

ESTABLISHING AND NETWORKING OF AGRICULTURAL MARKET INTELLIGENCE CENTRES IN INDIA

NATIONAL AGRICULTURAL INNOVATION PROJECT (NAIP)



RECEIVED AS GRATIS

FROM.....

REPORT ON BASELINE SURVEY

Dr. K. Satheesh Babu
Dr. K. Jesy Thomas
Swapna Surendran
K. Jayasree
K. N. Anjaly
T. Unnikrishnan



KERALA AGRICULTURAL UNIVERSITY
DEPARTMENT OF AGRICULTURAL ECONOMICS
COLLEGE OF HORTICULTURE

2009



KERALA AGRICULTURAL UNIVERSITY
DIRECTORATE OF RESEARCH

Dr. D. ALEXANDER
Director of Research

Fax No 91 487 370019
Gram "AGRIVARSITY"
E-Mail dr@kau.in
Phone Off 910487 2371302

Main Campus
KAU Post - 680 656
Thrissur - Kerala

15-02-2010

FOREWORD

Agricultural marketing had limited role of facilitating the buying and selling of agricultural inputs and outputs in a supply driven agriculture. Farmers had no problem in marketing their commodities as they used to sell their produce directly to the consumer or depended upon the traditional channels of village traders linking them with the market through the wholesalers and retailers or their agents. The transition of subsistence agriculture to semi subsistence, and then finally to commercial agriculture led to long supply chains where the agricultural commodities had to pass through a number of hands before it reached the ultimate consumer. Inefficient marketing led to significant post-harvest losses due to unscientific packaging, handling, storage and transportation, and marketing system was considered efficient as long as it ensured a fair share of the produce to all stakeholders, viz. the producers, traders and consumers alike.

The transformation of the supply driven agriculture into a demand driven agriculture drastically altered the situation. An ordinary farmer while giving his entire time to production related activities single handedly could not keep track of the changing market trends, consumer preferences, new markets, new suppliers or price signals. The relevance and need of institutional mechanisms to advise the farmer on such trade related aspects assumed significance in this context as traders were very organized, whereas the farmers were not.

Market intelligence is thus vital for taking production and marketing decisions. Unequal accesses to this type of market related intelligence inputs lead to unequal playing grounds for farmers and traders. In the past, the farmers' ignorance was the trader's gain. I am happy to note that the Agricultural Market Intelligence Centre under the ICAR funded NAIP project in the Department of Agricultural Economics, College of Horticulture, Vellanikkara is trying to bridge this vital gap. I congratulate the project team for conducting a baseline survey at the beginning of the project itself, and preparing a baseline survey report to provide a benchmark to assess the impact attributable to the project at later stages of evaluation.

(D. Alexander)

Executive Summary

With the transformation of agriculture from subsistence to commercial production systems, farmers needed more market orientation to succeed in business because commercial production is basically market oriented and only market orientation and market responsiveness could fetch better prices under the changed situation. Though farm related information is provided through the radio, TV and newspapers, there is no mechanism to analyze, interpret and convert this huge volume of information passing through the information highway into simple, comprehensible trade intelligence for ordinary farmers. Developing commodity specific, regionally linked market intelligence networks assume importance in this context. This is more vital for the farming community in Kerala, who are more exposed to the world market and therefore more vulnerable because their commodities are mostly export oriented. It was in the above context that the project entitled "Establishing and Networking of Market Intelligence Centres in India" was launched under NAIP component I, with Tamil Nadu Agricultural University as the Lead Centre. In order to provide a benchmark to assess the impact attributable to the project at later stages of evaluation, a benchmark survey was conducted from a cluster of 6 villages in Thrissur District using a pre-tested, structured schedule of enquiry. The sample size consisted of 100 farmers selected at random. The selection of the district was purposive, as it was centrally located and had all major cropping systems in the State. The major socio-economic characteristics of the respondents were studied. The study revealed that better prices, soil and land suitability were major determinants of sowing/planting decisions. The market and the price information seeking behaviour of the respondent farmers indicated that the most often source of market and price related information were the news papers and the traders. The marketing channels used by the farmers differed from crop to crop. Farm gate level disposal was common, and mostly private traders were relied upon to dispose commodities. There was practically no value addition of farm commodities. Sources like radio, TV, department officials and scientists were not consulted to obtain market and price information. None of the respondent farmers relied up on internet for accessing market information in the era of information technology.

AGRARIAN ECONOMY OF KERALA: A UNIQUE SETTING

The agrarian economy of Kerala exhibits certain uniqueness that distinguishes it from her sister states of India. A high density of population, rainfall distribution, wage rate structure, highly literate and trade unionized peasantry and labour force, and the predominance of fragmented, and extremely small operational holding pattern give an entirely different picture. The highly diversified physical features and agro-ecological situations provide more than 30 micro-agronomic environments, facilitating the growth of more than 20 major crops. It is therefore, necessary that a clear understanding of the agro-climatic conditions and socio-economic setting of the study area be made, to have a better understanding of the benchmark report.

1. Location

Kerala state is situated at the Southwest corner of the Indian peninsula between 8°18' and 12°48' North latitudes and 74°52' and 77°22' East longitudes, as a narrow strip of land, 32 to 130 km wide, between the Western Ghats in the East and the Arabian Sea in the West. It has a geographical area of 38863 km² and a coastal line of 580 km in length. It accounts for 1.18 per cent of India's land surface area and accommodates 3.1 per cent of her population (Government of Kerala, 2008).

The land resources is highly diversified in its physical features and agro-ecological conditions with the undulating topography ranging in altitude from below mean sea level (MSL) to 2694 m above MSL. Based on the topography, the land resources have four well-delineated natural divisions, viz., the low land (< 7.5 m from MSL), the midland (7.5 to 75.0 m above MSL), the highland (75 to 750 m above MSL), and the high ranges (750.0 m above MSL), each running almost parallel in the North-South orientation (Kerala Agricultural University, 1989).

The state ranks first among Indian states in literacy with a literacy rate of 90.92 per cent, as against the national average of 65.38 per cent (Government of Kerala, 2008). The male and female literacy rates are 94.20 and 87.86 percentages, exhibiting very little disparity as against the All-India average of 75.85 and 54.16 percentages. Similarly, the life expectancy of 71.67 years at birth is also the highest in the country against 61 years at the All-India level. Kerala's infant mortality of 15.6/1000 is also the lowest in India while the national average is 72/1000 (Government of India, 2002). The better quality of life is indicative of the well-developed social sector, giving rise to a "Kerala Model of Development" (Kannan, 1990), which is comparable to any developed Asian country (Government of India, 2009) (Table 1).



Map of Kerala

Table 1. Indicators of Human Development

<i>Country</i>	<i>Life expectancy at birth</i>	<i>Infant Mortality rate (per thousand births)</i>	<i>Adult literacy (per cent)</i>
China	72.9	23	90.9
Australia	80.6	5	98
Sri Lanka	74.38	12	90.7
USA	78	7	99
Bangladesh	62.8	54	43.1
Switzerland	80.6	4	99
Pakistan	63.8	80	49.9
Norway	79.7	3	100
Nepal	62.0	56	48.6
UK	78.7	5	99
India	68.6	56	61
Germany	79.0	4	99
Kerala state (India)	73.9	14	90.9

(Source: Government of Kerala, 2008)

2. Sectoral Share in the Net Domestic Product

The share of the primary sector (agriculture and allied activities) in the net domestic product (NDP) of the state was 39.2 per cent during 1980-81 at the current prices. It has come down to 34.5 per cent by 1996-97, and still lower at 17.16 per cent as on 2005-06. The share of the secondary sector has remained stagnant around 24 per cent also declined during this period (23.81 per cent as on 2005-06) while the tertiary sector has increased during the corresponding period (59.02 per cent). It meant that in real terms, the share of the primary sector showed declining trends, while that of tertiary (services) sector showed increasing trends over the years.

