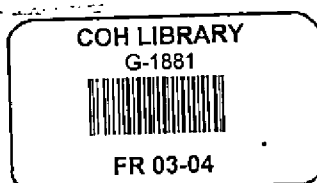


FINAL REPORT

ON

**CONCURRENT EVALUATION OF SCHEMES
UNDER MACROMANAGEMENT IN AGRICULTURE
(2003 - 2004)**

**IMPLEMENTED BY THE
DEPARTMENT OF AGRICULTURE,
GOVERNMENT OF KERALA**



**COMMUNICATION CENTRE
KERALA AGRICULTURAL UNIVERSITY
MANNUTHY 680 651, TRICHUR, KERALA
2004**

FOREWORD



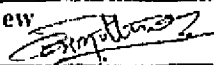

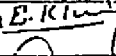
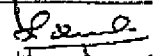
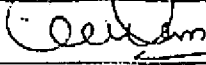

The process of concurrent monitoring and evaluation was carried out by the Task Force most objectively, to the best of their ability with in a short span of time. The members of the Task Force are obliged to the Kerala Agricultural University for giving an opportunity to have a first hand field exposure to the various schemes implemented under Department of Agriculture under Macro Management.

Though the Task Force was expected to undertake concurrent evaluation, concurrent evaluation *per se* could not be done as the process was very much delayed due to administrative reasons. By the time the Task Force started the process of concurrent evaluation, implementation of most of the schemes was over. Hence the Task Force was compelled to depend on data furnished by the officials at the State level and District level to evaluate some of the schemes. The active support and full cooperation extended to the Task Force by the officers of the Department of Agriculture, both at the Head Quarters (State and District) and at the field level is gratefully acknowledged. The Task Force has made earnest effort to prepare the final report objectively, without prejudice or bias towards any scheme or district. Any omission, commission, errors etc. if any, which might have crept into the report may be brought to the notice of the Task Force.


Dr.R.M. Prasad

Leader, Task Force for Monitoring and Evaluation

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Mannuthy
30.10.2004

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EXECUTIVE SUMMARY

The agricultural scenario of Kerala is unique, characterized by diversity of crops and multiplicity of cropping situations. The special features of Kerala's agriculture include predominance of perennial cash crops, market oriented agriculture, co-existence of well-organized plantation sector side by side with unorganized small farm sector and the existence of a large number of part time farmers and increasing number of absentee farmers.

The various schemes envisaged in the work plan for 2003-04 for the development of agriculture under the MoU programme, known as Macro-Management Schemes are aimed at enhancing productivity of crops and improving the income of farmers through adoption of appropriate scientific production and post harvest technologies.

The schemes under MacroManagement in Agriculture are the following.

1. Rice development
2. Pepper development
3. Other spices
4. Cashew development
5. Vegetable development
6. Fruit development
7. Soil and plant health clinics
8. Use of plastics in agriculture
9. Agricultural extension and training
10. Small farm mechanization
11. Agricultural marketing and quality control
12. Floriculture
13. Information technology
14. Medicinal and aromatic plants
15. Women in agriculture
16. Biotechnology

An evaluation of the schemes implemented in the various districts revealed that on an average, only three-fourth of the financial target could be achieved. Thiruvananthapuram, Kollam, Pathanamthitta, Kottayam and Idukki districts

could achieve more than 90 per cent of the financial targets. Three districts i.e., Thrissur, Malappuram and Kannur could attain only less than 50 per cent of the financial target. Abstracts of scheme-wise and district-wise financial target and achievement are as follows:

Abstract of scheme-wise financial target and achievement

Sl.No.	Macro Management Schemes	Allotment as per work plan	Amount released as on 31-3-04	Expenditure as on 31-3-04	Achievement (%)
1.	Rice development	800.68	795.953	356.89821 (596.89821)*	44.85 (74.99)*
2.	Pepper development	400	394.466	362.9589	92.01
3.	Other spices	75	77.694	70.91626	91.27
4.	Cashew development	250	244.18	122.96	50.36
5.	Vegetable development	100	97.63	96.035	98.36
6.	Fruit development	100	100.25	97.225	96.98
7.	Soil and plant health clinics	120	120	94.789	78.99
8.	Use of plastics in agriculture	50	50.22034	45.70166	91.00
9.	Agricultural extension and training	66.25	81.25	29.224	35.97
10.	Small farm mechanization	50	50	43.10476	86.21
11.	Agricultural marketing and quality control	110	81.792	28.818	35.23
12.	Floriculture	124.75	124.75	108.106	86.66
13.	Information technology	65	65	61.6107	94.78
14.	Medicinal and aromatic plants	10	10	9.9253	99.25

15.	Women in agriculture	100	102.41531	81.80856	79.88
16.	Biotechnology	30	100	64.9202	64.92
Total		2451.68	2495.61	1675.20259	67.12

*Inclusive of committed expenditure

Abstract of district-wise financial target and achievement of various schemes

Sl No.	District	Financial target	Financial achievement	Achievement (%)
		(Rs Lakhs)		
1.	Thiruvananthapuram	52.5691	49.9286	94.98
2.	Kollam	38.705	36.1864	93.49
3.	Pathanamthitta	58.2648	53.75475	92.25
4.	Alappuzha	246.076	201.991	82.08
5.	Kottayam	227.41	222.97	98.05
6.	Idukki	190.305	189.148	99.39
7.	Ernakulam	114.509	76.131	66.49
8.	Thrissur	132.5395	65.472	49.02
9.	Palakkad	211.405	146.71	69.39
10.	Malappuram	167.715	77.01	45.92
11.	Kozhikode	83.145	60.79	73.11
12.	Waynad	156.702	126.91	80.99
13.	Kannur	134.792	60.72	45.05
14.	Kasaragod	110.403	87.338	79.12
Total		1924.54	1455.0598	75.49

An evaluation of the scheme-wise implementation revealed that the performance of three schemes i.e., Agricultural marketing and quality control, Agricultural extension and training and Cashew development were the least satisfactory. Their achievement varied between 35 to 50 per cent of the target. Only 75 per cent of the allotment for rice development scheme could be achieved as expenditure, though the physical achievement is still low.

Though at present, much thrust is given to Biotechnology, it is a matter of concern that 60 per cent of the allotment only could be utilized.

While it is observed that there is incomplete utilization of the funds, it is to be recorded that there is no misappropriation of funds noted. It was evident that the funds have reached the targeted beneficiaries, wherever the task force members had conducted the field visits.

There is marginal difference noted in the physical target as well as the financial expenditure from the districts and that furnished by the Directorate of Agriculture. In the case of some of the schemes, there is expenditure incurred by Directorate as well as other offices under Department of Agriculture, the details of which are not furnished in the district wise report and hence the discrepancy.

The most important suggestions for improvement in planning and implementation of the Macro Management Schemes are timely administrative sanction, timely issue of working instruction and timely release of funds. It is the general view of the task force that the target should be realistic, need based and achievable. Forward and backward linkages for production schemes are to be properly identified and developed. Since the financial restrictions like treasury bans have affected the smooth implementation of the schemes, it is suggested that central sector schemes should be exempted from the treasury ban and fiscal cuts as 50 per cent of the funds are received in the first quarter of the financial year itself. Some of the specific suggestions for improvement of various schemes include a convergence programme for rice seed production, streamlining the activities of soil testing labs, establishment of progeny orchards and community nurseries, development of marketing linkages, publication of a nursery manual for pepper, assessment of training needs and maintenance of training register, organization of awareness campaigns before introduction of new machineries, development of appropriate software for Agri Information System , strengthening KSSDA, BMFC and SBCL by providing sufficient staff strength etc.

1. THE AGRICULTURAL SETTING IN KERALA

The agrarian economy of Kerala exhibits certain uniqueness that distinguishes it from her sister states of India. 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 the agro-climatic setting and socio-economic background be briefly described.

1.1 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 38855 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 3.44 per cent of her population.

The land resource 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 (75.0 to 750.0 m above MSL) and the high ranges (750.0 m above MSL), each running almost parallel in the North-South orientation.

1.2 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 months.

1.3 Rainfall

The State receives a mean normal rainfall of 3000 mm from the South-West monsoon from June to August and North-East monsoon from September to November. However, the rainfall pattern in recent years have been showing a deficit. The average annual rainfall during 2003 was 2288 mm, with -17 percent departure

from the normal. 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.

1.4 Soils

The major soil types of Kerala are laterite (oxisol), red loam (alfisol), coastal alluvium (Entisol), riverine alluvium (Entisol, Inceptisol), saline hydro orphic (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.

1.5 Demographic features

Kerala is one of the most densely populated states in India. The density per square km is 819 (Table 1.1) while it is only 324 for the country as a whole. This has been exerting tremendous pressure on the limited land resource base against steadily declining per capita land availability, especially from the seventies onwards. The per capita land availability in Kerala is only 0.12 ha, which is low compared to the national per capita availability.

Table1. 1 Population density and land per capita in Kerala

Year	Density per km ² (No.)	Land per capita (ha)
1951	349	0.28
1961	435	0.23
1971	549	0.18
1981	654	0.15
1991	749	0.13
2001	819	0.12

Source: Govt. of Kerala, 2003

1.6 Distributional pattern of operational holdings

The average size of operational holdings in Kerala is only 0.33 ha as against the national average of 1.57 ha. Nearly 93.0 per cent of the holdings are below one hectare in size (Table 1.2). The small and marginal farmers together accounted for 97.79 per cent of the total number of operational holdings against 77.96 per cent for the country as a whole. Similarly 70.39 per cent of the area operated belonged to the small and marginal

farmers against the all India pattern of 32.79 per cent, indicating their overwhelming presence in the agricultural production front.

Table 1.2 Distributional pattern of operational holding and average size of holding

Sl.No	Size group	Area operated (million ha)		No. of operational holdings (million nos.)		Average size of holding (ha)	
		Kerala	India	Kerala	India	Kerala	India
1.	Marginal (below 1 ha)	0.88 (49.16)	24.62 (14.87)	5.02 (92.62)	62.11 (58.99)	0.18	0.40
2.	Small (1-2 ha)	0.38 (21.23)	28.71 (1.73)	0.28 (5.17)	19.97 (18.97)	1.36	1.44
3.	Semi-medium (2-4 ha)	0.25 (13.97)	38.35 (23.16)	0.098 (1.81)	13.91 (13.21)	2.59	2.76
4.	Medium (4-10 ha)	0.11 (6.15)	45.05 (27.20)	0.02 (0.37)	7.63 (7.25)	5.38	5.90
5.	Large (10 ha & above)	0.17 (9.50)	28.89 (17.45)	0.003 (0.06)	1.67 (1.59)	58.00	17.33
	Total	1.79 (100.00)	165.60 (100.00)	5.42 (100.00)	105.29 (100.00)	0.33	1.57

Source: Govt. of Kerala, 2003

The percentage area kept under agricultural purpose is nearly 77 per cent. It is probably the highest in the country. The cropping intensity of 137 per cent is also indicative of the intensive land use pattern despite the dominance of perennial crops in the cropping system.

1.7 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 1.3, Fig 1).

Table 1.3 Land use pattern in Kerala during 2001-02

Sl. No.	Parameters	Area (‘000 ha)	As % to the total Geographical area
1.	Geographical area	3885.50	100.00
2.	Forest	1081.51	27.83

3.	Land put to non-agricultural uses	392.35	10.10
4.	Barren & uncultivable land	29.73	0.77
5.	Permanent Pastures & other grazing land	0.23	0.01
6.	Land under tree crops and not included in the net area	13.61	0.35
7.	Cultivable waste	63.77	1.64
8.	Fallow other than current fallow	34.33	0.88
9.	Current fallow	79.27	2.04
10.	Net area sown	2190.69	56.38

Source: Economic review 2002

1.8 Cropping pattern

The cropping pattern of Kerala is highly diversified and includes food as well as non-food crops (Table 1. 4). Even though 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 (30.26 per cent). This is followed by rubber (15.91 per cent), rice (10.38 per cent), and pepper (6.72 per cent). Thus, it can be observed that the cropping pattern is dominated by cash crops than food crops.

Table 1.4 Cropping pattern in Kerala during 2002-03

Sl. No.	Crops	Area ('000 ha)	As percentage to the gross cropped area
1.	Rice	310.52	10.38
2.	Pulses	7.36	0.25
3.	Pepper	201.04	6.72
4.	Ginger	10.37	0.35
5.	Turmeric	3.34	0.11
6.	Cardamom	44.24	1.48
7.	Areca nut	92.59	3.09
8.	Banana*	107.22	3.58
9.	Cashew nut	86.62	2.89
10.	Tapioca	110.30	3.69
11.	Coconut	905.48	30.26
12.	Rubber	476.05	15.91

13.	Coffee	84.14	2.81
14.	Tea	36.82	1.23
15.	Others	516.16	17.25
	Total cropped area	2992.25	100.00

*Includes Nendran and other plantains

Source: Govt. of Kerala, 2003

1.9 Irrigation potential

Kerala receives an average rainfall of nearly 3000 mm against the national average of 1190 mm. Nearly 40 per cent of available resources is lost as run off causing heavy flood. Hence managing the water cycle over a year is one of the greatest challenges. Kerala requires about 3000 crore cubic meter of water for irrigation purpose. The major share of irrigation investment till ninth five-year plan was for major and medium irrigation projects. However, most of the projects remain incomplete with escalation of cost as well as time over run. The irrigation infrastructure created was almost entirely for rice cultivation. With the fast changes taking place in the farm front of Kerala with considerable reduction in the area under rice cultivation, it is time to redesign the canals so as to suit to irrigate the perennial cash crops. Hence the focus now is on the development of the minor irrigation schemes, which are most suited to Kerala conditions, through the efforts of local governments. There is a need to take effective steps for improving water use efficiency and the utilization of irrigation potential through renovation and modernization of existing system. The net area irrigated in Kerala is presented in Table 1.5.

Table 1.5 Net area irrigated in Kerala 2002-03

Sl No.	District	Net irrigated area (ha)	Net irrigated area as % to net area sown
1.	Thiruvananthapuram	3021	2.11
2.	Kollam	1386	0.97
3.	Pathanamthitta	4372	4.71
4.	Alappuzha	40392	42.82
5.	Kottayam	15415	8.885
6.	Idukki	15630	6.925
7.	Ernakulam	32360	19.07

8.	Thrissur	85681	58.988
9.	Palakkad	82033	40.178
10.	Malappuram	29721	14.947
11.	Kozhikode	3267	2.04
12.	Wynad	2717	2.345
13.	Kannur	21111	10.425
14.	Kasaragod	43935	32.37
Total		3,81,041	17.27

Source: Farm guide, 2002-03

1.10 Agricultural labour

The share of cultivators in the population was nearly 21 per cent in 1961. By 2001, it declined to seven per cent. The share of agricultural labourers, on the other hand, remained fairly stable around 16-17 per cent during the same period.

Table 1. 6 Share of agricultural labourers in the total workforce in Kerala (per cent)

Sl.No.	Category	Year	
		1961	2001
1.	Cultivators	20.92	7.20
2.	Agricultural labourers	17.38	16.07
3.	House hold industry workers	8.68	3.54
4.	Other workers	53.02	79.19

Source: Govt. of Kerala, 2004

However, the labour force enjoyed one of the highest wage rates in the country by virtue of their better organizational strength and bargaining power. For instance, the average daily wages of unskilled workers in the agricultural sector in Kerala was Rs.127/- for the male, while it was Rs.88/- for the female. The drudgery of physical farm operations, combined with higher wage rate and non-availability during the peak seasons calls for a policy of selective mechanization in the agricultural sector so as to carry out cost effective production.

2.BACKGROUND OF THE PROJECT

The Programme support document and work plan of Kerala State 2003-04 had clearly indicated that Kerala Agricultural University will be specifically entrusted with the task of monitoring and evaluation of implementation of work plan 2003-04. Accordingly, the Govt. of Kerala vide order No. GO (RT) No. 1581/ 2003/ AD of Agri. (Planning A) dated 24.11.03 had entrusted the responsibility of conducting M&E to Kerala Agricultural University.

The University vide Proceedings No (E4) 91024/03/ dated 9.12.03 of the Director of Extension, Kerala Agricultural University had constituted a taskforce under the leadership of Dr. R.Muraleedhara Prasad, Professor & Head, Communication Centre, Mannuthy with the following members.

1. Dr. P. Ahmed, Associate Professor (Agrl.Extn), College of Horticulture.
2. Dr. K.P. Mani, Associate Professor, College of Co-operation, Banking & Management.
3. Dr. Satheesh Babu, Associate Professor (Agrl. Economics), College of Horticulture.
4. Dr. Jose Mathew, Associate Professor (Agronomy), College of Horticulture.
5. Dr. Sam. T. Kurumthottikkal, Associate Professor (Soil Science), College of Horticulture.
6. Dr. C. Narayanankutty, Associate Professor (Hort), Agrl. Research Station, Mannuthy.
7. Dr. E.K. Kurien, Assistant Professor (Agrl. Engineering), Agro Engg Service Centre, Mannuthy.
8. Dr. P. Prameela, Assistant Professor (Agronomy), Communication Centre, Mannuthy.

Though the taskforce was constituted in December 2003, the allotment of funds for the programme was delayed and the fund was released to Kerala Agricultural University only by the last week of March 2004. In between, many correspondences between Kerala Agricultural University and the Department of Agriculture took place. Besides letters, telephone calls were also made frequently to remind about the release of money. The delay occurred due to administrative reasons beyond the control of task

force members. However, in the mean time, the team undertook the following activities.

1. Meetings of task force were held on 05.12.2003, 9.12.03, 11.12.03 & 15.12.03 on preparation of budget, terms of reference & monitoring indicators.
2. Format for collection of details regarding progress of various schemes was finalized.
3. A meeting of PAOs' of all districts was convened on 17.12.2003 and proforma for collection of basic details of the data regarding implementation of macro management schemes was distributed.
4. The progress report regarding the schemes under macro management was collected from all districts and compiled.
5. The Directorate of Agriculture was visited for collection of necessary data for monitoring work.

As per the Terms of Reference, the Kerala Agricultural University is expected to furnish two reports – an interim report and a final report. The interim report is supposed to present a status of the implementation of the programmes and provide guidelines for effective implementation based on the constraints/defects noticed. Thus, the interim report will be based on concurrent evaluation of the schemes during its implementation. However, concurrent evaluation of the schemes, in the ideal sense could not be done, as the evaluation started only during March 2004 ie, towards fag end of completion of the schemes.

To conform to the stipulations in the Terms of Reference, the Task Force has already prepared the interim report, covering the progress of the schemes as on December 31,2003 which was submitted to the Director of Agriculture on 24-6-2004. After the submission of the interim report, the evaluation team visited all the PAO offices and selected blocks and panchayat in each district. The team interviewed beneficiaries of various schemes and conducted field level inspections so as to monitor the progress of implementation. A meeting of PAOs' and senior officials of the Department was also convened to get suggestions and to understand operational bottlenecks in implementation.

It was observed that a data bank is not properly maintained by PAOs' office regarding the distribution of schemes to various Krishi Bhavans . This has rendered the task of concurrent evaluation quite difficult. It was stipulated that a consolidated report of the physical and financial achievement of the various schemes under Macromanagement in Agriculture has to be furnished to the task force. The compiled report furnished by the Directorate of Agriculture did not give a complete picture of implementation, as there were many omissions. The physical progress regarding some of the schemes/components of schemes were not furnished. For eg. Some components of Soil and plant health clinics, Biotechnology, Information Technology etc. were not given.

The final report covering the progress of the schemes till March 31,2004, based on reports received, visits made and interaction with officials is presented.

The scheme-wise and district wise evaluation reports are presented separately in this report.

3. ORGANIZATIONAL SETUP OF THE EXTENSION SERVICE

The schemes allotted to a district are first allotted to various ADAs at the block level from where it is distributed to various Krishi Bhavans. The organizational set up of the Department is given as Figure 2 and the number of ADA offices, Krishi Bhavans, Farms, STLs' and RATTCs' in the fourteen districts of Kerala are furnished in Table 3.1. The schemes are being implemented mainly through 1048 Krishi Bhavans.

Table 3.1 Number of Krishi Bhavans, Departmental Farms, Soil Testing Laboratories and Regional Agricultural Training Centres in Kerala

No.	Districts	ADAoff ices (No)	Krishi Bhavans (No)	SSF/DAF/ Special Farms	STL	RATTC
1.	Thiruvananthapuram	12	89	6	1	1
2.	Kollam	13	74	5	1	--
3.	Pathanamthitta	9	57	3	--	--
4.	Alappuzha	12	76	3	1	--
5.	Kottayam	11	77	3	1	1
6.	Idukki	8	51	3	1	--
7.	Ernakulam	15	96	4	1	1
8.	Thrissur	17	105	8	1	--
9.	Palakkad	12	94	9	1	1
10.	Malappuram	14	99	6	1	--
11.	Kozhikode	12	79	4	1	--
12.	Wayanad	3	25	--	1	--
13.	Kannur	9	87	4	1	1
14.	Kasaragode	4	39	3	1	--
Total		151	1048	61	13	5

Source: Govt. of Kerala, 2003

There are 61 SSF/DAF/Special Farms, thirteen Stationary and nine Mobile Soil Testing Laboratories (in all districts except Pathanamthitta, Idukki, Ernakulam, Wayanad and Kasaragode) operating under the Department of Agriculture.

Five Regional Agricultural Technology Training Centres (RATTC) one each in Thiruvananthapuram, Kottayam, Ernakulam, Palakkad and Kannur, under Agriculture Department conduct various training programmes.

There is a convergence scheme named Agri Export Zone introduced by the Ministry of Commerce, Govt. of India, for promoting export of specific produce/products grown in a contiguous area with an objective of providing remunerative returns to farmers on a sustained basis by improved access to exports. The operational area of the project comprises nine districts of the state (Thiruvananthapuram, Kollam, Pathanamthitta, Alapuzha, Kottayam, Idukki, Ernakulam, Thrissur and Palakkad).

4. SCHEMES UNDER CONCURRENT EVALUATION

There are sixteen schemes under Macro management in Agriculture operating in the State. The percentage share of allotment to various schemes is shown in Figure 3. The major share of allotment is for rice development programme (32%), followed by pepper development (16%) and cashew development (10%) programmes.

It can be seen from the Fig.4 that the expenditure of the rice development scheme is below 50 per cent. Very poor achievement was reported for the scheme on agricultural marketing and quality control (35 %). Cashew development and biotechnology schemes also could not register satisfactory progress.

The achievement of the four districts (Palakkad, Thrissur, Malappuram, Ernakulam) in which rice development programme was implemented was low mainly due to non implementation of a major component i.e., infrastructure for seed storage. An analysis of the district wise progress shows that on an average 75 per cent of the funds allotted was utilized. The highest expenditure (Fig. 5) was reported from Idukki district where Rs.189.148 lakhs was the expenditure out of Rs.190.305 lakhs allotted. This was closely followed by Kottayam (98.05%) with an expenditure of Rs.222.97 lakhs. Three districts ie, Kannur, Malappuram and Thrissur could achieve only below 50 per cent of the targeted expenditure.

The details regarding the allotment of schemes to various districts are given in Table 4.1. It could be seen that out of 16 schemes, 15 are operational in various districts. The scheme on Biotechnology is allotted to Model Biotechnology and Floriculture Centre, Kazhakkootam; Thiruvananthapuram. Eight schemes are operating in all the districts. They are-

- Pepper development
- Fruit development
- Agricultural extension and training
- Use of plastics in agriculture
- Small farm mechanization
- Soil and plant health clinics
- Agricultural marketing and quality control
- Information technology

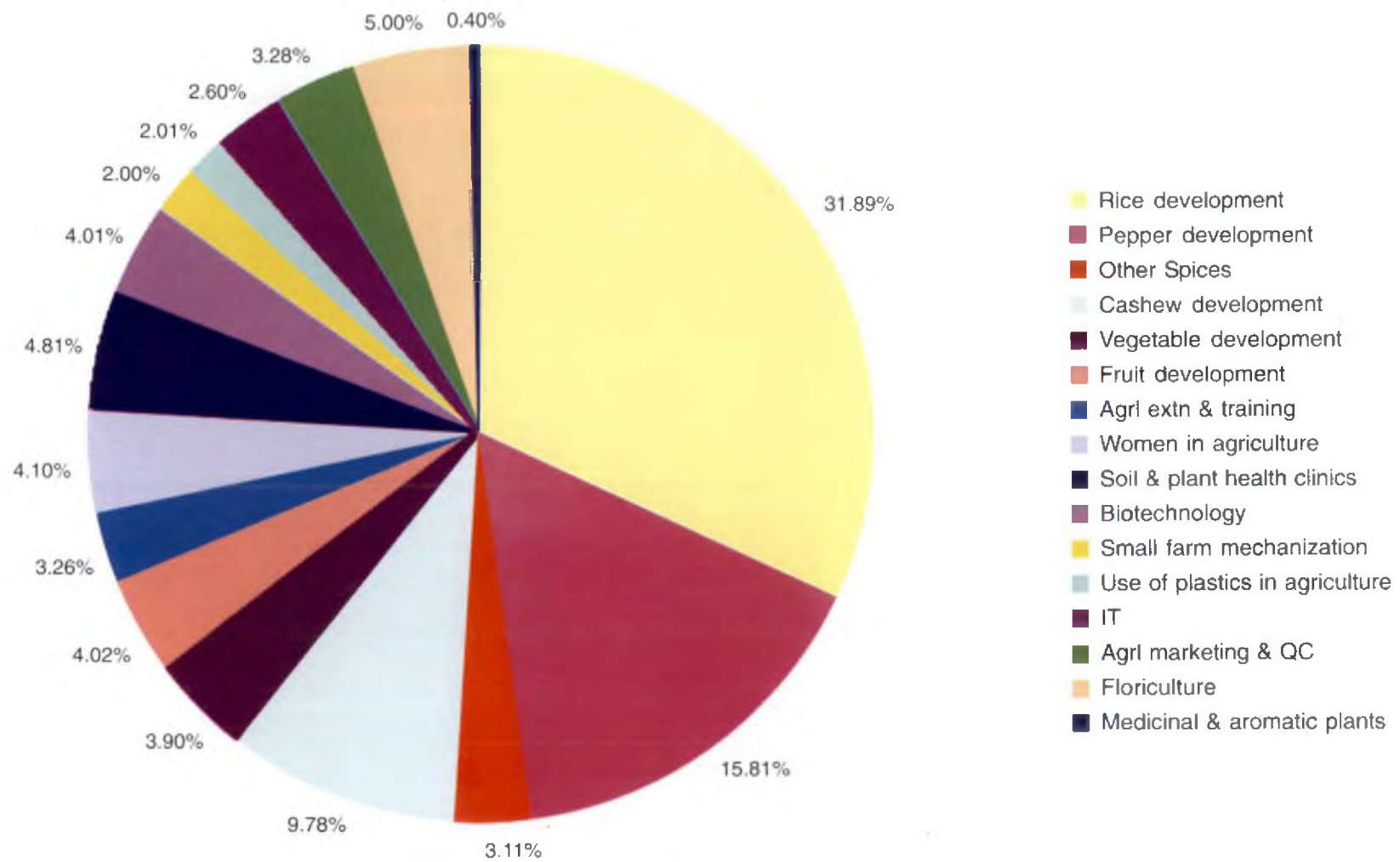


Fig 3. Percentage share of amount allotted for various schemes

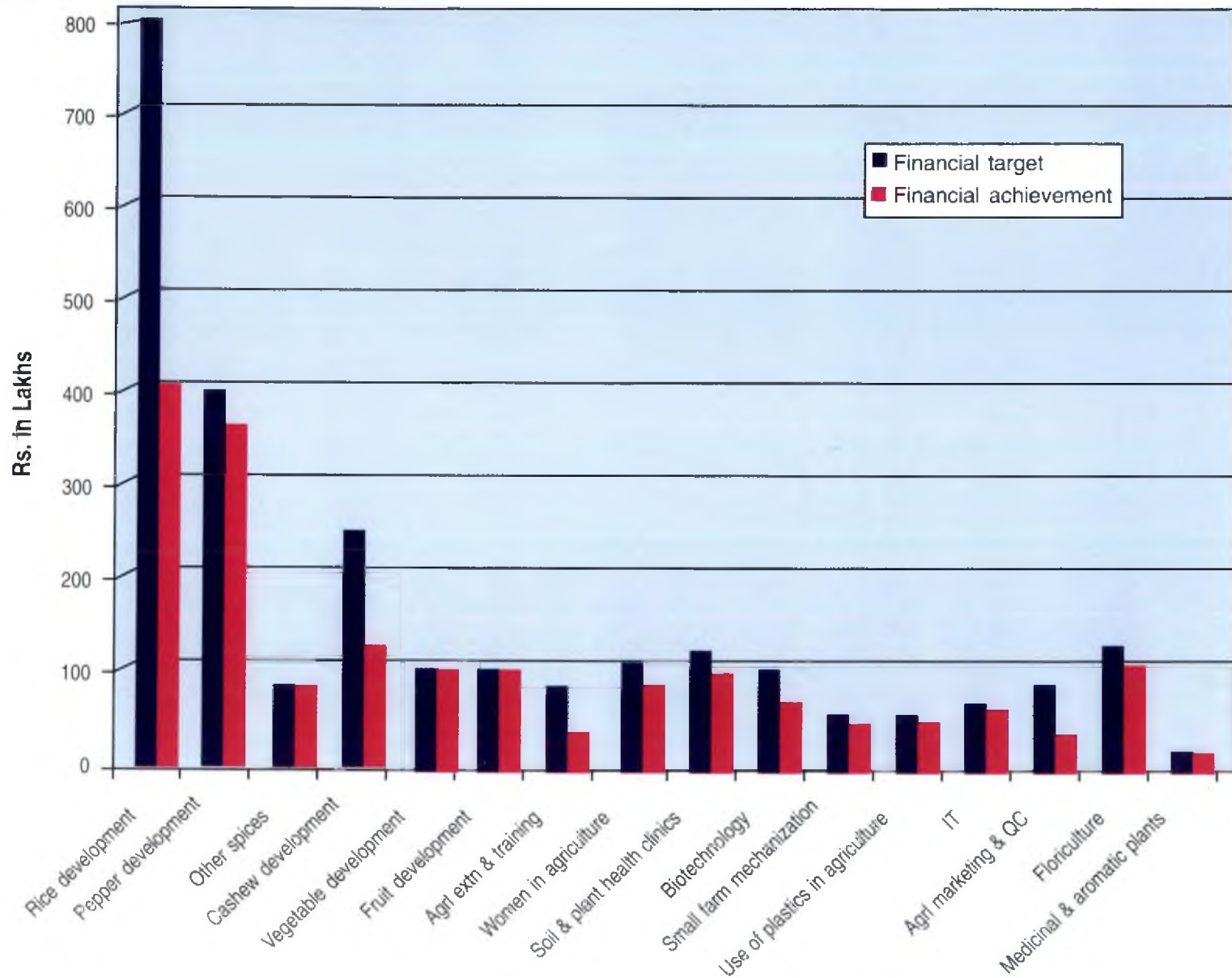


Fig 4. Expenditure details of Macromanagement schemes

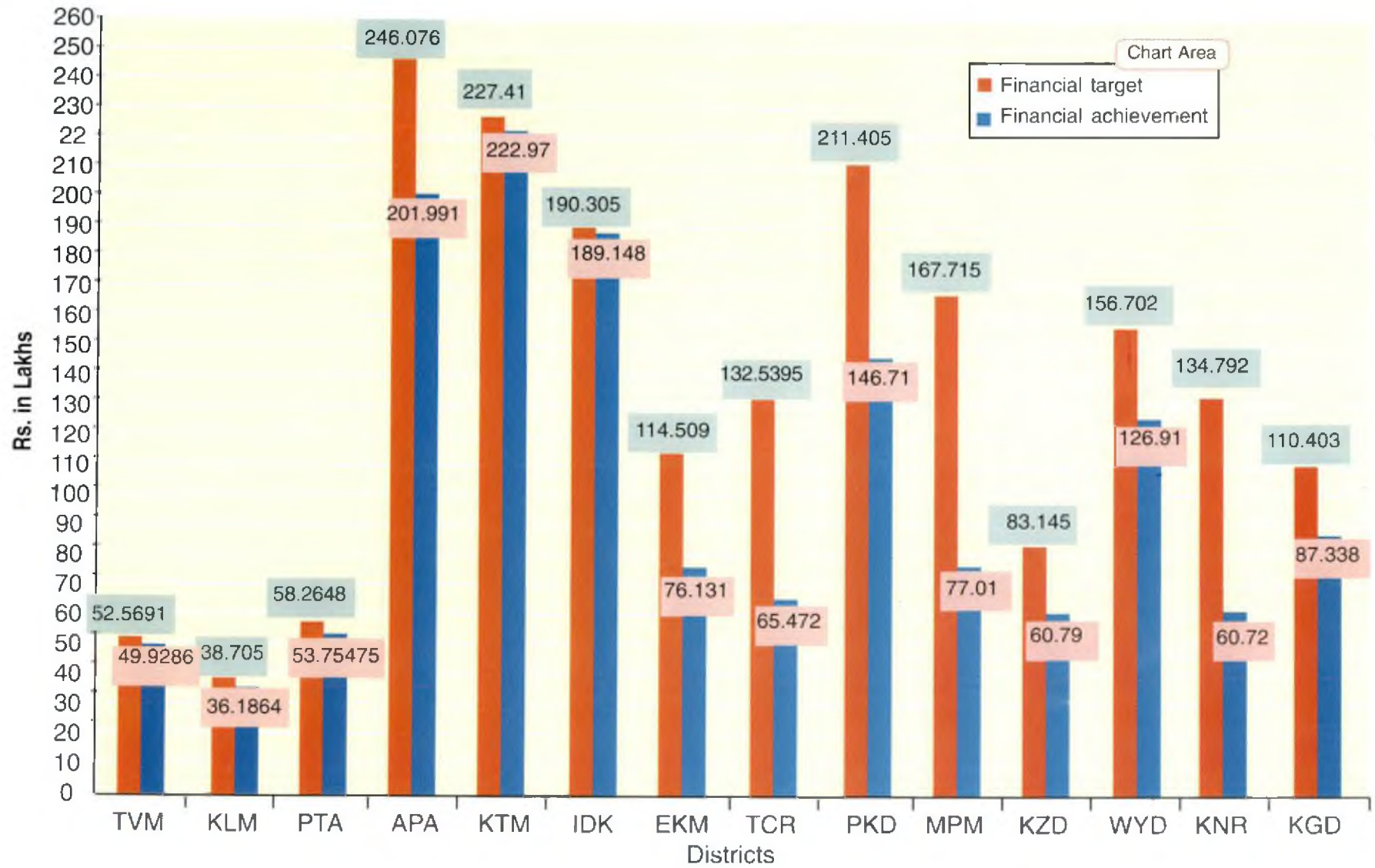


Fig 5. Financial targets and achievements of various districts

The maximum numbers of schemes (14) were operated in Wyanad, Thrissur and Palakkad Districts. Except cashew development scheme, all other schemes are operational in Wyanad and except medicinal and aromatic plant development all others are operational in Thrissur district. Except women in agriculture, all other schemes are operational in Palakkad. Kozhikode is having only ten schemes, as four schemes viz other spices, vegetable development, floriculture, medicinal and aromatic plants and rice development are not allocated. In all other districts, eleven to thirteen numbers of schemes are operational.

