

# **Institutional linkage in promotion of organic farming in Karur district**

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## **Introduction**

The concept of organic farming is gaining importance throughout the world for sustainable and eco friendly agricultural production. Looking to the growing demand of organically produced products, many national and international organizations have come forward for appropriate development and wider promotion of organic farming technologies. Indian organic producers and exporters are well aware of the demand for organic products, but the concept of organic farming is not yet clear in many concerns. The organic farming in real sense envisages an organic production system, based on specific standards precisely formulated for food production and aim at achieving agro ecosystems, which are socially and ecologically sustainable. In India, the total land under organic management is just 37050 ha covering 5147 farm, which is just 0.03% of the geographical land (2005), this low percentage of area, is due to lesser awareness among the Indian farmers. Even though India is having vast potential for organic production and marketing at global level, its achievement on production, certification and export is low due to the lack of sufficient education on production with specific standards , lack of easy accessible information on organic methods, requirements and markets for interested farmers, lack of good consumer information on organic farming and organic food, high distribution costs, lack of effective documentation and dissemination of research results among farmers and advisors, insufficient practical orientation of research etc. In order to promote production of organic products with specific standards and provide support for their marketing, it is necessary to group the agencies covering Government Institutes, NGOs, Private entrepreneurs, Research Organizations, production /marketing units etc. the role of each agency should be identified for efficient dissemination of technologies.

## **Intervention by KVK Karur**

Internal Control System (ICS) is a documented quality assurance system that allows an external certification body to delegate the annual inspection of individual group members to an identified body/unit within the certified operator. It means in practice that a growers group basically controls all farmers for compliance with organic production rules according to defined procedures. The internal control system has been established by Krishi Vigyan Kendra, Karur Tamil Nadu, under the scheme of National Project of Organic farming, Department of Agriculture and Cooperation (DAC), Ministry of

agriculture, New Delhi, to fulfil the organic group certification requirements of NPOP and EEC (2092/91) and to ensure organic standards on major crops production, handling and processing. KVK Karur functioned as a technology messenger and played a significant role in group certification under Internal Control System by motivating farmers to form organic farmers groups and clusters, acting as team leader of ICS and liaison with certification agencies, maintaining records of organic farms, advices to the farmers on the package of practices, imparting training on preparation of on farm organic inputs and education of small and marginal farmers about organic farming. The objectives of group certification are to promote organic farming among the farmers, to increase the productivity, to help small holders in group certification, to create avenues for export and to provide good quality food products to the consumers. The operational area was based on a cluster approach, in which the villages are grouped into clusters based on close geographical proximity and uniformity in farming system, about 4 clusters were formed comprising of C1-C4 covering 63 groups. Major crops grown in these clusters are paddy, sugarcane, banana, groundnut, and millets in agriculture and vegetables, tapioca and banana in horticulture. Under the ICS system, 1500 farmers are registered as organic farmers and trained on the preparation of on farm organic inputs and educated about organic farming and provided advices on the packages of practices, documentation and linked with certification agencies and buyers for marketing.

Following are the problems faced by the organic growers of Karur District which were identified through Participatory Rural Appraisal techniques and focused group discussion.

- Lack of information and knowledge on organic agriculture
- Lesser productivity
- Improper recycling of farm wastes
- Less remunerative price
- Less marketability
- Poor documentation and
- Poor quality maintenance of organic produce etc.

KVK, Karur has fixed the strategies to overcome these problems as one of its thrust areas and linked various institutes on promotion of organic farming and marketing of organic produce as per the standards in Karur district and intervened through various activities with following objectives.

## Objectives

- To increase the knowledge and skill on adoption of organic farming
- To increase area under organic and production of organic products
- To generate income and employment opportunities
- To provide the support to access market information
- To increase the marketability of the organic produce

## Approaches

KVK Karur has been promoting the organic farming in the district through Institutional approach (Fig. 1) by linking SAUs and Research Stations for information on production aspects, NCOF for financial support, APEDA for standards and quality control, Marketing institutions for marketing information and procurement and dissemination of technology and information through peoples institution (Master Trainer) and group leaders in clusters (1-4). The KVK focused on linking the various institutes for better organic farming, increase in production and profitability.

KVK intervened through trainings and demonstrations for knowledge and skill up gradation. Exhibitions, mass media programmes and exposure visits were organized to create awareness as well as adoption of organic farming at larger scale.

