organization supporting around 10,000 farmers at different stages of organic certification process, procuring, processing, packaging, branding and marketing organic products; about 90% of the products, mostly spices, were exported. Organic farming system of WSSS is considered the largest in Kerala now, and therefore taken for this study.

(b) *Peermade Development Society (PDS), Peermade* – voluntary organization supporting around 5000 farmers in Idukki District, mainly focusing on spices and plantation crops. Certified and branded products are marketed through local shops and exported. Farmers are supported with technical, material and managerial inputs.

(c) *The Kerala Agricultural Development Society - KDS (Thodupuzha)* - supports more than 1000 farmers with individual and group certification (by INDOCERT) in Idukki district. Main products are spices, vegetables, fruits and honey. Support farmers by providing technical guidance, managerial and material inputs at different stages.

(d) *THANAL (Trivandrum)* – promotes organic farming as part of sustainable development; provides technical guidance to producers, procure and market for organic products at local level; document and share the experiences and learnings.

(e) *Wayanad Organic Farming Consortium (Sultan Bathery, Wayanad)* – is a consortium of the following organizations as members - WSSS (already presented above), Vasudha; Organic Wayanad; Voice; Hilda, Haritha, Rastha, Odapallam Jaiva Karshaka Sangam, Brahmagiri Project, MSSRF and HICOS – working in Wayanad. It main focus on sharing information, research, market development, and advocacy and collaboration with government agencies in promoting organic farming in spices, indigenous food crops,, vegetables and fruits.

(f) *INDOCERT (Aluva, Ernakulam)* - is a nationally and internationally operating, certification body accredited by National Accreditation Body (NAB), Government of India, as per National Programme for Organic Production (NPOP).. It has international accreditations as a certifying agency - for exporting products US, Germany and other EU and Non-EU countries. It also got ISO 17021 & ISO 220003 (by the National Accreditation Board for Certification of Bodies), ISO 22000-2005 and I.S.343-2000 HACCP accreditation. It is India's first indigenous certification body accredited by IOAS (International Organic Accreditation Service). It is approved by Highfield Awarding Body for Compliance (HABC) to offer Food Safety Training Programmes from Foundation Level to Level 4 and also Approved by Royal Society for Public Health (RSPH), UK to offer Food Safety Training Programmes from Foundation Level to Level 4. It supports more than 160 agencies – organizations, individuals, firms comprising producers, processors and exporters – as per the National programme for organic Production (NPOP) of Government of India and NOP (US National Organic Programme). (Ref. www.indocert.org)

Concern of the farmer on safe food – production of poison free vegetables, fruits and cereals - directly contribute to production of organic spices (certified and uncertified). Most small and medium sized farms are homesteads having mixed farming with food, spices and plantation crops, particularly in areas Wayanad. As the unit for application of organic practices is the plot all crops standing/cultivated in the plot also become organic.

IV. Spread of organic cultivation in Wayanad

IV.1. Selected Area and System of the Study

As stated earlier, Wayanad district of north Kerala is known for growing spices and plantation crops. Main items of spices include: pepper, ginger, cardamom and vanilla and plantation crops include coffee and tea. In addition many minor items of spices are grown there. Vegetables, fruits including banana and rice are the other major crops (Ref. Kerala Agricultural Statistics, 2013-14, Department of Economics and Statistics, Government of Kerala, January 2015).

Organic farming system of WSSS, Wayanad, is taken for the study for the following reasons:

- (a) It was the largest and most well-defined/identifiable organic farming system in Wayanad with the largest number of organic farmers, numbering around 10,000, covering more than 10,000 hectares in Wayanad in 2013;
- (b) The system started in 1999 and continuing, with some early fluctuations – covering a period of 15 years now;
- (c) Most farmers who participated in organic farming had small or medium sized holdings;
- (d) Most farmers grew spices like pepper and ginger and plantation crops like coffee;
- (e) Farmers were organized into groups of producers before introduction of organic farming practices;
- (f) There was transparent and systematic process of monitoring of prescribed/standardized production practices, yields, processing and marketing;
- (g) Land and produce of the Producers' Groups get certified by reputed agencies as organic only if they completed the prescribed practices/procedures;
- (h) Organic products were procured, branded and marketed by WSSS through the Producers' Groups; and
- (i) Producers were given premium price, and regular technical and institutional support.

Spread of organic farming practices by the farmers associated with WSSS system is discussed in this section by looking at the (a) increase in area and number of farmers; (b) increase in production of different organic commodities; (c) organic farming system – stages/spheres, main actors and their roles; and (d) main contributory factors in spreading the organic practices.

IV.2. Increase in Organic Agricultural Area and Number of Farmers

Area under different stages of conversion (IC = in conversion) to organic farming and the number of participating farmers during 2000-14 in WSSS system are presented Table 8 below.

Table 8: Area in Conversion and Certified as Organic

Year	Area in IC 1 (conversion completed first year)	Area in IC 2 (conversion completed 2 nd year)	Area in IC 3 (conversion completed 3 rd year)	Certified Organic Area (hectares)	Total area at different stages of certification (hectares)	No of Farmers	Average size of organic agrl. holding (hectares)
2000	157.24	0	0	0	157.24	93	1.69
2001	0	157.24	0	0	157.24	93	1.69
2002	0	0	157.24	157.24	157.24	93	1.69
2003	0	0	0	131.14 (- 26.10)	131.14 (-26.10)	83 (-10)	1.58
2004	1895.98	0	0	131.14	2027.12 (+1895.98)	936 (+853)	2.17
2005	0	1470.18 (- 425.80)	0	131.14	1601.32 (- 425.80)	734 (-202)	2.18
2006	1365.08	0	1236.38 (- 233.80)	131.14	2732.60 (+1131.28)	1500 (+766)	1.82
2007	1156.28	1260.73 (-104.35)	0	1367.52 (+131.14)	3784.53 (+1051.93)	1697 (+197)	2.23
2008	12.09	656.51 (- 499.77)	844.56 (-416.17)	1367.52 (+0)	3480.68 (-243.85)	1508 (-189)	2.31
2009	237.80	576.52 (+564.43)	976.33 (+319.82)	2212.08 (+844.56)	4002.73 (+522.05)	1763 (+255)	2.27
2010	1627.72	420.59 (+182.79)	73.23 (-503.29)	3188.41 (+976.33)	5309.95 (+1307.22)	1918 (+155)	2.77
2011	1244.34	1470.01 (-157.71)	330.73 (-89.86)	3261.64 (+73.23)	6306.72 (+997.72)	2345 (+427)	2.69
2012	861.36	1113.50 (-130.84)	988.54 (- 481.47)	3592.37 (+330.73)	6555.77 (+249.05)	2705 (+360)	2.42
2013	8936.01	305.77 (-555.59)	442.37 (-671.13)	4580.91 (+988.54)	14265.06 (+7709.29)	8038 (+5333)	1.77
2014	2404.48	6402.88 (-2533.13)	632.40 (+326.63)	5023.28 (+442.37)	14463.04 (+198.01)		
			5681.78	5681.78 (+632.40)			

Source: Records of WSSS

Based on the spread of organic farming the period 2000-14 can be divided into three: (a) 2000-2003 witnessed stagnation in number of farmers and area, with 83-93 farmers having around 150

hectares of land certified as organic and no new farmers joining the programme. (b) There was substantial increase of number of farmers and area under organic cultivation during period 2004-12, with yearly fluctuations; certified organic agricultural land increased from 131.14 to 3592.37 hectares; total agricultural land under different stages of certification increased from 2027.12 to 6555.27 hectares, with increase in number of organic farmers from 936 to 2075. (c) In 2013 both the number of farmers involved at different stages of conversion of land and area certified as organic increased substantially. Number of organic farmers increased to 8038, with 14265.06 hectares under different stages of conversion; out of this the certified area increased to 4580.91 hectares. In 2013, conversion started in 8936 hectares, thereby contributing to the above increase. In 2014 total area in different stages of conversion increased to 14463.04 hectares, with addition of 2404.48 hectares new area. Reasons for the changes in number of farmers, area and production are discussed in the following sections relating to actors and contributory factors of the system.