Some of the schemes are operated directly from Directorate of Agriculture, Farm Information Bureau, Central Soil Testing Lab and Model Biotechnology &Floriculture Centre. The progress of implementation of such schemes / components are given in the chapter on scheme-wise evaluation report.

5 SCHEMEWISE PROGRESS

5.1 RICE DEVELOPMENT

The major share of allotment under macro-management schemes was for rice development programmes (32%).

As per the statistics available for 2000-2001, rice is cultivated in Kerala in an area of 3.47 lakh ha with an estimated production of 7.51 lakhs tonnes. The present production of rice in the state is not enough to cater to the needs of even one-fourth of its population. Despite the schemes implemented during the ninth plan period, the rice area showed a declining trend due to factors such as high cost of cultivation, high wage rate, lack of labour availability, high incidence of pests and diseases, conversion of land for non agricultural purposes etc. Moreover, there exists a wide gap between production potential and actual production. Hence the rice development programmes of the tenth plan was launched with the objective to bring rice cultivation atleast in 5 lakh ha. The strategies followed to meet these objectives are

- 1) Farming system approach
- 2) Reclamation of fallow lands and problem areas
- 3) Integrated nutrient management
- 4) Pest surveillance and advisory system
- 5) Replacement of old varieties with location specific high yielding varieties (HYVs)
- 6) Construction of structures for efficient water management
- 7) Market development support for procuring paddy

The important interventions proposed/implemented with physical and financial targets and achievements are given in Table 5.1.1. The district wise financial allotment and achievement are presented in Table 5.1.2.

Table 5.1.2 District wise financial target and achievement of Rice development

Sl.No.	District	(Rs. lakhs)		
		Target	Achievement	%
1.	Pathanamthitta	3.7	3.6998	99.99
2.	Alappuzha	171.61	143.03	83.34

Table 4.1. Schemes under macro management in agriculture operational in various districts

Sl. No	Scheme Under Macro Management	Kasargod	Kannur	Kozhikode	Wayanad	Malappuram	Palakkad	Thrissur	Ernakulam	Alappuzha	Pathanamthitta	Kottayam	Idukki	Koallim	Triuvananthapuram	Total
1	Pepper Development	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
2	Other Spices	--	--	--	✓	✓	✓	✓	✓	--	✓	✓	✓	--	--	8
3	Cashew Development	✓	✓	✓	--	✓	✓	✓	--	--	--	--	--	✓	--	7
4	Vegetable Development	✓	✓	--	✓	--	✓	✓	✓	✓	✓	✓	✓	✓	✓	12
5	Fruit Development	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
6	Floriculture Development	--	--	--	✓	--	✓	✓	✓	✓	--	--	✓	--	--	6
7	Medicinal & Aromatic Plants	--	--	--	✓	✓	✓	--	--	--	--	--	✓	--	✓	5
8	Use of Plastics in Agriculture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
9	Rice Development	--	✓	--	✓	✓	✓	✓	✓	✓	✓	✓	--	--	--	9
10	Small Farm Mechanization	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
11	Soil & Plant Health Clinics	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
12	Agriculture Extension & Training	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
13	Women in Agriculture	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓	✓	✓	✓	13
14	Agricultural Marketing & Quality Control	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
15	Information Technology	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
16	Biotechnology	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Total no.of schemes operational in the district	11	12	10	14	13	14	14	13	12	12	12	13	11	11	--

✓ Allotted

-- Not allotted

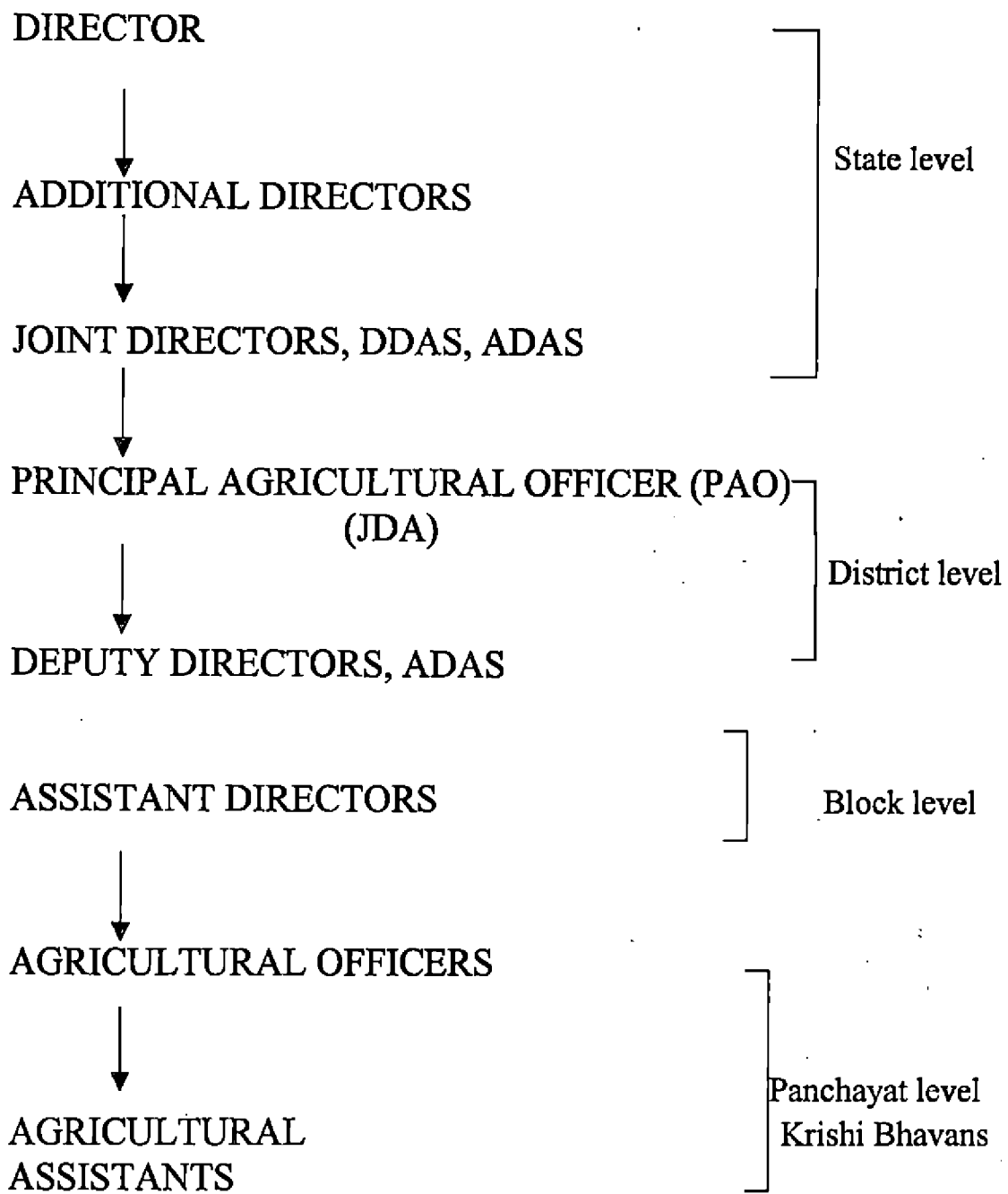


Figure 2. Organizational setup of the Department of Agriculture

3.	Kottayam	152.98	151.01	98.71
4.	Ernakulam	27.725	3.1312	11.29
5.	Thrissur	44.225	15.05551	34.04
6.	Palakkad	51.25	17.1689	33.50
7.	Malappuram	11.475	4.464	38.90
8.	Wynad	5.500	5.375	98
9.	Kannur	2.575	--	--
	Total	471.04	*342.93441	72.8

*Excluding committed expenditure

5.1.1 Seed production programme.

a) Assistance for seed production (Registered Seed Growers Programme (RSGP): -

Among the various components under rice development, about 18 % of allocation was for this very important programme, which was implemented only in six districts where rice is a major crop. The maximum area was covered in Palakkad district which is the rice granary of Kerala.

This component was operated through Kerala State Seed Development Authority (KSSDA) with an outlay of Rs 140 lakh. The target for registered seed programme was 3500 ha. The district wise split up of target and achievement are given in Table 5.1.3 & 5.1.4 respectively. The amount allotted to KSSDA by the Directorate and Agricultural through PAO, Thrissur was not drawn by the KSSDA. Though it was reported that expenditure was met from balance funds of previous year, the figures for financial achievement was not furnished. The details of procurement of paddy seeds from various districts furnished by KSSDA are given in Table 5.1.5.

Table 5.1.3 Registered seed growers programme 2003-04 – Physical target

Sl.No.	Name of district	Virippu (ha)	Mundakan (ha)	Puncha (ha)	Grand total (ha)
1.	Alappuzha	--	--	200.00	200.00
2.	Kottayam	150.00	--	250.00	400.00
3.	Ernakulam	--	240.00	--	240.00
4.	Thrissur	150.00	450.00	360.00	960.00
5.	Palakkad	405.00	596.00	--	1000.00
6.	Malappuram	200.00	150.00	350.00	700.00
	Total	905.00	1435.00	1160.00	3500.00

Table 5.1.4 Registered seed growers programme 2003-04 - Achievement

Sl.No.	Name of district	Virippu (ha)	Mundakan (ha)	Puncha (ha)	Grand total (ha)
1.	Alappuzha	--	--	200.00	200.00
2.	Kottayam	40.00	85.125	216.625	341.75
3.	Ernakulam	--	193.50	--	193.500
4.	Thrissur	20.00	560.50	371.875	952.375
5.	Palakkad	418.75	513.305	--	932.055
6.	Malappuram	50.00	150.500	387.125	587.625
	Total	528.750	1502.93	1175.625	3207.305

The seeds procured from Malappuram, Palakkad and Thrissur district are processed by KSSDA mainly at the automatic seed processing plant of Vegetable and Fruit Promotion Council of Kerala (VFPCCK), located at Alathur. The manual processing is done in Alathur farm. The team evaluated the processing of paddy seeds at Alathur (both places). KSSDA is remitting processing charges @ Rs.1/- per kg seeds. The plant has a capacity to process 7 t of paddy seeds/day and from the records it could be seen that during 2003-04 the KSSDA has processed 544.1 t of paddy seeds (as on December 2003) at the processing unit of VFPCCK.

Table 5.1.5 Seasonwise/varietywise statement showing the procurement of paddy seed as on 31.07.2004*a) Virippu – 2003*

District	Jyothy	Kanchana	Harsha	Aiswarya	R. Triveni	Kairaly	Total
Alappuzha							
Kottayam	39570						39570
Ernakulam							
Thrissur	31290						31290
Palakkad	172620	205230					377850
Malappuram		31110					31110
Total	243480	236340					479820

b) Mundakan – 2003

District	Jyothy	Kanchana	Harsha	Aiswarya	R. Triveni	Kairaly	Total
Alappuzha							
Kottayam	41760						41760
Ernakulam					20340	33090	53430

Thrissur	127980			6540	25290	9840	169650
Palakkad	323130	13500	47250	215130			599010
Malappuram	8460			60570			69030
Total	501330	13500	47250	282240	45630	42930	932880

c) Puncta – 2003

District	Jyothy	Kanchana	Harsha	Aiswarya	R. Triveni	Kairaly	Total
Alappuzha	97110						97110
Kottayam	132180						132180
Ernakulam							
Thrissur	196470	69630			97620	31800	395520
Palakkad							
Malappuram	160530	189630					350160
Total	586290	259260			97620	31800	974970
Grand Total (a+b+c)	1331100	509100	47250	282240	143250	74730	2387670

b) Seed bank programme

Though the physical achievement is more than 90 per cent for financial expenditure has not been provided. It was informed that this component was implemental based on funds from the previous year. This is a new component proposed for implementation under rice development programme during 2003-04. An assistance of Rs.100 lakhs was earmarked as revolving fund to KSSDA being 50 per cent cost of raw seeds for establishing a 'Seed Bank' for maintenance of 2000 t of certified seeds of paddy.

The objective of the scheme was to take care of special requirement of seeds for resowing in contingent situations arising due to natural calamity.

Though working instructions for implementation of this new component is seen issued as per circular No.TA (1) 28939/03 dt 13.8.03 of DoA and funds were allotted for KSSDA, the scheme was not implemented. The KSSDA could not give ample justification for total non implementation of this new component. In this content, the operational difficulties of KSSDA which were brought to the notice of Task Force are given.

- 1) Lack of sufficient staff strength: - There are only two technical officers - JDA and one Agricultural Officer. Because of lack of sufficient staff, schemes like seed bank programme and infrastructure development for storage of seeds could not be implemented by KSSDA. It is very much

needed that at field level, for procurement, grocery, storage and distribution functions, technical staff support is to be provided urgently.

2) Lack of infrastructure facilities: - Seed processing plant, storage space and seed testing laboratories are needed for producing quality seeds.

3) The JDA, KSSDA is not provided with drawing and disbursing authority. At present the funds for KSSDA is allotted to PAO, Thrissur. As treasury bans are affecting transfer of funds, the orders for drawal power to JDA, KSSDA and direct transmission of funds to KSSDA from Directorate are to be issued .

c) Infrastructure for seed storage

This component was also proposed to be implemented through KSSDA. It is disappointing to note that this component also could not be implemented. It was reported that administrative sanction is pending with the Government. However, the funds were allotted to five districts, namely Malappuram, Thrissur, Palakkad, Alappuzha and Ernakulam @ Rs.20 lakhs/district.

As per government rules for undertaking construction works (tendered works) with estimate above 10 lakh, Government sanction is required. Because of this reason, the sanction for undertaking construction work of seed stores proposed was withheld. This is a sorry state of affairs of a component financed by the Central Government.

d) Assistance for cultivation of HYV seed

This component was operational only in seven districts, the details of which are presented in Table 5.1.6.

Table 5.1.6 Details of district wise physical target and achievement of Assistance for HYV seed

District	Target (t)	Achievement (t)	Achievement (%)
Thrissur	1200	177.593	15.0
Palakkad	1600	541.59	34.0
Ernakulam	240	14.00	6.0
Pathanamthitta	160	160.00	100

Alappuzha	1280	1280.00	100
Kottayam	120	287.21	90
Malappuram	400	39.454	10
Total	5000	2499.847	48.07

The target was 5000 t, whereas achievement is only around 2500t. The achievement of Alappuzha district is remarkable with supply of 1280 t of seeds. In Pathanamthitta district also, cent per cent achievement is reported. Very poor achievement of Ernakulam, Malappuram, Thrissur and Palakkad requires special attention. The reasons for poor achievement as per officials of Department of Agriculture are:

1. The low subsidy
2. Non availability of required seeds from KSSDA at start of crop season
3. Poor demand from farmers
4. Natural calamity and other location specific problems

However, cent percent achievement of some districts indicate that with sincere efforts more achievement could have been made. A meticulous planning by the implementing officials is a prerequisite for the success of this component in the field.

5.1.2 Integrated nutrient management (INM)

The achievement of INM component is satisfactory. In spite of low subsidy, which is pointed out as a disadvantage more than 75 per cent of physical target in the case of green manure seeds and more than 85 per cent in the case of biofertilizer could be achieved. The major difficulty in implementation of this component as reported by field level officers were

1. Cost of green manure seed is Rs.14/kg whereas subsidy is only Rs.2.50/kg.
2. There is no statutory regulation for quality assurance of biofertilizers.
3. Farmers are still not aware of the benefits of biofertilizer application.
4. There is higher demand for chemical fertilizers.
5. High cost of biofertilizers

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4. There is higher demand for chemical fertilizers.
5. High cost of biofertilizers

5.1.3 Integrated pest management (IPM)

The achievement is satisfactory with almost cent per cent achievement in distribution of biocontrol agents and farmers' field schools. However, the poor performance of Palakkad district in this very important component is to be viewed seriously. In Palakkad, out of 50 IPM demonstration plots, only six were laid out and the achievement in trichocard and pseudomonas distribution were only 38 and 78 per cent, respectively. This is in spite of the fact that SBCL is located in the neighbouring district. As reported by the officials of the district, the major reason for this poor achievement was severe drought experienced during 2003-04. In Thrissur district the achievement in these two components were more than 100 per cent and the efforts taken by implementing officers require special mention.

The progress of the scheme was evaluated at State Biocontrol Lab (SBCL), Mannuthy, to which the whole financial allotment (8.5 lakhs) for the scheme was earmarked. The details of achievement of the laboratory are furnished in Table 5.1.7

Table 5.1.7 Details of district wise physical target and achievement of distribution of biocontrol agents

District*	Pseudomonas (kg)		Trichocards (cc)	
	Target	Achievement	Target	Achievement
Thrissur	2000	2000	4250	6381
Alleppy	4500	4500	4000	800
Palakkad	4500	4000	4250	1346
Kottayam	1000	1000	--	--
Malappuram	--	--	--	565
Total	12000	11500	12500	9092

* Due to difficulty in transportation of trichocards, the scheme was allotted only to central districts.

Though physical target was not assigned to Malappuram district, the trichocards were utilized for IPM, due to the interest taken by Agricultural officers of Perumpadappu and Nannamukku KB. The balance quantity of 3408 cc of trichocards will be distributed in 2004-05 as per officials of SBCL, Mannuthy. The SBCL is unable to meet the requirement of biocontrol agents for the whole state. The major operational difficulties of the laboratory are the following.

- Inadequate staff strength

- The laboratory is not air conditioned. The optimum temperature for culturing *Trichogramma* is 28-35°C and in summer months temperature is usually above optimum which adversely affects production.
- Attack of the pest *Tribolium* poses problem, in spite of prophylactic measures taken.
- Transportation to distant places is not possible because Trichocards taken out of BOD should reach farmer within 24 hours. Because of this only farmers of nearby districts are getting trichocards. Hence there is need felt to establish regional units of biocontrol laboratory.

5.1.4 Laying location specific demonstration plots

The component aimed at popularization of new varieties. Though in the action plan 100 demonstration plots are targeted, as per progress report from various districts it is seen that total of 82 demonstration plots only were allotted. The achievement of various districts is as follows.

Table 5.1.8 Details of district wise target and achievement

District	Targets (No.)	Achievement (No.)
Kannur	10	0
Malappuram	5	0
Thrissur	4	2
Palakkad	18	0
Alleppey	35	31
Kottayam	10	0
Total	82	33

The achievement is very poor and the major reasons were stated as non-availability of seeds of proposed variety and also severe drought. However, in Alappuzha district the achievement is commendable with about 90 per cent of achievement and the shortfall was due to difficulty experienced in laying out demonstration plot of Koottumundakan variety because the crop season was over.

5.1.5 Land and infrastructure facilities for padashekarams

Under rice development programme, the major share of allotment was for land and other infrastructural facilities (30%). This was utilized by the Alappuzha District

(100 lakhs) and Kottayam District (138 lakhs) by way of construction of outer bunds in five Padasekharams. The details are given in evaluation report of the respective districts.

However, funds were seen allotted only after December 2003, which is a serious handicap.

5.1.6 Promotion of scented rice

The component aimed at augmenting the production of scented rice varieties cultivated exclusively in Wynad district. This component was implemented successfully (98% achievement) and the details are discussed in the report of Waynad district.

5.1.7 Promotion of pokkali rice as organic rice

The pokkali rice cultivation exists in the districts of Ernakulam, Alappuzha and Thirssur. Usually one crop (long duration) is raised in these areas which is classified as 'problem zone'.

As per work plan TA(1) 28939/03 dt 13.08.2003 the activities as given in Table 5.1.9 were proposed for implementation during 2003-04 through Pokkali Land Development Agency (PLDA). The district wise allotment of funds is given in Table 5.1.10.

Table 5.1.9 Details of physical and financial target of component for pokkali rice

Sl.No.	Component programme	Physical Target	Financial target (lakhs)
a)	Assistance for seed @ Rs.4/kg	500 ha	6.0
b)	Assistance for lime @ Rs.1000/ha	1500 ha	15.0
c)	Assistance for marketing	--	3.5
d)	*Strengthening of bunds	--	--
	Total	--	24.5

* As per work plan, no funds are earmarked for strengthening bunds.

Table 5.1.10 District wise allotment of funds and achievement for component for pokkali rice

District	Amount (Rs. lakhs)	Achievement (Rs. lakhs)
Ernakulam	3.3	0.5
Thrissur	8.0	0
Alappuzha	13.2	0
Total	24.5	0.5

The achievement of this component is very poor (only 2%) inspite of having a separate paddy development agency for pokkali. The major reason was reported as late release of funds. The crop season starts by June-July in all pokkali areas whereas funds were given to the PAOs of respective districts by August-September only. The delay in release of funds to such special component is to be viewed seriously. The task force is of the view that the activities of PLDA is to be extended to Thrissur and Alleppey districts where no efforts are seen taken by PLDA for promotion of pokkali rice cultivation.

Suggestions for improvement

- Multiplicity of programmes for rice cultivation is found badly affecting effective implementation. Hence a convergence programme may be formulated which could help the rice farmers.
- As seed is the most critical input, a viable seed production programme is the need of the hour. If procurement of seed can be assured, more area can be brought under the seed production programme. The Kerala State Seed Development Authority (KSSDA) has to identify potential areas for seed production and realistic targets have to be allotted accordingly.
- The crop raised under Registered Seed Growers Programme has to be compulsorily covered under crop insurance scheme. For SC/ST in schemes, separate list is not maintained and in future this should be taken care of.

- The availability of HYV breeder seed of Pokkali varieties is to be ensured. For this the RSGP is to be extended to Pokkali rice also
- The subsidy under ‘assistance for cultivation of high yielding variety seed’ is given only for purchased seed. As farmer-to-farmer exchange is still a major source of seed procurement, subsidy may be extended to this type of procurement also, in those cases where strict quality assurance can be ensured. Another suggestion is that subsidy can be extended to cultivation of HYV seed instead of giving subsidy for purchase of seeds, as such.
- Reallocation of target is needed in many cases. Target should not be based merely on area under rice in a district. Many operational problems specific to a district are encountered. Some of the instances are:
 - 1) In Ernakulam District, PTB 20 is the ruling variety of second crop season for which subsidy cannot be extended.
 - 2) In Ernakulam district, carry over targets of previous years are being met. However, fresh targets are being allotted every year resulting in less utilization.
 - 3) Also farmer preferences are not considered eg. ‘Uma’ and ‘D1’ seeds are having high demand. But the Department or Agricultural University is not in a position to meet the demand from farmers.
 - 4) The same is the case with assistance for purchase of green manure seed. Though Alappuzha District is having substantial area under rice, the practice of ‘*in situ*’ green manuring is not possible in Kuttanad. Hence the funds earmarked for this component will not be expended.
 - 5) For development of infrastructural facilities for storage of seeds, amount may be allotted to potential districts. To cite an example, Kottayam was a potential district, but funds were allotted to Ernakulam. Similarly, there is need for infrastructure development work at Vellayani puncha padasekharam of Trivandrum district, which is not considered.
- Regional units of biocontrol lab may be established to cater to the demands for biocontrol agents from farmers of northern and southern districts.

- Strengthening of State Biocontrol Lab, Mannuthy has to be done by providing sufficient staff strength and airconditioned facilities for culturing biocontrol agents.
- Timely release of funds and timely issue of working instructions and proper follow up from technical sections is very much needed.

The implementation of major programmes like promotion of Pokkali rice as organic rice, laying location specific demonstration plots, construction of seed store etc. were affected specifically due to the above reason.

- In nineties under 'Prime Minister's Programme' massive infrastructure development works were undertaken in padasekharams. Strengthening/maintenance of the infrastructural works carried out under the above programme may be included in macro management schemes as this is as important as construction of new bunds.
- In the case of infrastructure facilities for storage of seeds, as per the working instructions, the programme is to be implemented by KSSDA but administrative section was not issued for implementation.

It is to be noted that the programmes implemented under macro management schemes are demand driven and are not tendered works. Hence permission to undertake the work at PWD approved rate and within the estimate proposed should be given. The Director of Agriculture may be given the authority to sanction such works as the programme is to be implemented on a time bound manner. This being an engineering work, the work is to be executed through Agricultural Engineer of the Department of Agriculture. But financial delegation is given to the Seed Authority. This has to be appropriately corrected.

- As biofertilizers are not included under Fertilizer Control Order (FCO), Department of Agriculture is unable to take legal action against supply of inferior quality biofertilizers. Steps have to be taken for ensuring supply of quality biofertilizers.

- Screening of local strains of Azospirillum also is necessary and research work in this direction is to be initiated by the Kerala Agricultural University.
- In the case of farmer field schools, as per revised working instructions, the number of classes to be handled is 14, which was previously 10. Considering the limitation in staff strength of KBs, the number of classes may be reduced to 10, for effective implementation. The quality of classes may be given more stress than the number of classes.
- There is lack of co-ordination between Pokkali Development Agency and Department of Agriculture. Pokkali rice cultivation deserves special attention, as farmers are shifting over to prawn culture which is causing ecological imbalance.

At present the executive committee of PLDA modify the schemes and send it to Director of Agriculture for sanction. This creates undue delay which results in the non-implementation of scheme. The PLDA can be entrusted to prepare projects for Pokkali rice cultivation. The amount earmarked can be given as a lumpsum grant to PLDA along with general guidelines for implementation, so that it can be implemented without undue delay. Now PLDA is concentrating only in infrastructure works. However, the agency shall concentrate on seed production programme also.

Table 5.1.1 Abstract of the physical and financial achievement of Rice development

Sl.No.	Component		Physical			Financial (Rs. lakh)		
			T	A	Achievement(%)	T	A	Achievement(%)
1.	Seed production programme.		3500	3207.305	92	140	*	**
a)	Assistance for seed production (ha)							
b)	Seed bank programme(No.)		--	Nil	--	100	0	0
c)	Infrastructure for seed storage (No.)		5	0	0	100	-	**
d)	Assistance for HYV seed (t)		5200	2499.85	48	103.5	45.811	44
2.	INM	a) Green manure seed (t)	100	78.43	78	2.76	1.9205	70
		b) Biofertilizer (ha)	21,000	18464.2	88	10.39	9.11871	88
3.	IPM	a)	200	156	78	5	4.267	85
		b) (i) Pseudomonas (kg)	11,000	10,500	95			
		(ii) Trichocards (cc)	8500	7918	93	8.5	8.5	100
		c) FFS	100	100	100	22.68	22.45	99
4.		Location specific demonstration plot	82	33	46	21.078	8.355	40
5.	Land and infrastructural facilities for padasekharams		5	5	100	238	238	100
6.	Promotion and scented rice							
		(i) One day training programme	4	3	75	0.5	0.375	75
		(ii) Market promotion	--	--	-	5.0	5.0	100
7.	Promotion of pokkali rice and organic rice		--	--	-	24.5	0.571	2
8.	Executorial infrastructure		-	-	-	14.25	12.53	88
	Total		-	-	-	796.158	356.89821	45

*Figures not provided, activity based on previous years funds.

**Committed expenditure as reported by the Department of Agriculture.

5.2 PEPPER DEVELOPMENT

Pepper is the most important spice grown in India. Kerala contributes to 90 per cent of the area and 81.5 per cent of the country's pepper production. Average productivity recorded is 301 kg/ha, which is very low when compared to its production potential reported in research stations (2445 kg/ha). The major reasons for the low productivity of the crop are predominance of old and senile plantations, poor genetic stock and management and high incidence of foot rot disease. The demand for pepper in the domestic market as well as in the international market is going up every year. To increase the productivity of pepper, it is necessary to rejuvenate the old plantations by replanting the old and uneconomic vines with high yielding varieties and adoption of proper management practices in the entire garden including IPM measures against major diseases.

During 2003-04, it was targeted to increase production and productivity of pepper to 82,500 tonnes and 390 kg/ha respectively. The strategies suggested for achieving the above targets were:

1. Production and distribution of good quality planting materials of high yielding hybrids/recommended varieties adopting latest technologies.
2. Area expansion as inter crop in coconut/arecanut gardens/homesteads and in other potential areas.
3. Intensive campaign for promotion of scientific cultivation.
4. Rejuvenation of existing unproductive pepper gardens.
5. Promotion of organic production of pepper to meet the increasing specific export market demand abroad.
6. Developing common facilities for quality upgradation, product diversification etc.
7. Training to farmers and agricultural extension functionaries on organic farming and production of good quality pepper.

An abstract of the physical and financial achievement of the Pepper development scheme implemented is given in Table 5.2.1.

The physical and financial achievements of the important components implemented under pepper development programme are described.

5.2.1. Production and distribution of rooted cuttings through conventional method

Eighteen per cent of allotment of pepper development programme was for this component. This component was operational in all the 14 districts. The physical achievement is comparatively good with production of above 89 lakh number of rooted cuttings (90% achievement). In some districts eg. Waynad, out of 10 lakh cuttings, 4 lakhs were produced by Self Help Groups of women. The varieties used for production of rooted cuttings were mainly Panniyur-I and Karimunda, the prominent varieties of pepper in Kerala. The shortfall in production was due to incidence of quick wilt, which is a major threat to pepper cultivation in Kerala.

The cuttings produced were utilized mainly for pepper rehabilitation programme within the same District or in other Districts. The district-wise production and distribution pattern are given below.

Table 5.2.2 District wise production of rooted cuttings and distribution pattern

Name of District	Production Target (lakh Nos.)	Production Achievement (lakh Nos.)	Distribution pattern (lakh Nos.)*
Thiruvananthapuram	3	1.86	Within district and Idukki (1.0)
Kollam	3	3	Within district and Idukki (0.5)
Pathanamthitta	2	2.425	Within district
Alappuzha	7	6.5	Within district, Kasaragod, Idukki
Kottayam	8.5	8.5	Within district
Idukki	15.0	15.0	Within district (2.0)
Ernakulam	3.5	3.91	Wayanad (2) Kasaragod (1.5) within

			district (0.4)
Thrissur	5.0	3.34	Kasaragod (0.192) Wayanad (3.119)
Palakkad	10.0	9.0	Within district
Malappuram	13.5	11.5	Within district, Wayanad (2.3), Kasaragod
Kozhikode	7.5	6.574	Within district
Wayanad	10	10	Within district
Kannur	10	6.6	Within district
Kasaragod	2	1.746	Within district
Total	100	89.955	

* Figures in brackets indicate the number of rooted cuttings distributed to respective districts.

The distribution pattern shows that the rooted cuttings were transported to long distances. For example, the cuttings required for pepper rehabilitation programme in Kasaragod district was procured from Alappuzha, Ernakulam, Thrissur and Malappuram districts. This had resulted in transportation shock and damage during transportation, which in turn affected, the establishment of cuttings in field.

5.2.2. Production and distribution of rooted cuttings through tissue culture method

The target of production of 10,000 nos. of tissue culture plantlets was allotted to BMFC, Kazhakoottam with financial target of 1.2 lakhs. As per the progress report of BMFC, the target is 23,000 nos. and achievement is only 2928 nos. The distribution details are not furnished.

5.2.3. Area expansion through intercropping

The component was operational only in seven districts and the achievement is 80 per cent. However, severe drought as reported by the officials had affected the establishment percentage of cuttings planted. A clear picture about the rate of establishment could not be obtained, though an attempt was made for the same

5.2.4. Infrastructure for pepper nursery

The scheme aimed at providing infrastructural facilities like establishment of rapid multiplication system, hardening facilities, irrigation facilities, purchase of tractors and tillers and other accessories, purchase of shade nets, green houses etc. for strengthening pepper nurseries of Departmental farms: The amount was allotted to six districts (as detailed below) and 73 per cent of the allotment is seen utilized by way of construction of green house, strengthening of irrigation facilities etc. While Kannur did not utilize the amount, the achievement in respect of Kozhikode is too low.

Table 5.2.3 District wise target and achievement of Infrastructure development

District	Target(Rs lakh)	Achievement(Rs lakh)
Kottayam	1.95	1.95
Kozhikode	2.0	0.375
Idukki	2.0	2.0
Palakkad	2.0	2.0
Malappuram	2.0	1.667
Kannur	1.0	0
Total	10.95	7.992

5.2.5. Rehabilitation of old and senile gardens

The major share of allotment under pepper development programme was for this component (43%), because it is estimated that around 40 per cent of the pepper plantations in the State are old and senile. It was proposed to rehabilitate 4310 ha of existing gardens by providing assistance @ R.4000/ha for critical components like planting material of HYVs, manures and biofertilizers, biocontrol agents etc. There was 96per cent physical and 91per cent financial achievement for this component.

The programme was implemented in eight districts and the maximum area under this scheme was in Idukki (1150 ha) followed by Wayanad (900 ha), which are

the two major pepper districts of the state. The overall achievement is 96 per cent. As area under pepper in the state is showing a remarkable increase, the pepper rehabilitation programme may have to be continued. The district-wise progress is given in the Table 5.2.4.

Table 5.2.4 District-wise target and achievement of pepper rehabilitation component

District	Target(ha)	Achievement(ha)	Achievement %
Kottayam	400	400	100
Idukki	1150	1150	100
Palakkad	400	400	100
Malappuram	410	410	100
Kozhikode	350	345	99
Waynad	900	900	100
Kannur	400	241	60
Kasaragod	300	296.65	99
Total	4310	4142.65	96

5.2.6.Promotion of soil conservation measures

As pepper is cultivated in hilly tracts, the adoption of soil conservation measures is very much important. Though the subsidy portion is Rs.3000/ha, which is too low to undertake such works according to the officials, the achievement is good (97%). It is a known fact that soil conservation work in more slopy areas will be

more costly and hence the subsidy portion may be decided based on the percentage of slope. In such cases, soil conservation works carried out in Idukki and Wayanad Districts will receive higher subsidy.

5.2.7. Promotion of organic pepper

Organic farming is gaining importance and it is a means to achieve higher price for the produce, especially in export market. This can also sustain the soil productivity. A minimum period of three years is required as conversion period to organic farming and during this conversion period beneficiary farmers will be provided assistance @ Rs.1000/ha. The package of practice developed by Spices Board is now being followed.