3. Climate

The state experiences a warm humid tropical climate. The mean temperature ranges from 23°C in the cooler months to 33°C in the hot spells, the coolest months being December-January and the hottest months March-May. The mean relative humidity ranges from 70-85 per cent, January-March being the dry months and May-November the humid.

The state as a whole experiences mega thermal climate, which indicates that the crop growth is not inhibited by temperature - but by rainfall (Kerala Agricultural University, 1989).

4. Rainfall

The state receives a mean normal rainfall of 2631 mm from the South-West monsoon from June to August and North-East monsoon from September to November. (Table 2) The average annual rainfall during 2008 was 2103 mm, with -20 per cent departure from the normal (Government of Kerala, 2008). The rainfall follows a bi-modal pattern with the peak of South-West monsoon occurring in June and the peak of North-East monsoon in October.

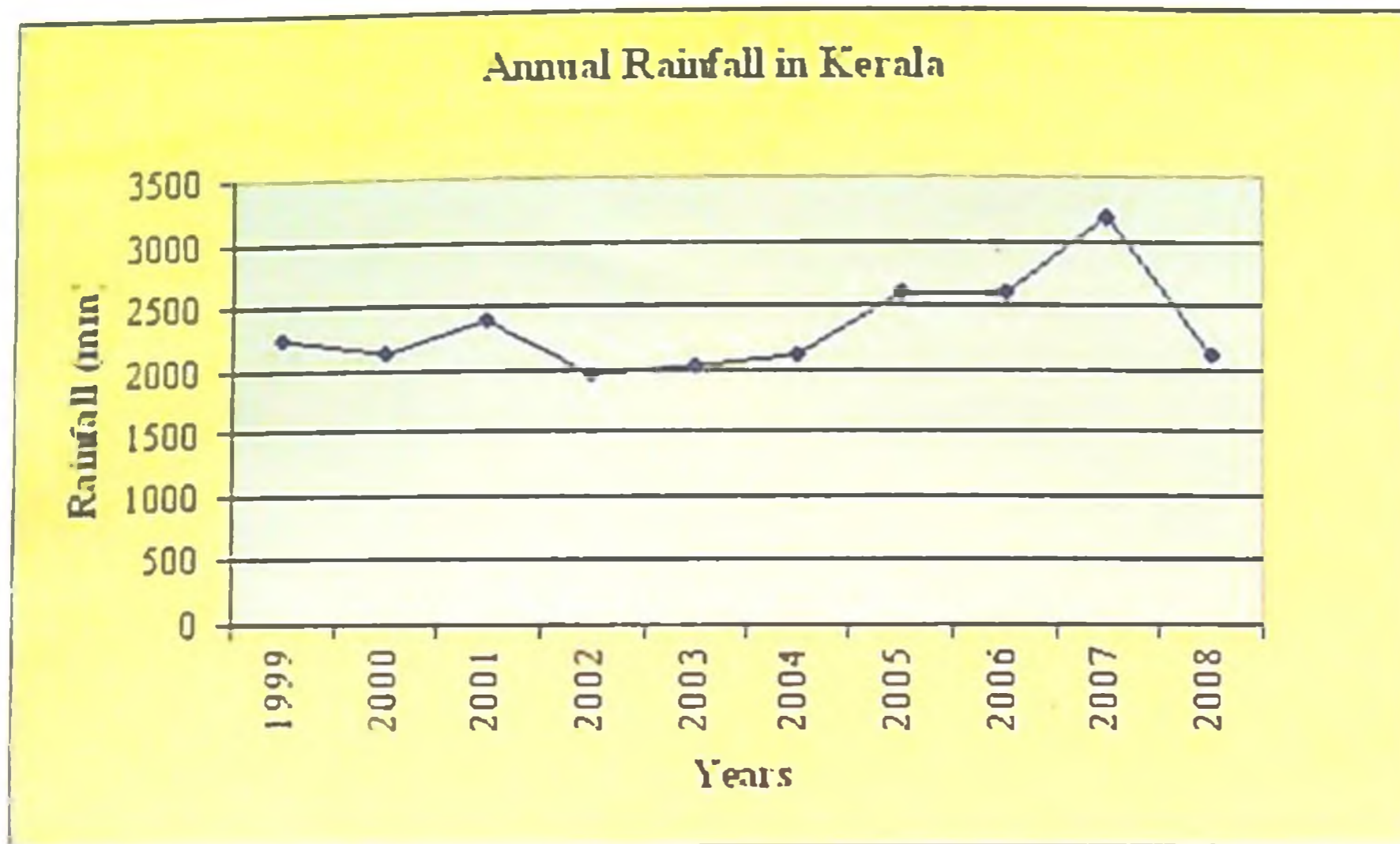
Table 2. District wise Actual and Normal Rainfall (mm) for 2008

<i>Districts</i>	<i>South West Monsoon</i>		<i>North East Monsoon</i>	
	<i>Actual</i>	<i>Normal</i>	<i>Actual</i>	<i>Normal</i>
Alappuzha	1549.2	1836.0	477.6	586.8
Kannur	2086.1	2713.2	405.3	325.2
Emakulam	1875.4	2348.1	378.6	622.1
Idukki	2278.4	2584.5	351.0	637.5
Kasargode	2609.4	2990.8	220.7	321.1
Kollam	1174	1379.2	493.5	561.7
Kottayam	1536.1	1967.9	450.6	626.9
Kozhikode	2220.6	2775.5	634.1	472.8
Malappuram	1407.6	2033.4	365.4	453.3
Palakkad	1260.6	1687.1	372.8	446.9
Pathanamthitta	1645.4	1662.3	533.8	580.4
Thiruvananthapuram	788.7	969.9	597.1	515.3
Thrissur	1566.8	2196.7	398.7	442.5
Wayanad	1302.3	2756.0	463.5	334.7

(Source: Government of Kerala, 2008)

5. Soils

The major soil types of Kerala are laterite (oxisol), red loam (alfisol), coastal alluvium (entisol), riverine alluvium (entisol, inceptisol), saline hydromorphic (alfisol), brown hydromorphic (alfisol, inceptisol), Kuttanad alluvium (entisol, inceptisol), Onattukara alluvium (entisol), black soil (vertisol) and forest loam (Mollisol, alfisol). The laterite soils are the major soil type, covering about 65 per cent of the total area. The state provides an ideal setting for laterisation with the rainfall, temperature and humidity pattern prevailing.



6. Water Resources and Irrigation Potential

Irrigation is the most critical input for increasing the productivity of crops. Out of a gross cropped area of 27.68 lakh hectares, 4.26 lakh hectares is irrigated in Kerala, which works out to a meagre 15.4 per cent of the gross cropped area (Government of Kerala, 2008). A basic constraint experienced by the rain fed production environments is the uncertainty and variability in the total annual rainfall and its seasonal distribution. Irrigation reduces this uncertainty and risk to a considerable extent.