Conversion to organic farming takes minimum three years. The table shows that progress from year one to completion of year three was not automatic; all areas completed first year of conversion did not complete the second year, and all those completed second year did not complete the third year. Certification is a rigorous process and there were drop outs in most years; drop outs got opportunities to move to next stage by improving the conditions of the land by following the prescribed procedures and standards.

Average size of the organic agricultural holdings of the programme ranged from 2.77 in 2010 to 1.77 in 2013. Many farmers reported to have more than one plot, at different locations in the area and selected only one convenient plot (of a selected compact area, adjacent to the plots of other organic farmers) for the organic practices. Also many farmers reported to keep part of their land for conventional farming, to avoid any possible risks. Thus average size of the total agricultural land holding of the participant farmers was larger.

IV.3. Production Organic Crops in 2013

Quantity of 16 main crops produced by the producers of WSSS system during the period 2003-2011 is presented in Table 9 below. Commodities included (a) the main items of spices – pepper, cardamom, ginger, cloves, turmeric, vanilla, and cinnamon; (b) plantation crops like coffee, cocoa and cashew; and (b) vegetables, fruits, rice – banana and vegetables, and rice. . Since the

certification was for the unit of land, whatever produced in the certified plot was also get certified as organic. However, production details of only marketed commodities were readily available, and they were mostly spices, as presented below.

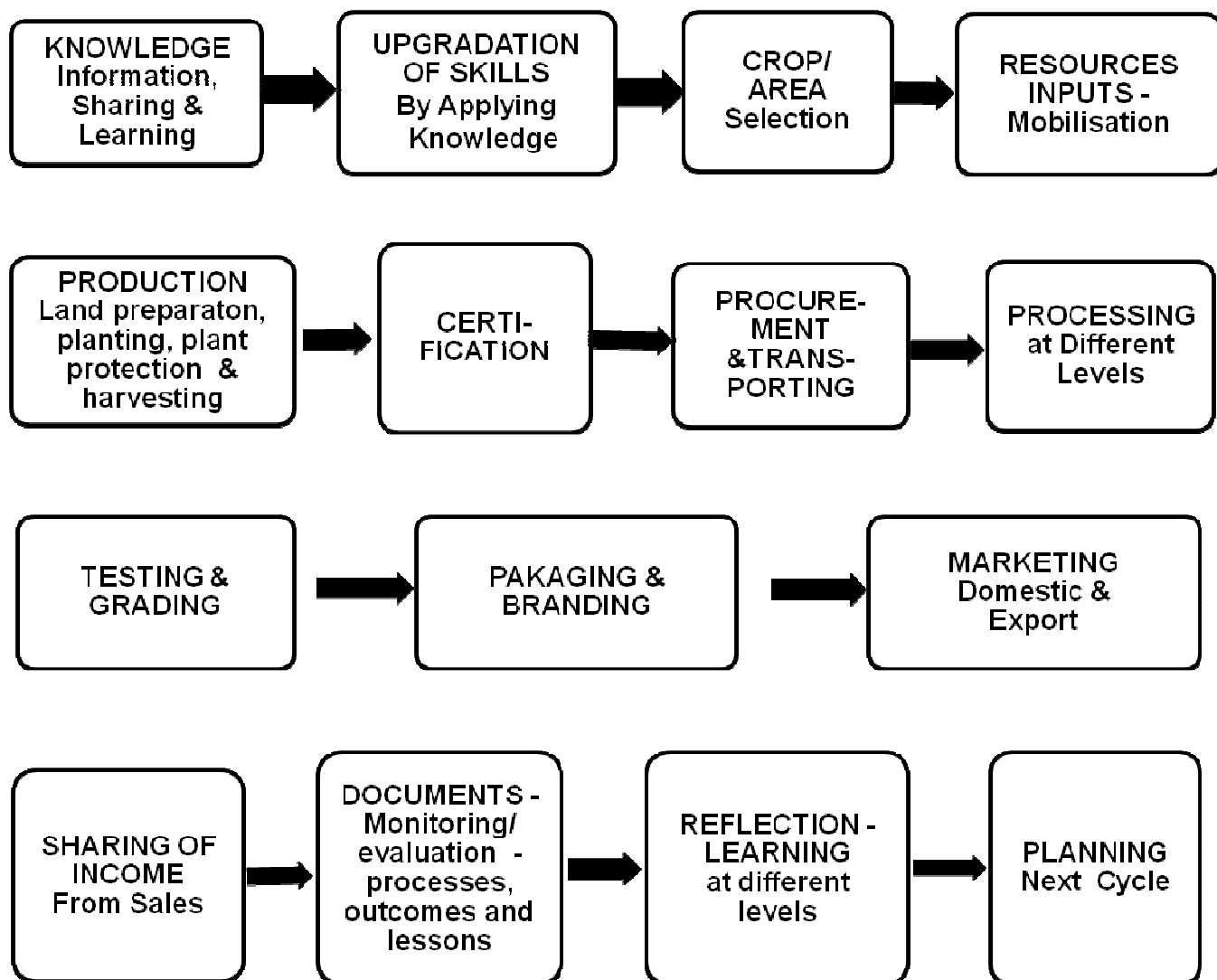
Table 9: Production of Selected Organic Commodities by of Farmers of WSSS – 2003-2011
(Quantity in MTs)

<i>Commodities</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>
Pepper	69.3	599	292.4	226.9	304.9	253.8	387.2	545.0	522.0
Coffee	48.1	285.3	394.3	424.8	480.8	440.2	1074.9	452.0	160.0
Cocoa	Nil	Nil	Nil	3.6	1.9	1.8	2.3	4.0	4.8
Nutmeg	Nil	Nil	1.7	2.6	3.4	3	4.9	3.0	1.4
Cloves	Nil	Nil	0.9	1.3	1.7	1.6	0.6	1.0	0.7
Cardamom	2.1	2.7	4.1	3.6	6	3	2	3.0	2.4
Cinnamon	Nil	Nil	Nil	1.2	3.4	2.1	1.6	3.0	1.1
Ginger	13.3	175.5	86.9	211.01	170.8	147	226.9	551.0	1012.0
Turmeric	0.5	25.9	114	25.3	43.1	36.3	14.4	31.0	38.9
Vanilla	0.06	1.1	1.1	6.9	19.4	20.7	13.6	12.0	8.6
Cashew	Nil	Nil		63.3	42.3	10.4	12.5	13.3	13.5
Garcinia	Nil	Nil	Nil	10.7	15.8	14.5	16.5	17.2	17.9
Birds-eye chilli	Nil	Nil	Nil	7.6	6.2	5.5	4.8	3.7	3.8
Vegetables	145.6	166.6	187.7	198.8	271.8	250.0	288.7	289.4	301.4
Banana	124.8	128.8	115.4	136.8	151	143.4	162.4	174.5	182.5
Rice	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Source: Records of WSSS

IV.4. Organic Farming System – Stages/Spheres, Main Actors and their Roles

To understand the process and roles of different actors, the organic farming programme is considered as a system, with distinct and interrelated processes and actors having defined roles.



The spread of organic farming among the farmers of Wayanad, through WSSS during the last 15 years, was contributed by many actors, who formed the ‘structure’, with defined roles in the ‘system’ of organic farming and comprising of the following 15 sets of activities and related processes:

Separating the organic farming programme into different sets of activities, with related processes, in a sequential order above, show that it would be possible to introduce change by bringing in new (and replacing old) approaches, strategies, processes and methods relevant to each and all stages, to get better results and ensure sustainability in the long run. The 15 sets of activities listed above are grouped into the following four spheres for improved understanding the roles different actors.

(1) Capacitating the farmers and their groups; (2) Production and certification of farm products as organic; (3) Marketing of organic products and sharing of incomes from sales; and (4) Planning next season/cycle on the basis of experiences of the previous season. Roles of major actors – who consists of, as already stated, both government and non-government agencies and the farmers – in the above spheres are presented below. These roles were identified on the basis of documents available at WSSS and LFG levels, and were validated through interaction with farmers at the field level.

Sphere 1: Capacitating the Farmers and their Groups

Capacitating farmers and their groups for organic farming involved the following sets of activities (a) Knowledge enhancement through information sharing and learning; (b) changing values and attitudes; and (c) Skills up-gradation, including acquisition of new skills. Major actors involved in capacitating farmers and their groups for organic farming were both Government and non-governmental agencies.