The progress of implementation of the component is satisfactory. However, the component is to be continued and steps may be taken for testing quality of organically produced pepper.

5.2.8. Demonstration of integrated pest management

The objective of the component is large-scale demonstration of use of Trichoderma, an effective biocontrol agent against the disastrous pepper disease, quick wilt. The component was implemented in 150 ha, though it was originally proposed to cover 400 ha with a financial provision of 5 lakhs ha. The major operational bottleneck in implementation as reported by field level officers was the difficulty in getting 5 ha contiguous area under pepper as specified in working instructions. Pepper is usually grown as mixed crop and holdings are usually homesteads, where a multitude of crops can be seen. Hence there should be relaxation in the minimum area. However, IPM practices will not be successful in isolated plots and hence while selecting beneficiaries, pepper farmers of a contiguous locality are to be included.

5.2.9. Training on production of organic pepper, post harvest management, value addition and quality maintenance

For getting maximum price for pepper and its processed products, maintenance of quality standards, food safety standards, organic certification etc. are

needed. In order to achieve this, uniform practices and maintenance of records right from the beginning of field preparation to harvest is to be ensured for which training is inevitable to both farmers and officers. Hence 10 numbers of 2-day training to field officers and 14 numbers of one day training to farmers were allotted with financial expenditure of 3.5 lakhs. The achievement of this component is fair.

5.2.10. Promotion of improved methods of primary processing at growers level

The scheme was proposed to establish small primary processing units for production of clean and quality black pepper/white pepper/ground pepper by providing assistance to Kurumulaku Vikasana Samithies/Women Groups/NGOs.

Assistance is for creation of infrastructural facilities for processing pepper @ Rs.10,000/unit. During 2003-04, though it was proposed to give assistance to 30 such units with financial outlay of Rs.3.0 lakhs, 18 units only could be established. The details are given.

Table 5.2.5 District wise target and achievement of primary processing

District	Target (Nos.)	Achievement(Nos.)	Expenditure (Rs. in lakhs)
Idukki	6	6	0.6
Wayanad	6	2	0.2
Kannur	6	4	0.4
Kozhikode	6	Nil	0.0
Malappuram	6	6	0.6
Total	30	18	1.8

While no unit was established in Kozhikode, only two units were established in Wayanad. The reason for non-implementation of the scheme in Kozhikode district was reported as the delay in obtaining working instructions. The working instruction for the scheme is seen issued (as per Circular No. TS(2)28983/03 dt. 16.02.2004), only towards the end of financial year.

11. Marketing promotion with growers participation

As per the scheme, the panchayat level Kurumulaku Vikasana Samithies in Wayanad, Kannur and Kozhikode districts will be federated and an Apex Body will be formed and registered under Charitable Societies Act with Headquarters at Kozhikode Corporation. The members of Executive Committee of Apex Body will be representative of Department of Agriculture, Spices Board, Kerala Agricultural University and Directorate of Marketing and Inspection. The body will have backward and forward linkages for production of clean pepper and marketing including export. It was also envisaged that Apex Body will undertake massive campaign, awareness programme and training to farmers of the above three districts in particular and to the needy farmers in other districts on processing and marketing and also undertake activities such as market intelligence and information for the benefit of farmers.

Though an amount of Rs.2.5 lakhs was allotted to PAO, Kozhikode on 9.03.2004 as per direction from Directorate of Agriculture, Rs.2.035 lakh was resumed vide Order No. F(4) 35170/03 dt. 26.03.2004. Such delay in allotting funds and subsequent resumption is not justifiable. Though a committee was constituted, the committee could not go ahead for want of clear cut instruction. The PAO has requested for revalidation of the amount so that activity could be undertaken during 2004-05.

Suggestions for improvement

1. As production of rooted cuttings is a major programme, which is being implemented every year, a 'nursery manual for pepper' is very much needed. This will enable the production of rooted cuttings done more scientifically, starting from timely mother plant selection. This manual will also be useful for establishing norms and specific standards for production of rooted cuttings in various Farms under the Department of Agriculture. The quality of rooted cuttings can be substantially improved once all the farms undertake this activity based on the instructions in the manual.

2. Production of rooted cuttings and its distribution cannot be attained in the same financial year because of reasons well known. Hence production and distribution should not be clubbed together.
3. Steps may be initiated to establish mother vine gardens to ensure the availability of quality planting materials of improved varieties.
4. Screening for diseases is to be done strictly before the cuttings are distributed.
5. Community nurseries may be established with the help of local bodies and progressive farmers to eliminate transportation cost, damage during transportation and to ensure timely availability. It is reported that supply of poor quality planting material is affecting the successful implementation of pepper rehabilitation programme.
6. A review of establishment percentage of cuttings planted during previous years has to be ensured before fixing targets for next year especially in respect of those components in which planting materials are supplied.
7. Different schemes offer varying levels of subsidy (eg. soil conservation measures) which creates confusion among farmers. This may be avoided. Uniform subsidy for one component must be fixed.
8. The component 'marketing promotion with growers participation' is only partially implemented. Though an amount of 2.5 lakh was allotted to Kozhikode District in March 2004, a major share was resumed in the same month. The implementation of such component is to be given priority.
9. It is very difficult to get contiguous area of 5 ha, for implementation of IPM component. So the stipulation of minimum 5 ha is to be relaxed.
10. Forward linkages are ignored in the component on 'primary processing units of pepper'. The farmers are serious about marketing of their produce and hence this component has to be continued incorporating provisions for forward linkages.

11. Considering the area under pepper in a district, correspondingly more area is to be brought under scheme on organic pepper (eg. in Idukki district target was only 65 ha, which is too low).
12. The production of tissue culture plantlet has not been taken up though hitech facilities are available at BMFC, Kazhakkottam. It is understood that there is no foolproof protocol for production of pepper tissue culture plants with BMFC. IISR, Kozhikode has developed a protocol. The State Department of Agriculture can initiate steps to procure the developed protocol from IISR for large scale multiplication of latest HYVs of pepper released by KAU. There is heavy demand from the farmers for supplying the latest varieties of pepper, which shall be addressed.

Table 5.2.1 Abstract of the physical and financial achievement of Pepper development.

Sl.No.	Component		Physical			Financial (Rs lakhs)		
			T	A	%	T	A	%
1.	Production and distribution of rooted cuttings through conventional method (lakh nos.)		100	89.962	89.962	74.785	70.749	94.6
	Production and distribution of rooted cuttings through tissue culture method(no.)		10000*	2928	29.28	1.2	-	-
2.	Area expansion through intercropping (lakh no.)		3.15	2.52475	80.15	13.75	10.36125	75.35
3.	Infrastructure for pepper nursery		-	-	-	10.95	7.995	73.01
4.	Pepper rehabilitation (ha)		4310	4142.65	96.11	171.406	156.8004	91.48
5.	Promotion of organic pepper (ha)							
	a)	I yr.	900	864.4	96.04	34.2	32.13	93.94
	b)	II yr.	600	600	100	8.7	8.68525	99.83
6.	Promotion of soil conservation measures (ha)		2033.66	1968.36	96.78	60.17	59.068	98.17
7.	Training on production of organic pepper, post harvest management, value addition and quality maintenance							
	a)	2 day training to field officers	10	10	100	1.4	1.4	100
	b)	1 day training to farmers and women groups	14	13	92.85	1.94	1.79	92.26
8.	Promotion of improved methods of primary processing at growers level (no.)		30	18	60	3.0	1.8	60
9.	Demonstration on IPM (ha)		350	322.7	92.2	4.375	3.65	83.43
10.	Marketing promotion with growers' participation (Pepper Apex Body)		-	-	-	2.5	0.465	18.6
11.	Execuational infrastructure		-	-	-	7.29	8.065	>100
	TOTAL					394.426	362.9589	92.01

*Target as per work plan

5.3 OTHER SPICES

The main objectives of the scheme on development of other spices were

- (a) Production of quality planting materials of ginger, turmeric, vanilla and tree spices
- (b) Popularise production technologies, and
- (c) Create awareness among farmers on post harvest management.

The components of the programme with physical and financial achievement are given in Table 5.3.1

Table 5.3.1 Abstract of the physical and financial progress of Other spices

Sl.No.	Components	Physical			Financial (Rs Lakhs)		
		T	A	%	T	A	%
1.	Ginger						
a.	Production of planting materials in Dept. farms (ha)	5	5	100	4	4	100
b.	Production of planting material in farmers' field	15	15	100	3	3	100
c.	Field Demonstration (ha)	60	65	>100	11.251	11.25	100
2.	Turmeric						
a.	Multiplication of planting material in Dept. farm (ha)	3.75	3.75	100	2.438	2.417	99.15
b.	Multiplication of planting material in farmer's field (ha)	10	9.9	99	1.625	1.607	98.89
c.	Field demonstration (ha)	170.48	175.88	>100	22.685	22.68	100
3.	Tree Spices						
a.	Production of clove (lakh No.)	1	0.562	56	9	6.223	69.14
b.	Production of Cinnamon (lakh No.)	0.16	0.11003	69	0.6	0.545	90.83
c.	Production of nutmeg grafts	11000	3379	31	3.3	2.357	71.42
d.	Production of garcinia	4200	3025	72	2.1	1.364	64.95
4.	Vanilla						
a.	Planting material production	-	-	-	10	8.184	81.84
5.	Training						
a.	Training on post harvest management (No.)	50	48	96	3.5	3.29	94
b.	Training on product diversification	15	11	73	1.5	1.3	86.7
	EI	-	-	-	2.695	2.693	99.92
	TOTAL				77.694	70.92	91.27

In the case of multiplication of planting materials of ginger and turmeric, though achievement is reported as cent per cent, the details on quantity of seed materials

produced were not furnished by the concerned officials. It was reported that as the planting season (April-May) was over by the time working instructions were issued the planting was delayed in departmental farms (The working instructions were issued as per circular No. TS(2)28984/03 dt. 24.06.2003). It was seen that the latest varieties released by KAU/ISR were used for multiplication of planting material as well as for field demonstration. The field level evaluation could not be undertaken in the case of demonstration plots and multiplication in farmers' field as it was reported that harvesting was completed, when the Task Force member visited the farmers.

The achievement in the case of tree spices is generally poor, due to operational bottlenecks met within many farms, such as non-availability of quality mother plants and poor success percentage of grafting. The data on details of distribution of planting materials produced were not complete as the sale/distribution could be done only during the next financial year.

In the case of vanilla, physical targets were not fixed as per working instruction and an amount Rs. 3 lakh each was given to Pathanamthitta and Wayanad district and 2 lakh each to Ernakulam and Idukki districts for strengthening the nurseries and for production of planting materials.

As the non-availability of planting material was identified as the major constraint in increasing area under vanilla, this component was proposed. The progress of this component implemented in various districts is as below.

Table 5.3.2 District-wise progress of production of planting material of vanilla

District	Number/length of vine	Financial (Rs. lakhs)	
		Target	Achievement
Waynad	1500 metre	3.00	3.00
Pathanamthitta	1000 Nos.	3.00	3.00
Idukki	6400 metre	2.00	2.00
Ernakulam	250 Nos.	2.00	0.184
		10.00	8.184

In Ernakulam, since there was a parallel scheme funded by District Panchayat on production of vanilla rooted cuttings, further achievement was difficult and hence the very poor achievement. However, the amount could have been utilized for infrastructural work of nursery. In other districts, a part of funds were utilized for

strengthening infrastructure facilities of vanilla nurseries and hence the low achievement in production of rooted cuttings is justifiable.

The trainings were organized on various aspects of post harvest management and product diversification.

Suggestions for improvement

1. It was observed during field visits that targets are allotted for production of garcinia grafts and nutmeg grafts to certain farms where there are no mother plants. In future, while allocating targets, the availability of mother plants of the required crop has to be necessarily ensured.
2. It was also observed that clove seeds procured from the private firm was of inferior quality which affected the germination percentage. The quality of seeds/mother plants has to be ensured before giving for large-scale multiplication.
3. The production of planting material should be based on the demand from the farmers. For instance, it is observed that there is not much demand for cinnamon seedlings produced in the various farms.

5.4 CASHEW DEVELOPMENT

Cashew is a high value crop which can be cultivated even in marginal lands and waste lands and Kerala is one among the major cashew growing states in India. Tremendous untapped potential still exists for augmenting production of cashew by way of area expansion and improvement of productivity. So the major components of cashew development programme were cashew rehabilitation and area expansion in wastelands (Table 5.4.1). These two programmes were mainly operational in major cashew growing districts of the state i.e., Kannur, Kasaragod and Malappuram. Under area expansion, Palakkad district also was included. Since there were practical problems in obtaining barren uncultivated wasteland on a contiguous basis as stipulated in guidelines for area expansion, a portion of physical target was earmarked for rehabilitation component in Palakkad district. Thus there was component change in relation to the cashew scheme during implementation. The achievement of various districts with respect to both these programme are given in Table 5.4.2.

Table 5.4.1 Abstract of physical and financial achievement of Cashew development

Sl.No	Components	Physical			Financial (Rs. lakhs)		
		T	A	% A	T	A	% A
1.	Area expansion in waste land (ha)	1174.674	593.75	51.00	70.48	35.325	50.00
2.	Cashew rehabilitation (ha)	1405	578.25	41.00	140.50	62.30	44.128
3.	Adoption of plant protection measures (ha)	602	594	99	6.02	5.94	99.00
4.	Distribution of PP equipment (Nos)	625	711	>100	5	4.41193	88.00
5.	Establishment of demonstration plots (nos.)	500	247	49	12.5	5.80705	46.00
6.	Training for grafting (nos.)	50	50	100	0.5	0.5	100.00
7.	EI	-	-	-	9.18	8.679	94.54
	Total				244.18	122.96	50.36

Table 5.4.2 Progress of area expansion and cashew rehabilitation components in various districts

District	Area expansion			Rehabilitation		
	Target (ha)	Achievement (ha)	Achievement %	Target (ha)	Achievement (ha)	Achievement %
Kasaragod	200	75	38	500	500	100
Kannur	200	46.75	23	500	45.75	9
Malappuram	200	Nil	0	400	27.5	7
Kozhikode	308	203	66	5	5	100
Palakkad	266.67	269	>100	--	--	--
Total	1174.67	593.75	51.0	1405	578.25	41.0

The achievement of both the components were not satisfactory, the achievement of area expansion being 51 per cent and rehabilitation component, 41 per cent only. In the case of Kasaragod district, there is 100 per cent achievement in rehabilitation programme whereas achievement is only 38 per cent in area expansion programme.

The major operational bottleneck reported was non availability of cashew grafts.

The other major operational constraints of these two components are:

1. Difficulty in obtaining contiguous area of wasteland
2. Reluctance on the part of farmers to replace their entire garden at a stretch.
3. Procedural bottlenecks in procuring cashew grafts from authorised and credible institutions like Cashew Research Station of Kerala Agricultural University. The CRS, Madakkathara insists that the required cashew grafts have to be reserved on payment in advance, which, in most cases will not be possible since the usual procedure is payment after delivery of inputs.

4. As the shortage of planting material was a problem experienced in previous years also, carry over targets of previous year was given first priority and this also resulted in poor achievement in 2003-04

In the case of distribution of plant protection equipments and adoption of plant protection measures, there is 100 per cent achievement. However, in the case of distribution of plant protection equipments like sprayer, the existence of varying levels of subsidy is also noticed. The subsidy level offered by state sector schemes are higher than that of macro management scheme.

In the case of establishment of demonstration plots (Table 5.4.3) the achievement was only 49 per cent, because no achievement was attained in Kasaragod and Malappuram districts. The demonstration plots are meant for demonstration of cultivation techniques such as high density planting, adoption of INM and IPM practices and also for popularization of HYVs which have an educational value.

Table 5.4.3:- Target and achievement of Cashew demonstration plots

District	Target (No.)	Achievement (No.)	Achievement (%)
Kasaragod	150	-	0
Kannur	150	150	100
Kozhikode	50	22	44
Palakkad	25	25	100
Kollam	25	25	100
Thrissur	25	25	100
Malappuram	75	0	0
Total	500	247	49

The main reason pointed out in not laying out demonstration plot is the lack of availability of cashew grafts of HYVs. However, this could not be fully justified, since demonstrations are meant not only for popularizing HYVs but also to demonstrate scientific use of inputs and cultivation practices.

The amount allotted for training for grafting was allotted to Deputy Director (Cashew Development), Kozhikkode. The allotment was Rs.50,000/- for training 50 nos. of farm labourers. The split up of expenditure by various districts is as below.

Kozhikkode	:	20,000/-
Kannur	:	15,000/-
Kasaragode	:	15,000/-

The expenditure incurred is cent per cent

Suggestions for improvement

1. Cashew rehabilitation programme is to be done in a staggered manner within a period of 3-4 years. This is necessary to ensure steady income and reduce the risks associated with the removal of all the plants at a sketch.
2. Progeny gardens may be established in farmers' fields to ensure availability of grafts.
3. Sanction for drawal of funds for advance booking of planting material from authorised research stations or govt. institutions may be made to the scheme.
4. Due to Endosulphan tragedy and general aversion towards chemical pesticides, development of a biopesticide package for tea mosquito control is very much needed. There is no recommendation of organic pesticides for cashew at present. This shall be formulated and disseminated to farmers at the earliest.
5. There shall be proper assessment of demand/requirement of planting materials and backward linkage with CRS, Madakkathara, CRS, Anakkayam and approved nurseries for timely supply of grafts.

5.5 VEGETABLE DEVELOPMENT

The macro management schemes under vegetables were formulated to augment the vegetable production in the State so as to make the state self sufficient in vegetable requirement. Six components namely vegetable seed production, promotion of vegetable cultivation in traditional areas, organic farming, laying out of demonstration plots, marketing facilities and research and development were identified to achieve the goal (Table 5.5.1).

Table 5.5.1 Abstract of the physical and financial achievement of Vegetable development

Sl. No.	Components	Physical			Financial (Rs. lakhs)		
		T	A	%	T	A	%
1.	Strengthening of seed (production) in departmental farms	3	-	-	3.2005	3.2005	100
2.	Seed production in farmer's field (ha)	12	9.5	79.17	1.2	0.985	82.08
3.	Promotion of vegetable cultivation in traditional area + area expansion AEZ (ha)	1412.7	1222.49	86.89	70.73	70.33	99.43
4.	Promotion of organic farming in cool season vegetable (ha)	100	94	94	10.0	9.4	94
5.	Layout of demonstration plot (Nos)	125	125	100	5.00	4.87	97.4
6.	Marketing facilities to Haritha Sangham (Nos)	20	19	95	5	4.75	95
7.	District level nursery (Nos.)	7	6	85.71	0.70	0.70	100
8.	EI	-	-	-	1.7995	1.7992	99.98
	Total				97.63	96.035	98.36

Vegetable seeds are highly perishable and loose viability within a short span of time, if not properly processed and packed. At present the Departmental

Farms of the state lack facilities for vegetable seed processing and handling. An amount of Rs.5 lakhs is earmarked for developing infrastructure facilities in five selected Departmental farms. The entire scheme has not been implemented.

Vegetables are highly cross pollinated and hence seed production has to be carried out strictly as per the provisions of Seed Act and Rules to prevent genetic and physical contamination of seeds. This aspect has been given little attention while implementing the seed production programmes in farmers' fields. The details of vegetable seeds procured and distributed by the Department are also not available. No effort has been made by the State Seed Authority to procure the seeds from farmers as envisaged in the scheme.

To augment vegetable production, promotion of vegetable cultivation in traditional areas is envisaged in the scheme. The assistance is provided in the form of a revolving fund. The amount provided as assistance is quite low considering the high cost of cultivation of vegetables in the state. The assistance given has to be repaid from the profits generated. But this has not taken place in most of the cases. Lack of marketing linkages as envisaged in the scheme established with Horticulture Corporation or other such agencies for selling vegetables, as envisaged in the scheme is observed to be a serious handicap.

Promotion of organic farming of cool season vegetables was undertaken in Waynad and Idukki districts. Organic farming is a costly proposition. The high cost of production is generally compensated by the higher market price of organic products. For this, organic products have to be certified and sold in niche markets. The details of certification or marketing linkages established were not provided to the Task Force.

Demonstration plots of vegetables are to be laid out in farmers' fields to popularise latest varieties/hybrids and improved package of practices with the technical support of Kerala Agricultural University. The guidelines are seen overlooked while implementing the scheme.

The component for developing common facilities for handling and marketing of vegetables has been limited to supply of mobile van units. The entire amount earmarked for research and development of vegetables is not utilized. The areas for vegetable research were communicated to KAU by the Department. The Director of Research, KAU convened a meeting of scientists of Olericulture Department of COH and a research project named "Management of mosaic disease of Pumpkin, ash gourd, oriental preklung melon, bittergourd and vegetable cowpea" was formulated which was submitted to the Director of Agriculture. The Research Project with references comments was returned to KAU and required modifications were made. The revised copy was resubmitted to the Director of Agriculture as per Lr. No:(R5) 6660 9/2003 dt. 2.1.04 of Director of Research, KAU. However the Department has not taken serious attempts to approve the research project proposed. Later though KAU has requested to return the project proposal (in July 2004). If the department is not giving approval for the same, no reply from the Department was received.

Suggestions for improvement

1. The departmental farms have to be strengthened to take up vegetable seed production programmes so as to ensure continued and regular supply of quality vegetable seeds to the farmers.
2. The seed production in farmer's fields require close monitoring and supervision by the departmental officials. The farmers have to be given proper training on vegetable seed production before they are allotted the scheme.
3. The vegetable demonstration plots laid out by the farmers have to be given more attention by the field extension staff, since they have an educational value and can be used as effective mechanisms for technology transfer. The demonstrations should be single purpose, properly laid out and displayed.

4. There should be proper linkages established with marketing agencies before taking up large scale promotion of vegetable cultivation and also promotion of organic vegetable cultivation.

5.6 FRUIT DEVELOPMENT

The fruit development scheme under Macro management have been formulated with the following objectives.

1. Improving productivity of fruits by replanting with superior varieties.
2. Promotion of commercial cultivation of fruits like papaya, pineapple and mango.
3. Training farmers on post harvest handling of fruits.
4. Augmenting productivity and distribution of quality planting materials of fruit crop.

An abstract of the physical and financial abstract of fruit development scheme is presented in Table 5.6.1.

Table 5.6.1 Abstract of the physical and financial achievement of fruit development

Component	Physical			Financial (Rs Lakhs)		
	T	A	%	T	A	%
Promotion of export oriented banana cultivation(ha) -AEZ	600	600	100	82.75	82.75	100
Promotion of pineapple cultivation(ha)	150	150	100	7.5	7.5	100
Promotion of pomegranate cultivation(ha)	25	Nil	0	2.5	0	0
Promotion of Olore mango, guava and papaya(ha)	50	40.36	80.72	2.5	1.9755	79.02
Establishment of small private nurseries(No.)	20	18	90	5	5	100
Total				100.25	97.225	96.98

This scheme forms a part of the AEZ scheme recently formulated by the Government, and hence is considered as a convergence programme. The standards for export are not furnished in the scheme. As export linkages are not established the technology for cultivation is not specified.

The lion's share (82.5%) of the fruit development programme is allotted to promotion of export banana cultivation.

Area expansion of Nendran and traditional varieties like Red Banana, Rasakadali are envisaged in the scheme. So also developing potential compact areas in various district as export zones for banana in Kerala is also envisaged. Assistance to the tune of Rs.15000 / ha is given for planting materials and other inputs. Planting materials are to be supplied by Biotechnology and Model Floriculture Centre, Kazhakkootam. On enquiry at the field level it was found that tissue culture plantlets have not been supplied by this centre. Establishment of market linkages through VFPCCK and Horticulture Corporation for export of banana is a critical component of this scheme. This has not been done anywhere. Hence the objective of the scheme during implementation has been reduced to simply providing subsidy to growers for inputs and planting materials purchased by them. However, this has shown good progress with 92 per cent achievement.

Promotion of pineapple cultivation in potential districts to ensure continuous supply of raw materials to the processing industry is another component of the scheme for development of fruits. There is cent per cent achievement for this component. Here also, assistance is provided for planting materials and inputs.

A small component on promotion of pomegranate cultivation has also been included considering the dry belt of Palghat district. The total non implementation of this component is questionable.

Area expansion of other major fruits of Kerala like mango, papaya and guava is still another component under fruit development. Here also achievement is poor and this is mainly due to untimely implementation of the scheme and lack of availability of grafts in the Departmental farms.

To augment the planting material production it was proposed to provide assistance at the rate of 0.25 lakhs to individuals interested in raising fruit nurseries. The assistance is intended for setting up infrastructural facilities like fencing, irrigation etc. Twenty numbers of such nurseries were targeted for the year. Though financial achievement is reported as hundred per cent in some districts like Palakkad and Thrissur the scheme is not yet implemented. In many places the assistance has been given to existing nurseries that are mainly producing only ornamentals. In other

places assistance is given to nurseries producing medicinal plants and and plantation crops, which also defeats the purpose.

Suggestions for improvement

1. Development of the progeny orchards of recommended varieties is a must before starting fruit nurseries in order to ensure supply of good quality scion stocks for grafting. This aspect should also find a place while formulating the schemes.
2. The entrepreneurs should also be given training in propagation techniques of fruit crops, care and maintenance of nursery plants etc. before venturing for a fruit nursery.
3. Linkages with marketing agencies have to be established before large scale promotion of cultivation of fruits is taken up.
4. Promotion of mango cultivation was hampered by the non availability of the grafts of 'Olor' variety in Malappuram district. Suitable provisions should be given in the working instruction for substituting another locally suited approved variety.

5.7 SOIL AND PLANT HEALTH CLINICS

Though there are four components, included under this scheme, only one component i.e. soil test campaigns and issue of soil health cards was operational in all the districts. Out of the total number of 1000 campaigns targeted, only 796 campaigns could be conducted. However, the issue of soil health cards was done only in some districts.

An abstract of physical and financial achievement under various components of the scheme is presented in Table 5.7.1

Table 5.7.1 Abstract of the physical and financial progress of Soil and plant health clinics

Sl.No.	Components	Physical (No.)		Financial (Rs Lakhs)	
		Target	Achievement	Target	Achievement
1.	Soil testing campaigns	1000	796	10	7.75
2.	Setting up of mechanical compost units	2	2	80	60
3.	Establishment of mobile leaf analysis lab	2	-	18	18
4.	Establishment of biofertilizer quality control lab	2	1	12	6.789
	Total			120	94.789

For setting up of mechanical compost making plant, Rs.80 lakh was allotted. The aim of this component is most efficient disposal of municipal sewage waste to convert it into organic manure. As per working instructions, the Department proposed selection of Thiruvananthapuram and Kozhikode Corporations, the two Corporations which have furnished proposals for availing assistance under this scheme. Though expenditure is reported as Rs. 60 lakhs, (based on the figures obtained from the Directorate of Agriculture) the details regarding the work is not furnished to the evaluation team.

Yet another component is 'mobile leaf analysis laboratory' for nutrient diagnosis and fertilizer recommendation. As per the working instructions, the norms/guide for soil fertility and plant nutrients will be developed by KAU for all important crops including tissue culture plants. It is not known whether KAU has been given any specific instruction regarding this. It was also envisaged that the laboratory will visit potential agricultural areas on the basis of prefixed schedule and a nominal amount will be charged from farmers for leaf analysis, which will be decided by the department based on working cost.

An amount of Rs.18 lakhs was earmarked for establishment of two such mobile labs, one with Head Quarters at Alappuzha and other with Head Quarters at Kozhikode. Though expenditure is reported as 18 lakhs, the details regarding establishment of laboratory is not furnished to the evaluation team.

For two biofertilizer quality control laboratories (at Pattambi and Thiruvananthapuram), Rs.12 lakh was earmarked. However, the whole amount was allotted to Thiruvananthapuram. The evaluation team visited the Biofertilizer Quality Control lab at Parottukonam. It was seen that the laboratory is functioning under severe limitation especially for want of sufficient space and due to lack of sufficient staff strength.

However, Azospirillum is being produced @ 50 packets/day with the available facilities. The present staff deserves appreciation for this. Rs.12 lakhs was allotted for the lab towards the fag end of the financial year (TF (2) 61780/03 dt. 17.01.04 of the Director of Agriculture) Out of this Rs.12 lakhs was for purchase of equipments and 2.5 lakhs for glass wares.

As per the progress report furnished by the Department of Agriculture, the expenditure is 6.78907 lakhs. The details on physical achievement are not furnished.

Suggestions for improvement

1. A visit to the CSTL, Thiruvananthapuram revealed that the very basic standards expected out of a lab is not seen to be maintained for various reasons. Instruments are not standardized regularly and this is essential to

ensure the correctness of results. Stream lining the activities of the lab will go a long way in enhancing confidence-building measures among the beneficiaries

2. Target should not be fixed for any soil testing labs, instead the labs should be evaluated based on the number of samples analyzed on need basis together with evaluation on the implementation side and feed back from the beneficiaries. Quality should be given thrust, rather than quantity.
3. The soil samples are received in the laboratory often as a bulk, after rainy season and also towards the end of the financial year. This shall be avoided and a regular flow of soil samples has to be ensured.
4. Funds to different Soil Testing Labs across the State are now distributed through the concerned PAO. This is to be allotted based on the recommendations of the Chief Soil Chemist for better monitoring of funds and programmers.
5. During the visit to some Krishi Bhavans, it is seen that the soil test results were not seen communicated to Krishi Bhavans from the labs in time and this defeats the very purpose of soil testing. The genuineness of the soil samples taken by the Krishi Bhavan also was questionable.
6. There is no follow up mechanism to assess the impact of implementation of the results at random in the field
7. Very few Krishi Bhavans maintain the soil test register properly, which is not uniform by any standards. This has to be insisted.
8. It is recommended that a high level committee of experts in the relevant field may be constituted to review the working of the entire soil testing labs across the state including central soil testing lab to enhance the

reliability and standards in soil testing. Further this will help to circumvent certain inherent defects in the current system of operation.

9. Issue of soil health cards to farmer must be done based on proper soil test results of genuine soil samples. Soil testing and soil health cards shall be made inevitable components of a farmer database to be established in Krishi Bhavan.

5.8 USE OF PLASTICS IN AGRICULTURE

This scheme is proposed to be implemented with the components such as promotion of drip irrigation, sprinkler irrigation and green houses. Drip irrigation technology aims to increase the water use efficiency and thereby ensures improvement in the yield and saving of water. This method is more applicable to perennial crops like coconut, cocoa, cardamom etc. Sprinkler irrigation is aimed at providing irrigation in undulating terrains for irrigating coffee, cocoa, cardamom and young coconut gardens. Sprinkler irrigation is also adopted in intercropped coconut gardens.

Adoption of green house technology is still in the infant stage in Kerala state. This technology is aimed to produce quality horticultural products like flowers and for hardening of plants raised through tissue culture.

The various components of the scheme and the achievements are presented in table 5.8.1.

Table 5.8.1 Abstract of the physical and financial achievement of Use of plastics in agriculture

Component	Physical			Financial		
	T	A	% A	T	A	% A
Promotion of drip irrigation (ha)	254.97	279.934	>100	22.8987	27.0311	>100
Promotion of sprinkler irrigation (ha)	91.867	76.05	82.79	5.3956	5.7225	>100
Setting up of green houses (m ²)	53558.8	30630.48	57.20	19.2013	12.8677	67.01
Total				50.2203	45.70166	91

In some districts since there was not much demand for green houses the components were judiciously inter changed to meet the local requirements. In general the drip and sprinkler systems were seen to perform satisfactorily in the field. The details of drip and sprinkler irrigation system installed in different districts are furnished separately while discussing the district wise implementation of schemes.

Suggestions for improvement:

1. It is seen in most of the cases that there are no specific system design for drip and sprinkler systems. The selection of the component parts like piping, drippers; sprinkler heads were designed according to the farmer's choice alone. This can affect the effectiveness. The agricultural engineering wing of department may be entrusted with the preparation of design of systems in the farmer's fields and the installation of the system must be under the supervision of engineering personnel from the department.
2. A good performance of the drip irrigation system is ensured only when the system could deliver desired quantity of water uniformly over the entire area. Clogging of the drippers and lateral lines are the serious problems associated with drip irrigation systems. The farmers may be educated about the less clogging susceptible drippers and the measures to reduce clogging. For this also the expertise of the Agricultural engineering wing may be made use of. Need based training on installation and maintenance of irrigation system may be organized.
3. Since Kerala is having humid tropical climate, the green houses may not give desired performance unless proper climate control facilities in green houses are floriculture provided. But shade houses and rain shelters may fetch better results if utilized for and nursery rising. So a component change from green houses to shade houses and rain shelters may be allowed for the interested farmers.

5.9 AGRICULTURAL EXTENSION AND TRAINING

The scheme aims at the capacity building of the officials of the Department of Agriculture and farmers with a view to equip them to update and strengthen their knowledge and skills. The following activities are included as per the work plan.

1. Training to farmers (3 day) by RATTC
2. Training to extension personnel (block level)
3. District level training to extension personnel (RATTC)
4. State level – Research extension interface
5. District level – Research extension interface
6. Multidisciplinary Diagnostic Team (MDDT)
7. Block level monthly training
8. Strengthening Farm Information Bureau (FIB)

An abstract of the physical and financial achievements of various components of the scheme are presented in Table 5.9.1.

Table 5.9.1 Abstract of the physical and financial achievements of Agricultural extension and training

Sl.No	Components	Physical (No.s)			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Training to Extension personnel – 2 days	65	64	98	3.04	2.887	95
2.	Training to Extension personnel – 3 days	18	12	67	2.52	1.68	67
3.	Farmers training days – 3 days	25	25	100	2.5	2.497	100
4.	Training to farmers days – 2 days	19	19	100	1.91	1.91	100
5. a	Block level training to extension staff – 2 days	72	68	94	2.759	2.758	100
b	Block level training to extension staff – 3 days	17	15	88	0.85	0.75	88
6.	District level training on production technology	15	15	100	2.1	2.1	100
7. a	District level interface	14	14	100	39	3.9	100

b	State level interface (2 days)	1	1	100	1.0	1.0	100
8.	Block level monthly training	11	11	100	0.55	0.55	100
9.	AEZ training	59	59	100	4.95	4.95	100
10.	MDDT – Diagnostic team	104	88	84.61	8.785	5.242	59.68
11.	Strengthening of FIB						
a.	Printing	Not furnished			6.0	6.33	>100
b.	Release of display materials				5.0	4.66	93.2
c.	Cost of rural exhibitions.				1.0	1.0	100
d.	Organizing kisan melas				1.0	1.0	100
	Total						47.862

* Excluding Rs. 15 lakhs allotted to Monitoring and Evaluation

A clear picture of the implementation of various components under this scheme is difficult to be obtained since the reporting of activities under trainings are not uniformly given. For instance, training to extension personnel and training to farmers are of two types – 2-days and 3-days. Similarly block level trainings are also conducted for 2-days and 3-days.