Even though the period from December to April characterizes the period of lowest rainfall, irrigation needs are less for December and January months because they are comparatively cooler months having lower evapo-transpiration. However, the months from February to April being dry months, and keeping the mega thermal climate of the state in mind, irrigation is required during this period.

Kerala is a land of rivers and backwaters. There are forty four (41 west-flowing and 3 east-flowing) river resources in the State. However, being monsoon fed, most of them practically turn into rivulets in the summer months. Its implications are clear. Water is seldom available for irrigation when the need for it is the highest. It underlines the need for an efficient water harvesting system whereby the run-off during the rainy season is harvested, to be recycled during the dry months to impart stability in crop production.

7. Demographic features

Kerala is one of the most densely populated states in India. The density per square km is 819 persons per km² while it is only 324/ km² for the country as a whole (Government of

India, 2009). This has been exerting tremendous pressure on the limited land resource base against steadily declining per capita land availability, especially from the seventies onwards.

Of the total working population in the State, only 16.07 per cent are agricultural labourers (Table 3). This is understandable when viewed against the fact that the cropping pattern is dominated by perennial cash crops, which are less labour intensive. The labour intensive food crops like rice, cassava etc. has been continuously losing their acreage due to high wage rate and declining relative profitability. The labour force is thus increasingly being compelled to turn to the non-farm sector for employment opportunities. The per capita land availability is currently 0.08 ha.

Table 3. Percentage distribution of Main Workers in Kerala

<i>Sl. No.</i>	<i>Particulars</i>	<i>1991</i>	<i>2001</i>
1	Cultivators	12.24	7.20
2	Agricultural labourers	25.55	16.07
3	Household Industry workers	2.58	3.54
4	Livestock, Forestry, Fishing, Plantation, Mining, Quarrying and allied sectors	10.23	73.19
5	Other workers	49.40	

(Source: Government of Kerala, 2008)

8. Distributional Pattern of Operational Holdings

The average size of operational holdings in Kerala is only 0.27 ha as against the national average of 1.41 ha. Nearly 94 per cent of the holdings are below one hectare in size (Table 4). The small and marginal farmers together accounted for 98.12 per cent of the total number of operational holdings against 77.96 per cent for the country as a whole.

The high population density coupled with small operational holdings have led to the evolution of a special food production system in the state, viz., the home garden agriculture (syn. homestead farming). It is a household level food production system practised around the home with a multi-species of annual and perennial crops along with/or without livestock, poultry and/or fish for the purpose of meeting the fundamental requirements of the household, viz., food, fodder, fuel, timber, mulch and medicare, and also to generate additional income through the sale of surplus to purchase the items that are not obtainable, readily available, or affordable to be produced in the homesteads (Fernandes and Nair, 1986; Ninez, 1987 and Salam *et al.*, 1995). This traditional household level food production system has resulted in an intensive land use system aimed at deriving the maximum benefit out of the limited land resource base both spatially and temporally. The agricultural production base of Kerala is characterized by the predominance of homestead farming.

Table 4. Number of Operational Holdings and Area Operated by Size Class in Kerala (2000-01)

<i>Sl. No.</i>	<i>Size group</i>	<i>Number</i>	<i>Area operated (ha)</i>	<i>Average size of operated holding (ha)</i>
1	Marginal (below 1 ha)	6335428	882502	0.14
2	Small (1-2 ha)	226810	299767	1.32
3	Semi-medium (2-4 ha)	75651	190527	2.52
4	Medium (4-10 ha)	16008	84759	5.29
5	Large (10 ha & above)	2735	111933	40.93
Total		6656632	1569488	0.24

(Source: Government of Kerala, 2008)

Major crops like coconut, arecanut, cassava, banana, pepper etc. are raised mostly under the homestead situation.

9. Land Use Pattern

With a high rainfall distribution and population density, every inch of the land in the state is put to appropriate use with little or negligible barren and uncultivable land (Table 5). The percentage area kept under agricultural purpose is nearly 75 per cent. It is probably the highest in the country. The cropping intensity of 138 per cent is also indicative of the intensive land use pattern despite the dominance of perennial crops in the cropping pattern.

Table 5. Land Use Pattern in Kerala during 2006-07

<i>Sl. No.</i>	<i>Parameters</i>	<i>Area ('000 ha)</i>	<i>As % to the total geographical area</i>
1	Geographical area	3886.29	100.00
2	Forest	1081.51	27.83
3	Land put to non-agricultural uses	448.88	11.55
4	Barren & uncultivable land	26.13	0.66
5	Permanent pastures and other grazing land	0.301	0.002
6	Land under tree crops and not included in the net area	8.959	0.12
7	Cultivable waste	90.29	2.34
8	Fallow other than current fallow	47.14	1.17
9	Current fallow	81.65	2.15
10	Net area sown	2101.43	54.16
11	Area sown more than once	816.11	17.08
12	Total cropped area	2917.54	75.07
13	Cropping intensity	138	

(Source: Government of Kerala, 2008)

10. Cropping Pattern

The cropping pattern of Kerala is highly diversified and includes food as well as non-food crops.

Eventhough the cropping pattern consists of more than 20 crops, hardly a dozen crops occupy more than one per cent of the total cropped area. Coconut occupies the highest share in the total cropped area (29.92 per cent). This is followed by rubber (17.21 per cent), rice (9.03 per cent), pepper (7.43 per cent), arecanut (3.5 per cent), tapioca (2.99 per cent), rice (9.03 per cent), pepper (7.43 per cent), arecanut (3.5 per cent), tapioca (2.99 per cent), coffee (2.90 per cent), cashew (2.42 per cent) and banana (2.03 per cent) in that order. Tea and cardamom occupies slightly more than one per cent of the cropped area. The rest of the crops occupy less than one per cent of the gross cropped area (Table 6).

Table 6. Cropping Pattern in Kerala during 2006-07

<i>Sl. No.</i>	<i>Crops</i>	<i>Area ('000 ha)</i>	<i>As % to the gross cropped area</i>
1	Rice	263.53	9.03
2	Pulses	6.87	0.24
3	Pepper	216.71	7.43
4	Ginger	11.08	0.38
5	Turmeric	3.92	0.13
6	Cardamom	41.37	1.42
7	Arecanut	102.08	3.50
8	Banana*	59.143	2.03
9	Other plantains	53.096	1.82
10	Cashew nut	70.463	2.42
11	Tapioca	87.128	2.99
12	Coconut	872.94	29.92
13	Coffee	84.571	2.90
14	Tea	35.365	1.21
15	Rubber	502.240	17.21
16	Others	507.034	17.38
Total cropped area		2917.541	100.00

(Source: Government of Kerala, 2008)

*Includes Nendran and other plantains

11. Labour Wages

The workforce in Kerala is much better off than their counterparts elsewhere in the country. The labour force, by virtue of their better organizational strength and bargaining power enjoys one of the highest wage rates in the country. The average wage rate for male labour during 2008-09 was Rs.250-275/day while that of female labourers was in the range of Rs.170-210/day. It is more than one and half times the average daily wages of agricultural labour in the neighboring state of Tamil Nadu, and more than twice their counterparts in Karnataka and Andhra Pradesh.