Sphere 2: Production and Certification of Organic Products

The sphere of production in organic farming consisted of the following sets of activities - (a) Selection of plots and crops; (b) Certification of the plots/crops; (c) Mobilization of resources/inputs; and (d) Cultivation of crops in the certified plots. Plots were certified, using the prescribed procedures and standards, and all crops standing/cultivated in the certified plots are thereby treated as organic. The first step in the sphere of production was therefore selection of plots to be converted into organic farming. This is mainly done by the farmers, with the support of their groups. Farmers with smaller holdings, in a contiguous area, converted most of their area into organic; whereas farmers with holdings in different locations convert only some of their plots. It was advisable to avoid isolated plots located particularly in areas of predominantly non-organic farming to prevent contamination from neighboring plots. Again, contiguous area is more convenient for systematic interventions, and regular monitoring changes. Major actors involved in the sphere of production and certification were both government and non-government agencies. As in the case of capacity building, involvement of WSSS and the LFGs were direct and the involvement of government agencies were indirect and based on demand from time to time.

Certification is a three-year process, with standardized procedures. LACON (Lacon Quality Certificate Private Limited) an international certification agency is involved directly to ensure the adoption of the standardized procedures and certifying after successful completion of the prescribed standardized procedures. Areas in conversion presented in Chapter IV (Table IV.2). There were drop outs during the three year certification process. Farmers withdraw from the process, and opt for conventional farming, due to various reasons. Farmers not prepared to follow the prescribed standards were also avoided by the LFGs as they function with the approach of Participatory Guarantee (Group Guarantee).

Sphere 3: Marketing

The sphere of Marketing consists of the following set of activities: (1) Procurement of organic products from the farmers and transporting the same to the store or processing centre; (2) Processing the fresh products, by the standardized procedures/methods appropriate for each crop at different levels – farmers, groups, regional or central levels; (3) Testing and Grading of the products using the standard procedures; (4) Packaging and branding the processed products – making the products ready for the market; (5) Marketing the packed/branded products at the local or international market through exporting. Procedures to be followed for sale at domestic and international markets vary.

Sphere 4: Planning Next Season:

Systematic planning was one of the main reasons for spread and sustainability of the organic farming programme of WSSS. Planning the next season involved the following sets of activities: (a) Preparation and sharing of monitoring and evaluation documents; (b) Collective reflection on the experiences of the completed year, focusing on the processes, results and lessons; and (c) Conducting planning exercises at the LFG and WSS levels in a transparent and participatory manner – based on experiences and lessons of the past year.

Information shared above brings out the following key observations: (a) Organic Farming (OF) is not a one-time and isolated activity (even though individual farmers can take it up); (b) OF require active and positive involvement of many actors, with complementary roles; (c) involves different

sets of related activities and more importantly; and (d) farmers and their groups need to be involved at all major activities and decisions

The efficiency of the roles of the actors depends on the relations among them, because the roles of one actor are related to the other. Due to limited scope of this study, we have not attempted any in-depth analysis of the quality and strength of the relations among the above actors. However, feedback from the farmers and other key stakeholders were pointing towards existence of positive and constructive relations among the different actors. In an actor and process oriented programme like Organic Farming it is very important to ensure constructive relations among the key actors to ensure efficiency, effectiveness and sustainability.

IV.5. Main Contributory Factors in Spreading Organic Farming

Main actors and their roles presented in the above section reflected their contributions and pointed to the factors contributed to spread of organic farming in Wayanad. The study identified main contributory factors, which were validated through interactions with the organic farmers and other key stakeholders at the field level.

Contributory factors of organic farming Wayanad were classified as (a) Push Factors and (b) Pull Factors. Push factors were the ones which pushed the farmer (who is the primary stakeholder, directly influencing and influenced by any changes in farming) to experiment, learn and change. Pull factors are the influences of external forces which attract/prompt/ motivate/support the farmer to make and manage the changes. Push factors are thus internal to the farmer and pull factors are external. Farmer has more control, in general over the push factors and less control over the pull factors. For sustaining the change process it is important to have a fair balance, and complementarity, between the two. Changes in a farm cannot be sustained only by pull factors, because often the farmer needs to have the push to make changes on her/his own.

IV.5.1. Pushing Factors in Organic Farming in Wayanad

There are many studies on the difficulties faced by the farmers of Wayanad, who are mainly cultivators of important spices – Pepper, Ginger, Cardamom – and plantation crops like coffee and to some extent tea, during the reference period of last 20 years. Fluctuation in production of, and

incomes from, spices during the last 25 years, therefore directly influenced the livelihood of majority of the farmers, and pushed them to explore, identify and adopt changes. Interaction with farmers brought out their strong and growing attitude against indiscriminate use of chemical pesticides and manure. Chemical pesticides particularly are considered harmful to health of humans and animals. The push factors were therefore not only economic in nature, but also value-based treating chemicals-based farming as bad and organic farming as good.

Pushing Factors Identified/validated by the Farmers

Pushing factors were identified by visiting 25 organic farmers in their farms, and five Local Farmers Groups (LFGs), located at different villages in Wayanad for the study. Farmers were selected on a representative basis, taking into account their (a) length of experience in organic farming; (b) size of holding; (c) educational/social background; (d) crops grown in the plots and (f) participation in the LFGs and (e) relations with other institutions, particularly Panchayaths, of the locality. Interacted with the selected farmers, during the period January 9-13, 2013; applying the methods of Semi-Structured Interview (SSI), and direct observations of the innovative practices in their farms. All contacted farmers were open to show their farm records, carefully noting down the type, quantity, costs and time of application of inputs, as well as area/number and yields of the different crops, after joining the programme. Five LFGs were selected based on (a) number of members, (b) area covered, (c) type of crops, (d) experience (no. of years) in organic farming, (e) grading done by WSSS (of the five two belonged to “high”, two in “medium” and one in “low” categories). In addition to the semi-structured interviews, focus groups discussions and verification of records were done to collect information from the LFGs. It is interesting that both men and women were active in farm related activities, sharing their objectives, expectations and lessons in organic farming. Women were equally active in the discussions, and more careful in managing, and better in explaining, the farm records on organic practices, in many cases, indicating that organic farming got internalized by the farm households.

Push factors reported by the contacted farmers are presented below:

Environment-related Factors

- Committed to work against environmental pollution and use of chemicals in farming;
- Chemical farming pollutes soil; and
- Organic Farming prevents pollution of environment.

Increased soil fertility > Better Growth of Plants

- Organic farming enriches soil – fertility;
- Organic farming reduces plant diseases;
- Better growth of the plant due to increased soil fertility and control of diseases; and
- Organic farming prevent particularly disease of pepper

Organic Food is Safe Food > Promoting Health

- Organic products are safe; thereby promotes health
- Chemical farming is injurious to health; and
- Consumption of food grown with chemicals leads to diseases particularly cancer;

Integration with Dairying > Increased availability of inputs for organic farming

- Better integration with livestock; cow-dung and other farm wastes used as manure; and
- Application of “jeevamrutham” prevents quick-wilt disease of pepper; increased growth and yields of pepper, coffee, vegetables

The above pushing factors are presented as reported by the farmers, and not based on any scientific validation. Because it was considered that farmers as innovators have own reasons to initiate, manage and continue the changes, which if not contributing to the desired results could be dropped or changed again, as the prevailing system at the LFG level allowed reflection, learning and change. It is interesting to observe that no farmer gave direct economic gains particularly in the short and medium terms (or prevalence of indebtedness) as the main reason for adopting changes, even though they were aware that increased soil fertility, improved growth of plants and control of plant diseases will increase yield and incomes from farming. They were also aware that safe food and cleaner environment could prevent diseases and improve health. There were no significant differences in the priorities of the big (above 4 hectares), medium (2 to 4 hectares) and small (up to 2 hectares) farmers, in choosing the push factors. Even the small farmers were equally, and in some cases more strongly, emphasizing the non-income factors – particularly the link of organic farming with safe food and health.