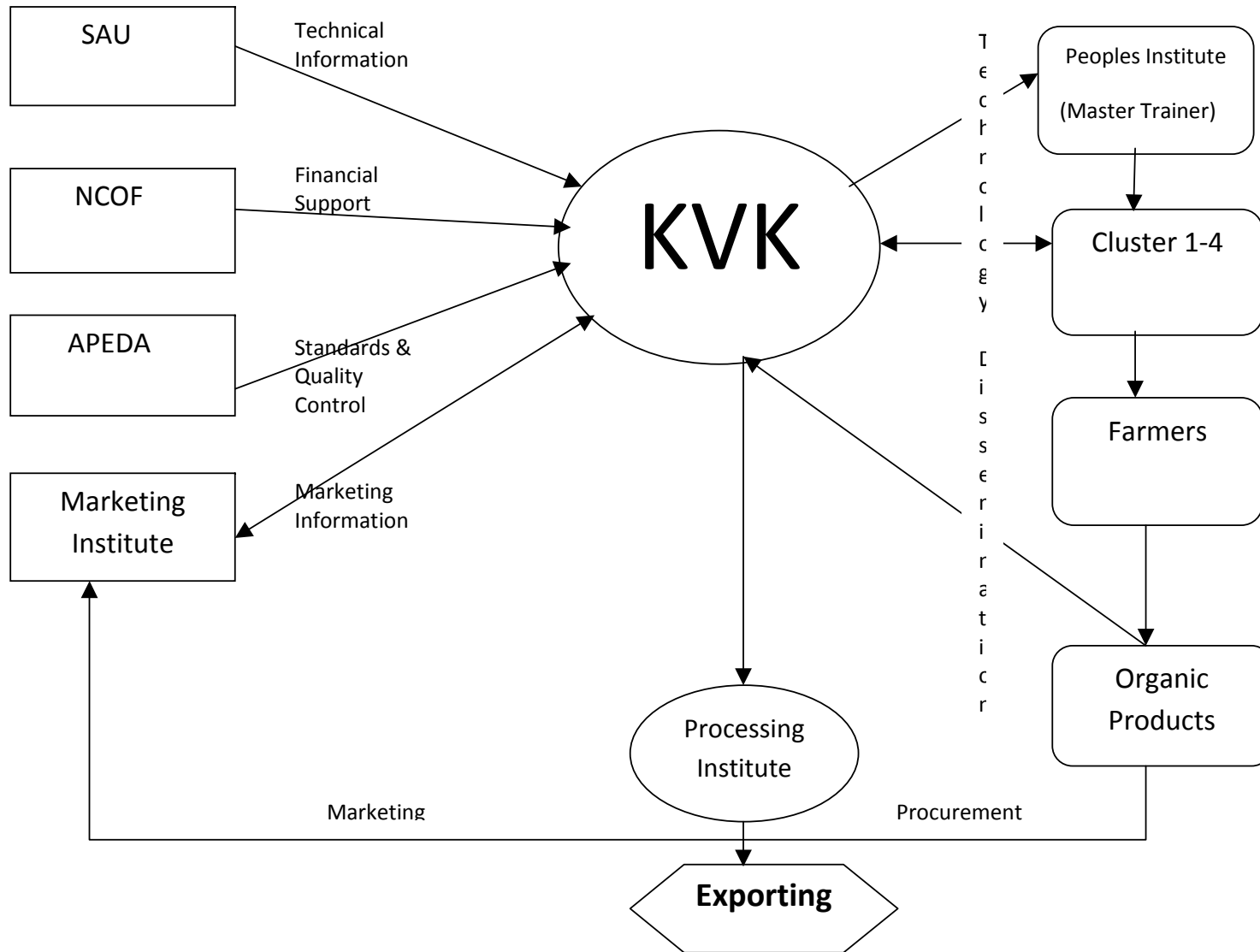
### 1. Trainings

KVK has imparted the training to farmers on organic farming with various topics like soil fertility management, principles and practices of organic farming, organic input production technologies, use of natural resources and ITK, documentation in organic farming and certification, post harvest techniques etc., both at farmer's field and in KVK campus. The details of total number of trainings given by the KVK and number of beneficiaries over the years are given in the following table.

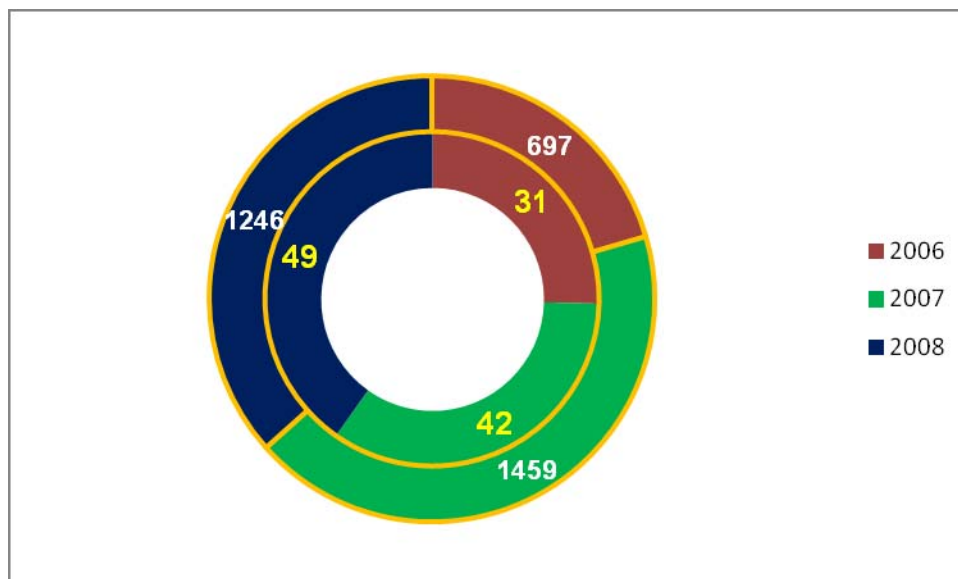
S. No	Year	No. of trainings	No. of participants
1	2006	31	697
2	2007	42	1459
3	2008	49	1246

<b>Total</b>	<b>122</b>	<b>3402</b>
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# INSTITUTIONAL APPROACH



## Details on number of trainings and participants



## 2. Demonstrations

### a. Demonstration on use of bio inputs

With the financial support of NCOF, Ghaziabad, three demonstrations were conducted in paddy, bhendi and banana in the villages of Vadaseri, Archampatty and Muthalaipatty respectively on bio inputs. It had created confidence among the farmers on organic production technologies and other fellow farmers have accepted to adopt these technologies on trial basis in minimum area. The inputs namely bio-fertilizers and bio pesticides, (*Azospirillum*, *Phosphobacteria*, *Pseudomonas* & *Trichoderma*), bio control agents (*Trichogramma japonicum*, *Trichogramma Chilonis*), green manures (Sunhemp, Daincha, Calotropis, Avarai, Kolinji) and animal based manures and growth promoters (Panchakavya, Amirthapani, Vermicompost, vermiwash, fish amino acids, fruits extracts), traps, botanicals and various enriched manures were supplied to farmers.

Sl. No	Crops	Area (in ac.)	Name of the village
1	Paddy	1	Vadaseri
2	Banana	1	Archampatty

3	Bhendi	1	Muthalaipatty
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### **b. Demonstration on the use of enriched bio gas slurry**

Importance of enriched biogas slurry was demonstrated at five locations in the crops viz., sesame, sunflower and groundnut. Biogas slurry was enriched with nitrogen fixing and nutrient solubilizing bacteria and fungi and their technology and its usage were demonstrated in addition to the various organic inputs. Pulutheri, Seethapatti, Vadasery, Tharagampatti and R.T. Malai from Kulithalai and Kadavur blocks farmers were involved in these demonstrations.