12. Area under irrigation

Irrigation has a significant role to play in any agrarian economy through yield increase and yield stabilization impacts. It mitigates the bad effects of dry spells, especially during the summer months. This is truer for all perennial crops where the negative impact of a drought will be carried over to the next 2-3 years, unlike in the case of seasonal and annual crops where the impact will be limited mostly to the corresponding year only.

The net area under irrigation was 3.92 lakh ha in 2006-07. The gross area under irrigation during the corresponding period was 4.90 lakh ha. It meant that more than 83 per cent of the cultivated area in Kerala is subjected to the vagaries of weather.

The foregoing analysis clearly illustrates that the ethos of farming in Kerala is distinctly different from that of Indian agriculture as a whole. This uniqueness is to be borne in mind while approaching the benchmark study.

13. Agricultural marketing status

No regulated markets have been established in Kerala under the Agricultural Produce Markets Committee (APMC) Act. This has left the farmers mostly at the mercy of the private traders, who virtually control the agricultural marketing especially in the absence of a strong marketing cooperative system in the State. Government intervention is limited to a mechanism of support price to selected commodities and procurement through its agencies like MARKETED, KERAFED, NAFED, Civil Supplies Corporation etc. when the need arises due to price fall. This has met with limited level of success in the past.

14. Methodology

14.1. Types of data and sampling design

The study is based on primary data. The benchmark information on 100 representative farmers selected from a cluster of 6 villages in Thrissur district was selected. The district is centrally located and has all major cropping systems in the State, and hence can be considered as a representative district.

14.2. Method of Enquiry

The information required for the study was collected from the sample farmers through personal interview, using a pre-tested, structured schedule of enquiry (Appendix-I). This information was supplemented through semi-structured interview and discussions with

concerned experts from the Department of Agriculture, Government of Kerala, and progressive farmers.

15. Period of Study

The primary data under investigation pertains to the agricultural year 2009-10.

16. Project Objectives

The project entitled "Establishing and Networking of Agricultural Market Intelligence Centres in India" has been launched under NAIP component I on a consortium mode, with Tamil Nadu Agricultural University, Coimbatore as the Consortium Leader, with Kerala Agricultural University, Vellamkkara, along with 10 SAUs in India as the Cooperating Consortium Partners. The project is borne out of the realization that market information and intelligence are crucial to enable farmers and traders to make informed decisions. The most important marketing information input needed by a farmer in the current scenario is the price intelligence. This input is crucial to successful marketing of high value produce like plantation crops, spices, and oil seed crops. Hence, the Market Intelligence Centre at Kerala Agricultural University has been assigned the task of providing price intelligence on coconut, cardamom and pepper.

The specific objectives assigned to the KAU Centre are:

- providing price forecasts during main crop seasons for coconut, pepper and cardamom
- making available product intelligence to all stakeholders
- providing information on high price markets to producers
- improving the dissemination of market intelligence
- increasing the capacity to absorb and use such market intelligence by all stakeholders
- developing commodity market outlook for selected commodities at state level
- providing commodity market research reports

It is against this background that the benchmark survey of 100 farmers is conducted to assess their initial status.

17. Relevance of the study

The concept of agricultural marketing as the buying and selling of agricultural inputs and produce is fast getting outdated. It was meant for days when the rural economy was self sufficient, and the farmers transacted their produce directly to another farmer on barter or to a consumer on cash. With the transformation of agriculture from subsistence to commercial production systems, farmers also needed more market orientation to succeed in business because commercial production is basically market oriented. Only market orientation and market responsiveness could fetch better prices under the changed situation. Thus there is an increasing awareness that it is not enough to produce a crop or commodity; it must be marketed as well. In this aspect, production is only half battle won.

It is said that wherever there is a market, an information network also co-exists. New market trends, consumer preferences, new suppliers or new markets can alter the nature and pattern of transaction. A single farmer while giving his entire time of planning production related activities single handed cannot keep track of the changing market or price signals. The relevance and need of institutional mechanisms to advise the farmer on such trade related aspects assume.

Though farm related information is provided through the radio, TV and newspapers, there is no mechanism to analyze, interpret and convert this huge volume of information passing through the information highway into simple, comprehensible trade intelligence. Developing commodity specific, regionally linked market intelligence networks assume importance in this context. Such a huge effort needs initiatives, innovativeness and partnership with all stakeholders like farmers, traders, trade association, input agencies, commodity boards, research institutions and extension agencies. This is more vital for the farming community in Kerala, who are more exposed to the world market and therefore more vulnerable because most of his/her commodities are export oriented.

Two approaches have been suggested to estimate the impact of an agricultural project. The first approach is to identify the costs and benefits that will arise with the proposed project and compare these with the situation without the project ('with and without project approach'). The difference is considered to be the impact attributable to the project (Gittinger, 1982; Young, 1996). The alternate approach is by comparing the situation before and after the project implementation ('before and after project approach')[Squire and Tak, 1975, FAO, 1993]. The before and after approach will be followed for assessing the impact of the project due to the non availability of a control group of farmers, without the project. That is why a benchmark survey like this one has been planned and executed.

18. Benchmark status

18.1 Land particulars

The land details regarding the area owned, area leased in and area leased out by the farmers were classified into three categories like wet, garden and dry land and the details are presented in Table 7.

Table 7. Details regarding land particulars

<i>Sl.No.</i>	<i>Particulars</i>	<i>Wet</i>	<i>Garden</i>	<i>Dry</i>	<i>Total</i>
1	Area owned (ha)	31.63	73.00	0.00	105.03
2	Area leased in (ha)	10.69	0.00	0.00	10.69
3	Area leased out (ha)	0.40	0.00	0.00	0.00