Importance given by farmers on production of “safe food” (particularly tuber crops, vegetables and fruits) for themselves, using organic practices contributed to cultivation of organic spices and plantation crops also. Main spices – pepper and ginger – and coffee were grown as intercrop in Wayanad; and as the plot gets “certified” as organic, all crops of the plot – spices and non-spices – were also get certified as organic. Women were emphasizing more on safe food, prevention of diseases and health, as the main reasons for adopting organic practices. Most farmers expected that changing to organic farming may generate more incomes in the long term. The push factors reported by the farmers brings out the experience of positive changes initiated more on the basis of beliefs, values, and expectation of general well-being, and less on the basis of short term economic gains.

IV.5.2. Pulling Factors in Organic Farming

Pulling factors, as stated above, are taken as positive influences of external forces which attract/prompt/motivate/support the farmers to make changes in their farm related approaches and activities and manage the changes. In this section, the positive influences of the Local Farmers Groups (LFGs) and in the four spheres - Capacity Building, Production & Certification, Marketing/Income from sales and Planning - of the programme are examined.

IV.5.2.1. Pulling Factors - Local Farmers Groups (LFGs) and Solidarity of the Members

LFGs, numbering around 390, were the key actors of the programme and their roles were presented in the previous chapter. It was found that LFG became a pulling factor, a major attraction, for the farmers to join organic farming in WSSS for its identity and roles. LFGs became the collective, active and representative local institution of the farmers of a given locality, performing the following critical roles:

- (a) Performed different roles, as the collective, mutually supportive, local platform/group of all organic farmers of the programme;
- (b) Capacity building of the farmers – at all stages and spheres - right from the beginning to the end;
- (c) Linked the farmers with local institutions and WSSS and their different programmes;
- (d) Provided technical guidance and material support to the farmers; and

- (e) Functioned as a participatory guarantee group (PSG) – monitoring, correcting and ensuring application of the standardized practices in organic farming.

The ‘political’ dimension of the LFGs was also found to be important in ensuring a balance in relationships among important stakeholders - the farmers, between the farmers and WSSS and other agencies – mostly in favour of the farmers. To understand the roles and influences of LFGs it is important to answer the question: Which came first in WSSS – LFGs or Organic Farming? WSSS started forming and strengthening LFGs from 1988, in many localities of Wayanad, comprising mainly farmers below two hectares of land. By the beginning of 1990s (and before starting the present organic farming programme) there were around 60 LFGs, with membership of around 6,000 farmers. LFGs established their useful and distinct identities, over the last 25 years, attracting the farmers of the locality to join and participate in its activities. Though for individual farmer-members, LFGs became pulling factor, collectively pushing for changes in the farming sector. LFGs started introducing, with the support of WSSS, new approaches, practices and methods at different stages and sub-sectors of the farming sector, particularly from mid-1990s:

- (a) Creating platforms of farmers for regular meeting, reflection and learning;
- (b) Collecting and documenting records of farm and related activities;
- (c) Using participatory methods in farm mapping, analysis and planning actions;
- (d) Participation in the decentralized development through Panchayaths (1997 onwards);
- (e) Training farmers on different improved practices (1990 onwards);
- (f) Savings and credit programmes (1985 onwards);
- (g) Providing material inputs – seeds, manure, and pesticides
- (h) Taking up watershed approach in natural resources management (e.g., Valad Watershed in 1991-95);
- (i) Food security – promoting vegetable farming at homesteads (1990 onwards);
- (j) Promoting bio-diversity – cultivation of food, fruits, spices, fodder and plantation crops in an integrated manner;
- (k) Production of different types of composts (1990 onwards);
- (l) Community plant nurseries (1991 onwards); and
- (m) Collection and marketing of spices (1992 onwards);

Thus organic farming in WSSS was one of the major innovations initiated and driven mainly by the farmers themselves. They were prepared to introduce and manage the changes, as a result of their collective identity, actions and experiences over a period of more than 20 years. LFGs were thus not created as part of any Programme; on the contrary the Programme came out of the LFGs consistent efforts for change. Organic farming – as a different process and system - came as a result of the experiences and needs of the farmers. Over the period LFGs became good examples - as social platforms and collective/representative bodies of farmers - complementing, encouraging, strengthening and sustaining innovations of their members. The approach and experience in the organic farming programme of WSSS was different to the more general approach of Programmes coming first and Groups created later as a result/part of the Programmes

IV.5.2.2. Pulling Factor - Capacity Building

Farmers of organic spices in WSSS programme were supported, from 1988 onwards, in improving their capacities through (a) getting useful information, (b) guidance in technical and managerial aspects, (c) periodic collective reflection and learning, and (d) guidance in planning changes based on the learnings. Opportunities for improving capacities became strong motivation for most farmers to join the LFGs and also the organic farming activities.

Training is the main component/method of capacity building. WSSS adopted a cascading approach, starting with a team of experts, who trained the Core Team Members and LFG leaders, who in turn supported the farmers. Resource Team included scientists and experienced practitioners in their respective fields. Main themes of training included: Sustainable Farming Practices; Water and Soil Conservation; Protection/promotion of indigenous varieties and biodiversity; Food security – production of vegetables and fruits; Promotion organic farming; Integration of livestock and farming; processing of spices like pepper, ginger, cardamom, plantation crops coffee; marketing of farm products. Handbooks on selected topics were produced in Malayalam and distributed for reference among the farmers.

Core Team members, numbering around 40, belonged to the farming families and worked mostly as volunteers. They were trained on technical – farm related methods/ activities – aspects whereas the LFG leaders were trained more on organizational matters. As a result over the period they became the motivators and change agents of the farmers. It was important to link and integrate

both technical and organizational spheres of the LFGs to improve the efficiency and effectiveness of introduction and application of innovative methods of farming among the groups of farmers.

IV.2.3. Pulling Factor – Production & Certification

To get a farm certified as organic, the farmer had to complete the standard procedures, over a period of three years, as already stated. Majority of the farmers (out of around 10,000) presently involved in organic farming were yet to complete the full process of three years, and get their farms certified as ‘organic ‘. Number of drop-outs of farmers from the practice before certification of the farm -- in the first, second or third years - is getting reduced; and the dropped ones were encouraged to rejoin the conversion process, with the support of WSSS through the LFGs.

In the sphere of Production, farmers were mostly involved as consumers/clients (they become suppliers of the organic products in the sphere of marketing). They reported following advantages/opportunities in joining and continuing with organic farming, related to the Production/Certification sphere:

- (a) Regular sharing of information, monitoring, reflection meetings and prompt addressing of identified problems;
- (b) Monitoring production of organic crops – directly and through the local farmers groups - ensuring application of organic practices, plant growth/diseases, and yields/ production of different crops
- (c) Regular technical and managerial guidance – at all stages (from selection of plots to harvesting of the product) - from the Government agencies and WSSS routed through the LFGs;
- (d) Supply of new varieties of different crops;
- (e) Mobilize and supply financial support to the farmers through JLGs and SHGs; and
- (f) Providing Revolving Fund to farmers groups to produce organic manure and pesticides and also to acquire other necessary items like tools and accessories at production stage.

Even though the study did not attempt to compare organic and conventional farms to assess the production/yields of crops, farmers reported that the yields will be more from the third year onwards. Moreover, most of them reported that improved health of the plants and lower

incidences of plant diseases, particularly of pepper, ginger and coffee, would assure greater and continuous production over longer period.