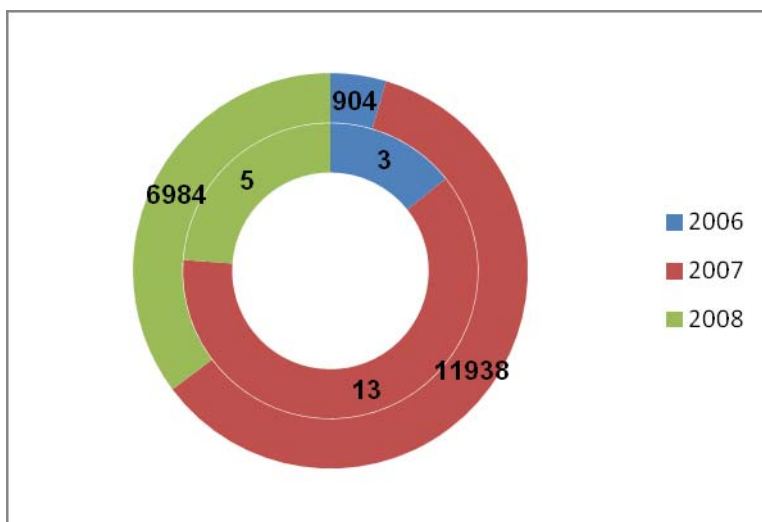
<b>S. No</b>	<b>Crops</b>	<b>Area (ac.)</b>	<b>No. of Demonstrations</b>	<b>Name of the village</b>
1	Sunflower	1	2	Pulutheri, Vadaseri
2	Gingelly	1	2	R.T. Malai, Seethapatti
3	Groundnut	1	1	Palaviduthi

### **3. Exhibitions**

21 exhibitions were organized at various locations during 2006-2008 and nearly 20000 farmers, farm women, rural youth and extension functionaries have participated. Through these exhibitions awareness on organic farming and its importance was created widely among the farming community of Karur and nearby districts and also developed excellent network among the organic growers and between organic growers and consumers of organic produce.

<b>Sl. No</b>	<b>Year</b>	<b>No. of Programmes</b>	<b>Beneficiaries</b>
1	2006	3	904
2	2007	13	11938
3	2008	5	6984
<b>Total</b>		<b>21</b>	<b>19826</b>

### **Details on number of exhibitions organized and number of participants**

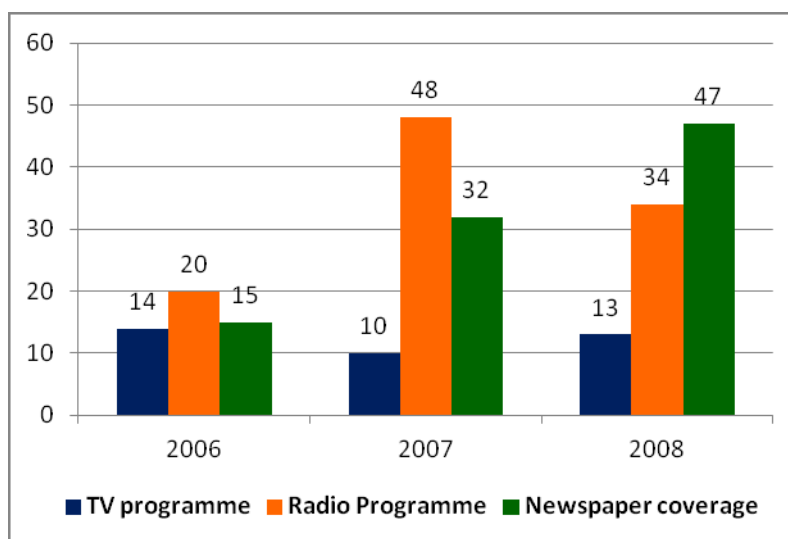


#### 4. *Mass media programme*

Similarly, the services of mass media like TV, Radio and Newspaper were utilized for promotion of organic farming among the farmers.

Programme	Year		
	2006	2007	2008
TV	14	10	13
Radio	20	48	34
Newspaper coverage	15	32	47

**Mass media programme**



#### 5. *Publication*



To create awareness and enrich the farmers' knowledge on organic farming, the following publications were developed and distributed to the farmers.

***Folders***

1. Direct seeded rice – Organic farming
2. Organic rice cultivation techniques
3. Organic bhendi cultivation
4. Organic certification process
5. Organic sunflower cultivation
6. Importance of organic farming
7. SKVK- Service provider

***Booklets***

1. Importance of vermi compost in organic farming
2. Soil moisture conservation techniques and its importance
3. Soil fertility management in organic farming
4. Organic Input Production technologies

***Manual***

1. ICS manual – Organic farming (Tamil & English)
2. Compendium on organic farming

***News letter***

For up gradation of knowledge on organic farming, recent trends in organic farming, marketability of the organic inputs and produce, activities undertaken and future activities planned by the KVK for the promotion of organic farming for three months period, KVK prepared quarterly newsletter entitled “Organic renaissance” and distributed to the organic growers of the district.

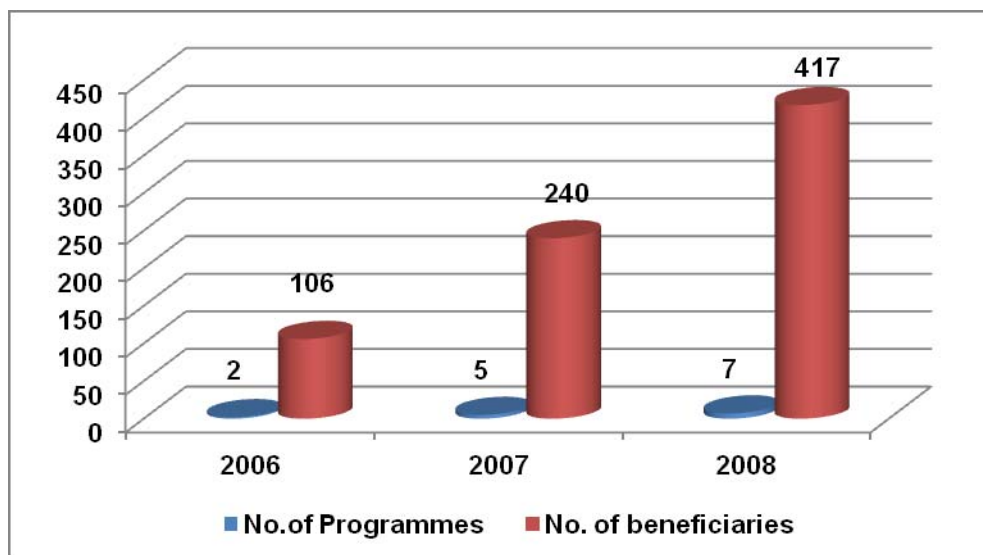
**6. *Exposure Visit***

Totally 14 numbers of exposure visits were arranged by the KVK from 2006 to 2008 based on the concept of “Seeing is believing”, in which totally 763 farmers.

<b>Sl. No</b>	<b>Year</b>	<b>No. of Programmes</b>	<b>No. of participants</b>
1	2006	2	106

2	2007	5	240
3	2008	7	417
<b>Total</b>		<b>14</b>	<b>763</b>

### Details on exposure visit organized by KVK Karur



### Impact assessment

#### *Methodology*

The study was conducted at the operational area of KVK Karur. The data about awareness, knowledge and adoption of organic farming technologies were collected through interview schedule during the year 2005 and 2008 with the same respondents in their farms and homes. The area increased under organic cultivation, production and productivity and marketability were assessed from the data available in the ICS cluster official documents and documents at farmers level.