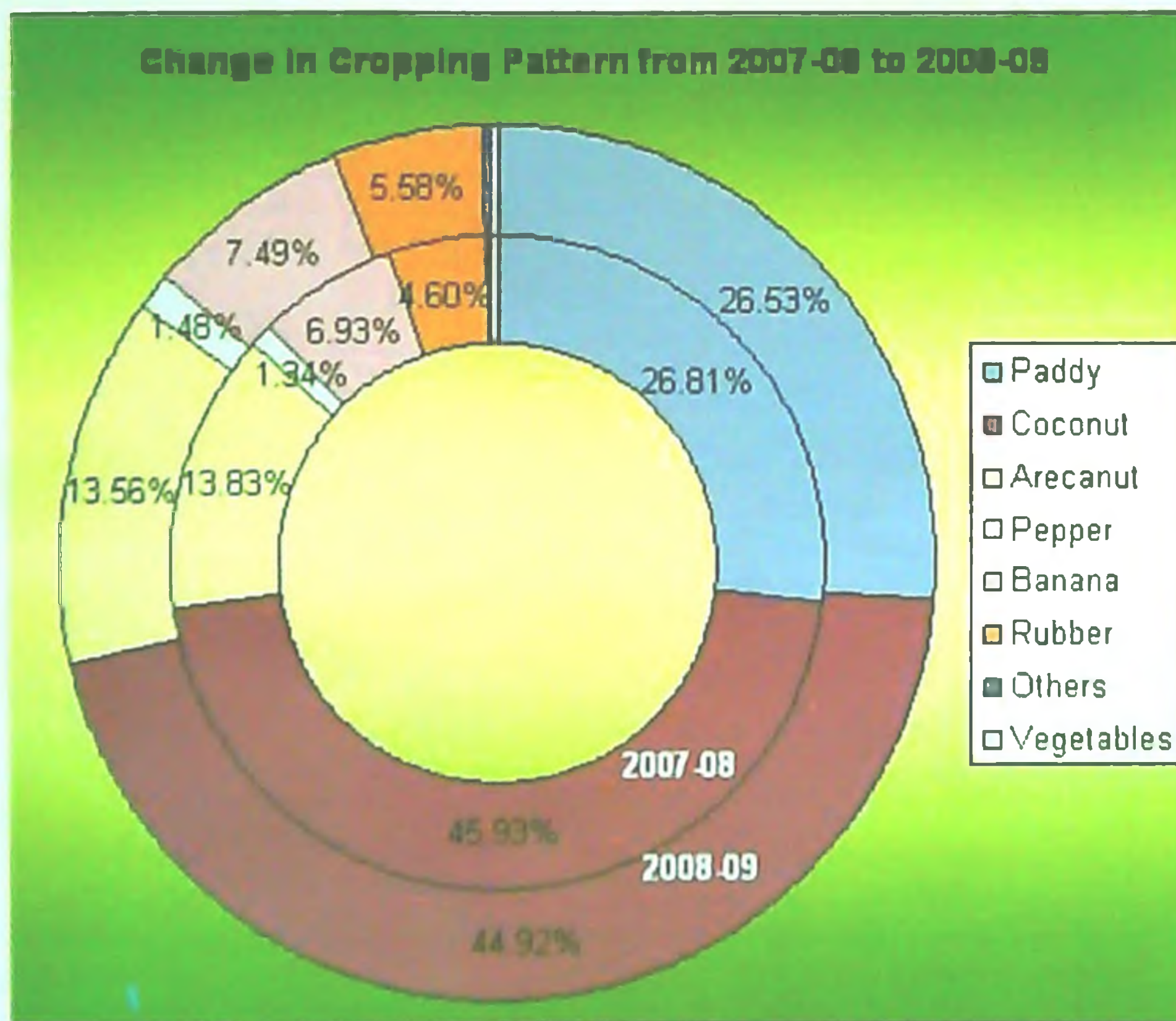
Farmer's Survey in Progress



Most of the farmers were small and marginal farmers. Only twelve farmers belong to the large farmer category (12%). Leasing was not prevalent in the area. Only informal leasing existed for seasonal and annual crops like paddy, banana and vegetables. Leasing is not very popular in perennial crops for obvious reasons.

18.2 Cropping Pattern

The details of cropping pattern being followed by the respondent farmers for the year 2007-08 and 2008-09 are presented in Table 8. It may be noted that coconut constituted the major crop in the area during the year 2007-08, accounting for nearly 46 per cent of the total cropped area. This was followed by paddy, arecanut, banana, rubber and pepper in that order.



During the year 2008-09, there was a small decline in the acreage under coconut and arecanut in absolute terms, while there was an increase in area under crops like paddy, banana, pepper and rubber. The increase in area was largely induced by better prices in banana, pepper and rubber whereas the price of coconut and arecanut has been depressed during the last 3-4 years.

Table 8. Cropping pattern of farmers

<i>Year</i>	<i>Season</i>	<i>Crops grown</i>	<i>Area (ha)</i>	<i>Yield/ha</i>
2007-2008	Perennial	Coconut	69.37 (45.93)	6958 Nuts
	Autumn (1 st season)	Paddy	40.48 (26.81)	3080 kg
	Perennial	Arecanut	20.88 (13.83)	836 kg
	Perennial	Banana	10.47 (6.93)	6508 kg
	Winter and Summer	Vegetables	0.32 (0.21)	-
	Perennial	Rubber	6.95 (4.60)	-
	Perennial	Pepper	2.02 (1.34)	357 kg
		Others*	0.52 (0.35)	-
Total			151.02 (100.00)	
2008-2009	Perennial	Coconut	68.71 (44.92)	6724 Nuts
	Autumn(I st season)	Paddy	40.57 (26.53)	3069 kg
	Perennial	Arecanut	20.74 (13.56)	801 kg
	Perennial	Banana	11.45 (7.49)	6418 kg
	Winter and Summer	Vegetables	0.32 (0.21)	-
	Perennial	Rubber	8.53 (5.58)	-
	Perennial	Pepper	2.27 (1.48)	278 kg
		Others*	0.36 (0.2)	-
	Total			152.95 (100)

*Others include crops like nutmeg and tree spices

18.3 Reasons for cropping pattern changes

It is evident from Table 9 that the main factor inducing cropping pattern change was shortage of labour. This was followed by anticipation of better price. Though paddy is a labour intensive crop, large scale mechanization in land preparation, transplanting and harvesting helps the farmers to reap the cost advantages.

Table 9. Reasons for change in cropping pattern

<i>Reasons</i>	<i>Yes</i>	<i>NA</i>
Deficit irrigation	3	-
Labour shortage	10	-
Anticipation of better price	8	-
Adequate market facilities	2	-
Non availability of inputs	0	-
Others	7	-

18.4. Factors influencing planting / sowing decisions

The planting/ sowing decisions of the respondent farmers were by and large, influenced by soil and land suitability and better prices (Table. 10). The factors like input availability and motivation by input dealers, department officials were insignificant.

Table 10. The reasons for taking planting / sowing decisions

<i>Sl. No</i>	<i>Reasons</i>	<i>Paddy</i>	<i>Pepper</i>	<i>Coconut</i>	<i>Arecanut</i>	<i>Banana</i>
1.	Better price	8	5	16	8	12
2.	Soil and land suitability	10	7	22	11	6
3.	Input availability	0	0	2	0	4
4.	Motivations by input dealers / dept officials / friends / others. (Pl.specify) – incentives and subsidy from the Government.	1	0	1	1	1

18.5. Sources of market and price information

Table 11 gives a clear picture about the source of market and the price information that the farmers avail or access. The frequency of the information is also depicted in the table.

The most often source of market and price related information were the news papers and the traders. Sources like radio, TV, department officials and scientists were not consulted to obtain market and price information. None of the respondent farmers relied up on internet for accessing market information.

Table 11. Sources of market and price information

Particulars	Frequency			
	<i>Often</i>	<i>Occasionally</i>	<i>Rarely</i>	<i>Never</i>
Inputs dealers	5	2	0	93
Friends and relatives	12	4	1	83
News papers	79	2	1	18
Agri. Dept. officials	2	1	5	92
Radio	6	6	2	86
TV	5	2	0	93
Internet (websites)	0	0	0	100
Research station / Scientists/ DEMIC	0	0	0	100
Regulated market / Coop marketing society	6	0	1	93
Farmers' shandy	3	10	0	87
Private traders	38	7	0	55

18.6. Utilization of market information for planting / sowing/ in harvesting/ storage decisions and group marketing

The details of utilizing market information by farmers towards planting/ sowing, harvesting, storage or group marketing decisions are depicted in Table 12

It may be noted that very few farmers are utilizing the market information for planting/ sowing, harvesting, storage or group marketing decisions at present.