However, the abstract of target and achievement of the various components under this scheme is presented based on the figures obtained from various districts.

In the case of component ‘Strengthening FIB’, the details regarding physical achievements were not furnished to the evaluation team. According to the work plan, the activities such as printing of information materials, release of display advertisements, conduct of rural exhibition and krishimelas/seminars are proposed with a total financial outlay of Rs 13 lakh, the Principal Information Officer, FIB had reported that the expenditure is 100 per cent, and the physical achievement is also cent per cent.

Suggestions for improvement

It is observed that trainings are not conducted in a scientific way. Serious effort is not seen to be taken by majority of staff in organizing training. The topics in the case of some of the training programmes are too general, and not focused. The

resource persons are seen selected based on convenience and availability, not by expertise and experience.

The training needs are not seen assessed in any of the training programme. In fact, it should be based on assessed training needs that trainings have to be formulated.

Any training should be organized based on a training design, which should necessarily involve three steps i.e., pre-training phase, implementation phase and post training phase. A well-structured training plan has to be prepared in the pre-training phase. The topics shall be decided based on the identification of training needs. Appropriate resource persons should be selected, mainly based on their expertise and communication skill. The venue and other logistics have to be planned and arranged.

The training should be evaluated based on feedback response to be collected from the trainees. If possible, pre-training and post-training evaluation are to be conducted. The impact of training in the field may have to be evaluated after a time lag based on the field performance by trainees.

A training register has to be maintained for each training which shall contain the list of trainees, names of resource persons and topics covered, details of practicals/field visits etc. Appropriate training methods have to be used for imparting knowledge and skill, which also should be planned or organized.

The DD (Training) in each district may take active interest in assessing the training needs of extension personnel and also the farmers and develop a training plan and training calendar. The absence of a plan and calendar for the district affects the process of monitoring and evaluation of trainings conducted.

The periodicity of block level training should be reduced and field based and salient trainings may be organized.

The number of trainees per batch should not be in any case more than 25 for better interaction and effectiveness.

Though there are training institutions of DoA like RATTCs and Farmer Training Centres functioning in the state, attempt is not seen made in organizing

5.10 SMALL FARM MECHANIZATION

Improved agricultural machinery and implements have a significant role in reducing the drudgery in farm operations, reducing the cost of cultivation and improving the efficiency of other inputs. The scheme envisages to provide assistance to individuals, agribusiness centers started by unemployed graduates as a part of promoting private extension and farmers organizations, non governmental organizations and SC/ST societies for the purchase of improved machineries.

The various components of the scheme and the achievements are presented in Table 5.10.1

Table 5.10.1 Abstract of the physical and financial achievements of Small farm mechanization

Component	Physical (No.)			Financial (Rs. Lakhs)		
	Target	Achievement	Achievement (%)	Target	Achievement	Achievement (%)
Garden Tiller	33	10	30.30	5.981	1.252	20.93
Tractor	27	22	81.48	6.87756	6.57758	95.64
Power Tiller	99	98	98.99	21.5028	25.94009	>100
Winnowers/reapers	10	2	20	5.1	0.6	11.76
Threshers	23	12	52.17	3.023	1.0518	36.61
Transplanters	-	-	-	0.5	-	-
Sprayers/power sprayers/dusters	1408	1405	99.79	6.37576	6.33286	99.33
AEZ				0.64	0.32	50.0
Total				50.00	43.10476	86.2

It was seen that there was not much response among the farmers for the purchase of garden tillers. This was attributed to the low popularity of the available equipment. It may be taken into consideration that when new equipments are to be introduced, the farmers should be made aware of the advantages through proper awareness trainings. The Agricultural Engineering wing of the Department of Agriculture should be entrusted with these activities.

It was noted that the targets originally fixed were judiciously modified depending on the ground realities and local requirements. The target fixed for the distribution of tractors was refixed as 27 numbers against the initial target of 20 numbers. However the achievement has come to only 22 numbers.

Power tillers remain to be of good demand among the cultivators and 98 power tillers could be distributed against the revised target of 99 numbers. The sprayers/dusters including the power sprayer component could achieve near cent percent physical achievement.

The districts of Ernakulam, Kollam and Alappuzha could attain cent percent financial achievement. The districts of Malappuram, Idukki and Kozhikode could attain more than 90 percent of financial achievement. The overall financial achievement of the scheme is 92.39 per cent.

Suggestions for improvement

1. When new equipments like garden tillers are to be introduced proper awareness campaigns including demonstrations should be conducted among the target groups with respect to its adaptability, usefulness, relative advantage and the required care and maintenance.
2. The subsidy pattern followed in the distribution of tractors is @25% of the cost or Rs.30000/-. whichever is less. Compared with the cost of tractor, the amount of subsidy is considerably less. The implementing officers are at a difficult position in implementation of this component as the rate of subsidy available in similar state schemes are on a higher rate. As far as possible, the subsidy rates for the same component under different schemes should be made uniform.

3. The subsidy should be fixed in proportion to the cost of the equipments.
4. Although the scheme envisages assistance to user groups and unemployed graduates, padasekara samithies and SC/ST societies in addition to individual farmers, most of the beneficiaries of the scheme are found to be individual farmers. In future more thrust should be given to involve other categories also in addition to individual farmers. The possibility of involving women self-help groups may also be explored.
5. The involvement of SC/ST farmers and their societies also remain low. To benefit this group, assistance by providing suitable credit facilities from financial institutions may be arranged to raise margin money.

5.11 AGRICULTURAL MARKETING AND QUALITY CONTROL

Marketing in agriculture is as critical as farming itself. It is widely believed that the desired growth rate in agriculture in the State has not been attained due to lack of proper marketing infrastructure. The development of market infrastructure is based on the realization that most markets in the State are primitive in nature and marketing is carried out in a most unscientific manner. Most of the primary and secondary markets lack basic facilities. Therefore, the scheme envisages the selection of one potential market in each district to be developed as a model market by upgrading the existing market facilities by the collective efforts of the Department of Agriculture and the local self-governments.

The following components were implemented in the State with this background (Table 5.11.1).

Table 5.11.1 Abstract of the physical and financial achievement of Agricultural marketing and quality control

Sl. No.	Component.	Physical			Financial (Rs. Lakhs)		
		Target (No.)	Achievement (No.)	% Achievement	Target	Achievement	% Achievement
1.	AA Training to Extension personnel (2 days) @ Rs.8000/-	20	20	100	1.60	1.60	100
2.	Training for Master Farmers (3 days) @ Rs.8000/-	20	18	90.00	1.52	1.52	100
3.	One day seminar to traders and farmers @ Rs.20, 000/-	9	8	88.89	1.80	1.60	88.89
4.	Market infrastructure	8	2	25.0	60	20	33.33
5.	Establishment of Agmark laboratory	2			15.0	2.28	15.20

6.	Market survey and research	-	-	-	0.50	0.50	100
7.	TE/POL	-	-	-	0.35	0.2961	84.6
8.	EI	-	-	-	1.02	1.02	100
Total					81.79	28.818	35.23

The overall achievement of the schemes is below 47 per cent. It is unfortunate that the philosophy and background of the scheme was not imbibed at the implementing level. Except for the training components (farmers as well as official level), which were fully attained, the achievement in major components like development of market infrastructure and establishment of Agmark lab have been abysmally low.

A total of 20 training programmes were organized in the State for the Agricultural Assistants while 18 training programmers were organized in this connection for the farmers. Eight one-day seminars were organized for traders and farmers. Under market infrastructure development, not a single model market was commissioned on a time bound basis. In most cases, the project could not be completed during the financial year itself due to difficulties experienced in getting matching contribution from the local self-governments. As a result, the works were either under progress or pending revalidation. In the case of Thrissur district, the selection of the location for constructing the market yard itself was not appropriate, leading to the non-implementation of the component.

The central sector scheme provided a rare opportunity for the establishment of Agmark laboratory in those two districts where such facility was non-existent. It is again sad to note that the funds earmarked could not be properly utilized due to administrative reasons.

An amount of Rs.0.50 lakh was provided to Kozhikode district to conduct market survey and research. It is observed that the amount was transferred to the Secretary, EEC market, Vengeri, and a study on coconut marketing is reportedly under progress. This amount could have been utilized to charter more pressing and critical market research by some competent research agencies.

Suggestions for improvement

1. Administrative reasons hindering successful implementation of components like market infrastructure, IT and Agmark laboratory is to be looked into and suitable corrective measures taken.
2. The matching contribution from local self-government was the major problem for successful implementation of market infrastructure in some districts. In the light of this proper modification in the scheme for flexibility in use of funds is needed.
3. The norm that the expenditure can be made only after civil work is completed is hindering the execution of the project, especially in view of ban on advance drawal. It is suggested that the official may be permitted to make payments in three or four installments based on the progress of work.
4. Training shall be organized in the proper spirit in its form and content, the topics shall be properly selected and suitable and competent resource persons shall be identified to conduct the training.

5.12 FLORICULTURE

A massive programme has been proposed for the development of floriculture under the macro management scheme for 2003-04. The major objectives of the scheme were to popularise the cultivation of flowers in the state for local as well as for export purpose through group action and to create employment opportunity for farm women. The overall achievements under different components of the scheme is presented in Table 5.12.1. The district wise financial progress is given in table 5.12.2.

Table 5.12.1: - Abstract of physical and financial progress of floriculture development

Sl.No.	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Area expansion (no. of units)						
a	Graft variety	20	8	40	1.425	0.3	21.05
b	Seed variety	60	57.1	95.16	0.60	1.94236	95.16
c	Traditional variety	1427	1407	98.59	55.1751	55.748	>100
d	Orchid/Anthurium	238	182.63	76.74	58.825	45.366	77.12
e	Cut foliage	10	6	60.00	1.25	0.750	60.0
2.	Farmers training (no.)	10	5	50.00	5	2.5	50.00
3.	Two day officers training(no.)	20	12	60.00	2	1.5	60.00
Total					124.75	108.106	86.66

The programme was implemented in six districts namely Alappuzha, Idukki, Ernakulam, Thrissur, Palakkad and Wayanad. Of this, the highest share i.e., 31.5 per cent was for Palakkad and lowest i.e., 5.2 per cent for Idukki district.

Table 5.12.2: - District wise financial progress of Floriculture development

District	Financial target (Rs. Lakhs)	Financial achievement (Rs. Lakhs)	Achievement %
Palakkad	39.125	38.11	97.40

Alappuzha	14.225	13.13	92.30
Thrissur	20.425	14.793	72.42
Ernakulam	23.4	20.948	89.5
Idukki	7.225	6.40	88.58
Wayanad	20.35	14.54	71.45
Total	124.75	107.921	86.5

Apart from anthurium and orchids, promotion of commercial cultivation of jasmine, marigold, oleander, foliage plants, chrysanthemum, rose etc. has also been included. It is also proposed to provide training to the technical officers of the Department and leading farmers on all aspects of commercial floriculture. Visits to auction centres in neighbouring states and development of marketing linkage through possible tie-ups with APEDA/AEZ is also planned. A total of Rs. 125 lakhs (rounded) has been earmarked for undertaking activities to attain the above objectives (5.1% of total allotment under macromanagement). Five major areas viz., graft varieties, seed varieties, traditional varieties, orchids and anthurium and cut foliage have been selected for area expansion. Though the overall achievement of the scheme is 86.42%, modification in the scheme is required for subsequent implementation as observed from the field. Eventhough the proposal made in the scheme was for the supply of planting materials from the Biotechnology and Model Floriculture Centre, Kazhakootam, this was not done.

A brief report on component-wise progress of implementation of the scheme is discussed below.

5.12.1. Area expansion programme

95 per cent of allotment under floriculture was for this component.

a) Graft variety:

The formulation of the scheme itself is faulty as there is no graft variety for chrysanthemum. Similarly in rose, budding is the major propagation method followed for multiplication. The poor achievement (21%) of the scheme itself reveals the operational difficulty. In Wayanad, though 10 units were targeted, none could be

established. However, in Idukki out of 10 targeted units, eight units of rose and chrysanthemum could be established. The officials opined that as there is no demand from farmers, this component may be dropped from the floriculture scheme.

b) Seed variety:

The crop selected under this component was marigold. The scheme shows 95.2 per cent achievement and was implemented in Ernakulam, Thrissur and Palakkad districts. Though the achievement of Ernakulam district is 100 per cent, the officials reported the non-suitability of the crop to the district and requested modification in the working plan for component change.

c) Traditional variety:

Assistance was given for cultivation of 'bush jasmine', though it cannot be considered as a 'traditional' crop. As the farmers in Kerala have now started commercial units of bush jasmine, the implementation of the scheme had helped in popularisation of this crop. The overall achievement of the scheme is comparatively good (97.59%). The only difficulty the farmers are facing is lack of proper marketing.

d) Orchid /Anthurium

The area expansion of orchid/anthurium was the thrust area under this component. The achievement is satisfactory (77.12%). The targets and achievement of various districts are given below:

District	Physical (no. of units)			Financial (Rs. Lakhs)		
	T	A	%	T	A	%
Alappuzha	50	50	100.00	12.50	12.5	100.00
Idukki	25	17.63	70.52	5.50	5.50	100.00
Ernakulam	13	13	100.00	3.25	3.125	96.15
Thrissur	75	44	58.66	18.75	10.32649	55.07
Wayanad	75	58	77.33	18.75	13.91525	74.21
Total				58.75	45.36674	77.00

As per the scheme, the unit cost for one acre of orchid/anthurium is Rs.1,00,000/- and hence the amount of subsidy is Rs.25,000/- per unit (0.10 ha). As the unit size is fixed as 0.10 ha, the beneficiary selection was very difficult and only affluent farmers could get the benefit of the scheme. Further, the task force is of the view that the allocation of targets to various districts was not rational as evident from the details given above. There is much more demand in the case of Idukki and Ernakulam than Thrissur.

e) Cut foliage

As per the working instructions, area expansion of cut foliages like asparagus, ferns etc. was envisaged. Though 100 units with financial commitment of Rs.12.50 lakhs was the initial target as per work plan, the progress report from various districts shows that only 10 units (5 each in Alapuzha and Wynad district) were finally targeted.

The evaluation of this component shows that it is not a viable programme. In Alappuzha district, instead of 5 cut foliage units, assistance was given for 5 bush jasmine units and in Wayanad out of 5, only one cut foliage unit could be established.

5.12.2. Farmers training

A comprehensive training programme including visit to floriculture areas and auction centres in neighbouring states was proposed to be conducted in 10 selected growing areas of the state with a financial commitment of Rs. 0.5 lakhs for each training. However, it is disappointing to note that the achievement is only 50 per cent. The officers expressed difficulty to get growers willing to go on a 10 days training programme which include tour also. The training programme may be restricted to 5 days as per officials of the Department.

5.12.3. Training to officers

The achievement under 2 day training programme proposed to the officers of the Department is also low (60%). Trainings were not organized in Alappuzha, Ernakulam

and Wayanad districts. The training component should be taken up more seriously by the implementing officials especially when a massive programme is launched in emerging and hightech fields like floriculture.

Suggestions for improvement

1. The scheme may be thoroughly reformulated and targets reallocated based on requirement of farmers.
2. Timely issue of working instructions is to be adhered to.
3. Flexibility in working instruction is needed, so that flowers suitable to specific situation could be included. eg. in Idukki district in high ranges, flowers like carnation can be grown. Other commercially important flowers like gladiolus, gerbera, heliconia are not seen included in the scheme.
4. In the case of orchid/anthurium unit, the cost of planting materials are too high and hence subsidy has to be enhanced for procurement of planting materials.
5. As the unit size stipulated as per working instruction is 0.10 ha, majority of farmers are unable to meet the cost of cultivation of Rs.1 lakh to avail subsidy of Rs.25,000/-. The scheme can be more effectively implemented, if the unit size is reduced or subsidy is extended to a group of farmers (4-5), instead of individual farmers.
6. The tour programme for farmers' training may be reduced to 5 days instead of 10. In the case of farmer's training, as per working instruction, the training should include visit to floriculture areas and auction centres of neighbouring states. The reason for poor achievement as reported by officials are the following:
 - a) The duration i.e., 10 days is too long and hence farmers are compelled to give up, even if they are interested.
 - b) As advance drawal of money is not permitted, it is difficult to undertake the activity, as expenditure is to be incurred from the personal sources of the implementing officials.

5.13 INFORMATION TECHNOLOGY

The ultimate objective of IT programme is the establishment of total networking system from Krishi Bhavans at panchayat level to Directorate of Agriculture at State level. With this in view, Krishi Bhavans at Panchayat level were equipped with necessary hardware and software for the benefit of farmers to acquire first hand knowledge about all aspects of crop production, marketing facilities, occurrence of pests and diseases, availability of fertilizers, manures, seeds etc. An amount of 65 lakhs was earmarked, and the split up of target and achievement is given in Table 5.13.1.

Table 5.13.1 Abstract of the physical and financial progress of information technology.

Sl.No.	Component	Physical (No.)		Financial (Rs. Lakhs)	
		T	A	T	A*
1.	Installation of software and hardware	-	1151	25.0	-
2.	Maintenance of existing system and success	-	-	30	-
3.	Computer training to officers	300	281	10.0	-
Total				65.00	61.610

* Component-wise financial achievement not furnished.

The computers for installation in various offices were purchased at the Directorate. The progress report from various districts shows that 706 numbers were installed in various districts.

The training component was completely entrusted to Institute of Management in Government (IMG), Trivandrum. Out of 300 trainings targeted, 281 training were conducted.

In the first phase more than 50 per cent of Krishi Bhavans are provided with computers. The name of Krishi Bhavans where computers are installed in each district is given in Appendix I. An abstract of achievement of installation of computers in various districts is given in Table 5.13.2

Table 5.13.2 Abstract of physical and financial achievements of various districts

District	No. of computers installed	Financial target and expenditure for installation (Rs. lakhs)	
		T	A
Thiruvananthapuram	70	1.10	1.10
Kollam	50	0.55	0.50
Pathanamthitta	50	0.25	0.207
Alappuzha	50	0.50	0.50
Ernakulam	61	0.85	0.821
Thrissur	70	0.350	0.344
Palakkad	50	0.75	0.640
Idukki	55	0.557	0.557
Kottayam	50	0.40	0.38
Wayanad	20	0.80	0.40
Kannur	50	0.86	0.85
Kasaragode	30	0.143	0.103
Malappuram	50	0.80	0.40
Kozhikode	50	0.58	0.547
Total	706	8.44	7.349

Suggestion for improvement

1. At present the computers at Krishi Bhavans are being utilized for word processing only due to the non-availability of other facilities. Hence telephone facility; Internet, e-mail etc. have to be provided.
2. Appropriate software has to be supplied to Krishi Bhavans for developing Agricultural Information System (AIS).
3. Data base has to be developed in each Krishi Bhavan with information regarding details of farmers, farm size, soil type, crops, seeds, varieties, nurseries, plant protection measures, etc.
4. The list of farmers having internet facility in each panchayat may be prepared and linked with Krishi Bhavans.
5. IT enabled rural referal centres may be established in each Krishi Bhavan to serve as Kiosk/portals to provide information.

6. Funds may be provided for maintenance of computers installed under the scheme for long-term sustainability.

5.14 MEDICINAL AND AROMATIC PLANTS

The population pressure, large scale deforestation and urbanization on the one hand and near extinction of many important species has resulted in depletion of the herbal wealth on the other hand. It is against this background that the cultivation of medicinal and aromatic plants was taken up on a large scale to meet the demand of the pharmaceutical and related industries and export requirements

An abstract of physical and financial progress of Medicinal and aromatic plants is furnished in Table 5.14.1

Table 5.14.1 Abstract of the physical and financial achievement of Medicinal and aromatic plants

Sl.No.	Components	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1	Establishment of demonstration-cum-seed production units (Nos.)	560	560	100	8.4	8.4	100
2	Area expansion programme (ha)	10	10	100	1.25	1.25	100
3	Training to farmers (Nos.)	5	4	8.0	0.35	0.2753	78.66
Total					10.00	9.9253	99.25

The scheme had three components, viz., and the establishment of demonstration-cum-seed multiplication centres, area expansion programme and training to the farmers. The establishments of demonstration-cum-seed multiplication units were laid out in the farmers' fields. It was intended to produce planting materials of medicinal plants locally and make it available to interested farmers in the area at a reasonable price fixed by the Department of Agriculture. A total of 560 demonstration units were laid out in Thiruvananthapuram (80 Nos.), Palakkad, Wayanad, Idukki and Malappuram (120 Nos. each). Locally important species of medicinal plants were selected and included in the programme. A list of such plants is presented.

Sl. No.	Local Name	Scientific Name
1	Brahmi	<i>Bacopa monnieri</i>
2	Chethi Koduveli	<i>Plumbago rosea</i> Linn.
3	Stevia	<i>Stevia rebaudiana</i>
4	Chitta adalodakam	<i>Adathoda beddomei</i>
5	Ramacham	<i>Vetiveria zizanioides</i>
6	Koovalam	<i>Aegle marmelos</i>
7	Neem (Vep)	<i>Azadiracta indica</i>
8	Asokam	<i>Saraca asoka</i>
9	Neelayamari	<i>Indigofera tinctoria</i>
10	Maathalam	<i>Punica granatum</i>
11	Samkhupushpam	<i>Clitoria tornateq</i> Linn.
12	Kiriyath	<i>Andrographis paniculata</i>
13	Karinochi	<i>Vitex negundo</i>
14	Karpoora Tulsi	<i>Ocimum kilimandscharicum</i>
15	Agathi	<i>Sesbania grandiflora</i>
16	Adapathiyam	<i>Holostemma ada-kodien</i>
17	Nagadanti	<i>Baliospermum montanum</i>
18	Pathimukham	<i>Caesalpinia sappan</i>
19	Tippali	<i>Piper longum</i>
20	Pachouli	<i>Pogostemon cablin</i>
21	Panikoorka	<i>Coleus aromaticus</i>
22	Kattupadavalam	<i>Trichosanthes sp</i>
23	Kasthuri manjal	<i>Curcuma aromatica</i> Salisb.
24	Chittaratha	<i>Alpinia calcarata</i> Rose.
25	Karimkurinji	<i>Nilgirianthus ciliatus</i>
26	Iruveli	<i>Coleus zeylanicus</i>
27	Vayambu	<i>Acorus calamus</i>
28	Lemon grass	<i>Cymbopogon citratus</i>

In general, it was observed that full realization of physical and financial targets have been achieved in all the districts. However, the following shortcomings were noted for rectification in the future.

- ❖ The timely distribution of the planting materials were not done. In many places, the planting materials were supplied after the planting season, resulting in drying up of plants in the dry months for want of sufficient irrigation facilities. In certain districts, the planting materials were seen distributed even after March 2004 in view of the drought.
- ❖ The “demonstration plots” in most places visited by the Task force were not having the standards and upkeep normally expected of a demonstration unit.
- ❖ Display boards were not put up giving the details of demonstration such as date of planting, name of plants, source of funding etc.
- ❖ Though component selection was done rationally in most cases, one or two stray incidences of inappropriate components were noted. For example, nutmeg (*Myristica fragrans*) in Malappuram district and Chempakam (*Michaelia champaka*) in Idukki district. Though medicinal properties can be attributed to these crops, nutmeg is a tree spice and could have been included under “other spices” while Chempakam is strictly not a medicinal plant.
- ❖ The basic objective of making available the planting materials to interested farmers in the area have not taken place. Instead, they were mostly sold to local drug dealers or merchants, thus defeating the objective.

The area expansion programme was carried out in 10 ha. The non-synchronization of planting material supply with the planting season was observed in this case also. Marketing of the produce was the major problem encountered by the farmers.

In Thiruvananthapuram district (Kattakkada Block), the scheme was entrusted to an NGO named Vinoba Bhave Charitable Society. The guidelines state that the incentives of the scheme will be given to farmers who undertake cultivation.

Under the training component, one day training programme was to be imparted to farmers on improved production technology by drawing experts from TBGRI, Thiruvananthapuram, pharmaceutical firms and Kerala Agricultural University. Such a pre-season orientation would be highly beneficial to the participating farmers. It is noted

that Thiruvananthapuram, Palakkad, Idukki and Malappuram districts had organized the training, while Wayanad district could not organize the farmers' training. The reason attributed for non-organization of training was pre-occupation of the officials with natural calamity relief work. However, this is not an excuse for not organizing pre-use orientation technology.

Suggestions for improvement

1. Timely distribution of planting materials is to be ensured.
2. Guidelines for laying out demonstration plot including source of finding is to be made compulsory.
3. The planting materials produced from demonstration- cum-
4. Seed production plots has to be distributed to farmers of the panchayat who are interested in taking up cultivation of medicinal plants.
5. Selection of medicinal plants should be based on market demand.
6. Market linkages have to be established to ensure remunerative returns to the farmers.

5.15 WOMEN IN AGRICULTURE

It is observed that some of the technologies that are generated and transferred to farmers are not gender sensitive. Women farmers generally do not have easy access to inputs and they also lack access to marketing facilities. It is also noted that men farmers largely share the benefits of most of the schemes. Against this background, the scheme on 'Women in Agriculture' was formulated with the objective to motivate and mobilize women farmers through a group approach. The scheme envisages to make women farmers self reliant by providing them equal opportunities so that they will be able to avail the benefits and opportunities of farming technologies.

Table 5.15.1 Details of financial out lay of main components

Sl.No.	Main component	Financial Outlay (Rs.lakh)
1.	Execution cost	5.88
2.	Training and extension cost	19.87
3.	Monitoring and evaluation cost	1.75
4.	Assistance for starting new enterprises	72.50
	Total	100.00

During the year 2003-04, as per Circular No. TV (2) 28975/03 dt. 12.06.03 funds for implementation of the scheme was allotted to only 7 districts namely Kollam, Alappuzha, Pathanamthitta, Thrissur, Malappuram, Wayanad and Kannur. Subsequently, as per Circular No. WIA 1(a) 2003 dt. 08.12.2003, modifications were made and the component-wise revised break-up is given in the Table 5.15.1.

Table 5.15.2 Abstract of the financial target and achievement of Women in agriculture.

Districts		Financial (Rs lakh)		
		Target	Achievement	%
1.	Trivandrum	3.8725	2.24375	57.9
2.	Kollam	9.099	7.80145	85.7
3.	Alappuzha	10.73250	10.73250	100
4.	Kozhikode	5.625	3.064	54.47
5.	Kasaragod	4.3585	4.207	96.5
6.	Wayanad	11.88	5.47937	46.12
7.	Kannur	7.8815	5.6217	71.33
8.	Kottayam	5.48	5.48	100.00
9.	Idukki	5.9925	5.9925	100.00
10.	Ernakulam	3.75	2.89	77.00
11.	Thrissur	11.1365	7.53851	67.89
12.	Pathanamthitta	11.0315	9.185	83.26

13.	Malappuram	11.57581	11.57581	100.00
	Total	102.4158	81.8086	79.88

As per this order the scheme is credit linked with 25 per cent subsidy from MoU Macromanagement – Women in Agriculture – Component – “Assistance for starting new enterprise”, the maximum limit of subsidy being Rs.50, 000/unit. It is also clear from the circular that the scheme will be implemented in all districts except Palakkad where another credit linked scheme was already operational.

Subsequently, additional funds were allotted as per Circular No. TV(2) 28975/03 dt. 16.01.2004 to the seven districts initially included under the scheme.

The scheme covers the following enterprises such as

1. Vegetable cultivation
2. Vanilla cultivation
3. Nursery of fruits and ornamental plants
4. Tissue culture hardening units
5. Medicinal plants
6. Mushroom cultivation
7. Vermicompost production
8. Beekeeping
9. Jasmine cultivation
10. Banana cultivation
11. Agroprocessing
12. Anthurium cultivation

An abstract of financial target and achievement of the scheme as on 31.03.04 is given in Table 5.15.2. About 80 per cent of the allotment was utilized, though the scheme was implemented very late. The achievement of Alappuzha, Pathanamthitta, Kasaragode, Malappuram and Kollam districts are remarkable with utilization of more than 80 per cent of funds.

Suggestions for improvement

1. There was undue haste in the implementation of the component ‘Assistance for starting new enterprises’, which was sanctioned very late. This should not be repeated and sanction for such components shall be given during the initial phase of the financial year itself.

2. The implementation of the scheme shall be done in a pleased manner giving proper orientation training, and providing opportunities to develop confidence and appropriate skills.
3. The scheme envisages the role of facilitators which is key factor for the successful implementation of the scheme. Facilitators have to be given proper orientation training to enable them to work effectively with the women groups.
4. Model successful enterprise units in each district may be identified and exposure visits to such units may be planned and conducted.
5. The women entrepreneurs may be given proper training on entrepreneurial skills and market functions, so as to make them successful entrepreneurs.

5.16 BIOTECHNOLOGY

The Department of Agriculture is having a biotechnology centre, 'Biotechnology and Model Floriculture Centre' (BMFC) at Kazhakootom, Trivandrum. This laboratory is intended for production of tissue culture plantlets of orchids, anthurium, fruit plants and potential crops of the state.

As per the work plan, the budget provision for biotechnology is Rs.100 lakhs and sanctioned amount is Rs.30 lakhs. Out of 30 lakhs, Rs.28 lakhs was earmarked for strengthening of BMFC by way of procurement of mother plants, purchase of chemicals, glasswares, equipments and accessories, infrastructural work for undertaking micropropagation and hardening activities, germplasm collection, establishment of virus indexing unit, standardization of protocols already developed by KAU and other research institutions and for purchase of a refrigerated vehicle having temperature control. Rupees two lakh was allotted as executional infrastructure.

As per the progress report of the Department of Agriculture, the entire amount of Rs.100 lakhs is seen released for biotechnology and the figures for physical and financial achievement are given in Table 5.16.1 .

Table 5.16.1 Abstract of the physical and financial progress of Biotechnology.

No	Components	Physical		Financial (Rs lakhs)	
		Target	Achievement	Target	Achievement
1.	Strengthening of Biotechnology Center	--	--	28	
	Production of tissue culture plantlets	--	--		
	Banana	69357	51285		14.295
	Anthurium	175000	35595		
	Pepper	23000	2928		
	Philodendron	--	5000		
	Vanilla	62000	12280		
	Production of ornamental plants	160000	16028		

3.	Biotech Kerala -Establishment of two nucleus material production centers at Vellayani and Vellanikkara and one virus indexing center at Vellayani -Establishment of five multiplication centers at KAU			60.00	49.610
	-Biocontrol lab at Vellayani	-	-	-	-
	-Biocontrol lab at Mannuthy	-	-	20	-
	-Biofertilizer lab at Pattambi and Parottukonam	-	-	20	-
4.	EI	-	-	2.0	1.01533
	Total			100	64.9202

The evaluation team visited the BMFC, Kazhakootom and it was seen that the laboratory is having excellent facilities, probably one of the best in South India. The laboratory had developed tissue culture plantlets of orchids, vanilla, anthurium and banana, the details of which are given.

Table 5.16.2 Details of tissue culture plants developed in laboratory

Items	No. of bottles ready for hardening	No. of plantlets/ bottle	Cost/bottle (Rs.)
Orchid	1500	12	85
Vanilla	4500	12	00
Anthurium	4000	12	85-100*
Banana	3000	1	10

* Varies with variety

Though there is provision for infrastructural work for establishing hardening units and scheme for hardening units is included under 'women in agriculture', hardening units have not been started in the district. Because of this, the tissue culture plantlets already produced are kept in the laboratory itself. The laboratory is functioning with the following constraints.

1. Lack of sufficient staff strength
2. Shortage of labour

3. Lack of sufficient land

Suggestions for improvement

Department of Agriculture should ensure that:

- The lab should be provided with adequate staff strength.
- The varieties chosen for multiplication are those having a good demand.
- As varietal preference in orchids and anthurium are changing with time, the varietal selection for multiplication should be based on a recommendation from KAU.
- Sufficient publicity through print/electronic media regarding the details of stock, cost etc. has to be given.