#### **1. Awareness, Knowledge and Adoption level of farmers on Organic farming**

This study was conducted among the individuals who underwent the training on organic farming organized by the KVK. The respondents of 120 farmers were selected at random and the information revealed that majority of the respondents had high level of awareness about organic farming techniques related on soil fertility management, land selection techniques for organic farming, pest and disease management and post harvest technologies etc.,

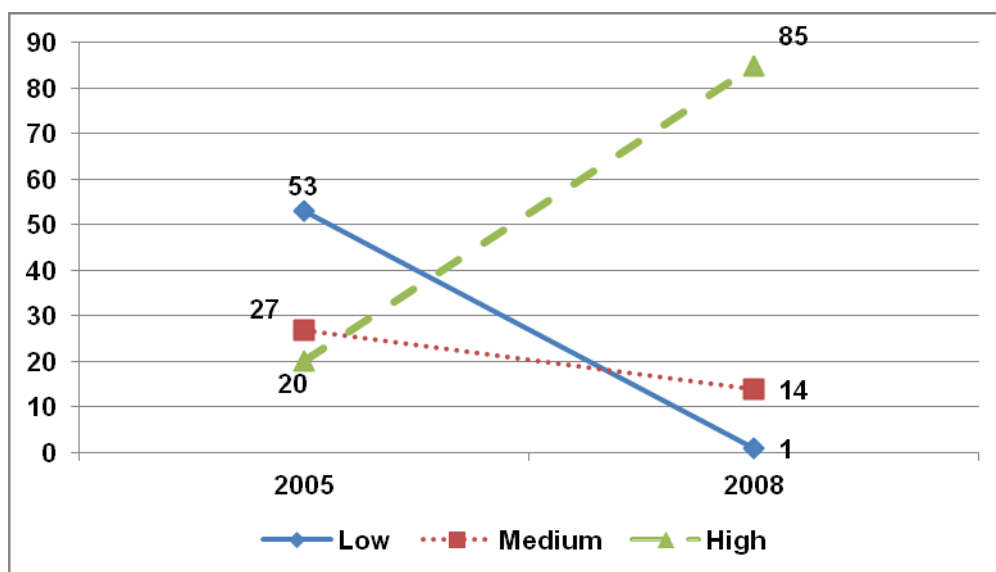
## Increase in awareness level of respondents on organic farming

n=120

S.No.	Awareness level	No. of respondents		% of respondents	
		2005	2008	2005	2008
1	Low	18	4	15	3
2	Medium	71	22	59	18
3	High	31	95	26	79

Awareness level of respondents during 2005 was low (15 %), medium (59%) and high level (26%). But during 2008, the majority of the respondents (79 %) had high level of awareness. Only 3 % of farmers had low level of awareness. Awareness level of respondents on organic farming had increased from 26 % to 79 % at high level, reduced from 59 % to 18 % and 15 % to 4 % at medium level and low level respectively.

## Awareness about organic farming technologies



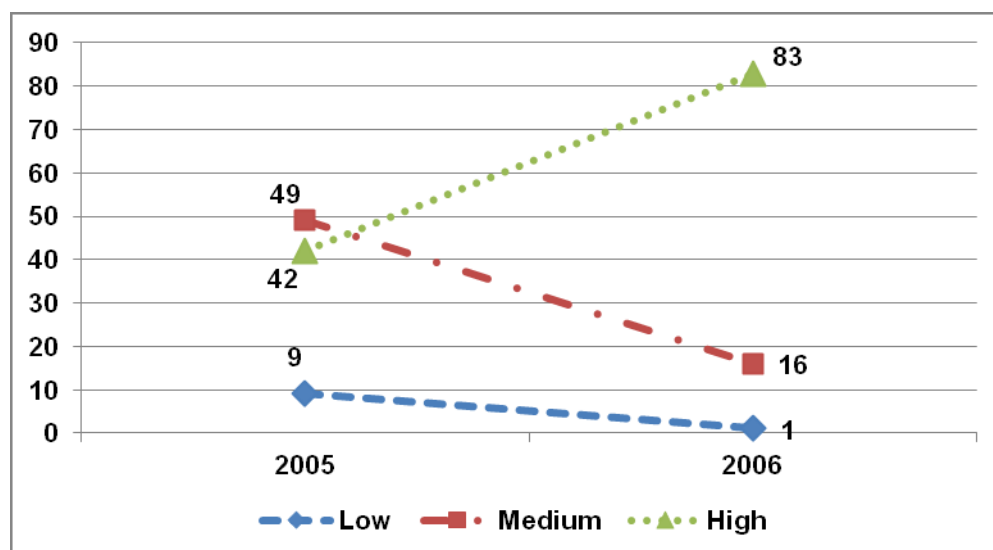
## Knowledge level of respondents in organic farming

S.No.	Knowledge level	No. of respondents		% of respondents	
		2005	2008	2005	2008
1	Low	10	1	9	1
2	Medium	59	19	49	16
3	High	50	100	42	83

During 2005, 42 % of the respondents had high level of knowledge on organic farming related to soil fertility management, pest and disease control techniques. 49 % and 9 % of respondents had medium and low level of knowledge particularly in land selection, inspection and certification process, certification agencies etc.

But during 2008, majority of the respondents (83%) had high level of knowledge on organic farming in all aspects like principles of organic farming, soil fertility improvement, land selection for organic farming, pest and disease management, post harvest technologies and documentation and certification process etc. Knowledge level of respondents had doubled from 2005 (42 %) to 2008 (83%) at high level. The reason behind this was more number of trainings, demonstrations and extension activities organized by the KVK at regular intervals.

### Knowledge level of respondents in organic farming

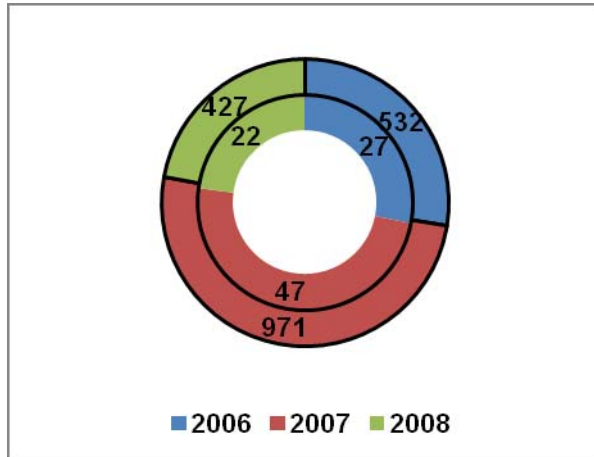


### Number of organic growers group formed

S. No	Cluster	2006		2007		2008	
		No. of groups	No. of organic growers	No. of groups	No. of organic growers	No. of groups	No. of organic growers
1	C1	20	360	34	612	10	193
2	C2	2	58	3	86	6	121
3	C3	3	93	8	236	4	79
4	C4	2	21	2	37	2	34
		<b>27</b>	<b>532</b>	<b>47</b>	<b>971</b>	<b>22</b>	<b>427</b>

During 2006, totally 532 organic growers were registered under 27 groups. However during 2007, 971 organic growers registered as organic growers under 47 groups and during 2008 (upto September) there were 22 groups with 427 organic growers.