Table 12. Pattern of utilization of market information for planting/ sowing, harvesting, storage decisions

<i>Sl.No.</i>	<i>Particulars</i>	<i>No. of respondents</i>
1	Planting/Sowing	1
2	Harvesting	4
3	Storage	3
4	Group Marketing	2

18.7. Mode of sale

The mode of sale followed by the respondent farmers would indicate the marketing channels prevalent currently to sell the produce. Different channels that are mainly used by farmers are presented in Table.13. It may be noted that the channels used by the farmers differed from crop to crop. The farm gate level disposal was highest in the case of coconut and arecanut. In the case of paddy, cooperative marketing societies had a major role in the sale of commodities. As there is no APMC Act in Kerala, regulated markets do not have any role in farm commodity marketing.

Table 13. Channels used by the farmers to sell the produce

<i>Sl.No.</i>	<i>Particulars</i>	<i>Paddy</i>	<i>Pepper</i>	<i>Coconut</i>	<i>Arecanut</i>	<i>Banana</i>	<i>Rubber</i>
1.	Farm gate itself to the whole seller	4	4	47	22	6	0
2.	Near by assembly market	3	2	15	14	2	0
3.	Regulated markets	0	0	0	0	0	0
4.	Co-operative marketing societies	22	0	1	4	0	9
5.	Pre harvest contractors in the farm itself / middlemen	0	0	1	3	0	0
6.	Shandies	0	0	6	2	15	0
7.	Commission mandies	0	0	0	0	0	0
8.	Others *	3	1	9	6	5	0

* includes direct sale to retailers/ consumers

18.8. Involvement of brokers/commission agents

The practice of involving brokers or commission agents in the sale of commodities was not prevalent (Table 14). There was no back up support from these intermediaries to induce sale through them.

Table 14. Involvement of brokers/commission agents

<i>Particulars</i>	<i>Yes</i>	<i>No</i>
Received loans	0	100
Gunnies / packing materials supplied	0	100
Transport cost provisions	0	100
Long term practice	2	98
Nearer to farm to sell the produce	1	99
Others	0	100

18.9. Mode of transport and the cost of transportation

The major mode of transport used was roadways (three wheeler carrier vehicles). The details of expenditure are furnished in Table 15.

Table 15. Mode of transport and cost

<i>Sl. No.</i>	<i>Crop</i>	<i>Mode of Transport</i>	<i>Cost of Transportation</i>
1	Coconut	Roadways	Re 0.10/nut
2	Arecanut	Roadways	Re 0.04/ nut
3	Banana	Roadways	Re 0.20/kg

18.10. Details of value addition

There was practically no value addition of commodities (Table 16). All the nine rubber growers reported the sale of graded ribbed, smoked sheet rubber to either private traders or rubber producers' society (RPS). One farmer reported polishing/grading of arecanut. No other case of value addition or on farm processing was observed.

Table 16. Details of value addition in commodities

<i>Sl.No.</i>	<i>Commodity</i>	<i>Activity</i>	<i>No. of respondents</i>
1	Arecanut	Polishing/Grading	1
2	Rubber	Grading	9

18.11. Cost of Marketing

Cost of marketing associated with various market functions are presented in Table 17. The major item of expenditure is incurred on loading and unloading charges for coconut and arecanut where as it is incurred on transportation from road to market for banana.

Table 17. Details of cost of marketing

<i>Sl.No.</i>	<i>Particulars</i>	<i>Paddy</i>	<i>Pepper</i>	<i>Coconut</i>	<i>Arecanut</i>	<i>Banana</i>
1.	Grading charges	-	-	-	-	-
2.	Transport from field to road	-	-	-	-	-
3.	Transport from road to market	-	-	-	-	Re 0.20/kg
4.	Loading charges	-	-	Re 0.40/nut	Re 0.25/nut	-
5.	Unloading charges	-	-	Re 0.20/nut	Re 0.15/nut	-
6.	Market entry fee (if any)	-	-	-	-	-
7.	Commission charges	-	-	-	-	-
8.	Packing Charges	-	-	-	-	-
9.	Hire charges for plastic crates	-	-	-	-	-

18.12. Cost of storage

The practice of storing farm commodities in anticipation of better prices was not prevalent among the respondent farmers, who were mostly marginal and small farmers having little or no marketable surplus. Only one respondent farmer reported storing coconuts to be converted in to copra. The expenditure details of the same are furnished in Table 18.



Typical coconut based intercropping system in the area



Coconut stored due to low price getting germinated

Traders' Survey in Progress



Table 18. Details of storage cost

<i>Sl.No.</i>	<i>Particulars</i>	<i>Cost / unit</i>
1	Storage	220/ 1000 nuts
2	Wastage in godowns	0
3	Others	0
	Total	220/1000 nuts

18.13. Quality degradations during storage

There was no case of quality degradation during storage reported.

18.14. Measures undertaken for sustaining quality while storage

The three crops which were stored in anticipation of better prices in the study area were pepper, coconut and arecanut. No storage practice was adopted while storing coconut. In the case of copra, arecanut and pepper, storage was done in gunny bags and periodic solar drying was practiced to maintain the moisture content and to prevent fungus and microbial activities.

19. Impact Indicators

The impact indicators suggested for gauging the impact of the project made on the client farmers are:

- ❖ Changes in cropping pattern
- ❖ Changes in factors influencing planting/ sowing decisions
- ❖ Changes in marketing channels
- ❖ Changes in income realization pattern
- ❖ Changes in linkage with research/ developmental agencies
- ❖ Changes in sources of market and price information
- ❖ Changes in cost of marketing
- ❖ Changes in value addition

References

- Fernandez, E.C.M. and Nair, P.K.R. 1986. An Evaluation of the Structure and Functions of Tropical Home Gardens. *Agricultural Systems*, 21: 279-310.
- Food and Agriculture Organization, 1993. *Guidelines for the Design of Agricultural Investment Projects* FAO Investment Centre Technical Paper 7, Rome 132p
- Gittinger, J.P., 1984. *Economic Analysis of Agricultural Projects*. The Johns Hopkins University Press, Baltimore, 454p.
- Government of India, 2009. *Economic Survey 2008-09*. Ministry of Finance, New Delhi, 281p.
- Government of Kerala, 2008. *Economic Review 2008*. State Planning Board, Thiruvananthapuram. 543p.
- Kerala Agricultural University, 1989. *National Agricultural Research Project- Status Report of the Southern Zone*. (Vol.I) (eds. Mohanakumaran, N. and Asan, R.B.) Vellanikkara, Thrissur, India, 93p.
- Ninez, V. 1987. Household Gardens: Theoretical and Policy Considerations. *Agricultural Systems*, 23: 167-186.
- Salam, M.A. Babu, K.S. and Mohanakumaran, N. 1995, Home Garden Agriculture in Kerala Revisited, *Food and Nutrition Bulletin*, 16: 167-186.
- Squire, L. and Tak, G., 1975. *Economic Analysis of Projects*. The Johns Hopkins University Press, Baltimore, 153p.
- Young, R.A. 1996. *Measuring Economic Benefits for Water Investments and Policies*. World Bank Technical Paper No.338. The World Bank, Washington DC, 118p.