RICE DEVELOPMENT SCHEME

**Infrastructure development of
padasekharam –
M.N.block padasekharam,
Kottayam district**



**Production of biocontrol agents-
Trichogramma and pseudomonas at State
Biocontrol Lab, Mannuthy**



A view of rearing room

Trichocards



Pseudomonas



GLIMPSES OF POKKALI RICE CULTIVATION

A general view of pokkali field

Sowing paddy seeds




Promotion of pokkali rice – Assistance for marketing – Label of pokkali rice marketed by Ezhikkara Pokkali Farmers Co-operative Society

പൊക്കാളി അരി

എറണാകുളം ജില്ലയിലെ ഏഴിക്കര പഞ്ചായത്തിലെ പൊക്കാളി പാടങ്ങളിൽ പ്രകൃതിയുടെ പരിലാളനയിൽ കൃഷി കൃഷിരീതി കളില്ലാതെ വളമാതോ, കീടനാശിനിയാതോ രാസപദാർത്ഥങ്ങൾ പ്രയോഗിക്കാതെ പാരമ്പര്യ കൃഷിരീതിയിലൂടെ വിളയിച്ചെടുക്കുന്ന ജൈവസമ്പുഷ്ടമായ പൊക്കാളി നെല്ല് കൃഷിരീതിയിലൂടെ പരിശുദ്ധിയുള്ള രാസരഹിതമായ അത്യുല്പന്നം ജൈവ കൃഷി ഉൽപ്പന്നമാണ് ഈ പൊക്കാളി അരി

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PEPPER DEVELOPMENT SCHEME

PRODUCTION OF ROOTED PEPPER CUTTINGS



SSF Okkal, Ernakulam



SSF Pullur, Kannur



SSF Areekuzha, Idukki



TxD unit, Chalode, Kannur

Pepper rehabilitation –
Cheruvanchery, Pattiam,
Kannur



Pepper rehabilitation –
Kinanoor- Kariathalam, Kannur



Intercropping –
Lakkidi Peroor,
Palakkad

CASHEW DEVELOPMENT SCHEME



Area expansion of Cashew –
Kolayad Krishi Bhavan, Kannur



Area expansion of Cashew –
Chengala Krishi Bhavan,
Kasaragod



Area expansion of Cashew –
Chengala Krishi Bhavan,
Kasaragod



Cashew demonstration plot –
Lakkidi Perur, Palakkad

Cashew nursery –
Periya, Kannur



Cashew scion bank –
Cheruvanchery, Pattiam,
Kannur

DEVELOPMENT OF OTHER SPICES



**MULTIPLICATION OF
PLANTING MATERIAL
OF TURMERIC – DAF,
MANNUTHY, THRISSUR**



**PRODUCTION OF
NUTMEG GRAFTS–
DAF. MANNUTHY,
THRISSUR**



**PRODUCTION OF
CINNAMON SEEDLINGS–
DAF. MANNUTHY,
THRISSUR**



**GINGER–
DEMONSTRATION IN
FARMERS FIELD -
WAYANAD**

VEGETABLE DEVELOPMENT

**DEMONSTRATION PLOTS –
MOGRAL, KUMBALA, KASARAGODE**



ASSISTANCE FOR MARKETING



IRITTY, KANNUR



MANJESWAR, KASARAGODE

FRUIT DEVELOPMENT



DISTRICT LEVEL NURSERY –
Munderi, Edakkad, Kannur



AREA EXPANSION OF BANANA – Mannarkkad, Palakkad



USE OF PLASTICS IN AGRICULTURE



Drip Irrigation –
Aloor Krishi Bhavan, Mala Block,
Thrissur



Drip Irrigation –
Nmajake Panchayat, Manjeswaram Block,
Kasaragod



Assistance for Green House –
Kandaigyi, Nmajake Panchayat,
Manjeswaram Block, Kasaragod



Assistance for Sprinkler Irrigation –
Andoorkonam Panchayat,
Thiruvananthapuram



Assistance for Green House –
Kazhakkotom Block,
Thiruvananthapuram



Assistance for Green House –
Neduvathur Block, Kollam

SMALL FARM MECHANIZATION



POWER TILLER – MOOLIYAR, KASARGODE



GARDEN TILLER – THRIKKAKARA, ERNAKULAM



**TRACTOR –Model
Mahindra 475 D1 –
KANNADI, PALAKKAD**



POWER TILLER

**ROCKER SPRAYER
VELLANGALLUR, THRISSUR**



FLORICULTURE DEVELOPMENT



Bush jasmine unit-
Madakkathara,
Thrissur



Bush jasmine unit-
Kalamassery,
Ernakulam



Orchid/Anthurium unit –
Vilvattom, Thrissur



Orchid/Anthurium unit-
Muttill, Wayanad

AGRICULTURAL EXTENSION AND TRAINING



State level research – extension interface
held on 5-6th November 2003 at Government
Guest House, Trivandrum



**District level research-
extension interface**
held on 10th October, 2003 at
District Co- operative Bank
Hall, Ernakulam



Two-day extension training
Kumbala Panchayat, Manjeswar,
Kasaragod

SOIL AND PLANT HEALTH CLINICS

**SOIL TESTING CAMPAIGN –
ALAKODE PANCHAYAT, KANNUR**



**SOIL TESTING CAMPAIGN – PERINGOME
VAYAKKARA PANCHAYAT, KANNUR**



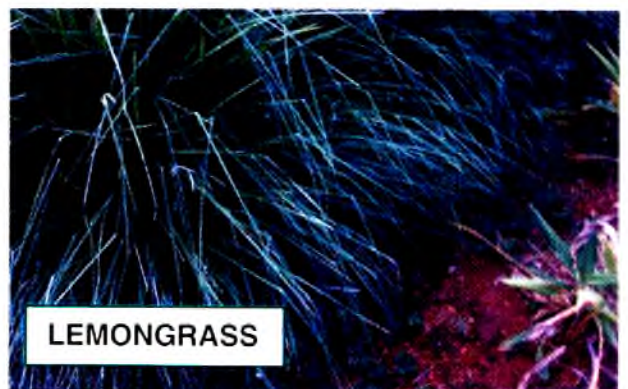
**DISTRICT SOIL FERTILITY
MAP – KANNUR**

**ACTIVITIES OF
BIOFERTILIZER QUALITY CONTROL LAB,
THIRUVANANTHAPURAM**



MEDICINAL PLANTS DEVELOPMENT

Some of the medicinal plants included under the scheme



MARKETING AND QUALITY CONTROL

Market infrastructure - Work in progress at Kollengode, Palakkad



WOMEN IN AGRICULTURE



PICKLE UNIT-KUNNUKARA, ERNAKULAM

BANANA CULTIVATION-KOLLAM



NURSERY UNIT –
NILESWAR, KASARAGODE

AGROPROCESSING UNIT
(ARECANUT SPATHE PLATE MAKING)-
DHALAMPADY, KASARAGODE





NURSERY UNIT - KASARAGODE



BAKERY UNIT - ALAPPUZHA



**COPRA PROCESSING UNIT –
KODALI, IRITTY, KANNUR**



**VERMICOMPOST UNIT –
PERAVOOR, KANNUR**

BIOTECHNOLOGY



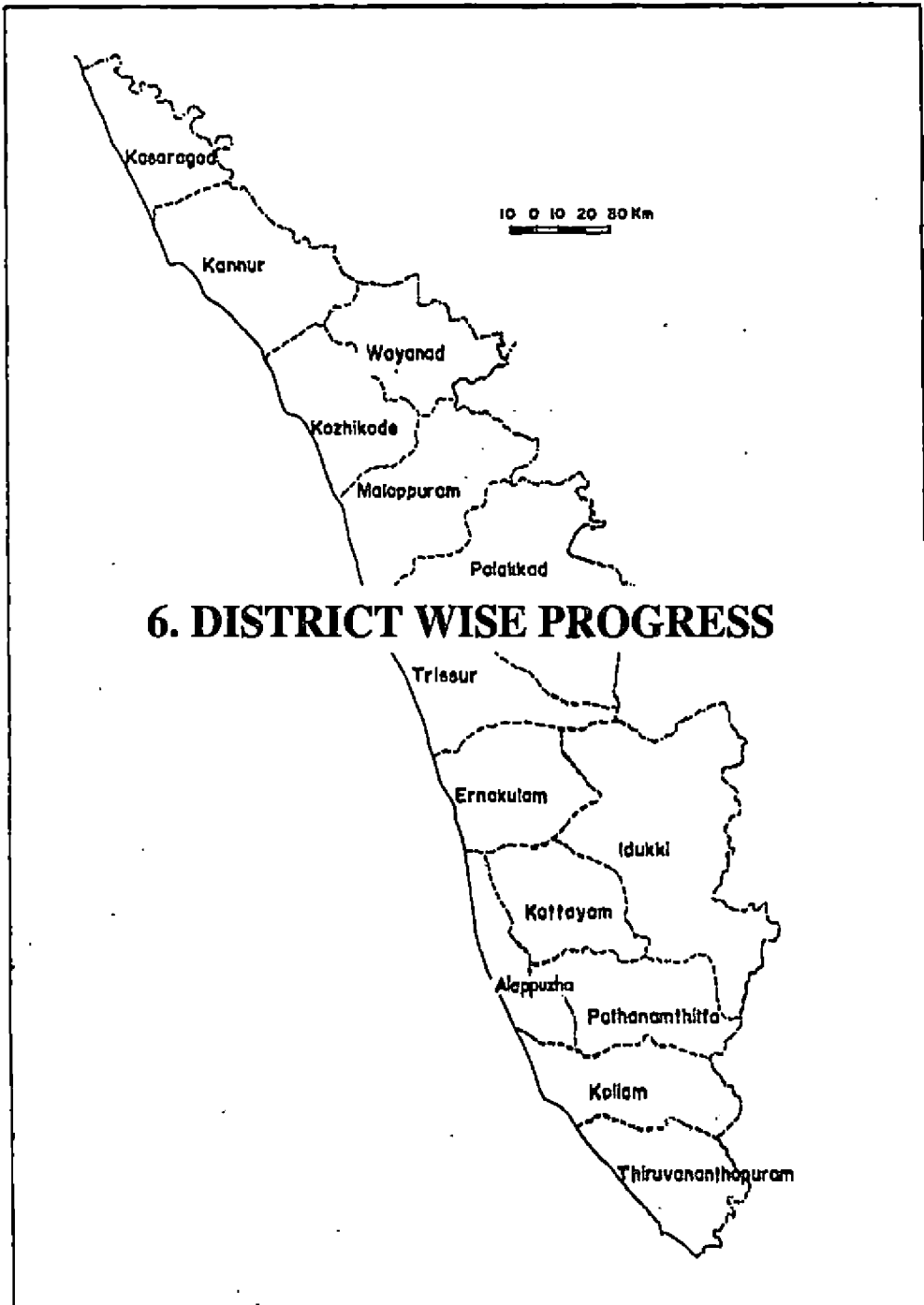
**Activities of Biotechnology and Model Floriculture Centre
– Kazhakkootam, Trivandrum**

INFORMATION TECHNOLOGY



**Computers Installed In Krishibhavans –
Potential, But Underutilized**





6.1 THIRUVANANTHAPURAM

The total geographical area of the district is 218600 ha, of which 143139 ha is the net sown area and 4628 ha. is the net irrigated area. The major crops of the district are coconut, tapioca rice, pepper, banana, and vegetables.

The cropping pattern of the district is furnished in Table 6.1.1.

Table 6.1.1 Cropping pattern in Thiruvananthapuram district during 2002-2003

Sl. No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	6423	2.07
2.	Coconut	87118	9.69
3.	Banana	8058	14.47
4.	Tapioca	23922	22.96
5.	Arecanut	1216	1.25
6.	Rubber	28415	5.97
7.	Pepper	6569	3.15
8.	Ginger	106	1.18
9.	Turmeric	45	1.43
10.	Cashew	2349	2.65
11.	Vegetables	960	3.65

Eleven schemes are operational in the district. The major share of allotment is for fruit development (27.8%) followed by vegetable development (13.9%) and pepper development (13.1%).

An abstract of the scheme-wise financial target and achievement in the case of Thiruvananthapuram district is presented in Table 6.1.2.

Table 6.1.2 Abstract of scheme-wise financial target and achievement in Thiruvananthapuram District

Sl.No.	Scheme	Allotment (Rs. in lakhs)	Allotment (Revised) Rs. Lakhs	Achievement (Rs.Lakhs)	Percentage achievement	Remarks
1.	Pepper development	7.2000	2.25	2.25	100.00	
2.	Vegetable development	7.6000	7.6	7.6	100.00	Convergence programme (AEZ)
3.	Fruit development	15.2500	15.25	15.25	100.00	Convergence programme (AEZ)
4.	Soil and plant health clinics	0.8000	0.8	0.8	100.00	
5.	Use of plastics in agriculture	6.8750	5.5925	5.1825	92.60	Rs.1.6925 Resumed
6.	Agri. extension and training	3.9975	3.9975	3.9958	99.90	
7.	Small farm mechanization	4.7000	4.7	4.1866	89.07	
8.	Agricultural marketing and quality control	5.8000	5.8	0.8	13.79	Rs.5.0 lakhs refunded
9.	Information technology	1.1000	1.1	1.1	100.00	
10.	Medicinal and aromatic plants	1.5200	1.52	1.52	100.00	
11.	Women in agriculture		3.8725	2.24375	57.94	
Total		54.8425	52.4825	49.9286	95.13	

SCHEME - WISE PROGRESS

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented

1. Pepper development (Table 6.1.3)

Table 6.1.3 Target and achievement of Pepper development

Sl.No.	Components	Physical (Nos. Lakhs)			Financial (Rs. Lakhs)		
		T (Revised)	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings	3	1.86	62	2.25	2.25	100
Total					2.25	2.25	100

Out of the three lakhs rooted cuttings of pepper produced in the District, two lakhs were produced at the Banana nursery, Peringanmala and the balance one lakh at DAF, Peringanmala. Majority of the rooted cuttings have been distributed. During the distribution period the concurrent team had visited these farms. According to the farm officials, about 1.5 lakhs cuttings were transported to Idukki district and 50,000 cuttings were distributed within the district from Banana nursery, Peringanmala. Further they had reported that one-lakh cuttings were destroyed due to incidence of quick wilt at banana nursery, Peringanmala. The general indication is that while production is completed in one financial year, the distribution of the produced cuttings is usually carried over to the next financial year. Hence a realistic estimate of the distribution of rooted pepper cuttings is not possible

2. Vegetable development (Table 6.1.4)

Table 6.1.4 Target and achievement of Vegetable development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AEZ area expansion of vegetables (ha)	150	22.79	15.19	7.5	1.1395 (7.5)	15.19 (100)
2.	District level nursery (No.)	1	1	100.00	0.1	0.1	100.00
Total					7.6	7.6	100.00

The full amount earmarked for vegetable development has been encashed and the amount is deposited in a bank account opened in a commercial bank in the district, as authorized by the Govt. vide GO (Rt) 103 / 04 / AD for 22-1-2004 of Govt. of Kerala. However, an area of only 22.79 ha could be achieved under area expansion of vegetables as on 31-3-04 and the implementation is in progress. The main problems pointed out by the implementing officer in this project are

- Difficulty in getting a contiguous area for area expansion in a traditional vegetable area.
- Since vegetables are normally grown during summer season, which usually coincides with the financial year-end, the completion of the project cannot be expected in the same financial year.
- For the establishment of the district level nursery Vizhinjam Krishi Bhavan has been identified. The beneficiary has been selected and even at the end of the financial year, subsidy is not yet released due to delay in sanction of loan.

3. Fruit development (Table 6.1.5)

Table 6.1.5 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of export oriented banana cultivation Area Expansion (ha)	100	100	100.0	15.0	15.0	100.00
2.	District level nursery (No.)	1	1	100.0	0.25	0.25	100.00
Total					15.25	15.25	100.00

In case of promotion of export -oriented banana cultivation, nine blocks in the district have been selected and the project has been well accepted by the farmers. Njalipoovan, Red banana and Nendran are the popular varieties selected for cultivation. During random verification, the team had visited the banana plot of Sri. Sunil Lal, Latha Mandiram, Adayamon P.O, Kilimanoor, where he had planted nearly 1000 Nendran banana plants. The team would like to keep on record its high appreciation over the neat and scientific way of managing the banana garden by him.

However, the financial target has been fully achieved since the budget allotment (Rs.15.25 lakhs) is deposited in a bank as in the case of vegetable development.

4. Soil and plant health clinics (Table 6.1.6)

Table 6.1.6 Target and achievement of Soil and plant health clinics

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	80	72	90	0.8	0.8	100
Total					0.8	0.8	100

The campaigns were started late in November 2003 and during the period under report (during the financial year) only 72 campaigns have been conducted mainly due to paucity of time. Balance targeted campaigns have been conducted in the beginning of the next financial year with proper permission of the concerned. However, the total expenditure has been booked for the year 03-04 during the period under report, for a total of 80 campaigns. Out of this, District Soil Testing Laboratory organized 40

campaigns as a part of their target and the rest 40 by the Mobile Soil-Testing Laboratory.

Though the targets were effectively achieved, the evaluation team could not derive full satisfaction in the style of functioning of the lab mainly from many observations noted both from the lab and from the implementation of the results at many Krishi Bhavans which have been verified subsequently. The observations of the concurrent team regarding the progress of soil and plant health clinics under the scheme-wise progress may be seen.

5. Use of plastics in agriculture (Table 6.1.7)

Table 6.1.7 Target and achievement of Use of plastics in agriculture

Sl. No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1	Promotion of drip irrigation (ha)	9	7.933	88.14	1.0125	0.89250	88.1
2	Promotion of sprinkler irrigation (ha)	6	6.133	100	0.4600	0.4600	100
3	Setting up of green house (m ²)	10300	9375	91.0	4.1200	3.7500	92.9
Total					5.5925	5.1825	92.6

Seven blocks in the district, the details of which are given below have utilized the assistance for drip irrigation.

Sl.No.	Name of the Block	Drip irrigation area (Ha)
1	Pulimath	0.4
2	Nedumangadu	0.533
3	Pallichal	1.0
4	Vamanapuram	1.0
5	Attingal	2.0
6	Varkala	2.0
7	Neyyattinkara	1.0
Total		7.933

Four blocks in the district, which utilized the assistance for the sprinkler irrigation under the scheme Use of plastics in agriculture, are provided below.

Sl.No.	Name of the Block	Sprinkler irrigation area (ha)
1	Parassala	2.0
2	Neyyantinkara	1.0
3	Pallichal	2.0
4	Pulimath	1.133
Total		6.133

Eight blocks in the district, which utilized the assistance for the construction of green house under the scheme Use of plastics in agriculture, are provided below.

Sl.No.	Name of the Block	Green House area (m ²)
1	Pulimath	425
2	Nedumangadu	650
3	Vamanapuram	1000
4	Chettivilakom	2500
5	Varkala	1000
6	Kattakada	800
7	Parassala	1000
8	Neyyattinkara	2,000
Total		9375

Since the project had been initiated in September 2003, much before the end of the financial year, the implementation of the project has been successfully completed at all places. During the random verification of the different components of the scheme, the following blocks in the district namely; Pulimath, Nedumagadu and Kattakada have been visited. The team had verified the implementation side of the different projects and the relevant documents. In general, all the components of the scheme viz., drip irrigation; sprinkler irrigation and green house have more or less been implemented fairly at all the places. Among the many fields visited, the details of a few beneficiaries have been mentioned below

Component	Name and address of the beneficiary	Area covered	Assistance Received (Rs)	Remarks
Drip irrigation	Smt.Sajeena Nishanudeen Sanisa Manzil, Vemudu, Puliyarakonam P.O. Madavur (Kilimanoor KB)	0.4 ha Banana Coconut	4500	Satisfactory
Sprinkler.	Smt. Geetha Mohan Thrishna, Pulimath (Pulimath KB)	0.4 ha Banana Coconut	3000	Satisfactory

Sprinkler	Noorjahan Puthuval Puthan Veedu Andoorkonam P.O (Andoorkonam KB)	2 Acre Fodder Coconut	12,000	Excellent
Green house	K. Madhusudhan Nair Poomughathu Veedu Veerana Kavu P.O (Poovahal KB)	100m ² (Nursery)	4000	Excellent
Green house	Smt. Junaida Ashraf Mankuzhy Estate, Paranthodu P.O (Aryanadu K.B.)	300m ²	12,000	Constructed Green house is not utilized

In general, the entire scheme cannot be considered as a beneficial one to the common farmer in view of the success of implementation mainly for two reasons.

- One it is a loan linked programme and it is difficult for a common farmer to get easy credit facility from financial institutions.
- Secondly, to derive 25% benefit from the scheme, one has to find 75 % resources as loan from the banks. So naturally all the identified beneficiaries are very affluent farmers.

SC / ST component is not seen considered in the implementation of the scheme.

6. Agricultural extension and training (Table 6.1.8)

The details regarding the physical and financial aspects of the Agricultural Extension and Training undertaken in the district are presented below

Table 6.1.8 Target and achievement of Agricultural extension and training

Sl. No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1. a	Training to extension personnel (District Level) 3-days (No.)	4	4	100	0.56	0.56	100
b	Training to Agril. Extension personnel (Block level) 2-days (No.)	12	12	100	0.6	0.6	100
2.	District level interface (No.)	1	1	100	.3	0.3	100
3.	AEZ training (No.)	20	20	100	1.8	1.8	100
4.	MDDT (ha)	13	10	76.9	0.7375	0.7358	99.7
Total					3.9975	3.9958	99.9

The details of the different training programme including the venue, dates, topics, the numbers of participants in each training programme etc could not be obtained from PAO office. However the PAO office provided the details of certain blocks where trainings have been conducted. Based on the details obtained, certain components of the training have been verified from the relevant records at random at the block and district level. On verification of a 2 day Training programme imparted to Agrl. Extension personnel at Nedumangadu Block, following details on the financial aspects of training were noted. . It is seen that there were only 18 participants (6 Officers and 12 Assistants). Allotment of Rs. 5000/-for 2 days training is has been originally earmarked for 30 participants. At Nedumangadu, since there were only 18 participants, proportionate amount of Rs.3, 000/- could only be committed as expenditure and the balance amount of Rs. 2,000/ has been remitted to Sub treasury, Nedumangadu (Vide chalan No. 889 dated 1.10.03). Though, the balance amount has been refunded, the entire amount of Rs. 5000/ has been booked as full expenditure from the Block while reporting financial progress. After reviewing the different training details, the concurrent team would like to point out certain facts related to trainings conducted at Block level and Krishi Bhavan level.

Component	Topic	Resource person	Date of training	Venue
Research Extension Interface	Vanilla cultivation and pollination	Dr. B.K.jayachandran KAU	15 th October 2003	College of Agriculture, Vellayani
	Rain water harvesting	Not provided		
	Bio dynamic farming	Dr .Babu Mathew, KAU		
	Post harvest handling value addition	Dr. Philiposu Joshua, KAU		
	Effect of micronutrients in crop production	Dr. Usha Mathew, KAU		
	Cultivation of safed musli	Dr. B.R. Reghunath, KAU		
Processing of vanilla	Sri. Sajith Babu, KAU			

Training to Agrl. Extension personnel (Block level) 2-days	Cultivation practices of all crops Organic farming and vermicompost preparation	K.S. Umamaheswaran (Retd. DDA) R.C.Sreedharan Nair (Retd. JDA)	23 rd and 24 th September 2003	ADA Office Nedumangadu
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1. Some of the trainings could have been made more meaningful with selection of better topics and resource persons.
2. The details of the various trainings conducted at various places are not available in PAO office and only some information was available there. It is the responsibility of the Assistant Director of each block to compile and communicate all the relevant details of training conducted under their jurisdiction to PAO office at least at the end of the financial year.
3. The Deputy Director (Training) attached to PAO Office should henceforth be more alert in collecting the details of all training programmes conducted during an year at least at the end of the financial year.

6.1 Activities of the diagnostic team

A multi disciplinary diagnostic team (MDDT) had been constituted from both KAU and Department to conduct field visits, examine problems reported by farmers and recommend remedial measures. The composition of the team is as follows

Dr. Arthur Jacob, Associate Professor (Entomology) College of Agriculture, Vellayani, Tvm.	Chairman
Sri. Thomas John, DDA (Training) PAO office, Tvm.	Convener
Dr. S. Janardhanan Pillai, Associate Professor (Agronomy), College of Agriculture, Vellayani, Tvm.	Member
Dr. V.K Venugopal, Professor (Soil Science) College of Agriculture, Vellayani, Tvm.	Member
Dr. P. Santhakumari, Associate Professor (Plant Pathology) College of Agriculture, Vellayani, Tvm.	Member

The evaluation team had visited many blocks including Pulimath, Attingal, Kattakkada, Nedumangadu, Kattakkada and Chettivilakom blocks. A random check in some of the Krishi Bhavans under the jurisdiction of the above blocks resulted in the access to some of the recommendations of the MDDT. No major follow up action is

seen recorded in the cases where MDDT has offered its technical assistance. In the absence of any further complaints on problems already attended, it is to be believed that that the recommendations of the team were effective. The details of the entire visit of MDDT in the district are not available in PAO office and the team felt that such details are to be necessarily communicated to PAO office as soon as the visit is over and the concerned officials of the PAO office must document such details in at least in the future.

MDDT recommendations necessarily mean collective recommendations from multi disciplinary team of scientists for tackling a difficult situation or problem in the field. But on random check at various places, collective recommendations are not given. The team felt that financial assistance should be extended only for the purchase of those chemicals or materials, which are very costly and not normally available in the local market, without whose application the problem will not get corrected. It is seen that MDDT assistance has been given for even purchase of common fertilizers, pesticides and fungicides, which in the further course of time will lead to misuse of the current opportunity.

The team also suggests that no financial target should be fixed for MDDT and it should be absolutely need based. The service of the MDDT should be utilized only for the prompt identification and corrective measures of the field problem. The quantum of financial assistance, the nature of assistance needed, identification of the beneficiary etc. are some issues that need further refinement and decision at the Departmental level. The current practice of giving assistance for the purchase common fertilizer and other chemicals should be dispensed with. The service of the MDDT should be made available to all deserving farmers and there should be some guidelines fixed for extending assistance to them. Instead of a multi disciplinary recommendation, the entire recommendations including those for pests and diseases are seen given by an agronomist defeating the spirit behind the multidisciplinary team.

A sample MDDT recommendation supporting the necessity for changing the contentions of MDDT is given below.

Area	Main problem	Recommendations and financial assistance given		Date of visit	Members
KB: Karakulam Block: Nedumangadu	Failure to unfurl the spindle leaf of banana in Njalipooovan and Rasakadali (30 cents)	20 kg Urea 20 kg MOP Tilt 300 ml	Rs. 650	6-11-03	Dr. K. Prathapan Agronomist
KB: Karakulam Block: Nedumangadu	Yellow spots on leaves, spot merges and leaves dry up in banana (20 cents)	20 kg Urea 20 kg MOP Tilt 200 ml	Rs. 498	6-11-03	Dr. K. Prathapan Agronomist
KB Aruvikkara Block: Nedumangadu	Poor growth banana (7 Cents) 70 Nos	NPK as per POP Organic Manure* (Neem Cake)	Rs.437 Rs.980	Not recorded	Dr. K. Prathapan Agronomist

*Quantity not mentioned

7. Small farm mechanization (Table 6.1.9)

Table 6.1.9 Target and achievement of Small farm mechanization

Sl. No.	Components (No.)	Physical Target				Financial (Rs.Lakhs)			
		Original	T(revised)	A	%	T	A	%	
1.	Garden tiller	5	-	0		*	0	0	
2.	Tractor	2	2	1	50.0	*	0.3	50	
3.	Power tiller	5	9	9	100.0	*	2.3186	85.87	
4.	Winnower/Reaper	4	4	2	50.0	*	0.6	50	
5.	Threshers	3	-	-	-	*	0	0	
6.	Power Sprayers/Dusters	10	158	158	100.0	*	0.968	0	
Total							4.7	4.1866	89.0

* Due to re-appropriation of components, financial target for any particular item cannot be fixed.

All the machineries proposed in the scheme have been distributed in five blocks of the District viz., Pulimath, Attingal, Vamanapuram, Chettivilakom and Varkala during the period under report, after re-appropriation and re-validation in the allotment for the components. On random verification of the scheme through records and with the beneficiaries at various places, it is seen that the items were distributed in time and all items are being put to satisfactory use by the beneficiaries. The details of the some beneficiaries who have been visited are presented below.

Item	Name and address	Period of supply	Amount and subsidy
Rocker sprayer	Smt. Jayaprabha Kamala Nivas Thengum Konam Pulimath KB	February 2004	Rs.2200/- Rs. 550/-
Rocker sprayer	R. Money Sarath Bhavan Chittar Anappara P. O Tholikode KB	January 2004	Rs. 2200/- Rs.550/-
Power tiller	Smt. Savithriamma Sangeetha Bhavan Thumbode, Madavoor.P.O. Madavoor KB.	February 2004	Rs.1, 04,605/- Rs.25620/-

8. Agricultural marketing and quality control (Table 6.1.10)

Table 6.1.10 Target and achievement of Agricultural marketing and quality control

Sl.No.	Components	Physical (No)			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training	2	2	100	0.16	0.16	100
2.	Master farmer Farmers' training (one day)	3	3	100	0.24	0.24	100
3.	One day Seminars	2	2	100	0.4	0.4	100
4.	Market infrastructure	1	Nil	0	5.0*	0	0
Total					5.8	0.8	13.79

* Amount refunded

The market infrastructure was proposed at Anad Grama Panchayat under Nedumangadu Block with a contribution of Rs 5.0 lakhs from the panchayat, 5.0 lakhs subsidy for the project and a loan of Rs. 20 lakhs from NABARD. Though the panchayat authorities had submitted the project to NABARD, the same was not approved for funding. As panchayat was not in a position to meet the entire expenditure, the project could not take off as designed. Hence the ADA Nedumangadu, who cashed the amount of Rs.5 lakhs and kept in joint suspense account of AO, Anad and Secretary, Anad Grama Panchayat, had to surrender the amount

Random verification of the training component, among the different blocks visited has yielded the following information.

Training Component	Topic of training	Resource person	Date of training	Venue
AA training	Agril. Economics and marketing	Y. John, Retd. DDA	27 th and 28 th October 2003	Seminar Hall, Parottukonam
	Agricultural marketing	S, Noohu Kannu, MO, DMI		
	Post harvest technique and value addition	Dr. Philipose Joshua, KAU		
	Export of Agril. Produce and pdn. of export oriented banana and vegetables	Dr. C.S. Jayachandran Nair, KAU		
Master Farmers' training (50 farmers)	Grading and adulteration aspects of commodities	Nuhu Kannu, MO, DMI	15 th November 2003	EEC Market Nedumangadu
	Value addition in agriculture	Dr. Philipose Joshua, KAU		
	Marketing of agricultural produce	Sivaprasad, PAO, TVM		
	Topic not available	P.I Asok, Agricultural Officer,		
Master Farmers' training (40 farmers)	IPM based farming system	Dr. Philipose Joshua,	10 th October 2003	Panachamood Community Hall
	Vegetable cultivation	Dr. Abdul Wahab, KAU		
	Coconut cultivation	Agricultural Officer, Karode		

The details of participation of Assistants from different blocks for the 2-day training at the Seminar Hall, Parottukonam during 27th and 28th October 2003 are given below;

27 th October 2003	Participants	28 th October 2003	Participants
Parassala	8	Kazhakoottam	10

Aryankodue	10	Attingal	6
Neyyatinkara	8	Nedumangad	8
Pallichal	10	Varkala	10
Chettivilakom	6	Pulimath	8
Kattakkada	8	Vamanapuram	8
Total	50		50

Though the training to master farmers was conducted during September 2003, in three different blocks, viz., Parassala, Nedumangad and Varkala, the date, venue, number of participants, topic of training, etc are not made available to the Task Force.

9. Information Technology (Table 6.1.11)

Table 6.1.11 Target and achievement of Information Technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware (No.)	70	70	100	1.1	1.1	100.0
	Total				1.1	1.1	100.0

On random verification of this component at various Krishi Bhavans, it was seen that the computers are put to best administrative use and most of the details relating to the Krishi Bhavan are being documented. Fairly good knowledge of computer operation for both technical and para-technical staff is a good indication of effective office administration. However, the declared objectives of this scheme are not currently met and full utility and the best intentions of the scheme will only be served, when cyber extension activities take off with complete networking facilities. Documentation of the various field problems, specific nature of pest and disease attack, natural calamities, location specific problems etc. are to be documented with related photographs under this component.

10. Medicinal and aromatic plants (Table 6.1.12)

Table 6.1.12 Target and achievement of Medicinal and aromatic plants

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Establishment of demonstration-cum-seed production centres in the farmers field	80	80	100	1.2	1.2	100
2.	Area expansion programme (ha)	2	2	100	0.25	0.25	100

3.	Training to farmers (no.)	1	1	100	0.07	0.07	100
Total					1.52	1.52	100

10.1 Establishment of Demonstration-cum-seed production centres in farmers field

Two blocks in the district, viz., Kattakada (with 50 demonstration units) and Vamanapuram (with 30 demonstration units) have been selected for this scheme. A wide variety of medicinal plants are seen to have been distributed in the scheme, viz. *Chittaratha, Karimkurinji, Chethikoduveli, Ramacham, Pocholan, Chittamruthu,, Karinachi, Naganandhi, Pathimugham, Chittadalodakom, Kattarvazha and Thippali*. Medicinal plants have been initially collected from Shantigiri Asram, Pirappankodu and Poojappurra Ayurveda Research Institute, thus ensuring the quality of the materials for distribution. Each beneficiary is expected to receive different medicinal plants worth Rs. 800/- and a financial assistance of Rs. 700/- towards cultivation and other input cost, provided he /she extends 0.05ha of land for this purpose.

In this connection, the following remarks are offered by the concurrent evaluation team after visiting many beneficiaries in the different Krishi Bhavans under Kattakada and Vamanapuram blocks. In general, this scheme operated in Trivandrum district is not found to be successful. The reasons for not meeting the desired success are many. Some of the main observations of the team are:

- The implementation stages of the project in the various Krishi Bhavans were seen to have coincided between October 2003 to February 2004. Majority of the distribution took place during February 2004, a period where acute water shortage is experienced.
- Many of the planting materials distributed were kept by the beneficiaries without planting for want of sufficient irrigation facilities, some of which naturally dried up during the subsequent months
- Those who planted the materials in the field, could not ensure sufficient irrigation which resulted in the drying up of plants
- Considering the off time for planting, many farmers planted the materials here and there in their plots to evade the heat and this resulted in only

partial success. However, on this account, the concept of demonstration plots is totally defeated.

- In some areas due to subsequent rain, some of the plants which was believed to be dried up have come up
- No display boards regarding the details of the demonstration plots have been put up or seen any where during the visit

For one or more reasons stated above, *so called demonstration plots* at all places of visit are not having any standards normally expected of a demonstration plot

In view of the above facts, it is to be realized that no planting material should be distributed in any scheme between January and March and that the implementation part of the scheme should ensure that all planting materials should reach all beneficiaries by September-October to ensure success in such programmes

10.2 Area expansion programme

Aryankode and Kattakkada blocks have been selected for this part of the scheme with one ha target. In Aryankode Block, Ottasekaramangalam Krishi Bhavan had been identified and 4 farmers in that Krishi Bhavan have taken up the project. Similarly in the Kattakkada Block, under Tholikodu Krishi Bhavan, an NGO namely Vinoba Bhave Charitable Society had been provided with all benefits of this scheme. The expenses incurred at Vinoba Bhave Charitable Society by the Secretary in this area expansion programme is as follows

Assistance for planting materials*	Rs. 20,000/-
Labour charges for land preparations and planting	Rs. 15,000/-
Cost of organic manures	Rs. 15,000/-
Total	Rs. 50,000

*All quality-planting materials (17 items) have been procured from Nagarjuna Herbal Gardens

The fate of the area expansion programme at Vinoba Bhave Charitable Society is also not different from that of the demonstration plots. Here also, though the planting materials were supplied as early as 3.10.2003, most of the plants have dried up for want of sufficient irrigation facilities during the subsequent months especially between February and March 2004.