IV.2.4. Pulling Factor – Assured Market

As stated in the previous chapter, the sphere of marketing involved the following activities – procurement, processing, testing, grading, branding, selling and sharing of incomes from sales. In these activities role of the farmers were direct only as supplier of the specific harvested product to LFG/WSSS; they were not directly involved in processing, testing, grading, branding and selling of the product. According to the farmers, their attractions/ opportunities in the sphere of marketing were the following:

- (a) Quantity and price of spices to be procured get fixed before – so that they know how much to be sold to the LFG/WSSS and at what price, and how much to be sold to others;
- (b) Procurement of spices - Cinnamon, Turmeric, Cardamom, Clove, Vanilla, Nutmeg, Garcenia, All spices etc - from the farm gate;

There are many pulling factors in the sphere of marketing at the levels of LFGs and WSSS:

(a) Availability of facilities for processing the following products (at WSSS level):

- Pepper - White pepper, pepper in brine, dehydrated green pepper, red pepper, cracked pepper, freeze dried pepper;
- Coffee - beans and parchment coffee, and coffee powder;
- Ginger - Ginger chips, tea cut ginger, ginger powder and freeze dried ginger;
- Vegetables and fruits - Freeze dried vegetables, jack, mango, pineapple, coconut and tubers; and
- Processing of turmeric

(b) Availability of facilities for Testing, Packing and Branding (at WSSS level):

- Availing timely service of LACON for testing/certifying the product using the specified criteria;
- Packing based on international requirements - following all International quality standards for organic products; and
- Branding as own brand “Biowin”

(c) Accessibility to international market (by WSSS):

- 90% products sold at International Market (Export) – container basis
- 10% products sold Local Market

Table 11: Year wise data on procurement and sales of organic products 2012-13

<i>Details</i>	<i>Pepper</i>	<i>Coffee</i>	<i>Nut- meg</i>	<i>Mace</i>	<i>Clove</i>	<i>Carda- mom</i>	<i>Cinna- mon</i>	<i>Ginger</i>	<i>Tur- meric</i>	<i>Vanilla</i>	<i>All Spices</i>
Estimated Production in KGs	200730	581485	777	122	1392	1248	5479	486400	47610	330	1127
Quantity procured	75885	247345	532	15	740	524	3473	181704	31815	10	258
Quantity sold	75885	247345	532	15	740	524	3473	181704	31815	10	258
Average price paid to farmer/ KG (Rs.)	400	65	410	1370	1300	1075	190	17	74	1428	570
Local market price (Rs).	365	60	260	900	850	800	80	12	60	800	200
Margins/ Kg	35	5	150	470	450	275	110	5	14	628	370

IV.2.5. Pulling Factor – Assured Premium Price for Commodities

As stated earlier 50% of the price of commodities is given to the producer at the time of procurement of the organic product, remaining 50% is given generally immediately after the product is packaged for market. LFGs supported farmers in case of any emergency requirements of cash.

VI.2.6. Pulling Factor – Planning Next Cycle - Documenting, Reflection, Learning and Planning

As presented in the previous sections, farmers were involved in providing information as part of LFG based monitoring at all stages of the production cycle. The reports prepared out monitoring is shared and discussed at the LFG level. Specific issues relating to individual farmers or localities were discussed and possible solutions found in a collective manner. The opportunities to share and reflect on experiences, and find solutions for specific issues were considered as attractions by the farmers to join and continue in the programme. The approach of participatory reflection, learning and planning adopted by the LFGs from the early 1990s were continued in planning next the next cycle of organic farming.

WSSS provided guidance at all stages, through LFGs. All these activities are done in a systematic manner, documented and shared. WSSS assured farmers of continuity of support, in sustaining organic farming, particularly through guidance, supply of inputs, and procurement of products at premium prices, which motivated them to participate in planning improvements and continuing in the programme.

V. Sustainability: Challenges and Opportunities

The actors and factors influenced the organic farming in Wayanad, discussed in the previous chapters, also reflected main the constraints and opportunities. First of all, sustainability depended on, and meant, continuation of organic farming as a system, with processes involving many actors, activities and relations among them over time. Continuity depends on motivation, willingness and capacity of the farmers, to experiment (and take thereby risks), change and manage the changes individually and collectively. There are external factors and forces too, over which the farmers had only limited influence. With 90% products exported, sustainability of organic practices depended very much on the changes in the choices of consumers in other countries and other conditions/regulations governing the markets.

A SWOT (Strengths, Weaknesses, Opportunities and Threats) exercise was conducted with the Project team and selected leaders of the LFCs, and the points reported by them are presented below.

V. 1. SWOT Analysis of Organic Farming in Wayanad

Strengths (Internal positive experienced factors/forces)

- Biggest, dynamic and well defined system of organic farming of Kerala – number of producers, area covered, following standardized procedures, market accessibility, many years of experience, lessons learnt and changes made over time.
- Pioneers in Organic farm certification program.
- More and more farmers interested to adopt organic practices - about 5000 farmers waiting.
- Service/guidance of National Centre of Organic Farming, Govt. of India
- WSSS position as Regional Councilor of Participatory Guarantee System (PGS), Govt. of India

- Well- established and efficient Internal Control System
- Own Agro processing centre with modern equipments and latest technologies
- Reputation of the Products and Brand in the external markets
- Well-established markets system
- Well organized 390 village farm clubs (LFCs)
- Healthy and effective relations among the LFCs; and between LFCs and WSSS
- Committed team of staff, volunteers and LFC Leaders
- Good rapport with Govt. Offices and Research Institutions
- Collaboration with PRIs; and
- Rich experience in organizing and capacity building farmers, organic farming methods, certification, processing, value addition and marketing

Weakness (Internal experienced negative factors/forces)

- Not yet fully utilized the capacity of Agro Processing Centre; and
- Financial shortage for sourcing organic products (price paid to the farmers during procurement; WSSS get the income only after selling the products mainly in the external markets)

Opportunities (Positive expected external factors)

- Emergence of domestic market chain/agents for organic products
- Growing domestic market for organic products
- Reputation & promotion of own brand of organic products
- Growing support for producing safe food and spices; and
- Convergence with, and support from, the programmes of Government

Threats (Negative expected factors/forces)

- Changing policies of Government for availing/renewing licenses for export of products
- Continuity of support – technical, managerial and financial – provided by the Government agencies (particularly the Spices Board, Tea Board and Coffee Board)
- Repayment of loan taken from NABARD for the agro-processing centre
- Changes in the policies and behavior of external markets

- Limited domestic market - brand not yet become popular in the domestic market; and
- Competition from other agencies selling organic products in the domestic market – particularly in food products

Sustainability of organic cultivation in spices primarily depends on the continuity of farmers in practicing the standardized procedures and methods in farming. Feedbacks, on sustainability, given by farmers in their interactions are presented below.

V.2. Sustainability according to Farmers

Farmers reported the following conditions for their continuous cultivation of organic spices and food products.

1. Continuity of the concern on Pollution, Safe Food and Health: Plot is certified; plots have of both spices and food crops; so concern on production of safe food promotes cultivation/ production of organic spices also.
2. Continuity of organic farming as a System: Any changes in the relations and roles of the main actors the system - more than 10,000 farmers, their 390 LFGs, and WSSS - would influence continuity. For example, LFGs consist of mainly farmers committed to (and possibly engaged in) organic farming, if other farmers join LFGs its role in promoting organic farming may change; LFGs relation with WSSS should be constructive, and vice versa. Most importantly WSSS should continue to play its critical roles of providing guidance at all levels, procuring and marketing the organic products and promptly distributing premium price to the farmers.
3. Continuity of Organic Farming as a Practice: Adopting the standardized practices of organic farming, continuously and strictly over a period of three years, is not easy. Require uninterrupted and timely availability of organic inputs, guidance from experts, support of the LFGs and mutual supporting among the farmers (on a participatory guarantee basis). Any negative change in any of the conditions would negatively influence continuity.

4. **Changing Demographic Profile:** Most organic farmers expressed uncertainty, and worried on, continuing organic farming after their active life; because in most cases the younger generation was either away (working in other places/sectors) and in some cases not interested in continue farming. This may be true for all farming operations in Wayanad, and not only for organic practices. However, as organic practices value-based, requiring a lot of commitment from the farmer, it would be difficult to replace the present farmers. Attracting the younger/next generation to organic farming is an urgent need for sustainability in the long run.

5. **Premium Price for Products:** Considering the processes and costs involved in organic farming there should be continuation of premium price for the products. Most farmers suggested a premium price of at least 50% more for organic products. As presented earlier, WSSS was able to provide premium price for all organic products. As price depended on demand in external markets, and the ability to market according to the demand, farmers depended on WSSS for ensuring premium price. Farmers felt that domestic consumers (in the village, region, State and India) should be prepared to pay more price for their products.

VI. Summary and recommendations

Focus of the study was on Wayanad district of Kerala as it had proportionately large number of farmers cultivating spices and plantation crops. Organic farming was considered as a system and the one developed and coordinated by the Wayanad Social Service Society (WSSS) was taken for detailed study. Started as a programme in late 1990s, with a small group of around 150 farmers, it had grown with more than 10,000 participant farmers organized into around 400 local farmers groups (LFGs), covering more than 10000 hectares of land under different stages of conversion.