APPENDIX I

KERALA AGRICULTURAL UNIVERSITY

--	--	--

Establishing and Networking of Market Intelligence Centres in India

(NAIP -DEMIC)

BASE LINE SURVEY

Zone: District:

Taluk: Village:

1. Name of the farmer and address with pin code:

Phone No: Mobile No:

2. Land particulars (in acres)

Sl.No.	Particulars	Wet	Garden	Dry	Total	Remarks
1	Area owned					
2	Area leased in					
3	Area leased out					

3. Cropping Pattern

Year	Season	Crops grown	Area (acres)	Yield
2007-2008				
2008-2009				

4. Reasons for the change :

Reasons	Yes	No
Deficit irrigation		
Labour shortage		
Anticipation of better price		
Adequate market facilities		
Non availability of inputs		
Others		

5. How do you take planting / sowing decisions?

<i>Sl.No</i>	<i>Reasons</i>	<i>Crop 1</i>	<i>Crop 2</i>	<i>Crop 3</i>	<i>Crop 4</i>
1.	Better price				
2.	Soil and land suitability				
3.	Input availability				
4.	Motivations by input dealers / dept officials / friends / others (Pl. specify)				

6. What are the sources of market and price information for you?

<i>Particulars</i>	<i>Frequency</i>			
	<i>Often</i>	<i>Occasionally</i>	<i>Rarely</i>	<i>Never</i>
Inputs dealers				
Friends and Relatives				
News papers				
Agri. Dept. officials				
Radio				
TV				
Internet (websites)				
Research station / Scientists/ DEMIC				
Regulated Market / Coop Marketing				
Society				
Farmers' Shandy				
Private Traders				

7. Whether the market information obtained is used for planting / sowing , in harvesting, storage decisions and group marketing

- a.
- b.
- c.
- d.

8. Where do you sell the produce?

<i>Sl.No.</i>	<i>Particulars</i>	<i>Crop 1</i>	<i>Crop 2</i>	<i>Crop 3</i>	<i>Crop 4</i>	<i>Crop 5</i>
1.	Farm gate itself to the whole seller					
2.	Near by assembly market					
3.	Regulated markets					
4.	Co-operative marketing societies					
5.	Pre harvest contractors in the farm itself / middlemen					
6.	Shandies					
7.	Commission Mandies					
8.	Others					

9. Why do you sell through Brokers / Commission agents?

<i>Particulars</i>	<i>Yes</i>	<i>No</i>
Received loans		
Gunnies / packing materials supplied		
Transport cost provisions		
Long term practice		
Nearer to farm to sell the produce		
Others:		

10. How do you transport the produce to the market and the cost of transportation?

<i>Sl.No.</i>	<i>Crop</i>	<i>Mode of transport</i>	<i>Cost of transportation</i>

11. Did you carry out the value addition of your produce like grading / polishing etc:

Yes/No

Reasons:

12. Cost of Marketing

<i>Sl.No.</i>	<i>Particulars</i>	<i>Crop 1</i>	<i>Crop 2</i>	<i>Crop 3</i>	<i>Crop 4</i>	<i>Crop 5</i>
1.	Grading charges					
2.	Transport from field to road					
3.	Transport from road to market					
4.	Loading charges					
5.	Unloading charges					
6.	Market entry fee (if any)					
7.	Commission charges					
8.	Packing Charges					
9.	Hire charges for plastic crates					

13. Cost of storage

<i>Sl.No.</i>	<i>Particulars</i>	<i>Cost / unit</i>
1	Storage	
2	Wastage in godowns	
3.	Others	
	Total	

14. What are the quality degradations during storage?

15. What measures are being taken for sustaining quality of the produce while storage?

APPENDIX II

Name and Contact Address of Respondent Farmers

Sl.No.	Name	Contact Address	Phone
1	C.P. Jacob	Chervathur(H), vaka Post, Mattom (viz) Thrissur.	9656789171
2	Saraswathy Amma M.P	Thekkeppatt (H), Vaka Post, Mattom (viz) Thrissur	04885 239525
3	Indran M.V	Manikkath (H) aka Post, Mattom (viz) Thrissur	04885 235729
4	Ratnakumari Nesyar	Thekkeppatt (H), Vaka Post, Mattom (viz) Thrissur	04885 237284
5	Kamalakshy Nesyar	Thekkeppatt (H) Vaka Post, Mattom (viz) Thrissur	9847205474
6	Malathy Nesyar	Puravur (H), Vaka Post, Mattom (viz) Thrissur	04885 235816
7	Sivasankaran	Perumbilly (H), Vaka Post, Mattom (viz) Thrissur	04885 236496
8	Krishnan Master	Poovanthra (H), Vaka Post, Mattom (viz) Thrissur	04885 236796
9	Ambika Amma	Karyatt (H), Vaka Post, Mattom (viz) Thrissur	9847199761
10	A.V.Siddique	Killiyath (H), Pavarty, Thrissur	04885 235186
11	Senthil Kumar	Kollara (H), Mattam, Thrissur	9845243951
12	P.K. Preman	Puvanthra (H), Vaka Post, Mattom (viz) Thrissur	04885 235606
13	Pushpan	Manchery (H), Vaka Post, Mattom (viz) Thrissur	04885 238811
14	Kuttan Nair	Mambally (H), Vaka Post, Mattom (viz) Thrissur	04885 235788
15	O.K. Selvarajan	Ottupurakkal (H), Vaka Post, Mattom (viz) Thrissur	9947757509
16	Unnikrishnan Nair	Variyathu vallappil (H), Vaka Post, Mattom (viz) Thrissur	04885 237282

17	Pradeep	Ponnarassery (H), Vaka Post, Mattom (viz) Thrissur	Facility not available
18	Chandran	Manikkath (H), Vaka Post, Mattom (viz) Thrissur	04885 235018
19	Gopalakrishnan Nair	Mookkola (H), Vaka Post, Mattom (viz) Thrissur	04885 235362
20	Thomas, K.M.	Kakkassery (H), Vaka Post, Mattom (viz) Thrissur	04885 235589
21	Sunny, K. A.	Kakkassery (H), Vaka Post, Mattom (viz) Thrissur	Facility not available
22	Balan	Kannanchery (H), Vaka Post, Mattom (viz) Thrissur	Facility not available
23	Sindhu.P	Madambil (H), Kiralur (P.O), Velur, Thrissur	9746873583
24	K.S. Krishnan	Karekkattu Mana, Peningannur, Peramangalam Post, Thrissur	04885 213490
25	Vasudevan Namboothiri	Karekkattu Mana, Penmgannur, Peramangalam Post, Thrissur	04885 213484
26	M.K.Govindan Nair	Govind Nivas, Kurumal (P.O), Velur, Thrissur	9946521712
27	P. Madhavan Nair	Peruvazhikattu (H), Kurumal (P.O), Velur, Thrissur	9388414380
28	R.V. Ravi	Raramparambil (H), Kurumal (P.O), Velur, Thrissur	04885 288198
29	C.J. Johnson	Chalakkal (H), Adat (P.O), Puranattukara	04872 309896
30	K. Padmajan	Kalathur (H), Adat (P.O), Thrissur	04872 306189
31	P.V.Joy	Panakkal (H), Mundur (P.O), Thrissur	04872 213473
32	George Paulose	Chirammal (H)Mundur (P.O), Thrissur	2215175
33	Mariyam	Mekattukulam (H) Mundur (P.O), Thrissur	2212003
34	P.K.Venu	Parolle (H), Kaiparambu (P.O), Thrissur	9961307121