10.3 Training to farmers

One day training programme to the entire beneficiary farmers of the various components of the scheme for imparting practical knowledge in raising medicinal plants was conducted on 4th November 2003 at Poojappura Ayurveda Research Institute. A total of 40 beneficiary farmers attended the one-day training programme. The details of the training programme are given below

Time	Topic of training	Resource person
10.00 am to 11.30 am	Demand, prospects and possibilities in the cultivation of medicinal plants including narration of the programme	S. Sivaprasad , PAO, TVM
11. 30 am to 1.00 pm	Identification of economically important medicinal and aromatic plants	G.R. Jayakumar,, Research. Officer Ayurveda Research. Institute, Poojappura
1. 00 pm to 1.30 pm	Lunch break	
1. 30 pm to 3.00 pm	Cultivation of important medicinal and aromatic plants	Ms. Beena Kumari, Farm Superintendent Ayurveda Research. Institute, Poojappura
1. 30 pm to 3.00 pm	Cultivation of important medicinal and aromatic plants	Ms. Beena Kumari, Farm Superintendent Ayurveda Research. Institute, Poojappura
3. 00 pm to 4.30 pm	Post harvest technology, uses and properties of medicinal and aromatic plants	Ms. Beena Kumari, Farm Superintendent Ayurveda Research. Institute, Poojappura
4. 30 pm - 5.00 pm	Evaluation and valedictory function	Ms. Beena Kumari, Farm Superintendent Ayurveda Research. Institute, Poojappura

11. Women in agriculture (Table 6.1.13)

Table 6.1.13 Target and achievement of Women in agriculture

Sl. No.	Components	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1	Assistance to women entrepreneurs (Units)	95	63	66.31	3.8725	2.24375	57.94
Total		95	63	66.3	3.8725	2.24375	57.9

The details of the major component of the Women in agriculture (Assistance to women entrepreneurs) implemented in the different blocks of the district is presented below

Block	Jasmine cultivation unit		TC hardening unit		Vermi-composting units		Nursery of fruits and ornamental plants Units	
	T	A	T	A	T	A	T	A
Parassala	5	0	-	-	5	0	-	-
Aryankodu	5	5	-	-	2	1	-	-
Pulimath	6	6	-	-	3	3	-	-
Vamanapuram	4	4	-	-	-	-	-	-
Varkala	5	5	-	-	-	-	-	-
Neyyatinkara	5	5	2	2	2	2	2	2
Attingal	-	-	2	1	-	-	-	-
Pallichal	-	-	6	3	1	0	5	2
Kazhakootom	-	-	10	7	5	5	3	3
Kattakada	-	-	-	-	2	2	5	0
Nedumangadu	Allotment of Rs.37,500/- surrendered						5	0
Chettivilakom	-	-	-	-	-	-	5	5
Total	30	25	20	13	20	13	25	12

11.1 Jasmine cultivation units

Six blocks in the district as given above have been identified for establishing jasmine cultivation units. The establishment cost of one unit is estimated to be Rs. 3300/- The provision of 25 % subsidy entitles an amount of Rs, 825/- to each beneficiary. On random verification with some beneficiaries, it is learned that most of the jasmine plants planted in the garden land have dried up during summer.

11.2 Tissue culture hardening units

Four blocks in the district, the details of which are given above have been identified for this. Though the objective of the project has been well defined, with each unit to handle 2,500 TC plantlets, the operational side of the project is very bleak for many reasons.

- The beneficiaries of the hardening unit are not aware of the different process involved.
- They have to procure the plantlets for hardening by paying hard cash and any failure from their side will result in complete loss of money.

- Further, they are not sure of the takers of the hardened plants and they have only limited choice to different plantlets of popularity in the market.
- Due to the absence of Tissue Culture Units either in private or Government sector in the vicinity of the different implementing Blocks except Kazhakootam, the burden of transporting the plantlets have also further compounded the problem.

One of the hardening units near Tissue culture lab, Kazhakootom owned by Ms. Ramla Rafeek, Sunaj Manzil, Vettu Road, Kazhakootam has been randomly verified. It is understood that she too faces the same problems projected above. She has availed a loan of Rs. 25,000/- from the Canara Bank branch at Kattatyikonam for the hardening unit for which a subsidy of Rs. 6250/- has been received.

11.3 Vermicomposting units

Seven blocks in the district have provided a total target of 20 units in the district, but the actual takers of this unit are very few, though each successful unit can expect a production of 4.0 Tonnes of vermi-compost / annum. In order to derive the benefit in this scheme, every beneficiary is expected to avail a bank loan of Rs.10, 000 against which a subsidy of Rs. 2,500/- will be adjusted. Even then, it is not an attractive scheme for an ordinary woman farmer to reap the benefit of these units. Absence of sufficient training and the lack of practical knowledge and wisdom among the women group has forced this scheme to take a back seat. On random verification of this component at Pulimath Krishi Bhavan, with Smt. Lalithamma,Udayanthottil Veedu, Thengum Konam, Pulimath has confirmed the above contentions of the team.

11.4 Nursery of fruits and ornamental plants

Six blocks in the district have been successful in achieving 12 units of nursery of fruits and ornamental plants as against a proposed target of 25 Units. Each unit has an area of 0.1 ha. The maximum subsidy that is permitted in this scheme is Rs. 7,500/- or 25% of the cost, which ever is less. Among the different components available under the scheme, the beneficiaries relatively preferred this component.

In general, the scheme on Women in Agriculture, named as SWIP, is a loan-linked programme and it is difficult for common women to get the credit facility. Secondly to derive, 25% benefit from the scheme, they have to find 75 % resources as loan from the banks. So naturally all the identified beneficiaries are found to be very affluent group of individuals.

SUMMARY

Though the overall performance of the schemes under macro management can be rated as good, there is scope for expenditure improvement in the performance, which can yield better results. More realization and need based fixation of target in the case of 'Use of plastics in agriculture' and 'Small farm mechanization' could have resulted in cent per cent achievement of target. Though there is achievement in the physical target, it is feared that too much focus on the quantitative dimension, even overlooking the quality, has affected the performance of two schemes viz, 'Soil and plant Health Clinics' and 'Agriculture Extension and Training'. There is only low achievement i.e., 60 per cent for the scheme on 'Women in Agriculture' which occurred due to time constraint, which shall not occurred in future.

6.2 KOLLAM

The district has a total geographical area of 251838 ha; of which 142233 ha is the net area sown and 1315 ha is the net irrigated area. The major crops in the district are coconut, rubber, vegetables, tapioca, rice, banana and pepper.

The cropping pattern of the district is furnished in Table 6.2.1.

Table 6.2.1 Cropping pattern in Kollam district during 2002-03

Sl. No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	11457	3.69
2.	Coconut	71310	7.93
3.	Banana	1800	3.23
4.	Tapioca	24065	23.09
5.	Vegetables	816	3.10
6.	Arecanut	2502	2.57
7.	Cashew	4663	5.27
8.	Rubber	36797	7.73
9.	Pepper	10633	5.10
10.	Ginger	612	6.80
11.	Turmeric	258	8.22

An abstract of the scheme-wise financial target and achievement in the case of Kollam district is presented in Table 6.2.2.

Table 6.2.2 Abstract of scheme-wise financial target and achievement of Kollam district (Rs. Lakhs)

Sl. No	Scheme	Allotment (Rs. lakhs)	Revised allotment	Achievement	Achievement (%)	Remarks
1.	Pepper development	2.2500	2.2500	2.2500	100	

2.	Cashew development	1.8250	1.8250	1.8151	99.50	
3.	Vegetable development	5.1000	6.0235	6.0232	99.99	Convergence programme (AEZ)
4.	Fruit development	3.2500	3.2500	3.2500	100	Convergence programme (AEZ)
5.	Soil and plant health clinics	0.7000	0.7000	0.7000	100	
6.	Use of plastics in agriculture	7.6000	7.6000	6.9024	90.80	
7.	Agricultural Extension and Training	2.6975	2.6975	2.5542	94.68	
8.	Small farm mechanization	4.6000	4.6000	4.2302	91.96	
9.	Agricultural marketing and quality control	5.1600	0.16000	0.1600	100	
10	Information Technology	0.5000	0.5000	0.5000	100	
11	Women in agriculture	16.0983	9.0990	7.801	86.83	
Total		49.7808	38.705	36.1864	93.49	

Eleven schemes are operational in the district. The major share of the allotment is for 'Women in agriculture', followed by 'Use of plastics in agriculture', 'Agricultural marketing and quality control' and 'Vegetable development' in that order.

SCHEME-WISE PROGRESS

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented.

1. Pepper development (Table 6.2.3)

Table 6.2.3 Target and achievement of Pepper development

Sl.No.	Components	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings (lakhs No.)	3	3	100	2.25	2.25	100
Total					2.25	2.25	100

Out of the three lakhs rooted pepper cuttings produced in the District, District Farm, Anchal had produced 2.0 lakhs and the rest 1.0 lakh by SSF, Kadakkal. Though initially the cuttings were indented for distribution in other districts, there was modification made in the pattern of distribution. As on 31st March 2004, the production target of three lakhs pepper cuttings has been achieved. The distribution of cuttings is envisaged.

DAF, Anchal

Sl.No.	Details of Production	Details of Distribution	
1	Total Production 2.0 Lakhs	Kollam	For pepper rehabilitation Scheme
Total		2.0 Lakhs	

State Seed Farm, Kadakkal

Sl.No.	Details of Production	Details of Distribution		
1	Total Production 1.0 Lakhs	Idukki	Kollam	For Area Expansion Programme under intercropping
Total		50,000	50,000	

There is cent per cent achievement of this component

2. Cashew development (Table 6.2.4)

Table 6.2.4 Target and achievement of Cashew development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Distribution of plant protection equipments (No.)	25	25	100.0	0.200	0.1901	95.0

2.	Establishment of demonstration plots (No.)	25	25	100.0	0.6250	0.6250	100.0
3.	EI	-	-	-	1.0000	1.0000	100.0
Total					1.8250	1.8151	99.50

The executional infrastructure of Rs. One lakh was provided for meeting the transportation charges of cashew grafts from Aralam Farm as reported by the concerned authorities. There is cent percent achievement in the case of distribution of plant protection equipments and establishment of demonstration plots. The cashew demonstration plot visited in Ezhikara panchayat under Kottarakkara ADA's jurisdiction was found to be properly managed and maintained.

3. Vegetable development (Table 6.2.5)

Table 6.2.5 Target and achievement of Cashew development

Sl.No.	Components	Physical			Financial		
		T	A	%	T	A	%
1.	Area expansion of vegetables (ha)	100	50	50.0	5.000	5.000	100.0
2.	District level nursery (No.)	1	1	100.0	0.1000	0.1000	100.0
3.	Pandal *	--	--	--	0.9235	0.9232	99.96
Total					6.0235	6.0232	99.99

* Committed expenditure

It is seen that a pandal has been erected at DAF, Anchal committing an expenditure of Rs. 0.9232 lakhs. In the scheme it is not proposed as a component. However, it was reported that sanction has been obtained for incurring the expenditure, and hence that is also included as an item of expenditure.

4. Fruit development (Table 6.2.6)

Table 6.2.6 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Rs.lakhs)		
		T	A	%	T	A	%
1.	Promotion of export oriented banana cultivation (ha)	20	20	100.0	3.000	3.000	100.0
2.	District level nursery (No.)	1	1	100.0	0.250	0.250	100.0
Total					3.250	3.250	100.0

Though the physical achievement under area expansion of vegetables was only 50 per cent, full expenditure is shown under financial achievement, this being treated as a convergence scheme under AEZ. Vegetable and Fruit development schemes under Macro management are converged with AEZ scheme now operational in the state. The district level nursery is common to fruit and vegetable and under AEZ scheme, there shall be only one beneficiary under district level nursery for both fruit and vegetable. The beneficiary has been identified. Proposal has been submitted for funding by the National Horticultural Board. The district level nursery is a credit – linked scheme and the subsidy part is quite meager compared to the total investment by the farmer. Hence only well to do farmers can avail this benefit, which is a limitation of this scheme.

5. Soil and plant health clinics (Table 6.2.7)

Table 6.2.7 Target and achievement of Soil and plant health clinics

Sl.No.	Components	Physical			Financial		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	70	70	100.0	0.700	0.700	100.0
	Total				0.700	0.700	100.0

There is cent per cent achievement in the conduct of soil testing campaign. Soil health cards are not issued in many cases.

6. Use of plastics in agriculture (Table 6.2.8)

Table 6.2.8 Target and achievement of Use of plastics in agriculture

Sl.No.	Components	Physical (revised)			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of drip irrigation (ha)	20	16.861	84.3	2.250	1.8840	83.7
2.	Promotion of sprinkler irrigation (ha)	13.077	13.077	100.0	0.750	0.9808	>100
3.	Setting up of green house (m ²)	11500	10162.8	88.4	4.600	4.0377	87.8
	Total				7.600	6.9024	90.8

The component viz. promotion of drip irrigation could not attain targeted physical achievement, since there was not much demand from the farmers in some

allotted blocks. But, there was more demand for sprinkler irrigation and there was higher physical achievement than the targeted figures. The physical target for green house also could not be completely achieved due to certain technical problems.

A visit made to the office of the Assistant Director of Agriculture, Kottarakkara revealed that two components viz. drip irrigation and green house were implemented as detailed below:

A. Drip irrigation:

Ezhukone	:	0.8 ha
Neduvathur	:	0.8 ha
Veliyoor	:	0.6 ha

B. Green House:

Kottarakkara	:	300 sqm.
Neduvathur	:	50 sqm.
Ezhukone	:	400 sqm.
Kareepra	:	100 sqm.
Pooyappally	:	70 sqm.

The drip irrigation unit and green house unit visited in Ezhukone and Nedumvathur were found to be installed and used properly.

7. Agricultural extension and training (Table 6.2.9)

Table 6.2.9 Target and achievement of Agricultural extension and training

Sl.No	Components	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Training to extension personnel – 2 days (No.)	13	13	100.0	0.650	0.637	98.0
b.	Training to extension personnel - 3-days (No.)	4	4	100.0	0.560	0.560	100.0
2.	District level interface (No.)	1	1	100.0	0.300	0.300	100.0
3.	AEZ training (No.)	5	5	100.0	0.450	0.450	100.0
4.	MDDT(ha)	13	11	84.6	0.650	0.5197	80.0
a.	Contingencies	-	-	-	0.07	0.07	100.0
b.	Honorarium	-	-	-	0.0175	0.0175	100.0
Total					2.6975	2.5542	94.7

Though the targeted number of trainings have been conducted, there is slight reduction in the financial achievement. This is due to the shortfall in the number of participants (trainees) in trainings.

The concept of MDDT as implemented is totally wrong. It is practiced quite differently from what is expected. MDDT should not be targeted. It is suggested that a consolidated fund shall be mobilised at the state level for MDDT and MDDT should be need based. There should be provision for the on the spot sanction of amount to the affected farmers for purchase of critical inputs for adopting recommendations to overcome the problem. The complex pest and disease problem in coconut (coconut leaf rot, root wilt, mite, yellowing etc.) noted in Kareepra Krishi Bhavan under Kottarakkara ADA was brought to the attention of MDDT. MDDT members had visited the problem site and provided technical solution to the satisfaction of the farmers.

8. Small farm mechanization (Table 6.2.10)

Table 6.2.10 Target and achievement of Small farm mechanization

Sl.No	Components	Physical				Financial (Rs.Lakhs)		
		Original	Revise	A	%	T	A	%
1.	Garden tiller (No.)	5	1	1	100.0	0.75	0.1372	18.3
2.	Tractor (No.)	2	2	2	100.0	0.60	0.60	100.0
3.	Power tiller (No.)	4	9	9	100.0	1.2	2.3428	>100
4.	Winnower/ Reaper (No.)	3	Nil	Nil	0	0.90	0	0
5.	Threshers (No.)	5	14	14	100.0	0.45	0.4886	>100
6.	Transplanters (No.)	3	Nil	Nil	0	0.50	0	0
7.	Power sprayers/ dusters (No.)	4	48	48	100.0	0.20	0.6614	>100
Total						4.60	4.2304	92.0

There was component change of the scheme allowed and the physical targets of the various components were revised, based on demand. Accordingly, the physical target of power tiller, thresher and sprayers was increased. There was no achievement in the case of winnowers and transplanters.

9. Agricultural marketing and quality control (Table 6.2.11)

Table 6.2.11 Target and achievement of Agricultural marketing and quality control

Sl.No.	Components	Physical			Financial		
		T	A	%	T	A	%
1.	AA training (No.)	2	2	100.0	0.16	0.16	100.0
2.	Market infrastructure (No.)*	1	Nil	0	5.0	0	0
Total					5.16	0.16	3.10

*Rs. 5 lakhs for market infrastructure resumed.

Initially the funds were earmarked for Ochira panchayat, since the panchayat could not mobilize funds, the amount of Rs.5 lakhs was resumed.

10. Information technology (Table 6.2.12)

Table 6.2.12 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware (No.)	50	50	100.0	0.50	0.50	100.0
Total					0.50	0.50	100.0

The details of Krishi Bhavan, ADA offices and farms where computers have been installed are furnished in Appendix.I

10. Women in agriculture (Table 6.2.13)

Table 6.2.13 Target and achievement of Women in agriculture

Sl.No.	Components	Physical			Financial(Rs.Lakhs)		
		T	A	%	T	A	%
1.	Organization of women groups	30	25	83.3	0	0	0
2.	Executorial cost	-	-	-	0.84	0.65044	0
3.	Training & Extension cost.	-	-	-	6.009	5.139	85.5
4.	Monitoring and evaluation.	-	-	-	0.250	0.16101	24.4
5.	Assistance to women groups	-	-	-	2.000	1.950	97.5
Total					9.099	7.801	86.83

Under assistance to women groups, 80 units have been identified for banana, 8 units for vegetable, 2 units for vermicompost, and 2 units for copra chips. The details are as follows:

Distribution of Units under assistance to Women group

Block		Banana	Vegetables	Vermi-composting	Copra Chips
1	Chathannur	7	-	-	2
2	Eravipuram	10	-	-	-
3	Kundara	5	-	-	-
4	Vettikavala	10	-	-	-
5	Kottarakkara	13	-	-	-
6	Anchal	20	-	-	-
7	Chadayamangalam	5	-	-	-
8	Punalur	10	-	-	-
9	Sasthamkotta	-	4	-	-
10	Anchal	-	4	2	-
Total		80	8	2	2

Under assistance for starting new entrepreneurs, 130 units have been identified as below:

Banana : 30 units, Vegetable : 50 units, Bee keeping : 50 units

SUMMARY

The overall achievement of the schemes included under macro management implemented in Kollam District is found to be quite satisfactory. It is felt that a more realistic and need based approach in setting the physical target for the two schemes, 'Use of plastics in Agriculture' and 'Small farm mechanization' could have resulted in cent per cent achievement. The schemes on Agriculture Extension and Training has to be taken more seriously by the implementing officers. The concept of MDDT has to be thoroughly reoriented and implemented in a more demand- driven manner. The major component under the scheme on 'Women in Agriculture' has been implemented very late owing to the delay in obtaining sanction. Though the achievement of the component 'Assistance to women group' has been quite high, efforts are needed on the part of extension officer to sustain the efforts of women group.

6.3 PATHANAMTHITTA

The total geographical area of the district is 268750 ha, out of which 92078 has is the net sown area and net irrigated area is 4386 ha. The major crops of the district are rubber, coconut, tapioca and pepper. The cropping pattern of the district is furnished in Table 6.3.1.

Table 6.3.1 Cropping pattern in Pathanamthitta District during 2002-03

Sl.No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	5431	1.75
2.	Coconut	21764	2.42
3.	Banana	4337	3.93
4.	Tapioca	7614	7.31
5.	Vegetables	1272	4.84
6.	Arecanut	1343	1.38
7.	Cashew	1107	1.25
8.	Rubber	47905	10.06
9.	Pepper	5214	2.50
10.	Ginger	619	6.88
11.	Turmeric	102	3.25

An abstract of the scheme wise financial target and achievement in the case of Pathanamthitta district is given in the table 6.3.2

Table 6.3.2 An abstract of scheme-wise financial target and achievement in Pathanamthitta District (Rs. Lakhs)

Sl.No.	Component	Financial		% Achievement
		Target	Achievement	
1.	Rice development	3.70	3.6998	99.99
2.	Pepper development	1.60	1.60	100.00

3.	Other spices	4.815	4.815	100.00
4.	Vegetable development	13.0005	13.0005	100.00
5.	Fruit development	7.75	7.75	100.00
6.	Soil and plant health clinics	0.50	0.50	100.00
7.	Use of plastics in agriculture	3.875	2.92	75.38
8.	Agricultural extension and training	2.5828	2.07	80.15
9.	Small farm mechanization	4.00	2.84445	71.11
10.	Agricultural marketing and quality control	5.16	5.16	100.00
11.	Information technology	0.25	0.21	82.42
12.	Women in agriculture	11.0315	9.185	83.26
Total		58.2648	53.75475	92.25

The vegetable development scheme received maximum allotment of funds, followed by the scheme on women in agriculture.

SCHEME-WISE PROGRESS

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented.

1. Rice development (Table 6.3.3)

Only two components of the scheme on rice development were implemented in the district. They are assistance for cultivation of HYV seeds on padasekharam basis and promotion of biofertilizers.

Full achievements was made for both the components of the scheme, viz., assistance for cultivation of HYV seeds on padasekharam basis and promotion of biofertilizers. Azospirillum was distributed under the scheme on promotion of biofertilizers in the wet paddy lands.

Table 6.3.3 Target and achievement of Rice development

Sl.No.	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Assistance for cultivation of HYV seeds on padasekharam basis (ha)	160	160	100	3.20	3.1998	99.99
2.	Promotion of INM. - Promotion of biofertilizers (ha)	1000	1000	100	0.50	0.50	100
Total					3.70	3.6998	99.99

As the rice seasons were over much before the visit of the team, field level verification of the components were not possible. Hence, a discussion was held with the Assistant Director of Agriculture. Thriuvalla followed by field interactions with the concerned farmer groups regarding the implementation of the rice schemes. The Jyothi variety of seed was selected for multiplication, as it was the most popular variety in the area. The details of implementation were:

Name of Krishi Bhavan	Quantity purchased (Kg)	Payment @ Rs.2/kg (Rs)
Thriuvalla	900	1800
Niranam	12,210	24,420
Kadapra	96	192
Peringara	59525	1,19,050
Nedumbram	4864	9728
Total	77,595	1,55,190

The details of implementation of promotion of bio-fertilizers were as below:

Name of Krishi Bhavan	Physical achievement (ha)	Financial achievement (Rs)
Niranam	318.20	12,099
Peringara	800.00	30,400
Total	1118.20	42,499

A field visit at random was conducted to the farm of Sri. M. Janardhana Kurup, Vadakkedathu Veedu, Chathankara, P.O. under Peringara Krishi Bhavan, where the scheme on popularization of biofertilizers was implemented. Sri. M. Janardhana Kurup is also the President of "A Block Padavinakam padasekharam". The farmers in the padasekharam had broadcasted Azospirillum along river sand 20 days after sowing (DAS). They were convinced about the effectiveness of bio-fertilizer and agreed that could reduce the use of urea. Further, they were convinced about the improvement of soil fertility and increased yield on account of the use of Azospirillum. The Task Force is of the view that introduction of technology components like bio-fertilizers with proper pre- use orientation to target beneficiaries would fetch the desired results, which is not the situation in many case.

2. Pepper development (Table 6.3.4)

The component on production and distribution of rooted pepper cuttings by conventional methods only was implemented under this scheme in the district. The details of progress of the scheme are presented.

Table 6.3.4. Target and achievement of Pepper development

SI No.	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings (No Lakhs)	2.00	2.425	>100	1.50	1.50	100
2.	EI	-	-	-	0.10	0.10	100
Total					1.60	1.60	100

The component is intended to produce sufficient number of rooted pepper cuttings of improved varieties to overcome the non-availability of quality planting materials. Good achievement was made in this component. 2.425 lakh pepper cuttings of Karimunda variety were produced in the Sugarcane Farm, Pandalam, State Seed Farm, Adoor and State Seed Farm, Pullad. Though 2 lakhs cuttings was the target fixed, more number of pepper cuttings were produced which was distributed within

the district. An executional infrastructure of Rs.10, 000/- was also provided in this regard, which was fully utilized.

3. Development of other spices (Table 6.3.5 to 8)

1. Ginger (Table 6.3.5)

The scheme envisages the production of good quality, disease-free rhizomes and to supply it to selected farmers for further multiplication and distribution. Only one component, viz., the multiplication of planting materials in the farmers' field was implemented in the district as detailed in Table 6.3.5.

Table 6.3.5 Target and achievement of Multiplication of planting materials of ginger

Sl.No	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Multiplication of planting materials in the farmers' field	2.00	2.00	100	0.40	0.40	100
Total					0.40	0.40	100

The physical and financial targets of the scheme have been achieved in full.

2. Turmeric (Table 6.3.6)

The scheme proposed to supply quality rhizome materials to selected farmers for laying out field demonstrations by allowing 25 per cent cost of seed rhizome or Rs.12,500/- per ha, whichever is less. Only one component of the scheme was implemented in the district, viz., and conducting 'field demonstrations in the farmers' fields with a target of 5 ha.

Table 6.3.6 Target and achievement of Lay out of field demonstration of turmeric

Sl.No	Component.	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Lay out of field demonstration	5.00	5.00	100	0.625	0.625	100
Total					0.625	0.625	100

The physical and financial targets have been fully achieved. Rational allotment of target is needed, as turmeric is not a popular crop in the district.

3. Vanilla (Table 6.3.7)

A major constraint experienced in the area expansion programmes of vanilla is the non-availability of planting materials at reasonable price. The scheme of multiplying rooted cuttings of this high value spice is therefore undertaken. The details of progress of the scheme are as indicated in Table 6.3.7

Table 6.3.7 Target and achievement of Planting material production of vanilla

Sl.No.	Component.	Physical			Financial		
		T	A	%	T	A	%
1.	Planting material production and infrastructural development of nurseries (Nos.)	1000	1000	100.0	3.00	3.00	100
Total					3.00	3.00	100

Cent per cent achievement is made for the physical and financial targets. One-lakh rupees each was provided to Sugarcane Farm, Pandalam, State Seed Farm, Adoor and State Seed Farm, Pullad. A random visit to the State Seed Farm, Pullad showed that the production targets were achieved. It was noted that the distribution was yet to take place because the rooted vanilla cuttings were yet to acquire the required size and length.

4. Training programmes (Table 6.3.8)

Table 6.3.8 Target and achievement of Training programmes

Sl.No.	Component	Physical			Financial (Rs Lakhs)		
		T	A	%	T	A	%
1.	Training programme on post harvest management (Nos.)	7	7	100.0	0.49	0.49	100.0
2.	Training programme on product diversification and value addition (Nos.)	3	3	100.0	0.30	0.30	100.0
Total					0.79	0.79	100

As proper post harvest management is an essential element of export-oriented spice crops, for adhering to accepted international standards, the trainings on post harvest management and product diversification and value addition were organized to meet this requirement of the farmers. They were to be organized through RATTCs or FTCs of the Department of Agriculture by drawing experts from the Spices Board and the Kerala Agricultural University. It was noted that the training programmes were organized as envisaged by utilizing the full amount earmarked for it. The details of the training could not be detailed.

4. Vegetable development (Table 6.3.9)

The following five components of vegetable development were implemented in the district.

Table 6.3.9 Target and achievement of Vegetable development

Sl.No	Component.	Physical			Financial		
		T	A	%	T	A	%
1.	Vegetable seed production: In departmental farms (ha)	3	#	-	3.2005	3.2005	100
2.	In farmers' field (ha)	2	2	100	0.20	0.20	100
3.	Promotion of vegetable cultivation in traditional areas (ha)	50	50	100	2.50	2.50	100
4.	Laying out of demonstration plots (Nos.)	25	25	100	1.00	1.00	100
5.	Marketing facilities to Haritha Sangham	4	4	100	1.00	1.00	100
6.	AEZ area expansion of vegetables (ha)	100	100	100	5.0	5.0	100
7.	Establishment of small private nursery	1	1	100	0.1	0.1	100
Total					13.0005	13.0005	100

The seed production programme consists of producing superior quality of vegetable seeds of selected varieties in the Departmental farms as well as in farmers' fields in identified locations by observing the provisions of Seed Act and seed Rules. The varieties suitable for each location will be identified and promoted after considering the farmer's choice and market preferences.

58.95 kg vegetable seed were produced as detailed below:

SSF, Pullad	:	9.00 kg.
SSF, Pandalam	:	36.95 kg.
SSF, Adoor	:	13.00 kg.

Total	:	58.95 kg.

The seed production in the Departmental farms were carried out in the Department farms, which were constrained by the absence of basic infrastructure facilities like seed bins, seed germination cabinets, seed dryers, dehumidifiers, processing and packing facilities etc Provision was made for augmenting these infrastructure gaps. The Sugarcane Farm, Pandalam, State Seed Farm, Adoor and State Seed Farm, Pullad were allotted Rs. 1.87 lakhs, Rs. 0.73907 lakhs and Rs. 0.59153 lakhs respectively for raising vegetable seeds. The details of item-wise vegetable seeds produced from each farm were not available with the nodal officer.

A visit was conducted to the State Seed Farm, Pullad and the facilities available were noted. It is understood that a target of producing 130 kg of vegetable seeds was assigned to the farm. The farm has got a geographical area of 7.2 ha, of which 5.20 ha and 1.75 ha has been classified as wet and garden lands respectively. Few difficulties faced by the farm came to the notice of the Task Force. They are to be addressed effectively to enhance the productivity of the farm. Firstly, water shortage is experienced in the farm from the month of February onwards. Secondly, there was no basic infrastructure necessary for the production of vegetable seeds in the farm. Thirdly, the whole farm is managed by one Agricultural Officer single-handedly with out any supporting staff, with the result that the technical as well as the administrative responsibilities including labour management were being carried out by this single hand. Adding to the woes, the funds necessary for meeting the production expenses were made available towards the fag end of the financial year - on 25-3-2004. The Task Force strongly feels that the target of producing 130 kg of vegetable seeds was not fixed realistically considering the physical, manpower and infrastructure facilities available in the farm. It is remarkable that a young and relatively inexperienced technical officer has single handedly produced about 90 kg of vegetable seeds against all odds. Such efforts have to be appreciated.

Under infrastructure development, State Seed Farm, Pullad constructed a permanent *pandal* for vegetable cultivation with G.I. pipes for Rs.34,318, carried out the repair of the existing irrigation system for Rs.22,265, and purchased two knap sack sprayers for Rs.2560 during the reference period. It is glad to note that the funds available for infrastructure development were effectively and objectively utilised

It is to be realized that the inability of the Departmental Farms to meet the entire seed requirements of the vegetable growers in Kerala has led to a situation where a part of the seed required is produced in the farmers' field with their participation. Thus a strategy of meeting the vegetable seed requirement of the farmers in an agro climatic region from that region itself is worked out, which ensures the timely supply of vegetable seeds. The details of item-wise vegetables produced in the farmers' field were not available with the nodal officer, and hence the Task Force is not in a position to evaluate the same.

The promotion of vegetable cultivation in traditional areas consists of providing assistance @ Rs.5000/ ha for the scientific cultivation of vegetables following the concept of self-help groups, having potential for vegetable cultivation in summer fallows and as intercrop in coconut gardens. The scheme covered 50 ha of land in traditional vegetable belts under the jurisdiction of 8 Assistant Directors in Adoor, Pandalam, Konni, Pathanamthitta, Kulanada, Pullad, Ranni and Mallappally blocks. The full physical as well as financial targets were realized.

Cent per cent target realizations were made for lay out of demonstration plots, marketing facilities to Haritha Sanghams and agricultural export zones (AEZs). Marketing facilities to Haritha Sanghams is a new component introduced with the purpose of providing common facilities such as cleaning, washing, grading, weighing and packing, storage facilities, mobile vending etc. to Haritha Sanghams of non-VFPC districts (ie. districts where Vegetable and Fruits Promotion Council of Keralam does not operate) so as to make these facilities available at the farmer's door step. VFPC is now operating in this district also. Assistance was given to 4 Haritha Sanghams for one lakh rupees under the scheme. A visit to Krishi Bhavan, Kuttur indicated that 200 vegetable kits were distributed to 60 farmers through the Thegali Haritha Sangham.

The project on agricultural export zones (AEZs) of vegetables was implemented in the Addor and Konni blocks of the district. The crops covered were banana (50 ha) in Aruvappulam and Pramadom panchayaths, and ethnic vegetables including tuber crops

(100ha) in Ezhumkulam and Kodumon panchayaths. A three training programme was organized for 400 farmers and a district nursery was developed for seed production. IPM was encouraged for pest control. At present, the produce is being marketed locally, and not exported. The reasons cited were lack of basic facilities like collection centers, reefer trucks and pack houses. The inability to develop in forward linkages has resulted in the project not capable of meeting the fundamental objective. Earnest efforts have to be made to bridge this gap.

5. Fruit development (Table6.3.10)

Under the scheme on fruit development, the component of promoting export-oriented banana cultivation only was undertaken in the district.

Table 6.3.10 Target and achievement of Fruit development

Sl.No	Component.	Physical			Financial (Rs lakhs)		
		T	A	%	T	A	%
1.	Promotion of export oriented banana cultivation (ha)	50	50	100	7.5	7.5	100.0
2.	Establishment of small private nursery	1	1	100	0.25	0.25	100
Total					7.75	7.75	100.0

The objective of the scheme is to identify potential compact areas for developing them as export zones for banana varieties like Nendran, Raskadali, Red banana etc. Farmer groups were to be organized and market linkages to be established through VFPCCK or HortiCorp. A maximum financial assistance of Rs.15, 000/ ha was to be provided for meeting the cost of critical inputs like quality planting materials, plant nutrients and plant protection materials. The achievement of the scheme is cent per cent.

6. Soil and plant health clinics (Table 6.3.11)

Under the scheme, the soil testing campaigns are to be conducted in potential areas where group farming samithies or kera samrakhsna samithies are active. It seeks to enlighten farmers about the integrated nutrient management (INM) system and to undertake suitable methods of soil reclamation. Soil health cards are to be distributed to the farmers who are not in receipt of it during the last year.

Table 6.3.11 Target and achievement of soil and plant health clinics

Sl.No.	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	50	50	100	0.50	0.50	100
Total					0.50	0.50	100

It may be noted that 50 campaigns have been carried out in the district during the reference period. A major lacuna in the implementation of the scheme is the absence of a mobile soil testing lab in the district, and the dependence on the District Soil Testing Lab at Adoor or even on the District Soil Testing lab in the neighboring Kollam district. The formulation of macro management schemes including the component in the coming years shall ponder over this crucial element.

Though soil-testing campaigns have been carried out, it is understood that in general, neither the results are received in time nor timely transmitted to the farmers. A perusal of records at Krishi Bhavan, Naraganam and Kuttur underlined this major weakness in the scheme. For example, in Krishi Bhavan, Naraganam, a total of 330 soil samples were given for analysis. But results of the analysis were received only for 76 samples, and results are yet to be received for 254 samples. Soil health cards are not issued, as on date. In Kuttur, 290 samples were sent for testing, but results were obtained for just 52 samples. The results of 238 samples were yet to be received. The results were not transmitted to the farmers as on the date of visit of the Task Force.