### Details on number of organic growers group formed

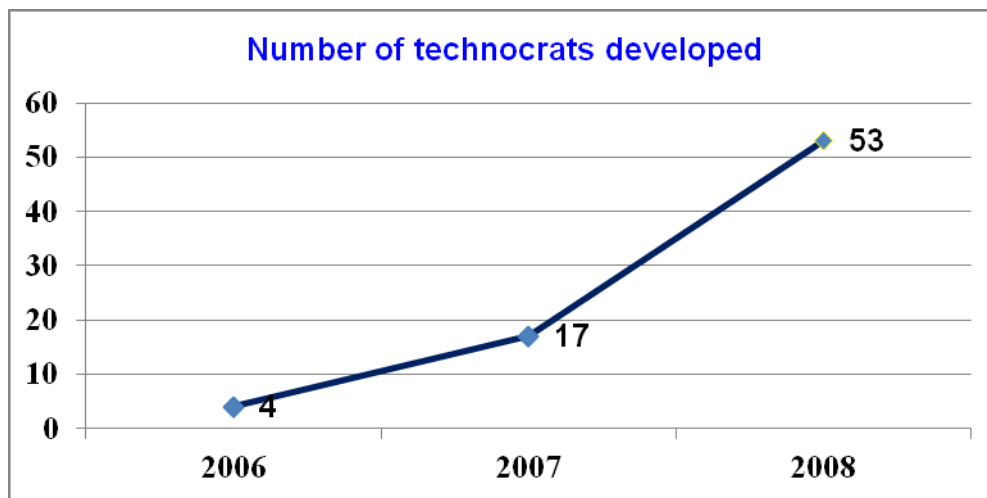


### Number of technocrats developed

KVK Karur formed 96 organic growers group. In each group a leader was identified on consensus mode and they were trained on organic farming in standards for organic cultivation, documentation and procedure for certification and marketing. By this way the group leaders became as technocrats and disseminated the technology and taken the responsibility of documentation and maintaining the standards. Through technocrats the technology spread was high because they are localite and hence their credibility was high. The details of number of technocrats developed over the years are given below.

S.No.	Cluster	No. of technocrats		
		2006	2007	2008
1	C1	2	10	42
2	C2	0	2	3
3	C3	2	3	6
4	C4	0	2	2
<b>Total</b>		<b>4</b>	<b>17</b>	<b>53</b>

During 2006, four organic growers were developed as technocrats through various master trainings on organic farming. Similarly during 2007 and 2008, 17 and 53 technocrats were developed respectively.



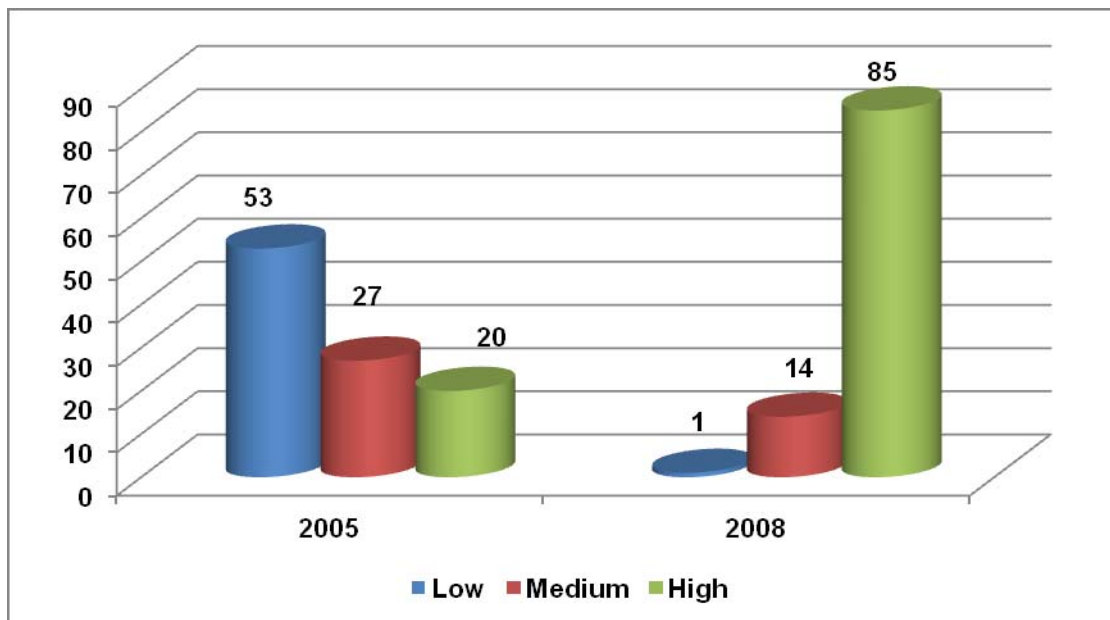
## Adoption level of respondents on organic farming techniques

n=120

S. No	Knowledge level	No. of respondents		% of respondents	
		2005	2008	2005	2008
1	Low	64	1	53	1
2	Medium	32	17	27	14
3	High	24	102	20	85

During 2005, farmers adopted organic farming in an unscientific way. Hence they realized low profit. Half of the respondents and nearly equal percentage of respondents adopted the organic farming techniques like soil fertility management pest and disease management, post harvest techniques etc at low, medium and high level respectively. But the documentation was nil. They did not take any measure to avoid contamination like buffer zone for prevention of drift and water contamination. During 2008, majority of the respondents (85%) adopt the organic farming in scientific manner in all aspects from field selection to harvest and marketing but lacking in documentation. Only few farmers came under medium level of adoption of organic farming.