35	Karthyani amma	Thattaparambil (H) Kaiparambu (P.O), Thrissur	04872 213664
36	N.A.Narayanan	Njarekkatt (H), Mundur (P.O), karore, Thrissur	2211017
37	Vincent	Kizhurumuttikkal (H), Vellattinnur Post, Puliyanur, Thrissur	04885 285561
38	Laser Paul	Kizhurumuttikkal (H), Vellattinnur Post, Puliyanur, Thrissur	04885 285621
39	Peter K.L	Kizhurumuttikkal (H), Vellattinnur Post, Puliyanur, Thrissur	04885 286588
40	Jacob M.K	Manali (H), Vellattinnur Post, Puliyanur, Thrissur	04885 287503
41	Raman Bhattathirippadu	Thiruthy Mana, Vellattinnur, Puliyanur, Thrissur	04885 285039
42	Raman Nair	Njarekkatt (H), Vellattinnur, Puliyanur, Thrissur	04885 287031
43	Laser Joseph	Kizhurumuttikkal(H), Vellattinnur Post, Puliyanur, Thrissur	04885 285586
44	Laser Jose	Kizhurumuttikkal(H), Vellattinnur Post, Puliyanur, Thrissur	Facility not available
45	M.G.Sankaran Nair	Madambil (H), Kiralur (P.O), Velur, Thrissur	9495738426
46	Dinesan M	Madambil (H), Kiralur (P.O), Velur, Thrissur	Facility not available
47	T.V. Kesavan Nambeesan	Thamarathiruthi (H), Kiralur (P.O), Thrissur	048850285723
48	Unni	Njarekkattu (H), Velur Post	286157
49	P.R.Chandran	Parakkal (H), Kodannur Post, Pallippuram, Thrissur	2277036
50	Devaky Amma	Madambil (H), Kiralur Post, Velur, Thrissur	285714
51	Satheesan Namboothiri	Kurur Mana, Kaiparambu (P.O), Thrissur	2213791
52	Thankamma	Arangassery (H), Mundur (P.O), Thrissur	2212239

53	Joseph	Porathoor (H), Mundur (P.O), Thrissur	213933
54	Sebastin	Maliyekkal (H), Mundur (P.O), Thrissur	2211338
55	Krishnan Battathiripad	Chemngattu Mana, Adat (P.O), Thrissur	2305481
56	Raman Nair	Padinjarath (H), Adat (P.O), Thrissur	2309834
57	Jacob.C.T	Chittilapilly (H) Adat (P.O), Thrissur	2306489
58	Davis	Challakkal (H), Adat (P.O), Thrissur	Facility not available
59	Gangadharan.M.S	Moothedath (H), Puranattukkara (P.O), Thrissur	9037283878
60	Parameswaran Namboothirippadu	Kurur Mana, Adat (P.O), Thrissur	2306341
61	Bhaskaran Nair	Thattaparambil (H), Adat (P.O), Thrissur	2306326
62	Shenny C.J	Chittilapilly (H) Adat (P.O), Thrissur	2306324
63	Satheesan	Puthuparambil, (Sreenikethan), Adat Post, Thrissur	2305484
64	C.A. Thomas	Chittilapilly (H) Adat (P.O), Thrissur	230668
65	C.L. Francis	Chittilapilly (H) Adat (P.O), Thrissur	2306571
66	Shaju C.K	Chittilapilly (H), Adat (P.O), Thrissur	2306649
67	Raman Nair	Kalathur (H), Adat (P.O), Thrissur	2306293
68	Anandavally	Padijarerkalathur (H), Asirvad, Adat post, Thrissur	2306817
69	Krishnan Battathiripad	Kurure Mana, Adat post, Thrissur	2306291
70	Thomas C.E	Chittilapilly (H), Adat (P.O), Thrissur	
71	Anandhan	Moothedath (H), Puranattukkara (P.O), Thrissur	2309364
72	M.S.Sukumaran	Moothedath (H), Puranattukkara (P.O), Thrissur	Facility not available

73	P.K.Mani	Puliyoth (H), Puranattukkara (P.O), Thrissur	2308136
74	Nandahanan	Puliyoth (H), Puranattukkara (P.O), Thrissur	2308672
75	Viswabharan	Ayodhya (Pandirikkal) (H), Puranattukkara (P.O), Thrissur	2309345
76	Sudhakaran	Rayirath Gardens, Pattikkad Post, Thrissur	9995509325
77	Jayakar	Rayirath, Pattikkad Post, Thrissur	9567074128
78	Jacob	Nellimattathil (H), Pattikkad Post, Chanoth, Thrissur	9656455149
79	K.J. Mathew	Kuzhikattumenil (H), Mayiladumpara, Peechi (P.O), Thrissur	2283263
80	Bahuleyan	Kizhuvakkal(H), Mayiladumpara, Peechi (P.O), Thrissur	2406192
81	K.J.Christopher	Kuzhikattumenil (H), Mayiladumpara, Peechi (P.O), Thrissur	9447859127
82	Pappu	Vallyuran (H), Chuvannamannu, Thrissur	9447284731
83	R. A. Augustine	Rathappilly(H), Pattikad (P.O), Thrissur	2282088
84	Sudevan. V.A	Ponganamoola (H), Thekkumpadom, Pattikad (P.O), Thrissur	9744109745
85	Shaji. K.V	Kollamparambil (H), Thekkumpadom, Pattikad (P.O), Thrissur	Facility not available
86	Raveendran	Ponnoth (H)Thekkumpadom, Pattikad (P.O), Thrissur	2282816
87	K.K. Sasidharan	Kambily (H) Thekkumpadom, Pattikad (P.O), Thrissur	2282865
88	Vignana Suryan	Ponnoth (H)Thekkumpadom, Pattikad (P.O), Thrissur	2282816
89	Rajakumari	Ponnoth (H)Thekkumpadom, Pattikad (P.O), Thrissur	2282816
90	Ravindran	Mullappilly (H), Pattikad (P.O), Thrissur	2282324

91	Vijayan	Mullappilly (H), Pattikad (P.O), Thrissur	2282323
92	Sridharan	Chakkoth (H), Thekkumpadom, Pattikad (P.O), Thrissur	2282121
93	Murali	Mullappilly (H), Pattikad (P.O), Thrissur	2282989
94	Sunny	Palappilly Puthenpurayil (H), Thekkumpadom, Kannalchal, Thrissur	Facility not available
95	Mathai	Thaninal (H), Thekkumpadom, Pattikad (P.O), Thrissur	2283689
96	Varghese. P. P	Pilappilly (H), Thekkumpadom, Pattikad (P.O), Thrissur	Facility not available
97	Achamma	Kodiyattil (H), Pattikad (P.O), Thrissur	Facility not available
98	Isaac	Palathingal (H), Kocherimoola, Pattikad (P.O), Thrissur	Facility not available
99	Ananthapadmanabhan	Sreenilayam (H), Thekkumpadom, Pattikad (P.O), Thrissur	Facility not available
100	Balakrishnan Nair	Chakkoth (H), Thekkumpadom, Pattikad (P.O), Thrissur	Facility not available

809355