7. Use of plastics in agriculture (Table 6.3.12)

The scheme aims to promote drip irrigation, sprinkler irrigation and green houses. The components were interchanged based on local demands as given below:

Table 6.3.12 Target and achievement of Use of plastics in agriculture

Sl.No	Component.	Physical			Financial		
		T	A	%	T	A	%
1.	Promotion of sprinkler irrigation (ha)	10	7.34	73.40	0.75	0.3772	50.3
2.	Promotion of drip irrigation (ha)	10	13.5	135.10	1.125	1.4302	>100
3.	Setting up of green house (m ²)	5000	4670	93.40	2.00	1.1133	55.67
Total					3.875	2.9208	75.38

The overall achievement of schemes is only 75.38 per cent only. There has been a shortfall in achieving the physical targets assigned for sprinkler irrigation. Sprinkler irrigation is basically aimed at providing irrigation in undulating terrains, especially for crops like coffee. As the cropping pattern is more dominated by plantation crops like rubber and coconut for which sprinkler irrigation is not suited, the physical target realization has been low. The drip irrigation is meant to increase the water use efficiency in perennial crops like coconut, cocoa etc. Here, the physical achievement has exceeded the target, which has necessarily resulted in higher financial achievement also. The number of beneficiaries for the scheme are 6,37 and 29 for sprinkler, drip and green house respectively.

The promotion of the green house technology that is still in the infancy stage in Kerala is taken up with the objective of producing high quality flowers. The target realization for setting up of green houses has also been low. The farm of Mr. Cherian Vengal, Vengal Tharavadu, Amichakari under Nedubram Krishi Bhavan was visited. A subsidy of Rs.1360 was given to the farmer for the construction of a green house. The construction of the green house has been completed and the farmer is using it for cultivating anthurium.

8. Agricultural extension and training (Table 6.3.13)

Table 6.3.13 Target and achievement of agricultural extension and training

Sl.No	Component.	Physical			Financial		
		T	A	%	T	A	%
1.	Farmers' training (3 days) (Nos)	10	10	100	0.90	0.90	100
2.	Block level training to extension personnel -two days	9	9	100	0.45	0.45	100
3.	District level training on production technology (Nos.)	3	3	100	0.42	0.42	100
4.	District level Research-Extension interface (Nos.)	1	1	100	0.30	0.30	100
5.	MDDT				0.5125	-	0.00
Total					2.5825	2.07	80.1

The overall achievement of scheme is 80.16 per cent. Cent per cent achievement is observed for all components except the multi-disciplinary diagnostic team. As far as the training component was concerned, it was observed that training registers are not seen maintained in the office of the Principal Agricultural Officer. The topics of training and resource personnel were not available from the file on training also. Hence, the relevance of training topics could not be evaluated. The quantitative aspects of the block level trainings were available from the ADA's office, which are also not maintained properly.

The Task Force noted that registers were not maintained regarding the activities of the multi-disciplinary diagnostic team (MDDT) at the PAO office. It is understood MDDT has not been formally constituted in the District except for the nomination of the Chairman. The team shall consist of representative experts from the Kerala Agricultural University and DDA (Training). The service of the diagnostic team is to be availed on a need-based manner. The team is expected to make field visits as and when the extension staffs on their own can not solve a problem. The nodal officer explained that there were some visits made by the team, but the payments were made from the savings from the previous year. Such visits are not seen documented.

Though a satisfactory answer was given regarding the expenditure, it is felt that such carry over system of expenditure is not based on sound financial management. It is

not known whether the financial code permits retaining of unspent money from a previous financial year for expenditure in the next financial year. The perception about the low demand for the multi-disciplinary diagnostic team at the district level office is not corroborated by the field visit of the Task Force. The Task Force had a chance to go through the files maintained pertaining to the visit of "diagnostic team" to Seed Farm, Pullad. The inspection carried out by the DDA (Horticulture) on 18-1-04 has noted the widespread occurrence of blast in rice in the farm. The Agricultural Officer has requested for the visit of the diagnostic team on the next day itself (ie. on 19-1-2004). The nominated Chairman of the diagnostic team had visited the farm alone and recommended the spray of Kitazine 50 % EC, application of CaCO₃ and liberal application of MOP. There is neither a multidisciplinary team visit, nor a proper diagnosis and subsequent follow up made. Such casual visits by single scientist shall be discouraged on the one hand, and the visiting scientists shall be encouraged to record the diagnosis before recommendations are churned out on the other hand. It is hard to believe that real field "problems" did not exist in the district so that the entire Rs. 51,250 had to be surrendered to the DoA. There are reasons to believe that the visit of the diagnostic team is not being carried out in the right spirit in the district.

8. Small farm mechanization (Table 6.3.14)

Table 6.3.14 Target and achievement of small farm mechanization

Sl.No.	Component.	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Garden Tiller (Nos.)	5	Nil	0.00	0.75	Nil	0.00
2.	Tractor (Nos.)	2	1	50	0.60	0.30	50
3.	Power Tiller (Nos.)	4	7	-	1.20	1.8783	156.53
4.	Winnowers (Nos.)	3	Nil	0.00	0.90	Nil	0.00
5.	Threshers (Nos.)	3	3	100	0.45	0.2024	44.98
6.	Sprayers (Nos.)	5	82	1640	0.10	0.46375	463.75
Total					4.00	2.84445	71.11

The overall achievement of the scheme is 71.11 per cent. There was no achievement in the case of garden tillers and winnowers. Because garden tiller is new machinery introduced, the farmers are not aware of its use, which hindered implementation. In future while introducing such new machinery, proper awareness campaigns may have to be organized. Fifty per cent achievement has been made in the case of tractors. Nearly 45 per cent of financial progress is made in the case of threshers. It is noted that 82 sprayers have been distributed in the place of 5 numbers through reappropriation of funds and components. Also, 7 power tillers have been distributed against a target of 4 numbers. It can be reasonably concluded that the targets were not realistically assessed and hence such wide divergence between targets and realizations are noticed. A realistic estimation of the machineries required in the field, mainly based on farmer preferences has to be made before fixing the target in future.

10. Agricultural marketing and quality control (Table 6.3.15)

Marketing is as critical as production in agriculture. The desired growth rate in agriculture has not been attained due to lack of proper marketing infrastructure. The following three components of the scheme were implemented in the district with this background:

Table 6.3.15 Target and achievement of Agricultural marketing and quality control

Sl.N	Component.	Physical			Financial		
		T	A	%	T	A	%
1.	One day training to agricultural assistants (2 days) (No.)	1	1	100.0	0.08	0.08	100.0
2.	Training for master farmers (3 days) (No.)	1	1	100.0	0.08	0.08	100.0
3.	Market infrastructure (No.)	1	1	100.0	5.0	5.0	100.0
	Total				5.16	5.16	100.0

The overall achievement of the scheme is 100 per cent. The training components as well as the development of market infrastructure were fully attained. The development of market infrastructure is based on the realization that most markets in the State are primitive in nature and marketing is carried out in a most unscientific manner. Most of the primary and secondary markets lack basic facilities. Therefore, the

scheme envisages the selection of one potential market in each district to be developed as a model market by upgrading the existing market facilities by the collective efforts of the Department of Agriculture, NABARD and the local self-governments. The *Konni* market was selected under the scheme, and the DoA and NABARD contributed an amount of Rs.5 lakhs each, while the local self-government contributed Rs.10 lakhs. The market yard was an open area, littered with fish and vegetable wastes after sale. There was no provision for cleaning. The initiative to provide modern stalls with roofing is indeed laudable. Two modern fish stalls and two modern vegetable stalls were to be constructed under the programme. While the construction of the fish stalls have been completed, the construction of the vegetable stalls is incomplete. The delay is on account of the time lag to receive the contribution from the local panchayat. The task force had requested the ADA (*Konni*) to expedite the work considering the vast impact it can make. It was also insisted that a display board indicating that the project is a joint venture sponsored by the Department of Agriculture, NABARD and the local panchayat may be displayed.

11. Information technology (Table 6.3.16)

The original scheme visualized the installation of hardware and software of computer. However, the hardware and software were procured centrally at the Directorate of Agriculture, and the component here pertained to installation and electrification of the computer room. The physical and financial targets of the component were:

Table 6.3.16 Target and achievement of Information technology

Sl.No.	Component.	Physical			Financial		
		T	A	%	T	A	%
1.	Installation of hardware and software (Nos.)	50	50	100	0.25	0.207	82.80
Total					0.25	0.207	82.80

Every *Krishi Bhavan* was provided with a CPU unit, UPS, Printer and a Monitor. The list of Assistant Directors' office and *Krishi Bhavans* that were provided with this facility are appended. Nearly 83 per cent of the allotted funds were utilized under the head.

The declared objective of the IT programme was to establish a total networking system from village level Krishi Bhavans to Directorate of Agriculture at the head quarters. It was also proposed to establish IT enabled rural reference centers to serve as Kiosks/ Portals to provide specific information regarding the availability of planting materials, critical inputs like fertilizers, location and details of nurseries and other institutions, occurrence of pests and diseases etc. The nodal officer and the Deputy Director (Training) were sent for a 10 days training to CGO Complex, New Delhi. However, no computer orientation was seen provided at the Krishi Bhavan level. 50 computers were installed in the district as indicated in Appendix I.

The task force visited Kuttur Krishi Bhavan with a view to understand the extent of utilization of the computer unit provided to this Krishi Bhavan, Kuttur under IT component. The Task Force found that it was transferred to Krishi Bhavan, Niranam since the electrical connection of the Kuttur Krishi Bhavan was snapped. The Principal Agricultural Office is unaware of this transfer and according to the records available in PAO's office it is still with Krishi Bhavan, Kuttur.

12. Women in agriculture (Table 6.3.17)

This has been one of the largest scheme implemented in the district in terms of fund outlay as well number of components. It is observed that the original scheme was modified and new components were added even towards the fag end of the financial year. Thus, the working instructions of implementing the "Scheme for Women in Primary Sector (SWIP) 2003-04" was found to be issued, as indicated below:

Sl.No.	Period	Activities
1	21-1-04	Working guidelines received .
2	Period from 4-2-04 to 10-2-04	Scrutiny of proposals
3	Period from 11-2-04 to 18-2-04	Processing of applications
4	Period from 19-2-04 to 23-2-04	Release of funds
5	24-2-04	DD Drawal

It is felt that such practices are to be totally desisted, and instead of launching few components at the fag end of the financial year; the same can be implemented as a well chalked out programme in the new financial year.

Table 6.3.17 Target and achievement of Women in agriculture

Sl.No.	Component	Physical			Financial		
		T	A	%	T	A	%
1.	Organization of women group (No.)	-	3	-	0.15	0.15	100
2.	Training to facilitators (No.)	1	1	100	0.10	0.10	100
3.	Honorarium to facilitators	-	-	-	0.72	0.72	100
4.	Grant to overhead expenses	-	-	-	0.12	0.12	100
5.	Training to farm women groups (No.)	13	13	-	1.105	1.105	100
6.	Training to link workers (No.)	1	1	100	0.10	0.10	100
7.	Honorarium to link workers	-	-	-	0.36	0.149	41.33
8.	TA for facilitators	-	-	-	0.4225	0.22601	53.49
9.	TA for link workers	-	-	-	-	-	-
10.	Result demonstration	9	10	100	0.30	0.30	100
11.	Study tour (No.)	1	1	100	0.05	0.05	100
12.	Monitoring and evaluation	-	-	-	0.25	Nil	0.00
13.	Assistance to women group	-	-	-	2.0	0.755	37.75
14.	Baseline survey	-	-	-	0.104	0.104	100
15.	Assistance for starting new enterprises (No.)	95	95	100	5.25	5.095	97.05
Total					11.0315	9.185	83.42

It may be noted that good progress was made despite the late launching of the scheme; the overall achievement of the scheme being 83.42 per cent. Three facilitators with BSc (Ag.) as qualification were recruited to work as facilitators and posted under the Assistant Director, Adoor, Konni and Pullad at a consolidated pay of Rs.4000/- per month.

Women groups were assisted for starting new enterprises such as bee keeping, medicinal plants, vanilla cultivation, vegetable production, mushroom cultivation, vermi-composting and agro-processing activities (like jam, jelly making, curry powder making, rice powder making, chips making etc.) for starting 95 ventures at a cost of Rs 5.1 lakhs.

A major operational problem noticed in the implementation of the scheme was that they were group activities organized under women groups. They were all loan-linked schemes. Many times, the groups were not willing to avail loan, and this led to serious problems. It is widely felt that the loan component of the scheme may be made optional or more flexible.

The agro-processing unit started in Naranganam Krishi Bhavan by the “ Vanitha Group” was visited to conduct an on the spot evaluation. The group was successful in producing chilly powder, coriander powder, rice flour, curry masala, coffee powder, and chips. The unit had no marketing problem as the group had started a market outlet in the main road through which sale was streamlined. There was a proper display board indicating that the Naraganam Krishi Bhavan sponsored the unit. During the reference period, the Krishi Bhavan had sanctioned a subsidy of Rs.12, 500/- and a loan of Rs.50,000 to Mrs. Aniamma Ninan, Vettimootil House, Naranaganam P.O for purchasing a grinding machine. The gradual automation would modernize the unit, enabling them to handle more business. The Agricultural Officer is well accepted in the area, and interacts with the target groups in a cordial manner.

SUMMARY

The overall achievement of schemes under Macro management in Agriculture in the District is 92 per cent. As is evident, the schemes on vegetable development, fruit development, agricultural marketing and quality control and pepper development have made very good progress. The progress of schemes on soil and plant health clinics and rice development were also good. However, the issue of soil health cards and the timely distribution of soil test analysis results need more attention. As needed in the case of training, a register on soil and plant health clinics shall be maintained. The progress of schemes on women in agriculture, information technology and extension and training were also satisfactory. More introspection is needed for schemes on use of plastics in agriculture and small farm mechanization, especially with respect to target identification and allocation of targets to Krishi Bhavans having more potential.

6.4 ALAPPUZHA

The total geographical area of the district is 136058 ha, of which 94328 ha is the net area sown and 39355 is the net irrigated area. The major crops of the district are coconut, rice and vegetables. The cropping pattern in Alappuzha district is furnished in Table 6.4.1.

Table 6.4.1 Cropping pattern in Alappuzha District during 2002-03

Sl. No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	29635	9.5
2.	Coconut	55407	6.16
3.	Banana	470	0.84
4.	Tapioca	4121	3.95
5.	Vegetables	7151	27.23
6.	Arecanut	2441	2.5
7.	Cashew	4313	4.87
8.	Rubber	3825	0.80
9.	Pepper	1940	0.93
10.	Ginger	125	1.39
11.	Turmeric	9.0	0.29

Twelve schemes under Macro Management are operational in the district. The major share of allotment is for rice development (56 %) followed by floriculture development (9.6 %).

An abstract of the scheme-wise financial target and achievement in the case of Alappuzha district is given in Table 6.4.2.

Table 6.4.2 Abstract of scheme-wise financial target and achievements of Alappuzha District

Sl.No	Scheme	Allotment	Revised allotment	Achievement	Achievement (%)	Remarks
		Rs. Lakhs				
1.	Rice development	83.11	179.18	143.05	83.35	
2.	Pepper development	7.75	7.75	7.75	100.00	
3.	Vegetable development	5.1	5.976	5.976	100.00	Convergence programme (AEZ)
4.	Fruit development	7.75	8.75	8.75	100.00	Convergence programme (AEZ)
5.	Soil and plant health clinics	0.70	0.70	0.70	100.00	
6.	Use of plastics in agriculture	3.31	3.31	2.21	66.67	
7.	Agricultural extension and training	3.55	3.54	2.81	79.38	
8.	Small farm mechanization	5.50	5.82	5.82	100.00	
9.	Agricultural marketing and quality control	5.44	5.59	0.59	10.55	
10.	Information Technology	0.5	0.5	0.5	100.00	
11.	Floriculture development	14.23	14.23	13.125	92.23	
12.	Women in agriculture	11.87	10.73	10.73	100.00	
Total		148.63	246.076	201.991	88.08	

SCHEME-WISE PROGRESS

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented.

1. Rice development (Table 6.4.3)

Table 6.4.3 Target and achievement of Rice development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Assistance for seed production (ha)	200	200	100.0	Expenditure through KSSDA		
2.	Infrastructure development for seed storage (No.)	1	Nil	0	20.0	0	0
3.	Assistance for cultivation of HYV seeds on padasekharam basis (t)	1280	1280	100.0	25.6	25.130	98.16
4.	Promotion of INM						
a	Distribution of green manure seeds (t)	5	5	100.0	0.13	0.13	100.0
b	Promotion of biofertilisers (ha)	1000	1000	100.0	0.50	0.500	100.0
5.	Integrated pest management						
a	IPM demonstration plot (ha)	50	50	100.0	1.25	1.250	100.0
b	FFS (No.)	30	30	100.0	6.80	6.800	100.0
c	Distribution of biocontrol agents (Kg)	4500	4500	100.0	Expenditure through SBCL		
6.	Laying location specific demonstration plots for popularisation of suitable Var. (No.)	35	31	88.57	10.30	7.840	76.11
7.	Promotion of pokkali rice as organic rice						
a	Assistance for seed (ha.)	800	-	-	3.2	0	0
b	Assistance for lime (ha.)	800	-	-	8.0	0	0
c	Assistance for marketing	-	-	-	2.0	0	0
8.	Land and other infrastructure development of rice padasekharams for water management (No.)	3	3	100.0	100.0	100.00	100.0
9.	EI	-	-	-	1.40	1.40	100.0
Total					179.18	143.05	83.35

The achievement with respect to rice development programme is commendable with cent percent achievement in assistance for seed production as well as HYV seed programme. The achievement of Alappuzha district has to be viewed against the background of achievement in the case of HYV seed programme, which is very poor in all other districts, even in Palakkad district that enjoyed the major share of allotment for rice development programme. The achievement in assistance for HYV could be effected mainly through the supply of seeds of National Seed Corporation (NSC) and Karnataka State Seed Development Agency. A small share of seeds was supplied by KSSDA. The major varieties grown in Kuttanad are Jyothy and Uma. The seeds of these two varieties were made available to the farmers in time. This achievement made possible in Alappuzha district through planning for timely procurement of seeds may be emulated by other districts also. A higher SRS (Seed Replacement Ratio) is very much needed for better productivity and enhanced production of rice.

In the case of laying out location specific demonstration plots of varieties, out of the targeted 35 demonstration plots, 31 could be laid out. The varieties Uma, Gouri and Koottumundakan variety were selected. Out of this, plot of Koottumundakan variety could not be laid out, as the crop season was over by the time selection was completed and this system of season-bound cultivation exists only in Cherthala block. Out of the other two varieties, the performance of variety Uma in terms of yield and pest and disease tolerance was found to be very good.

The amount for infrastructure work of Padasekharam was allotted only after December 2003. Though the construction of bund was targeted in seven Padasekharams, only three panchayats could undertake the work with an expenditure of 100 lakhs. The construction work of outer bund was undertaken by Mannar, Thakazhi and Kainagari panchayats. The expenditure of various padasekharams are as follows:

Name of Panchayat	Name of Padasekharam	Expenditure (Rs. lakhs)
Mannar	Kuruttissery	81.48
Thakazhy	Thennadi vadakku	16.32
Kainagari	Meenappalli	2.20
Total		100.00

A good seed store for storage of paddy seed is a requirement of the district. Though Mavelikkara farm was selected for this, the programme could not be implemented due to lack of administrative sanction from the government.

As there is no law for ensuring quality assurance of biofertilizers, in most of the cases, the effectiveness is found to be low. Proper amendments in Fertilizer Control Order are needed, with appropriate provisions so that Agriculture Department can take action against the supply of poor quality bio-fertilizers.

The district has 800 ha of rice area under Pokkali system. The major difficulty in implementation of rice development programme in Pokkali area is that certified and registered seeds are not available. Hence the implementation of RSGP was not possible. Either necessary modification in the working instructions to use seeds of traditional Pokkali varieties is needed or the availability certified seeds of Pokkali variety must be ensured.

An amount of Rs.13.2 lakhs was allotted for the component on “promotion of Pokkali rice as organic rice”. However, the amount could not be utilized as the funds were allotted only in October 2003. In Pokkali area, the season starts from June-July and the components of the scheme were assistance for seed, lime and marketing. The delay in release of funds to such time bound schemes, which can be implemented only during a particular period, should be reviewed and corrections taken.

Though there is a separate agency Pokkali Land Development Agency (PLDA) established exclusively for development of Pokkali rice, the agency has not undertaken any work for the benefit of Pokkali farmers of Alappuzha district.

The rice development programmes implemented by the Department could arrest the conversion of paddy lands to some extent. It was reported that as 70 per cent of rice area of the district is covered under RSGP, the productivity of rice could be increased to some extent.

The officials of the Department are of the view that promotion of high-tech agriculture, development of location specific weedicides, isolation of location specific strains of bio-fertilizers etc. are needed to increase the net return from rice cultivation.

2. Pepper development (Table 6.4.4)

Table 6.4.4 Target and achievement of Pepper development

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1	Production and distribution of rooted cuttings (lakh no.)	7	6.5	92.86	7.25	7.25	100.0
2	Area expansion through intercropping (lakh vines)	0.5	0.5	100.0	0.50	0.50	100.0
Total					7.75	7.75	100.0

The production target of 7 lakh rooted cuttings was allotted to Mavelikkara farm. The varieties Karimunda, Panniyur-1, 2 and 3 were used for multiplication apart from some other varieties like Panchami, Pournami, Palode etc and the achievement is found to be around 93 per cent. The shortfall was due to non-availability of quality vines for multiplication. However, financial expenses is reported as 100 per cent, as the amount was drawn as advance and fully utilized.

Urgent steps for ensuring availability of quality mother vines are to be initiated as discussed in scheme on pepper. The cuttings were mainly given to Kasargode and Idukki districts. Area expansion through intercropping was implemented and 50,000 cuttings were distributed. At Chengannur block, 20 ha area was covered under this scheme through 10 Krishi Bhavans.

3. Vegetable development (Table 6.4.5)

Table 6.4.5 Target and achievement of Vegetable development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of vegetable cultivation in traditional areas (ha)	100	100	100.0	5.100	5.100	100.0
2.	POL	-	-	-	0.876	0.876	100.0
Total					5.976	5.976	100.0

The vegetables cultivated were snakegourd, cucumber, bittergourd, pumpkin, amaranthus, bhindi, tuber crops and littlegourd. 511 farmers are the beneficiaries of this scheme. The harvested produces were marketed through VFPCCK markets, through local markets, bulking centers and through block level markets established by

the department. It was reported that there was good response from farmers and the achievement was also cent percent.

4. Fruit development (Table 6.4.6)

Table 6.4.6 Target and achievement of Fruit development

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of export oriented banana cultivation (ha)	50	50	100	7.50	7.50	100.0
2.	Promotion of pineapple cultivation (ha)	20	20	100	1	1	100.0
3.	Establishment of small private nurseries	1	Nil	-	0.25	0.25	100.0
Total					8.75	8.75	100.0

The physical target is achieved and about 574 banana farmers and 42 pineapple farmers are beneficiaries of this scheme.

The beneficiary for district level nursery is not yet selected. Processing of applications for beneficiary selection was under progress, while the financial achievement is indicated as full, being a convergence scheme.

5. Soil and plant health clinics (Table 6.4.7)

Table 6.4.7 Target and achievement of Soil and plant health clinics

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards (No.)	70	70	100.0	0.70	0.70	100.0
Total		70	70	100.0	0.70	0.70	100.0

The achievement is complete by organizing a target numbers of 70 soil testing campaigns organized at various Krishi Bhavans.

Soil samples of 25 campaigns were analyzed by the Mobile Soil Testing Laboratory and 45 campaigns by the Stationary Soil Testing Laboratory. Soil health cards are not seen issued in many cases.

6. Use of plastics in agriculture (Table 6.4.8)

The scheme was implemented in 8 blocks of the district. Drip irrigation was installed in an area of 7.5 ha, sprinkler irrigation in 2.35 ha and green house in 500

sq.m area. However, an amount of 1.1 lakh was resumed, as the financial achievement could not be made due to shortage in physical achievement.

Table 6.4.8 Target and achievement of Use of plastics in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T*	A	%
1.	Promotion of drip irrigation (ha)	10	7.5	-		0.80	-
2.	Promotion of sprinkler irrigation (ha)	-	2.35	-		0.18	-
3.	Setting up of green house (m ²)	5000	-	-		1.23	-
TOTAL					3.31	2.21	66.67

*Component wise financial target not furnished

At Mannar panchayat of Chengannur block, three sprinkler irrigation units have been established in the coconut plantations of three farmers who were visited. They are;

1. Mr.Varghese Abraham, Attumalil Puthenparayil, Pavukkara
2. Kunjamma Mathew, Vazhaparbil, Mannar
3. Ganapathi Achari P.A, Pulomoottil House, Kurattikadu.

It was noted that as the investment for establishing the sprinkler unit is quite high, the beneficiaries of this scheme are affluent farmers.

7.Agricultural extension and training (Table 6.4.9)

Table 6.4.9 Target and achievement of Agricultural extension and training

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Training to farmers (No.) 2 days	15	15	100.0	1.350	1.350	100.00
2.	Block level training to extension staff -2 days (No.)	12	12	100.0	0.60	0.60	100.00
3.	District level training on production technology (No.)	4	4	100.0	0.56	0.56	100.00
4.	MDDT				0.73	0.00	00.00
5.	District level interface	1	1	100	0.3	0.3	100.00
	Total				3.54	2.81	79.38

The achievement is 79.38 per cent and an amount of Rs.0.73 lakhs was surrendered which was the allotment for MDDT programme. Though MDDT programme was implemented in the district, the expenditure was met from the balance funds of the year 2002-03. Though trainings were conducted under this scheme, details

regarding trainings are not seen maintained at PAO Office. During the visit to Chengannur block, it could be seen that the details are available at block level. The topics covered in the training to Agriculture Assistants at Chengannur block were:-

Topic	Resource person
1. Streamlining administration and quality improvement in government service.	Sri. B.Nalinakumar, DD, NWDPR
2. Group contact - organization of agro clinic.	Sri. K.V. Sebastian, DD (Training)
3. Elite mother plant selection in root wilt affected tract.	Smt. Julie Simon George, ADA, Chengannur Smt. Hanza George, AO, KB, Mannar Smt. Suja George, AO, Puliyoor
4. Vanilla cultivation as intercrop in coconut garden.	Smt. C.R. Gangadharan Pillai Farm Officer, Spices Board, Muvattupuzha

8. Small farm mechanization (Table 6.4.10)

Table 6.4.10 Target and achievement of Small farm mechanization

Sl.No	Components	Physical				Financial (Rs.Lakhs)		
		T	RT	A	%	T	A	%
1.	Garden tiller (No.)	5		-				
2.	Tractor (No.)	2	4	4	100	1.20	1.20	100
3.	Power tiller (No.)	5	12	12	100	3.60	3.60	100
4.	Winnowing/Reaper (No.)	3		-				
5.	Threshers (No.)	5	4	4	100	0.60	0.60	100
6.	Transplanters (No.)	1		-				
7.	Power sprayers (No.)	25	359	359	100	0.42	0.42	100
	Total					5.82	5.82	100.0

RT - Revised Target

The targets were revised as per the requirement of the machinery by the farmers in the district. 4 tractors, 12 power tillers, 4 threshers and 359 sprayers were distributed and financial expenditure is 100 per cent. The cent percent achievement of the scheme could be a reflection of the flexibility allowed in revising the target based on farmer needs.

At Chengannur block, through three KBs (Mannar, Budhanur and Chengannur), one tiller and 13 sprayers were distributed. Progress of implementation of the scheme at Mannar KB of Chengannur block was evaluated and one farmer has availed subsidy for power tiller (Mr. Rajasekharan Nair, Illathy house, Eremethur) and 5 farmers have availed subsidy for buying sprayers.

9. Agricultural marketing and quality control (Table 6.4.11)

Table 6.4.11 Target and achievement of Agricultural marketing and quality control

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training (No.)	2	2	100.0	0.16	0.16	100.0
2.	Farmers training (No.)	1	1	100.0	0.08	0.08	100.0
3.	One day training (No.)	1	1	100.0	0.20	0.20	100.0
4.	Market infrastructure (No.)	1	Nil	0.00	5.00	0.00	0.00
5.	EI	-	-	-	0.15	0.15	100.0
Total					5.59	0.59	10.55

The achievements in the case of training components are complete. The amount of Rs.5 lakhs allotted to market infrastructure was resumed as per Lr.No.TA(2)8169/03 of the ADA (Marketing). The action for resumption was taken as the authorities of the selected panchayat (Mukundapuram market of Thamarakkulam panchayat under Kayamkulam block) intimated their inability to meet the non-subsidy portion of the expenditure to establish a full-fledged market.

10. Floriculture development (Table 6.4.12)

Table 6.4.12 Target and achievement of Floriculture development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Area expansion programme						
a	Orchids / Anthurium (unit nos.)	50	50	100.0	12.5	12.5	100.0
b	*Cut foliage (unit nos.)	5	5	100.0	0.625	0.625	100.0
2.	One day farmer's training (No.)	2	Nil	Nil	1	0	0
3.	Two day officer's training (No.)	1	Nil	Nil	0.1	0	0
Total					14.225	13.13	92.23

*Changed to bush jasmine

The training for officers and farmers could not be conducted and the amount allotted for this ie; 1.1 lakh had been surrendered and proposal for revalidation was submitted. The reasons for non-implementation were,

(a) late release of funds and (b) advance drawal of amount was not permitted.

The scheme was implemented in all the 12 blocks of the district. A total of 50 orchid/anthurium units were established, the maximum number is at Pattanakkad

block, where 16 units have been established. The constraint in implementation is that it is difficult for the farmers to invest Rs.1 lakh to get subsidy of Rs.25, 000/-

At Chengannur block, three orchid/anthurium units and one jasmine cultivation unit have been established. Though scheme on cut foliage was originally allotted, it was converted to bush jasmine as per demand from the farmers.

11. Information technology (Table 6.4.13)

Table 6.4.13 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware	50	50	100.0	0.50	0.50	100.0
Total					0.50	0.50	100.0

Fifty numbers of computers were installed and the achievement is 100 per cent. All the ADAs and most of the administrative staff have been given orientation training in use of computers whereas none of the agriculture officers have got this training. The list of offices where computer is installed is given in the Appendix I.

The computers are mostly used for office work and preparing reports. Use of computers in agricultural extension work *per se* is yet to be evolved.

12. Women in agriculture (Table 6.4.14)

Table 6.4.14 Target and achievement of Women in agriculture

Sl.No.	Components	Physical*			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Training cost	-	-	-	2.82	2.82	100.0
2.	Extension cost	-	-	-	0.84	0.84	100.0
3.	Monitoring and evaluation	-	-	-	0.25	0.25	100.0
4.	Assistance for starting new enterprises	-	-	-	5.3225	5.3220	100.0
5.	Assistance for original enterprises	-	-	-	1.50	1.50	100.0
Total					10.7325	10.7325	100.0

* Not furnished

The scheme was implemented in all the 12 blocks of the district and this is one of the districts where the scheme is implemented fairly well.

The evaluation team visited an agroprocessing unit 'Samridhi' in Nedumudi panchayat, where a group of five women were engaged in preparation of food

products made of rice and coconut. The group is satisfied with the enterprise established with the support from Krishi Bhavan, because each member is earning daily income at least @ Rs.50/- and there is no difficulty in marketing of the products.

The status of implementation at Cherianad Krishi Bhavan shows that under 'SWIP', one food processing enterprise, 4 vegetable cultivation unit and one banana cultivation unit could be established. The total cost of the enterprise was Rs.50, 000 for food processing and Rs.20,000 and Rs.8,000 for four vegetable cultivation units and one banana cultivation unit, respectively. The loan was sanctioned by service co-operative bank, Cherianad.

Apart from the above units established under this scheme, other schemes include agarbathi making unit, honeybee rearing unit, mushroom cultivation unit and banana fiber making unit, which are running profitably.

Table 5.2.1 Abstract of the physical and financial achievement of pepper development.

Sl.No.	Component	Physical			Financial (Rs lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted cuttings through	100	89.962	89.962	74.785	70.749	94.6
2.	Area expansion through intercropping (lakh no.)	3.15	2.52475	80.15	13.75	10.36125	75.35
3.	Infrastructure for pepper nursery	-	-	-	10.95	7.995	73.01
4.	Pepper rehabilitation (ha)	4310	4142.65	96.11	171.406	156.8004	91.48
5.	Promotion of organic pepper (ha)						

	a)	I yr.	900	864.4	96.04	34.2	32.13	93.94
	b)	II yr.	600	600	100	8.7	8.68525	99.83
6.	Promotion of soil conservation measures (ha)		2033.66	1968.36	96.78	60.17	59.068	98.17
7.	Training on production of organic pepper, post harvest management, value addition and quality maintenance							
	a)	2 day training to field officers	10	10	100	1.4	1.4	100
	b)	1 day training to farmers and women	14	13	92.85	1.94	1.79	92.26
8.	Promotion of improved methods of primary		30	18	60	3.0	1.8	60
9.	Demonstration on integrated pest management		350	322.7	92.2	4.375	3.65	83.43
10.	Marketing promotion with growers' participation		-	-	-	2.5	0.465	18.6
11.	Executorial infrastructure		-	-	-	7.29	8.065	>100
	TOTAL					394.466	362.9589	92.01

The progress of majority of the schemes implemented in this District were found to be good with cent per cent achievement, both physical and financial. The achievement of rice development scheme in Alapuzha District is very much encouraging. The achievement of the scheme on 'Use of plastics in agriculture' could have been enhanced if the components were decided based on farmers' needs and their capacities.

6.5 KOTTAYAM

The total geographical area of the district is 219550 ha, of which 173494 ha is the net sown area and 13705 ha of net irrigated area. The major crops of the district are rubber, coconut, vegetables, rice and pepper.

The cropping pattern of the district is furnished in Table 6.5.1.

Twelve schemes were implemented in the district. The major share of allotment is for rice development followed by pepper development.

Table 6.5.1 Cropping pattern in Kottayam District during 2002-03

Sl. No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	12264	3.95
2.	Coconut	41424	4.60
3.	Banana	3394	6.10
4.	Tapioca	7426	7.13
5.	Vegetables	1649	6.28
6.	Arecanut	1767	1.81
7.	Cashew	700	0.79
8.	Rubber	111776	23.48
9.	Pepper	9245	4.43
10.	Ginger	211	2.34
11.	Turmeric	178	5.67

An abstract of scheme-wise financial target and achievement in the case of Kottayam District is furnished in Table 6.5.2.