Conversion of plots into organic was a dynamic transformation process with defined steps and standardized procedures, requiring time and changes in the attitudes, knowledge, skills and practice of the farmers and others. During the process, participant farmers required consistent and effective support of different forms – ranging from motivation and technical guidance to availability of inputs at affordable costs. Drop out of farmers from the process were few, and many of them were motivated to re-join the process after a short gap of time.

Study could identify 15 sets of activities, in four spheres/stages, initiating, continuing and strengthening organic farming: (1) Organizing and capacitating the farmers and their groups; (2) Production and certification of farm products as organic; (3) Marketing of organic products and sharing of incomes from sales; and (4) Planning next season/cycle on the basis of experiences of the previous season.

Local Farmers' Groups (LFGs) facilitated as the process and promoted group solidarity. Mutual support and guarantee were important as groups of farmers were certified for marketing the commodities. The system of WSSS showed that organization of farmers into LFGs was a pre-requisite for introducing technical and social innovations in farming. Innovations, related to organic farming, came out of mainly from the collective and continuous experiences and learning, and expressed needs of the farmers. Acceptance of WSSS by farmers and consumers was crucial. Many years of experience in working with farmers, credible certification programme, well defined and followed procedures, effective monitoring, and timely changes, consistent support to farmers and their groups, constructive relations with government and other agencies and accessibility to, and acceptance by, foreign consumers, were strengths of WSSS, as a facilitating agency. Government agencies, particularly the Commodity Boards, regulating/accreditation agencies, Panchayaths and Department of Agriculture supported the farmers from time to time. Farmers and WSSS expressed the need for more locally and issue specific and timely support from these agencies.

Factors contributed in conversion and sustainability of organic farming were both pushing and pulling factors. Pushing factors were mainly non-economic in nature like protection of environment, soil, plants, safe food, health, and integration with other farm related activities. Of these, poison free food was the most important concern pushing farmers to take up organic farming. Main pulling factors, which were external and attracted farmers to start and sustain the process were (a) membership in local farmers groups with the opportunity to participate, learn and work together in the local farmers groups; (b) capacity building – opportunities to know more, learn new skills, experiment and change; (c) procurement of commodities, assured markets and premium prices; and (d) opportunities to learn from experiences and plan for suitable changes. .

Majority of the participant farmers had small and medium sized holdings. As most plots had mixed crops, all crops cultivated and standing in the plots also get certified as organic, resulting in increased production of organic spices, plantation crops and food crops including vegetables and fruits.

The study brought out the following points:

Point 1: Organic Farming should be considered as a System consisting of different actors, with their roles, relations and contributions. It is much more than introducing and applying the prescribed practices required for certification. Farmers, with their groups are the primary/key actors with whom others are related. It is important that these different actors contribute in a complementary and systematic manner to support the farmers at all spheres/stages. There is need for an affective agency for coordinating different actors, and motivating and enabling the farmers to avail the support of others.

Point 2: Farmers Groups are very important without which the programme cannot be started and continued. In fact the Programme should emerge and continue in response to the collective learning and needs and based on their experiences. It is different from the commonly found practices of Programmes first and Groups next. So it is important to support the farmers to come together, share their experiences, learn, identify their problems/constraints, and plan their aims and actions. Over a period of time the groups started supporting each other, guaranteeing the practices by all.

Point 3: There should be fair balance between products for local and external markets; and between spices and food crops. Safe food and health were reported as primary concerns of most farmers, and increased income from sale of organic products were considered as only secondary. Given the mixed farming system in the small and medium sized farm in Kerala, it is possible to promote production of market-oriented organic products along with food crops for own consumption. So it is important to consider the homestead/plot of the small and medium farmers as the unit and not any single crop as such.

Point 4: About 90% of the organic products – especially spices – in the programme are exported, and therefore the behavior of outside markets and the regulations of the governments of India and

the countries of the consumers are important. Favorable trade policies needs to introduced and continued by both. Alternatively, it is important to expand domestic markets. Processing and marketing food crops would increase accessibility to the local markets. WSSS has wisely taken up processing and marketing of food crops (particularly fruits and vegetables) as it would sustain organic farming as such; for the farmer any loss in a particular crop can be balanced with gains in another.

Point 5: There is need for more constructive relations/cooperation between the Government agencies and farmers. Present support of the local government agencies are mainly confined to giving technical support/guidance. Roles of the government agencies were mostly passive. The programme, with its farmers, should be taken on board of the different organic farming programmes planned and implemented by the Government agencies. Support given by the Commodity boards (Spices Board, Tea Board, and Coffee Board) at different stages of the Programme was well appreciated by the farmers and WSSS. They felt that Commodity boards may provide more support, technical and financial, to the farmer groups in the sphere of Production, while continuing their support in the sphere of Marketing.

Following three recommendations are made based on the findings of the study for making suitable changes in policies and approaches on promoting organic farming, of especially spices, in Kerala:

- (4) Formation and strengthening of groups of farmers should precede introduction of organic farming. Conversion should be the result of the collective learning, capacities and desire for change of the groups. (*Policy 1: Support formation and strengthening of groups of farmers first; and help the groups to initiate and continue the conversion process*).
- (5) Introduction and continued practice of organic farming had defined stages and sets of activities over a period of time. A well defined and function system, with the collective body of farmers themselves and a coordinating/supporting institution, were required to support the producers to pass through the stages and complete activities. (*Policy 2: Develop and establish proper and effective systems at different levels, to consistently support farmers in introducing and continuing organic farming*).

- (6) Organic farming in mixed farming, followed mainly by the small and medium farmers, should be supported as it contributed to produce organic spices and food crops, and thereby meeting the objectives of safe food production and increased incomes from sale of spices. *(Policy 3: Values of farmers on safe food and concerns on environment/ecology should be supported as it would directly contribute to production of safe spices in the mixed farming plots of Kerala).*

VII. Conclusion

Scope of the study was limited in terms of resources available. It was challenging to study organic farming practices in Kerala for the following reasons:

- (a) Absence of a commonly accepted concept and definition of ‘organic’ farming;
- (b) Absence of commonly accepted process and standard of procedures;
- (c) Absence of a well-defined system with clear approaches, aims, actors, roles, and activities;
- (d) Absence of farm related information, particularly on use of inputs and yields of the organic farms converted and in conversion; and
- (e) Existence of different categories of producers and agencies following different processes and procedures and everyone defending themselves.

The system followed by WSSS was taken for the study as it addressed most of the above issues. Still many valid/valuable information were missing. It was not possible to conduct detailed data collection exercises to fill the gaps due to limitation of the study. As such the study may be considered incomplete, or only a beginning, and there is need for a more detailed and in-depth analysis in future. Even with these limitations, hoping that the findings and recommendations of the study are important enough to make suitable changes in policies and approach of the government agencies in promoting and sustaining organic farming in Kerala and India.