## Adoption level of respondents on organic farming techniques



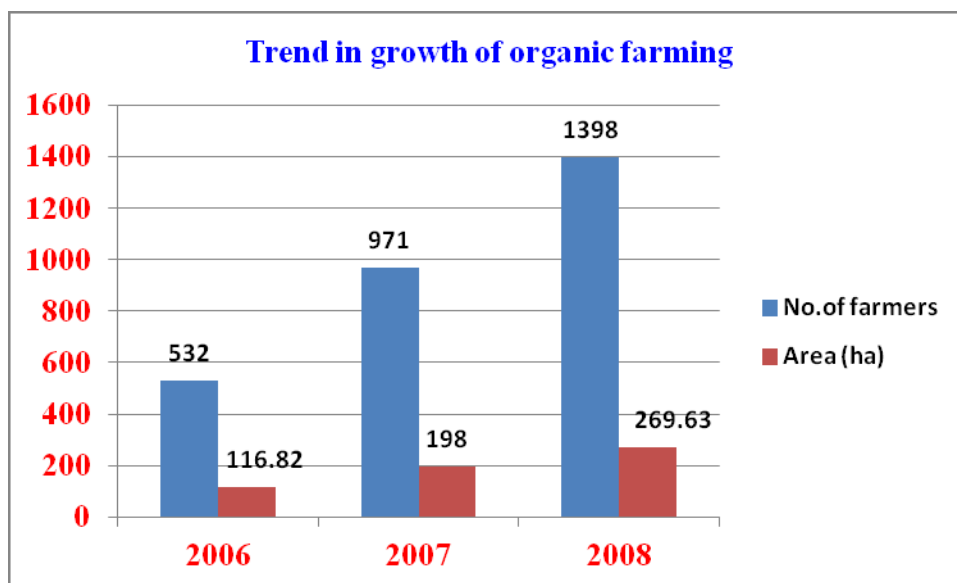




## 2) Trend in area under organic farming and number of farmers adopting the technology

During 2006, there were 532 farmers registered as organic growers and totally 116.82 ha were cultivated under organic crops like paddy, banana, sesame, sunflower, groundnut, green gram and black gram etc. During 2007 and 2008, 971 and 1398 farmers were registered and cultivated various crops under organic in 198 and 269.63 ha respectively.

S.No.	Cluster	2006		2007		2008	
		Farmers (No.)	Area (ha)	Farmers (No.)	Area (ha)	Farmers (No.)	Area (ha)
1	C1	360	75.25	612	127.63	805	161.56
2	C2	58	8.76	86	12.92	207	31.51
3	C3	93	16.38	236	28.53	315	41.45
4	C4	21	16.42	37	28.93	71	35.11
<b>Total</b>		<b>532</b>	<b>116.82</b>	<b>971</b>	<b>198.00</b>	<b>1398</b>	<b>269.63</b>



### 2.1. Organic area under certification

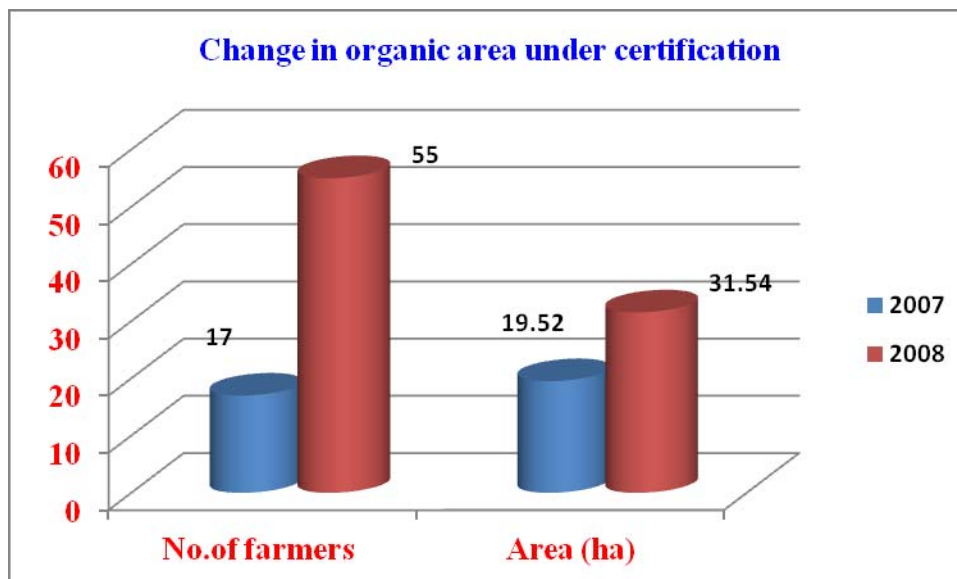
The registered farmers have allotted specific area for organic farming during and slowly implemented organic practices in the allotted fields through the support of the KVK through various approaches. Finally the same were made available for certification. The results related to specific standards and the results of number of farmers and area are given in the following table.



**2.1. a .Organic area under certification (Conversion I)**

S. No	Cluster	2006		2007		2008	
		Farmers (No.)	Area (ha)	Farmers (No.)	Area (ha)	Farmers (No.)	Area (ha)
1	C1	-	-	16	18.11	23	18.80
2	C2	-	-	1	1.41	10	2.57
3	C3	-	-	-	-	16	8.04
4	C4	-	-	-	-	6	1.94
<b>Total</b>		-	-	<b>17</b>	<b>19.52</b>	<b>55</b>	<b>31.34</b>

During 2007, both internal and external inspection was done by SKVK and Lacon quality certification India private Ltd., Kerala. Out of 779.5 ac.of area registered under organic, nearly 50 ac were certified under conversion I. Inspection report is enclosed in Annexure II. During 2008, organic fields were inspected and to be certified totally 77.61 ac under conversion status I. The major reasons for small area under certification found out during inspection were small area allotment in paddy fields without buffer zone, staggered field selection, use of waste from sugar factory without composting, parallel production, improper storage of organic inputs, inadequate information in farm diary, lack of soil fertility management and less knowledge about preventive pest management.



## 2.1. b. Organic area under certification (Conversion II)

S.No.	Cluster	Farmers (No.)	Area 0(ha)
1	C1	16	18.10
2	C2	1	1.42
3	C3	-	-
4	C4	-	-
<b>Total</b>		<b>17</b>	<b>19.52</b>

During 2008, inspection was done by the KVK and to be totally 19.52 ha area brought under conversion II status of organic certification.

## 2.2. Organic products availability

Consequent to increase in area, availability of various organic inputs and better knowledge about various technologies had increased the availability of the organic products in Karur district.