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Annexure 1 Actors and their Activities in different Spheres/Stages of Organic Farming

1	Organizing and Capacitating Farmers
1.1	Identify and organize interested farmers
<p><u>WSSS</u></p> <ul style="list-style-type: none"> • Identify interested farmers through LFGs and other local level organizations; • Organize interested farmers into LFGs; • Share objectives, guidelines on group functioning and management; • Identify needs/interests of the farmers; • Explain roles, importance/need/expected benefits of the programme; • Document and analyze information on resources and farming activities of the members (collected by the LFGs) 	
<p><u>LFGs (390 Local Farmers' Groups)</u></p> <ul style="list-style-type: none"> • Motivate farmers to join LFGs; • Give membership to new farmers on agreed terms and conditions; • Develop mutual support systems and collective programmes for the members; • Collect information on resources and farming activities of the members, and share the same with WSSS for analysis and documentation; • Assess needs and interests of the members; • Motivate farmers to join organic farming programme; • Educate farmers on the principles and procedures of working together in the LFGs; • Link farmers with WSSS and other local government departments, non-government and private agencies; and • Maintain records and accounts of the LFG 	
1.2	Capacity Building of Farmers
<p><u>LFGs</u></p> <ul style="list-style-type: none"> • Assess knowledge, skill and attitudes of farmers in taking up organic farming; • Motivate farmers to participate in various capacity building activities; • Plan and organize trainings/awareness classes/ other activities to improve knowledge and skills and change attitudes, at the local level, in consultation with WSSS and local government agencies; • Train farmers to work collectively in the LFGs; • Link farmers with other local institutions; and • Take up any other activities, as and when required 	
<p><u>WSSS</u></p> <ul style="list-style-type: none"> • Formulate common approaches, strategies and activities to enhance capacities of farmers and the LFGs to take up organic farming and work collectively in LFGs; • Conduct capacity building of farmers - mainly awareness building classes and training for improving skills on different farm related activities - in consultation with, and support of, LFGs and experts; 	

<p>and</p> <ul style="list-style-type: none"> • Capacity building of the key-functionaries of the LFGs on technical and managerial aspects of organic farming and management of farmers' groups. 	
<p><i>Support/collaboration of Government Agencies in Sphere/Stage I</i></p>	
<p><u>Spices Board, (GOI)</u></p> <ul style="list-style-type: none"> • <i>Guidance to develop and produce learning materials on organic spices production;</i> • <i>Give service of experts to train farmers; and</i> • <i>Spread information on production of organic spices among the farmers through different channels</i> 	
<p><u>Dept. of Agriculture (GOK)</u></p> <ul style="list-style-type: none"> • <i>Guidance in develop and produce learning materials on organic farming</i> • <i>Give service of agricultural officers/experts to train farmers;</i> • <i>Limited financial support in conducting workshops/seminars at different stages; and</i> • <i>Spread information on organic farming, particularly on spices, vegetables and fruits, among the farmers through the Krishi Bhavans</i> 	
<p><u>Coffee Board (GOI)</u></p> <ul style="list-style-type: none"> • <i>Guidance in developing and producing learning materials on organic coffee production;</i> • <i>Provide service of experts to train farmers in organic coffee production and processing; and</i> • <i>Spread information on production of organic cofee among the farmers through different channels</i> 	
<p><u>Tea Board (GOI):</u></p> <ul style="list-style-type: none"> • <i>Guidance in developing and producing learning materials on organic tea production;</i> • <i>Provide service of experts to train tea cultivators in organic farming; and</i> • <i>Spread information on organic tea production among the farmers through different channel</i> 	
2	Organic Farm Production
2.1	Selection of Plots and Crops
<p><u>LFGs</u></p> <ul style="list-style-type: none"> • Guide farmers to identify the plots (and the standing crops) for conversion into organic farming; • Collect base-line data of the selected farmer and plots; • Share the process and procedures of converting agricultural land for organic production; and • Agree with the farmers on the principles and procedures to be followed in organic farming. 	
<p><u>WSSS</u></p> <ul style="list-style-type: none"> • Provide technical and managerial support to the LFGs for identification of the plots for organic farming; • Guide collection of base line data of the farmers/ farms; • Analyse and document of the baseline data; • Agree with the LFGs and farmers on the principles and procedures to be followed in organic farming. • Produce and supply new varieties of different crops • 	

2.2	Certification of the Plots/Crops
<u>LACON</u>	
Periodic inspection of the plots in conversion; and certification of the plots based on inspection	
<u>LFGs</u>	
<ul style="list-style-type: none"> • Share findings of the base-line data of the plots selected for organic farming with individual farmers; guide individual farmers to plan the required activities to convert the plots; • Share and agree with the farmers on the steps/procedures to be followed at different stages of conversion; • Provide technical guidance and material inputs to farmers required at different stages of conversion (it may take at least three years for conversion and certification); • Monitor the conversion – use of inputs, changes in the quality of soil, growth of plants and yields, using the standard procedures for certification. • Motivate the farmer to continue process of conversion (not to drop out and return to conventional methods of farming); • Internal Control to follow the organic standards during production stage • Keep and maintain certificates of the farmers/groups • Share information with certification agencies and facilitate their periodic visits/monitoring and inspection of the plots; • Support farmers to document information in the prescribed formats and share the same within the group on request; and • Organize regular (mostly weekly) meetings of the farmer-members of LFGs. 	
<u>WSSS</u>	
<ul style="list-style-type: none"> • Analyse and document the base-line data of farmers, and the selected plots, collected by the LFGs; • Monitor and analyse information on the process of conversion, with the support of LFGs; • Provide technical and managerial guidance to the LFGs (and individual farmers if need be) during conversion; • Share information with the certification agencies; • Act as Internal Control System (ICS) for organic farm certification program; • Ensure the actual fulfillment of organic standards at farm, farmer, storage, processing, procurement, transportation and marketing stages; • Support Farmer level documentation; and • Collect and document information for ICS 	
<u>IFOAM – provide support on request to</u>	
<ul style="list-style-type: none"> • Prepare and update basic standards of organic farming; • Organize conferences, workshops and meetings to share experiences; • Take up advocacy and promote linkages 	
2.3	Mobilization of Resources/Inputs

LACON

Provide standards of inputs to be used

LFGs

Support farmers: (a) arrange financial assistance from Panchayaths and other institutions; (b) arrange technical guidance from WSSS and other institutions; (c) procure and supply organic manure and pesticides from outside; and (d) produce and supply organic manure and plant protection materials at group level

WSSS

- Mobilize and supply financial support to the farmers through Joint Liability Groups (JLGs) and Self-Help Groups (SHGs) of WSSS
- Provide Revolving Fund to LFGs to produce organic manure and pesticides at LFG level, and also to acquire other required items like tools and accessories;

Support LFGs:

- (a) Set up units for producing organic manure and plant protection materials;
- (b) Provide technical and managerial guidance;
- (c) Link LFGs with National/State/ District/ Local agencies for resources/ inputs; and
- (d) establish plant nurseries and arrange supply of quality seedlings and seeds to farmers.

2.4 | Cultivation of Crops in Selected Organic Plots

LFGs

- Monitor land management practices and use of inputs relating to the standardized practices/procedures required for certification; monitor diseases and growth of plants;
- monitor yields of different crops;
- Guide farmers on different plant protection measures and other standardized organic farming practices; and organize group meetings of farmers regularly to share and reflect on field level experiences, learn and plan appropriate actions.
- Produce and supply organic inputs – organic manure and pesticides – at the farmers’/group levels.
- Identify, select, purchase and distribute external inputs (mainly manure, pesticides, plant growth promoting materials, tools, accessories etc.) required at production stage;
- Support the farmers to follow the organic practices/standards in production cycle
- Monitor application of organic farming practices/standards by individual members;
- Monitor plant growth and diseases;
- Link farmers with local government and other agencies, particularly the Krishi Bhavans and Panchayaths
- Document experiences – practices, results, experiences, etc. – and share the same with the farmers and WSSS;
- Collect and share farmer/group level information to WSSS
- Collectively organizing the Farm Machineries

- Ensure the timely application/implementation of farming practices by farmers in the production stage
- Support farmers groups in acquiring/producing planting materials, organic manure, pesticides and other inputs
- Provide/arrange technical guidance at all stages of production; and
- Link Farmers Groups with the local offices of the government and other special agencies in acquiring required technical support/inputs for production

WSSS

- Monitor the prescribed/standardized procedures/ practices followed by farmers required for certification, using the data provided by the LFGs and/or collected directly.
- Arrange technical guidance to LFGs and farmers on the standardized procedures.
- Monitor production of organic products – directly and through the local farmers groups – on application of organic practices, plant growth/diseases, and yields/production of different crops

Support of Government Agencies in Sphere/Stage 2

Spices Board (GOI)

*Technical guidance in at different stages of production of organic spices;
Supply quality seedlings and support production of seedlings and other planting materials; and
Support in acquiring material inputs like implements, organic manures and organic pesticides*

Coffee Board (GOI)

- *Technical guidance in producing organic coffee;*
- *Technical guidance at different stages of production;*
- *Supply (including support for production) of quality seedlings of coffee; and*
- *Support in acquiring materials inputs (implements, fertilizers and pesticides) related to production of organic coffee*

Tea Board (GOI)

- *Technical guidance in producing organic tea;*
- *Support to establish nurseries of quality seedlings of tea; and*
- *Support in acquiring material inputs for organic tea production*

Dept. of Agri. (GOK)

- *Technical guidance in preparing programmes for promoting organic farming at the group, Panchayath and higher levels;*
- *Technical support in selecting area/crops for organic farming by the local/district level agricultural officers;*
- *Supply quality seedlings of selected crops in selected areas through the Krishi Bhavans, and with support of the local Panchayaths*
- *Technical guidance for land preparation, planting and harvesting;*

	<ul style="list-style-type: none"> • <i>Make available improved farm machinery and tools;</i> • <i>Supply other material Inputs – organic manures and pesticides;</i> • <i>Guidance in producing and distributing new/improved varieties of spices, plantation crops, vegetables and other food crops.</i> • <i>Guidance in production and procurement of organic manures and procurements;</i> • <i>Guidance in application of inputs – particularly organic manures and pesticides</i> • <i>Guidance in monitoring growth of plants, plant diseases, and yields</i>
3	Procurement, Processing, Grading, Branding and Marketing the Products & Sharing Incomes from Sales
3.1	Procurement (including transporting)
	<p><u>LFGs</u></p> <ul style="list-style-type: none"> • Estimate organic production of each crop; • Agree on procurement – commodity, quality, quantity and price - of different crops for each member farmer; • Procure the agreed products; arrange transport, processing and storage the procured products at LFG level; • Distribute part of the price of commodities to the farmers at the time of procurement. • Monitor the quality of products • Guarantee the quality standards of organic products • Document the practices & processes; • Primary processing like drying, cleaning etc. • Share data on production, processing and procurement with WSSS • Maintain the certificates and technical suggestions obtained by the certification and other supporting agencies
	<p><u>WSSS</u></p> <ul style="list-style-type: none"> • Direct procurement of organic products – spices and selected fruits - from the farm gates; • Collect and transport the procured and semi-processed products from the PFCs to the central store/ processing centre
3.2	Processing Farm Products using the standardized procedures/methods
	<p><u>LFGs</u></p> <p>Semi-Process selected primary products at the LFG level</p>
	<p><u>WSSS</u></p> <ul style="list-style-type: none"> • Process spices: Pepper (White pepper, pepper in brine, dehydrated green pepper, red pepper, cracked pepper, freeze dried pepper); Ginger (Ginger chips, tea cut ginger, ginger powder, freeze dried ginger); Turmeric and other spices • Process Coffee (Coffee beans and parchment coffee, coffee powder) • Freeze dried vegetables, jack, mango, pineapple, coconut and tubers • Ensure the quality parameters in processing

3.3	Testing and Grading the Products
	<u>LFGs</u> Support WSSS if required
	<u>WSSS</u> <ul style="list-style-type: none"> • Testing the quality and grading the products according to the standardized procedures/methods; • Grading, sorting of spices, coffee, vegetables, fruits and tubers; • Ensure the quality parameters of organic products
3.4	Packaging and Branding the Processed Products for Market
	<u>LFGs</u> Support WSSS if required
	<u>WSSS</u> <ul style="list-style-type: none"> • Packaging the organic products according to international requirements • Brand the organic products; • Fix price of the organic products, • Label the organic products
3.5	Marketing the packed/branded products at the local or international market through exporting.
	<u>LFGs</u>
	<u>WSSS</u> <ul style="list-style-type: none"> • Sell the organic products own brand “Biowin” • 90% products sold at International Market (Export) – container basis • 10% products sold Local Market
3.6	Distribution of the income from sales to the producers
	<u>LFGs</u> <ul style="list-style-type: none"> • Consult farmers and WSSS to fix the procurement (premium) price of the organic products (done before the procurement – activity 3.4); • Handover about 50% of the price to the farmers at the time of procure and transfer the remaining 50% after packaging and branding (activity 3.4)
	<u>WSSS</u> <ul style="list-style-type: none"> • Consult LFGs, selected farmers and exporters/marketing agencies/ consumers to fix the procurement price of different organic products; • Provide premium price to farmers • Handover 50% of the procurement price to the LFGs before procurement and the remaining immediately after branding and packaging (activity 3.4). <i>(Do not wait for marketing and income from sales to pay for the producers).</i>
	<i>Support of Government Agencies in Sphere/Stage 3</i>
	<u>APEDA:</u>

<i>Fixi the standards of the products for marketing/export. Ensure that WSSS/LFGs follow the standards.</i>	
<u>Spices Board (GOI)</u> <i>Provide sheets for collection of spices</i> <i>Analyse of quality of products</i>	
<u>Coffee Board:</u> <i>Provide export grant to WSSS for sale of organic coffee</i>	
4	Planning Next Cycle – Reviewing, Learning and Planning
4.1	Preparation and sharing of monitoring and evaluation documents
<u>LFGs</u> Prepare monitoring reports and other documents to be shared with the Farmers (within the group) and <ul style="list-style-type: none"> • Conduct periodic meeting of the member-Farmers to reflect on the experiences and take appropriate corrective steps • Group level Monitoring and Evaluation of the Processes and Outcomes • Documenting the Experiences - Processes, Results and Key Lessons • Sharing and reflecting on the experiences among the members and with WSSS; • Active involvement of farmers in Group and ICS activities 	
<u>WSSS</u> Prepare monitoring and evaluation reports based on information collected from and supplied by LFGs	
4.2	Collective reflection on the experiences of the completed year
<u>LFGs</u> <ul style="list-style-type: none"> • Organize collective reflection of the Farmers on experiences of the completed year using the monitoring reports and other documents; • Document feedbacks and suggestions of the farmers. • Share the feedbacks and suggestions with WSSS 	
<u>WSSS</u> <ul style="list-style-type: none"> • Organize reflection meetings of the LFGs based on reports and feedbacks from the field and from the product markets/consumers; • Suggest changes for next year based on the recommendations/ decisions of the meetings. 	
4.3	Plan for next year at the LFG and WSSS levels in a transparent and participatory manner – based on experiences and lessons of current year
<u>LFGs</u> <ul style="list-style-type: none"> • Conduct planning exercises with member farmers for next year based on experiences of the current year; • Decide, with the member-farmers, on inclusion of new members, • continuation/changes of ongoing activities including cultivation of crops, 	

- procurement/use of inputs and services and production targets.

WSSS

- Collect, review and include the LFG plans for preparing the annual
- Ensure meeting of the Farmers Groups once in every week
- Organize Monthly meetings of the Programme staff with the Farmers Groups
- Conduct Review meetings at least twice in an year
- Annual Evaluation Meetings
- Facilitate reflection meetings at the Farmers Group level;
- Organize interactions with experts through workshops and seminars; and
- Prepare plan for next stage in consultation with Farmers Groups and based on their experiences

Support of Government Agencies in Sphere/Stage 4

LACON: Lacon Quality Certificate Private Limited

Source: Records of WSSS

About National Research Programme on Plantation Development (NRPPD)

This research programme, established with the support of the Ministry of Commerce and Industry, Government of India, envisages to help transforming the plantation sector in India to be internationally competitive and sustainable – economically, environmentally and socially - by;

Undertaking Policy oriented Research – on all aspects of plantation economy at the regional, national and international levels

Promoting Policy advocacy – at the regional national and international level - to influence particularly the National and State level policies

Facilitating Networking – of all relevant stakeholders and

Help Capacity building - of all concerned at the regional and national levels.

The programme works under the overall guidance of a Steering Committee, chaired by the Chairman, CDS. The Steering Committee comprises of the Chairpersons of Coffee Board, Rubber Board, Tea Board, Spices Board, Joint Secretary/Director in Charge of Plantations in MoC, Director CDS and an expert on plantation sector. Chair Professor of the Programme is the Convenor. A Research Advisory Committee chaired by the Director CDS has been set up to provide guidance to the research being undertaken by the programme.

The Centre for Development Studies is an autonomous national institution supported by the Government of Kerala and the Indian Council of Social Science Research, Government of India. The mission of the Centre is to promote teaching, training and research in disciplines relevant to development. The core teaching programmes of the Centre are the M.A, M.Phil and Doctoral Programmes in Applied Economics affiliated to the Jawaharlal Nehru University/University of Kerala and the research covers six thematic areas relevant to development.



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