S. No	Crops	Certification I status			
		2007		2008	
		Area (ha)	Organic Products (kg)	Area (ha)	Organic Products (kg)
1	Paddy	12.92	38400	19.39	67200
2	Banana	2.02	45000	3.63	91800
3	Gingelly	5.65	5600	11.71	13920
4	Sunflower	3.23	4400	2.42	3480
5	Groundnut	4.85	14400	8.08	25600
6	Black gram	1.21	1200	5.25	5460
7	Red gram	0.81	1000	0.81	1050
			<b>110000</b>		<b>208510</b>

Among the various crops, paddy followed by rice fallow sesame were occupied more area under organic and their products.

S. No	Crops	Certification II status	
		Area (ha)	Organic Products (kg)
1	Paddy	10.50	33800
2	Banana	1.62	38000
3	Sesame	9.69	13200
4	Sunflower	2.02	3125

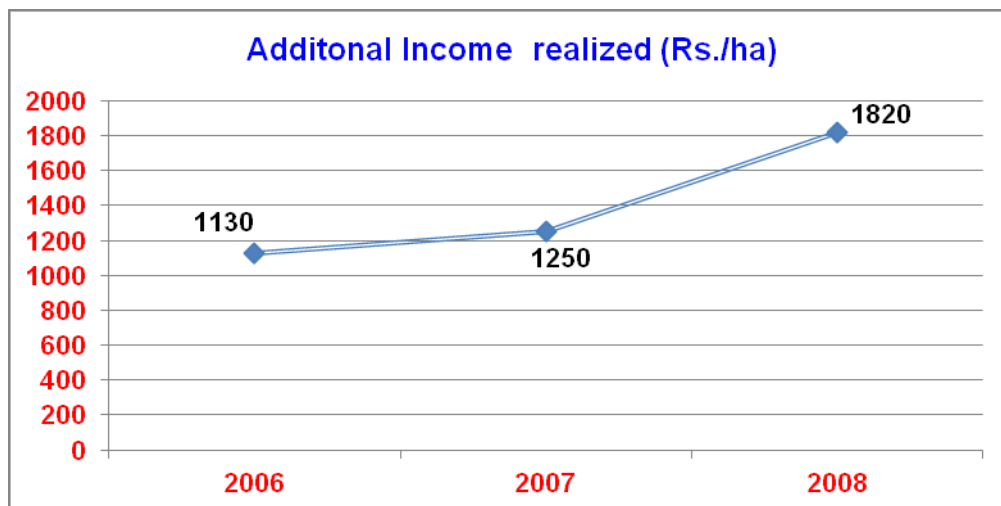
5	Groundnut	6.46	20800
6	Black gram	2.42	2700
7	Red gram	2.02	2750
			<b>114375</b>

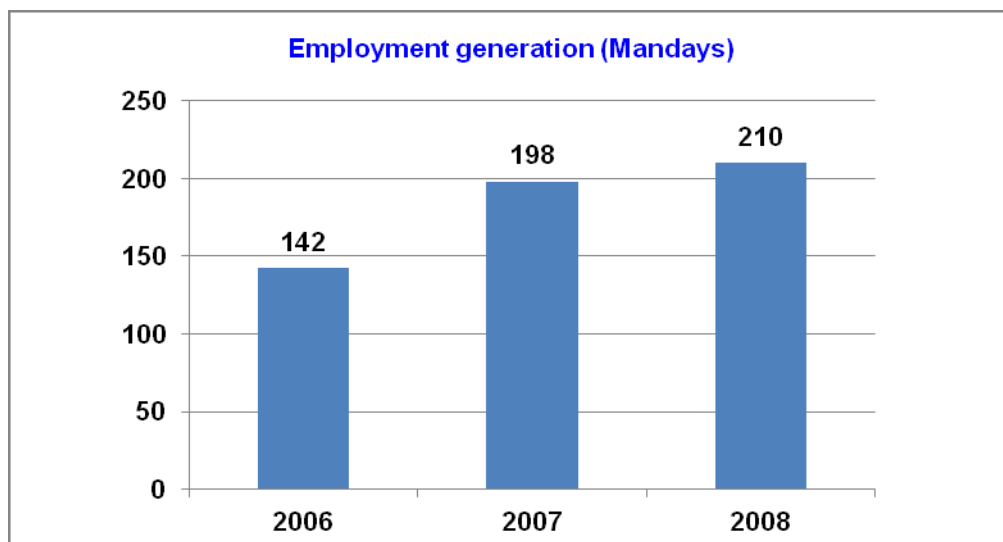
### 2.2. b. Processing Units

By KVK intervention, the processing unit for organic sesame and organic rice were also established. Through certified processing units the availability of processed products is increased in the district.

### 3. Income and employment generation

By the increased adoption level of organic farming, simultaneously the establishment of various organic production units created the additional employment opportunities of 142, 198 and 210 man days during 2006, 2007 and 2008 respectively. Similarly the organic cultivation reduced the input cost in one direction and fetching additional price for the produce in another direction leading to additional income of about Rs. 1130, Rs 1250 and Rs. 1820/ha during 2006, 2007 and 2008 respectively.



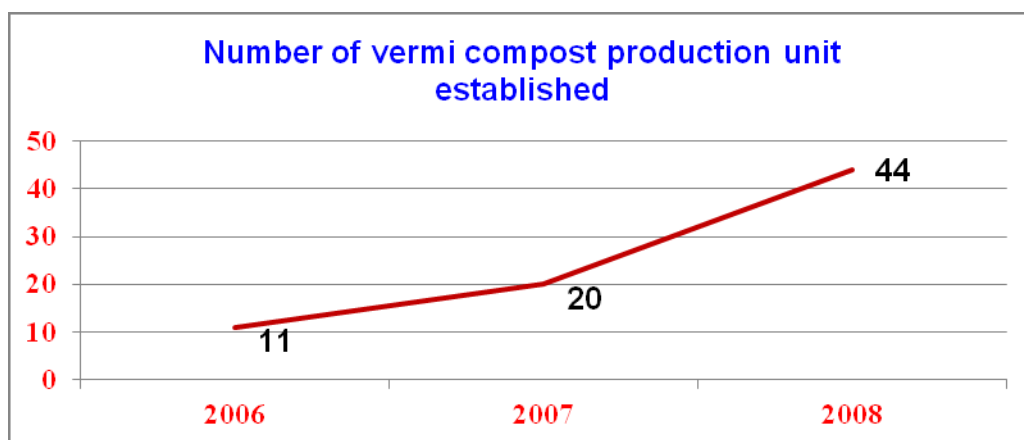


### **Establishment of organic input production unit**

#### ***1) Vermi compost production unit***

S. No	Cluster	No. of Vermi compost production unit		
		2006	2007	2008
1	C1	3	8	17
2	C2	2	3	7
3	C3	2	4	11
4	C4	4	5	9
	<b>Total</b>	<b>11</b>	<b>20</b>	<b>44</b>

The most widely used organic manure is vermi compost. During 2006 only 11 organic production units were started in the operational area with KVK intervention. However the had increased to 20 and 44 respectively during 2006 to 2008. Similarly the unit capacity started in quintals during 2005 had increased to tones during 2008.



### ***Vermi compost production***

The production capacity of established vermi compost production units are given in the following table.

S. No	Cluster	No. of Units	Production (Tonnes/per year)
1	C1	17	210
2	C2	7	49
3	C3	11	77
4	C4	9	63
	<b>Total</b>	<b>44</b>	<b>399</b>

Totally 44 farmers in the operational area of KVK Karur have started vermi compost production units and the produced vermi compost were used for their own purpose and the balance were sold to the neighbours. The remaining farmers used farm yard manures, enriched farm yard manures with bio fertilizers for basal application. The total capacities of the 44 vermi compost production are 399 tonnes per year.

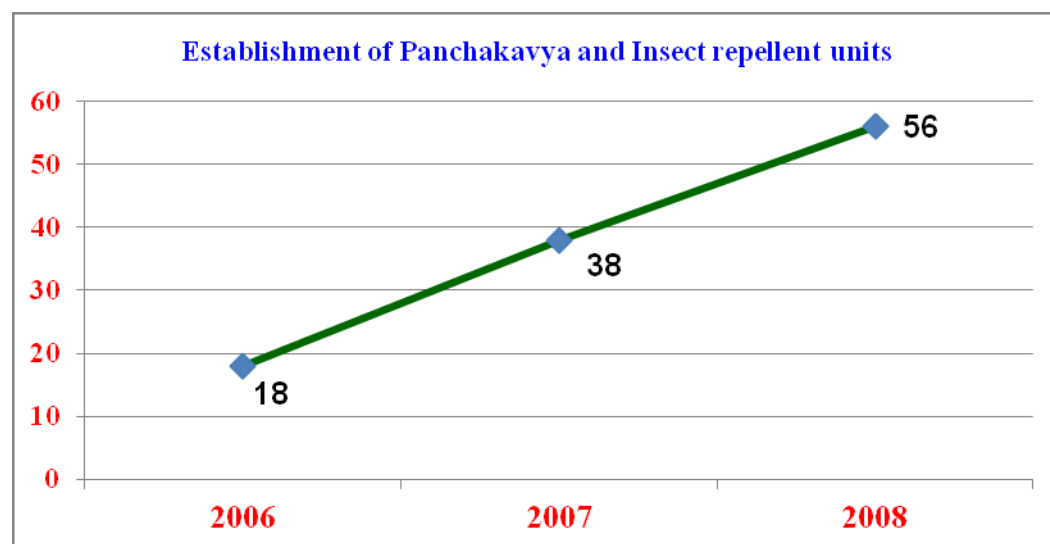
### **Panchakavya and Insect repellents production Unit**

Majority of the farmers adopting organic farming in Karur district produced Panchakavya and Insect repellents for their own purpose whenever they were in need.

S.No.	Cluster	No. of Panchakavya and Insect repellents production units		
		2006	2007	2008
1	C1	5	12	19

2	C2	4	8	11
3	C3	4	9	12
4	C4	5	9	14
		<b>18</b>	<b>38</b>	<b>56</b>

To supplement the organic input requirements, 18 units of Panchakavya and Insect repellents were established during 2006 and the same had increased upto 56 during 2008 for large scale production.



#### 4. Marketing information and Marketability of organic products

To create awareness among consumers, KVK has organized exhibitions at different places and also established an excellent network for marketing of organic produce with the market promoters at different places. At present KVK, Karur procure organic products from the farmers belonging to Conversion I status and supply to various agencies. KVK also participated in various exhibitions both at state and national level and created special market for organic sesame and consequently established one processing unit especially for organic sesame oil and received the transaction certificate for the export as per the standards of NPOP and EU regulations. The details of market linkage developed and organic products supplied to various agencies are as follows.

S.No.	Organic product	Supplied to
1	Rice, Gingelly oil	Selvam organic Shop



		248 C, Vinayaga Complex Opp. To Mariyamman Kovil Pollachi road Udumalaipettai
2	All organic produce	SAL (Organics 59/4 Rajpur Road Deharadun-248 001 Uttaranchal , India
3	Sesame Oil	Maharishi Ayurveda Products pvt. Ltd Pl# 17-18, NSEZ, NOIDA, India
4	Groundnut oil	Aryan International D-184, Neb Sarai, New Delhi- 110 068
6	Rice, Gingelly Oil, Groundnut oil, Ragi, Cumbu etc	Selva Agro Farm Thenkarai village Mathi palayam post Alanthurai (Via) Coimbatore- 641 101
7	Rice, Gingelly Oil, Groundnut oil, Ragi, Cumbu etc	ESHA Foundation Veliyagiri Siruvani Road, Coimbatore
10	Organic rice	Infosys, Mysore
11	Oils	Green Harvest, Pondicherry

### Major achievements

- Nearly 49 trainings were given to organic growers and 1246 farmers benefited.
- 1500 farmers were registered as organic growers and they were grouped (69 groups).
- The details of organic growers such as name and address, farming details were uploaded in website named [www.serviceprovider.com](http://www.serviceprovider.com).
- Certificate course on organic farming was conducted at SKVK in collaboration with Tamil Nadu Agricultural university, Coimbatore
- Knowledge and Skill level of farmers on organic farming increased (83)
- Area under organic farming increased (668.06 ac)
- Totally 19.33 ha was certified as organic area under conversion I status
- Around 31 and 19 ha will be certified under conversion I and
- conversion II status respectively
- Availability of organic inputs and products increased(432.8 tonnes-Paddy, Banana, Sesame, Sunflower, groundnut, Black gram and Red gram)
- Income increased and additional employment generated (Rs.11250/ha) and 210 man days
- Marketability of organic produce increase

## **Summary**

KVK Karur promoted organic farming technologies among the farming community by involving various institutions like State Agricultural University (SAU), National Centre for Organic Farming (NCOF), Agricultural and Processed Food Products Export Development Authority (APEDA), Processing Institutes etc. Through their interventions, KVK scientists trained and equipped the farmers in various scientific aspects of organic farming production and marketing, assisted them to establish processing units and paved way for integrated production and marketing of organic produces through institutional approach.