Table 6.5.2 Abstract of scheme-wise financial target and achievements of Kottayam District (Rs. Lakhs)

Sl.No	Scheme	Original Allotment (Rs. in lakhs)	Revised Allotment	Achievement	Achievement (%)	Remarks
1.	Rice development	60.3160	152.96	151.016	98.7	
2.	Pepper development	27.9850	28.75	28.745	100.0	
3.	Development of other spices	5.7350	11.41	11.222	98.4	
4.	Vegetable development	5.1000	5.1	5.1	100.0	Convergence programme (AEZ)
5.	Fruit development	1.2500	8.75	8.75	100.0	Convergence programme (AEZ)
6.	Soil and plant health clinics	0.7500	0.75	0.75	100.0	
7.	Use of plastics in agriculture	2.2500	5.08	4.917	96.79	
8.	Agri.extension and training	3.1100	3.11	3.11	100.0	
9.	Small farm mechanization	4.9000	5.22	3.11	59.58	
10.	Agricultural marketing and quality control	0.9600	0.39	0.39	100.0	
11.	Information technology	0.3796	0.40	0.38	95.0	
12.	Women in agriculture	--	5.48	5.48	100.0	
Total		112.7356	227.40	222.97	98.0	

SCHEME-WISE PROGRESS

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented.

1. Rice development (Table 6.5.3)

Table 6.5.3 Target and achievement of rice development

Sl.No.	Components	Physical			Financial(Rs.Lakhs)		
		T	A	%	T	A	%
1.	Assistance for seed production (ha)	400	320.49	80.1	Expenditure through KSSDA		
2.	Assistance for cultivation of HYV seeds on Padasekharam basis (t)	320	287.21	89.8	6.40	5.73	89.5
3.	Promotion of INM						
a	Distribution of Green manure seeds (t)	5	5	100.0	0.13	0.11	84.6
b	Promotion of biofertilisers (ha)	1000	1000	100.0	0.39	0.39	100.0
4.	Integrated Pest Management						
a.	IPM demonstration plot (ha)	50	50	100.0	1.25	1.25	100.0
b.	Farmers Field Schools (No.)	20	20	100.0	4.54	4.498	99.1
5.	Laying location specific demonstration plot (Nos.)	10	-	-	1.25	0	0
6.	Land and other infrastructure development of rice padashekaram for water management (No.)	-	-	-	138.00	138.00	100.0
7.	EI	-	-	-	1.00	1.038	103.8
Total					152.96	151.016	98.7

The task force selected the Nattakam and Kumarakam Krishi Bhavans to visit fields and discuss with the rice farmers regarding the field level implementation of the schemes. The representatives of most of the Padasekhara Samithis were present for a discussion at the Nattakam Krishi Bhavan. In general, the farmers opined that the schemes had been implemented in a very effective way but they also pointed out some serious issues.

The seed production programme was implemented in Kottayam, Kaduthuruthy, Ettumanur and Madappally blocks. Considering the increased popularity of rice variety Uma, many farmers emphasized the need for the increased supply of sufficient quantity of foundation seed of Uma. During the last year, there was delay in the testing of seed and the farmers demanded testing of seeds within a time frame. It was clarified by the Deputy Director that with the establishment of district level seed testing laboratories, there would not be any delay in the seed testing in the coming year. Due to the unavailability of seeds of

Karishma and Krishnanjana, the scheme for laying out location specific demonstration in kari soils could not be implemented.

In situations where seed procurement is delayed due to various reasons, the farmers pointed out difficulties in the storage of seed at the padasekharam itself due to which excess expenditure was incurred for storing seeds in godowns away from the padasekharam. The task force is of the strong opinion that this is a genuine requirement and so, wherever seed production programmes are taken up, priority may be given for the construction of seed stores.

The farmers were very happy about the impact of farmer field schools implemented at Thainganadi. They have told that pesticide use were substantially reduced after the implementation of farmer field schools because of the increased awareness of the farmers about the adverse effect of excess use of pesticides on the rice ecosystem as well as on the natural enemies of rice pests. The farmers were of the opinion that instead of implementing several projects for rice, it is desirable of combine the different projects in an integrated manner so that significant results can be obtained and the rice productivity can be increased substantially. Several farmers also pointed out the increasing need of harvesters.

Farmers in general, were of the opinion that macro management schemes in rice implemented in Kottayam district has played a decisive role in sustaining and sometimes increasing rice area even under adverse situations.

The task force visited the infrastructure development works in Kumarakam Krishi Bhavan. The farmers reported that severe loss of rice crop occurred very frequently in Kuttanadu due to monsoonic floods and subsequent breakage of outer bounds of padasekharam. So protecting rice crop from the natural calamities can go a long way in stabilizing rice area and protecting farmers from heavy crop loss. In this context, the two major works under infrastructure development, undertaken at Kumarakam Krishi Bhavan (Kollakari and MN block) for strengthening the outer bounds at an estimated expenditure of Rs. 138 lakhs deserves appreciation. The work included strengthening of outer bunds measuring 2640 m in Kollakari padasekaram (360 m) and 1400 m in MN block padasekaram.

The work helped in bringing the padasekaram under rice cultivation, which was left uncultivated for few years. The present works do not fully protect the entire padasekaram and hence priority may be given for completing the works while allotting funds under the infrastructure development. Spreading the resources among several minor works may not generally yield tangible results. But pooling the funds for major infrastructure development works can help to overcome some of the serious yield limiting constraints. By way

of construction of outer bunds 360 ha of paddy land that was actually kept uncultivated for the past four years could be brought under cultivation (2nd crop of paddy). As construction of bunds of only two sides of this large padasekaram is completed, priority may be given for work of other two side bunds of the padasekaram.

The rice development works was mainly implemented in the blocks of Madapally, Kottayam, Ettumanoor, Kaduthuruthy and Vaikom blocks. Daincha and sunnhemp seeds were distributed as green manure seeds. Azospirillum was distributed under promotion of biofertiliser. The biofertilizers were purchased from RAIDCO and KAICO.

2. Pepper development (Table 6.5.4)

Table 6.5.4 Target and achievement of Pepper development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings (Lakh No)	8.5	8.5	100.0	6.375	6.375	100.0
2.	Area expansion through intercropping (Lakh No.)	0.45	0.45	100.0	2.25	2.25	100.0
3.	Rehabilitation of old and senile gardens (ha)	400	400	100.0	15.22	15.22	100.0
4.	Development of infrastructural facilities for Departmental pepper nurseries and establishment of progeny gardens	--	--	--	1.95	1.95	100.0
5.	Promotion of soil conservation measures (ha)	33.66	33.66	100.0	1.01	1.01	100.0
6.	Promotion of organic pepper (ha)						
a	Organic farming of pepper - 2 nd year	100	100	100.0	1.45	1.45	100.0
7.	Training on production of organic pepper, post harvest management, value addition and quality maintenance						
a	2- day training programme to field officers	1	1	100.0	0.14	0.14	100.0
b	1- day training programme to farmers and representative of women groups	2	2	100.0	0.30	0.30	100.0
8.	EI	-	-	-	0.05	0.05	100.0
Total					28.75	28.745	100.0

Cent per cent achievement has been made for all the components of the scheme. The production of rooted cuttings of var. Karimunda has been taken up at Kozha farm. The variety selected was Karimunda because it is suitable for intercropping in coconut gardens. The pepper cuttings produced were distributed within the district. Pepper rehabilitation work is undertaken in nine blocks of district except Vaikom and Ettumanoor. The amount for infrastructure facilities for pepper nurseries is used for completion of well and greenhouse at Kozha and pandal at SSF, Valachira. The soil conservation work has been taken up at Pampadi (31 ha) and Kottayam blocks.

3. Development of other spices (Table 6.5.5)

Table 6.5.5 Target and achievement of Development of other spices

Sl.No	Components	Physical			Financial Rs.Lakhs)		
		T	A	%	T	A	%
1.	Ginger						
a	Multiplication of planting material in farmers field (ha)	0.75	0.75	100.0	0.15	0.15	100.0
b	Layout of Field Demonstration (ha)	4	4	100.0	0.75	0.75	100.0
2.	Turmeric						
a	Layout of Field Demonstration	15	15	100.0	1.875	1.875	100.0
3.	Tree spices						
1.	Production and distribution of quality planting materials						
a	Clove seedlings (Lakh No.)	0.2	0.15	75.0	1.8	1.8	100.0
b	Cinnamon seedlings (Lakh No.)	0.05	0.02	40.0	0.15	0.15	100.0
c	Nutmeg grafts (No.)	1500	500	33.0	0.45	0.266	59.1
d	Garcelona grafts (No.)	2000	2000	100.0	1.0	1.0	100.0
4.	Vanilla						
	Planting material production(m)	-	1500	-	3.0	3.0	100.0
5.	Training programmes						
a	Training programme on post-harvest management (No.)	8	8	100.0	0.56	0.56	100.0
b	Training on product diversification and value addition (No.)	3	3	100.0	0.3	0.3	100.0
6.	Transportation of pepper cuttings	-	-	-	1.375	1.373	99.85
Total					11.41	11.222	98.35

The different components of the scheme such as layout of field demonstration, production and distribution of quality seedlings and training programmes were undertaken satisfactorily. The demonstration has been conducted in 5 blocks namely Erattupetta, Pala, Kanjirappilly, Vazhoor and Kottayam. Seedling production of tree spices has been allotted to Kozha farm, but it was explained that the targets could not be achieved due to the occurrence of drought.

4. Vegetable development (Table 6.5.6)

Table 6.5.6 Target and achievement of Vegetable development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of vegetable cultivation in traditional areas (ha)	100	100	100.0	5.0	5.0	100.0
2.	Establishment of small private nursery	1	1	100.0	0.1	0.1	100.0
Total					5.10	5.10	100.0

The achievement, both in respect of physical and financial terms, was cent per cent. Snakegourd, bittergourd, cowpea and little gourd are the vegetables selected for promotion of vegetable cultivation in traditional areas. The scheme was implemented in Kaduthuruthy (40 ha), Uzhavoor (20 ha), Mutholy (18 ha) and Kuravilangad blocks and Pala municipality. The seeds for the programme were collected through farmer exchange. The scheme has benefited a total of 441 farmers.

5. Fruit development (Table 6.5.7)

Table 6.5.7 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of export oriented banana cultivation (ha)	50	50	100.0	7.50	7.50	100.0
2.	Promotion of pineapple cultivation (ha)	20	20	100.0	1.00	1.00	100.0
3.	District level nursery (No.)	1	1	100.0	0.25	0.25	100.0
Total					8.75	8.75	100.0

The fund allotted under the scheme was fully utilized and the physical achievement was also 100per cent. In promotion of export oriented banana cultivation (AEZ), Erattupetta and Pala blocks are selected. Vijayapuram and Ayarkunnam are the places selected for pineapple cultivation. The beneficiaries were identified for establishment of small private nursery.

6. Soil and plant health clinics (Table 6.5.8)

Table 6.5.8 Target and achievement of Soil and plant health clinics

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	75	75	100.0	0.75	0.75	100.0
Total					0.75	0.75	100.0

The implementation of the scheme was satisfactory, fully achieving the financial and physical targets. The samples were analysed at mobile laboratory as well as stationary soil testing laboratory.

7. Use of plastics in agriculture (Table 6.5.9)

Table 6.5.9 Target and achievement of Use of plastics in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of drip irrigation (ha)	20	51.1	>100	2.25	4.737	>100
2.	Promotion of sprinkler irrigation (ha)	10	0.64	6.4	0.75	0.04	5.3
3.	Setting up of green house (m ²)	12500	230	1.8	2.00	0.06	3.0
4.	AEZ	-	-	-	0.08	0.08	100
Total					5.08	4.917	96.79

A judicious reallocation of the funds was done under the different components in view of the farmers' preference. The amount under green house and sprinkler irrigation has been reallocated to drip irrigation because of the limited demand for green house.

8. Agricultural extension and training (Table 6.5.10)

Table 6.5.10 Target and achievement of Agricultural extension and training

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Training to farmers 3-days (No.)	10	10	100.0	0.9	0.9	100.0
2.	Block level training to extension staff 2-days (No.)	11	11	100.0	0.55	0.55	100.0
3.	District level training on production technology (No.)	4	4	100.0	0.56	0.56	100.0
4.	District level interface (No.)	1	1	100.0	0.30	0.30	100.0

5.	Block level monthly training (No.)	4	4	100.0	0.10	0.10	100.0
6.	MDDT (ha)	14	14	100.0	0.70	0.70	100.0
Total					3.11	3.11	100.0

Physical and financial targets were achieved fully under the different components of the scheme. The block level trainings to extension staff focused on farming technologies, organic farming, post harvest technology, production technology of major crops, PRA techniques, organic certification etc. Though the physical targets have been achieved, the quality of training, MDDT visits, etc has not been completely satisfactory.

9. Small farm mechanization (Table 6.5.11)

Table 6.5.11 Target and achievement of Small farm mechanization

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1	Garden tiller (No.)	5	1	20.0	0.75	0.14	18.8
2.	Tractor (No.)	2	1	50.0	0.60	0.30	50.0
3.	Power tiller (No.)	5	7	140.0	1.50	1.783	118.9
4.	Winnowers/Reaper (No.)	3	-	-	0.90	0	0
5.	Threshers (No.)	5	-	-	0.75	0	0
6.	Power sprayers/dusters (No.)	20	142	>100	0.40	0.566	>100
7.	AEZ	-	-	-	0.32	0.32	100
Total					5.22	3.11	59.58

The mechanization needs of small farmers vary with the districts. Due to low demand for garden tillers in Kottayam district, the amount was re-allocated for distribution of power tillers. Farmers preferred power tillers to garden tillers. The demand for winnowers/reaper was less and hence the amount was reallocated for power sprayers and power tillers. The low financial achievement could be attributed to the formulation of schemes without considering the farmers preference.

10. Agricultural marketing and quality control (Table 6.5.12)

Table 6.5.12 Target and achievement of Agricultural marketing and quality control

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training (No.)	2	2	100.0	0.16	0.16	100.0
2.	Farmers' training (No.)	1	1	100.0	0.08	0.08	100.0
3.	EI	-	-	-	0.15	0.15	100.0
Total					0.39	0.39	100.0

The scheme involved only training component and it was successfully undertaken. The details about the training could not be obtained.

11. Information technology (Table 6.5.13)

Table 6.5.13 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware (No.)	50	50	100.0	0.40	0.38	95.0
Total					0.40	0.38	95.0

Out of 76 Krishi Bhavans in the District installation of hardware and software has been undertaken in 49 Krishi Bhavans and SSF Kozha (Appendix.I)

12. Women in agriculture (Table 6.5.14)

Table 6.5.14. Target and achievement of Women in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Assistance to women groups(No.)	135	198	>100	5.48	5.48	100.0
Total					5.48	5.48	100.0

The new enterprises started with the assistance from the scheme consisted of vegetable cultivation (27.3%), agro- processing (6.1%), bee keeping (18.6%) and banana cultivation (48.0%). The scheme was a resounding success in the district. More women groups than the targeted number were provided assistance under SWIP.

SUMMARY

The overall evaluation of the schemes implemented under the macro management in agriculture during the year under report indicated satisfactory performance in respect of physical and financial terms. The achievement was nearly 100 per cent in respect of most of the schemes except small farm mechanization. The poor achievement under small farm mechanization was mainly due to the poor response from the farmers particularly for garden tillers. Likewise, the rate of subsidy for tillers and tractors, which is fixed on 25 per cent, is not attractive to farmers because of the big initial investment to be made by the farmers. This once again emphasizes the need for formulating schemes depending on the location specific needs of the farmers and considering their preferences.

6.6 IDUKKI

The total geographical area of the district is 514962 ha, of which 225689 ha is the net sown area and 18730 ha is the net irrigated area. The major crops of the district are pepper, cardamom, rubber and coconut.

The cropping pattern of the district is furnished in Table 6.6.1.

Table 6.6.1 Cropping pattern in Idukki District during 2002-03

Sl. No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	3785	1.22
2.	Coconut	25810	2.87
3.	Banana	1602	2.88
4.	Tapioca	7806	7.50
5.	Vegetables	3945	15.02
6.	Arecanut	4096	4.20
7.	Cardamom	32743	79.06
8.	Rubber	38250	8.03
9.	Pepper	65142	3.122
10.	Ginger	1375	15.28
11.	Turmeric	257	8.18

13 schemes are being implemented in the district. The major share of allotment is for pepper development followed by vegetable development and other spices.

The abstract of the scheme-wise target and achievement of Idukki District is presented in Table 6.6.2.

Table 6.6.2 Abstract of scheme-wise financial target and achievements of Idukki district

Sl. No.	Scheme	Allotment (Rs. lakhs)	Revised Allotment	Achievement	Percentage	Remarks
1.	Pepper development	93.480	99.305	99.305	100	
2.	Other spices	19.788	19.788	19.788	100	
3.	Vegetable development	20.300	20.300	20.300	100	Convergence programme (AEZ)
4.	Fruit development	7.750	9.25	9.25	100	Convergence programme (AEZ)
5.	Soil and plant health clinics	0.500	0.500	0.500	100	
6.	Use of plastics in agriculture	6.750	14.99	14.99	100	
7.	Agri. extension and training	2.055	2.055	1.775	86.40	
8.	Small farm mechanization	2.950	2.959	2.90674	98.22	
9.	Agricultural marketing and quality control	5.160	5.260	5.260	100	
10.	Floriculture development	6.850	7.225	6.400	88.58	
11.	Information technology	0.750	0.557	0.557	100	
12.	Medicinal and aromatic plants	2.120	2.120	2.120	100	
13.	Women in agriculture	--	5.993	5.993	100	
Total		168.453	190.305	189.148	99.39	

The financial achievement for all the programmes in Idukki district is almost cent percent. It reflects the systematic and timely planning done at the PAO's office and the works carried out by the Krishi Bhavan officers under the guidance of the Assistant Directors of Agriculture and officers of the farms.

SCHEME-WISE PROGRESS

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented.

1. Pepper development (Table 6.6.3)

Table 6.6.3 Target and achievement of Pepper development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted cuttings (Lakh Nos.)	15	15	100.00	9.035	9.035	100.00
2.	Area expansion through intercropping (Lakh No.)	0.5	0.5	100.00	2.500	2.500	100.00
3.	Infra structure for pepper nursery	--	--	--	2.000	2.000	100.00
4.	Pepper rehabilitation (No.)	1150	1150	100.00	46.000	46.000	100.00
5.	Promotion of organic pepper (ha)						
a	First year organic farming of pepper	400	400	100.00	15.600	15.600	100.00
b	Second year organic farming of pepper	150	150	100.00	2.175	2.175	100.00
6.	Promotion of soil conservation measures (ha)	450	450	100.00	13.500	13.500	100.00
7.	Training on production of organic pepper, post harvest management, value addition and quality maintenance						
a	2- day training programme to field officers	2	2	100.00	0.280	0.280	100.00
b	1- day training programme to farmers and representative of women groups	2	2	100.00	0.300	0.300	100.00
8.	Promotion of improved methods of primary processing at growers level(No.)	6	6	100.00	0.600	0.600	100.00
9.	Demonstration on integrated pest management (ha)	150	150	100.00	1.875	1.875	100.00
10.	EI	--	--	--	5.44	5.44	100
	Total				99.305	99.305	100.00

Cent per cent achievements have been attained in all the components of the

scheme. Arikuzha Farm and Vandiperiyar Farm had targets of Rs.10 Lakhs and Rs.5 Lakhs respectively. Karimunda and Panniyur-1 were the varieties. Nearly 10 per cent of the cuttings were affected with wilt. The programme was successful. The rooted cuttings produced were distributed within the district.

The infrastructure for pepper nursery was developed at DAF, Arikuzha, SVF, Vandiperiyar and SSF, Karimannur.

There was cent per cent achievement in the case of components like pepper rehabilitation and promotion of organic pepper. The component viz., promotion of improved methods of primary processing at farmer's level was also successfully implemented.

The task force visited several farmers fields under Arakulam Krishi Bhavan, where development works in pepper were implemented. In the three acre pepper garden of Sri. Stephen, Parayvankuzhy the scheme on rehabilitation and area expansion through intercropping were undertaken successfully. Using the funds under the scheme for promotion of soil conservation measures, Sri Sebastian, Eddakara has planted pepper in the steep slopes and this is very good model garden for soil conservation.

Considering the increased susceptibility of pepper to Phytophthora disease especially in Idukki district, it is suggested to introduce schemes for prophylactic spray of plant protection chemicals as well as use of biocontrol agents.

2.Development of other spices (Table 6.6.4)

Table 6.6.4 Target and achievement of Development of other spices

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Ginger						
a	Production of planting materials in farmers field (ha)	3	3	100	0.600	0.600	100
b	Field Demonstration (ha)	15	15	100	2.813	2.813	100
2.	Turmeric						
a	Multiplication of planting materials in Dept. farm(ha)	0.5	0.5	100	0.325	0.325	100
b	Multiplication of planting materials in farmers field (ha)	2	2	100	0.325	0.325	100
c	Field Demonstration (ha)	81	81	100	10.125	10.125	100
3.	Tree Spices						

Production and distribution of quality planting materials							
a	Clove seedlings (Lakh No.)	0.2	0.12	60	1.800	1.800	100
b	Cinnamon seedlings (Lakh No.)	0.05	0.03	60	0.150	0.150	100
c	Nutmeg grafts (No.)	2500	2000	80	0.750	0.750	100
4.	Vanilla						
a	Planting material production	--	6400*	--	2.000	2.000	100
5.	Training on post harvest management (No.)	10	10	100	0.700	0.700	100
a	Training on product diversification (No.)	2	2	100	0.200	0.200	100
Total					19.7875	19.7875	100

5000* = 5000 poly bags

There was 100 per cent achievement of all the components included under the scheme.

The variety given for multiplication was Varada and Prathibha for ginger and turmeric respectively. Clove seedlings (20,000) were raised in Areekuzha Farm. Due to poor germination, only 12,000 seedlings came up and after culling, 10,000 were found fit for distribution. The target for cinnamon seedlings was 5000 numbers. But Vandiperiyar Farm could not take up the assigned target of 2000 numbers due to want of mother plants and seeds. This farm requires improvement. Until then, Areekuzha Farm can be assigned the entire target, where good infrastructural facilities are available. In nutmeg, instead of grafting, budding was done. It was not fully successful as grafting is the recommended and better method. As the progeny plants will be ready next year, grafting has to be followed.

3. Vegetable development (Table 6.6.5)

Table 6.6.5 Target and achievement of Vegetable development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of organic farming in cool season vegetables (ha)	50	50	100.00	5.000	5.000	100.00
2.	Promotion of vegetable seed production in farmers field (ha)	2	2	100.00	0.200	0.200	100.00
3.	Promotion of vegetable cultivation in traditional area (ha)	160	160	100.00	8.000	8.000	100.00

4.	Lay out of demonstration plot (No.)	25	25	100.0	1.000	1.000	100.00
5.	Marketing facilities to Haritha Sangham (No.)	4	4	100.0	1.000	1.000	100.0
6.	AEZ -- area expansion of vegetables (ha)	100.1	100.10	100.0	5.00	5.00	100.00
7.	Nursery	1	1	100.0	0.1	0.1	100.00
Total					20.30	20.30	100.00

Unlike in other districts, Idukki district had more components included in the scheme. Here also, the achievement is cent per cent. Components like promotion of vegetable seed production in farmers' field, promotion of vegetable cultivation in traditional areas and lay out of demonstration plots were done using the traditional and popular vegetables like bhindi, brinjal, ashgourd, snakegourd, cowpea, bittergourd and amaranthus. Promotion of vegetable seed production in farmers' field requires good supervision and follow up by the department. Carrot, beet root, cabbage, potato and cauliflowers are the cool season vegetables promoted under the scheme. Weighing balance and plastic crates were distributed under marketing facilities.

4. Fruit development (Table 6.6.6)

Table 6.6.6 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1. a	Promotion of export oriented						
b	Banana cultivation (AEZ) (ha)	50	50	100	7.500	7.500	100
2.	Promotion of pineapple cultivation (ha)	30	30	100	1.5	1.5	100
3.	District level nursery (No.)	1	1	100	0.250	0.250	100
Total					9.25	9.25	100

There are 151 beneficiaries under area expansion of banana and 28 beneficiaries under area expansion of pineapple. Pineapple was included owing to demand, where Mauritius variety is used. Selection has been done for the district level nursery to be established. Approval from Directorate is anticipated. There is cent per cent achievement.

5. Soil and plant health clinics (Table 6.6.7)

Table 6.6.7 Target and achievement of Soil and plant health clinics

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards (No.)	50	50	100	0.500	0.500	100
Total					0.500	0.500	100

Though there was cent per cent achievement, even the Agricultural Officers are not convinced about the utility of this components. The task force members also felt that this is being done in a casual way in order to achieve the target.

The campaigns require more intensification. Issue of soil health cards has to be completed. It has to be followed with farmers' meetings at panchayat level to create awareness to apply manures and fertilizers based on soil test values.

6. Use of plastics in agriculture (Table 6.6.8)

Table 6.6.8. Target and achievement of Use of plastics in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of drip irrigation (ha)	130	128	99	13.018	13.018	100
2.	Promotion of sprinkler irrigation (ha)	24	22.9	95	1.774	1.774	100
3.	Setting up of green house (m ²)	500	500	100	0.200	0.200	100
Total					14.992	14.992	100

There was component change made in the scheme after implementation. Due to low demand for green houses, the targets were re-fixed and allotted for drip irrigation. The drip system has been laid out in cardamom, coconut, vanilla, clove and nurseries. Sprinkler system is improvised as mist spray for vanilla in some farms. The Task Force team visited the Vanilla plot of Smt. Ayisha Mohamed Kutty, Vadakkayil, Muthalakodam. The 'Mist- made sprinkler system' was found to be efficiently used there. The team also visited the field of Mrs. Marykutty, Thekkinkattil, where drip irrigation is installed in the vanilla garden.

It is felt that the scheme can be effectively implemented in Idukki district to the satisfaction of farmers if components, which the farmers prefer, are included, and the funds are allotted in time.

7. Agricultural extension and training (Table 6.6.9)

Table 6.6.9 Target and achievement of Agricultural extension and training

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Training to extension personnel - 2days (No.)	8	8	100.00	0.40	0.40	100.00
2.	Training to extension personnel - 3 days (No.)	2	0	0.00	0.28	0.00	0.00
3.	District level interface (No.)	1	1	100.00	0.30	0.30	100.00
4.	AEZ Training (No.)	9	9	100.00	0.45	0.45	100.00
5.	MDDT (ha)*	-	-	-	0.625	0.625	100.00
Total					2.055	1.775	86.40

MDDT - Diagnostic team (ha) * this cannot be reported in terms of hectares

The overall achievement of the scheme was 86.4 per cent. The two trainings fixed for extension personnel (3 days) have not been organized. It was found difficult to trace the complete list of training programmes reported from Krishi Bhavan/Assistant Directors. Hence it is suggested that the Deputy Director (Training) may maintain a Training Register showing the topics, date, resource persons, number of trainees attended and training cost details. Training has to be taken more seriously by the implementing officials.

Regarding visit of MDDT, the task force is of the view that the visits may be made by a multidisciplinary team, since it was found that the individual scientists made most of the visits. The team members of MDDT in Idukki district is as below:

- 1) DDA (Training)-Chairman
- 2) ADA, Nedungandam
- 3) Dr. Ambikadevi, Cardamom Research Station, Pampadumpara (KAU)
- 4) Dr. Joseph Rajakumar, Cardamom Research Station, Pampadumpara(KAU)
- 5) Dr. Synumol Kurien, Cardamom Research Station, Pampadumpara (KAU)

There is no uniformity in the constitution of MDDT across districts.

8. Small farm mechanization (Table 6.6.10)

Table 6.6.10 Target and achievement of Small farm mechanization

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Tractor (No.)	1	1	100.00	0.30	0.30	100.00
2.	Power tiller (No.)	4	4	100.00	1.1044	1.104	100.00
3.	Threshers (No.)	1	1	100.00	0.023	0.023	100.00
4.	Power sprayers (No.)	232	232	100.00	1.5233	1.480	97.16
	Total				2.95934	2.90674	98.22

The physical and financial achievement of the scheme is cent per cent. Though physical is full, the financial achievement is slightly low since the actual amount or 25 per cent subsidy whichever is low is taken into account. Because of less demand for garden tiller, the target was re fixed and re allotted for power tillers and power sprayers. For sprayers the 25 per cent subsidy is meaningful. But for machineries like tillers and tractors, 25 per cent subsidy is quite low. The farmers find it difficult to raise the margin money. So in future the subsidy percentage may be raised proportionate to the cost of the machine. Other wise, the machinery may be given to farmers' groups. As such individual farmers may not be able to raise funds whereas farmer groups may be able to do so. Harvestors suitable for small farms may be included in the scheme.

The Task Force visited a farmers' group viz; Ushus Self Help Farmers Group under Vazhathoppu Krishi Bhavan. The Secretary, Mr.T.P.Kutty explained how the group is making use of the power tiller that they got under the scheme. This is an example worth emulating. Bank-linked group loan arrangement with the District Co-operative Bank was arranged to purchase the tiller, with 25 per cent subsidy from the scheme. The sixteen members of the group are quite happy. Besides meeting their own tillage requirement, the group uses the tiller for custom hiring out at the rate of Rs. 180/- per hour. It is very profitable and other farmers in the locality are also satisfied with this arrangement.

9. Agricultural marketing and quality control (Table 6.6.11)

The achievements are cent per cent. The work for market infrastructure is under progress. The work is being done at Nedumkantam with NABARD (Rs.10 lakhs) and grama panchayat (Rs.5

lakhs) funds, besides the scheme allotment of Rs. 5 lakhs. Though the trainings have been conducted, the details about the training could not be obtained.

Table 6.6.11 Target and achievement of Agricultural marketing and quality control

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training (No.)	1	1	100	0.08	0.08	100
2.	Farmers training (No.)	1	1	100	0.08	0.08	100
3.	Market infrastructure (No.)	1	1	100	5.0	5.0	100
4.	Travel expenses	-	-	-	0.05	0.05	100
5.	POL	-	-	-	0.05	0.05	100
Total					5.26	5.26	100

10. Floriculture development (Table 6.6.12)

Table 6.6.12 Target and achievement of Floriculture development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Area expansion						
a	Graft variety (ha)	10	8	80.00	1.05	0.30	28.57
b	Orchids / Anthurium (No)	25	17.63	70.50	5.75	5.50	98.65
2.	One day farmers' training	1	1	100.00	0.50	0.50	100.00
3.	Two day officers' training	1	1	100.00	0.10	0.10	100.00
Total					7.225	6.40	88.58

There was reasonably good achievement (88.58 per cent) of the different components included under the scheme. Under graft variety, rose and chrysanthemum were included and since demand was less, achievement of target was affected. Because of this, there was only about 30 per cent financial achievement. Request for revalidation was made for an amount of Rs 0.825 lakhs.

In respect for orchids/anthuriums, reduction in unit number is suggested for viability of units and for better response from farmers. Though there is comparatively good achievement in the case of orchids/anthuriums, post production activities have not been planned. The training programmes were very effective. According to the officials of the Department, the duration of farmer training may be reduced to five days.

11. Information technology (Table 6.6.13)

Table 6.6.13 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware	50	50	100	0.557	0.557	100
Total					0.557	0.557	100

Though computers are installed, most of the Krishi Bhavans do not have telephone connection and hence e-mail and cyber facilities do not exist. This has to be done in future to make the Krishi Bhavans centers of cyber extension for effective transfer of technology. The list of Krishi Bhavans where computers are installed is furnished in Appendix I.

12. Medicinal and aromatic plants (Table 6.6.14)

Table 6.6.14 Target and achievement of Medicinal and aromatic plants

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Establishment of demonstration cum seed production units	120	120	100	1.8	1.8	100
2.	Area expansion programme (ha)	2	2	100	0.25	0.25	100
3.	Training to farmers	1	1	100	0.07	0.07	100
Total					2.12	2.12	100

The medicinal plants used for demonstration were *Kacholam*, *Pathimugham*, *Lemon grass*, *Neelayamari*, *Brahmi*, *Chethikkoduveli*, *Chempakam*, *Marotti*, *Pepper mint*, *Vayamp* and *Kiriyath*. Though the production is comparatively good, marketing arrangements have not been made. It has to be done immediately for sustainability.

13. Women in agriculture (Table 6.6.15)

Table 6.6.15 Target and achievement of Women in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Banana cultivation (ha)	51	51	100	1.02	1.02	100

2.	Vermi compost (Nos.)	19	19	100	0.475	0.475	100
3.	Vegetable cultivation (ha)	13	13	100	0.1625	0.1625	100
4.	Bee keeping (No.)	5	5	100	0.1875	0.1875	100
5.	Mushroom cultivation units(No.)	3	3	100	0.0975	0.0975	100
6.	Vanilla cultivation (ha)	81	81	100	4.05	4.05	100
Total					5.9925	5.9925	100

The achievement is full. The group approach for self-sustainable production units has evoked very good response. But skill-training programmes have to be systematically stream lined.

Summary

It is satisfying to report that all the schemes have been implemented well. The achievements are nearly full. Postproduction activities may be planned and implemented as the follow up for all the schemes. Systematic methods may be followed for reporting and documenting all the training programmes so that at the PAO's office, a comprehensive report of the training can be made available for reference. The data base management followed at the PAO's office deserves special mention and appreciation. This needs to be further streamlined and strengthened.

6.7 ERNAKULAM

The total geographical area of the district is 235319 ha, of which 169661 ha is the net sown area and 41815 ha is net irrigated area. The major crops of the district are coconut, rubber, rice, pepper, banana and tapioca. The cropping pattern in Ernakulam district is furnished in Table 6.7.1

Table 6.7.1 Cropping pattern in Ernakulam District during 2002-03

Sl.No.	Crops	Area (ha)	As percentage to state cropped area
1.	Rice	32072	10.33
2.	Coconut	61034	6.79
3.	Banana	6410	11.51
4.	Tapioca	5668	5.44
5.	Vegetables	2040	7.77
6.	Arecanut	4886	5.01
7.	Cashew	1364	1.54
8.	Rubber	56737	11.92
9.	Pepper	7309	3.50
10.	Ginger	421	4.68
11.	Turmeric	493	15.70

Thirteen schemes are operational in the district. The major share of allotment is for rice development (27.1%) followed by floriculture development (20.5%) and fruit development (17.5%).

An abstract of scheme wise financial target and achievement in the case of Ernakulam district is given in Table 6.7.2

**Table 6.7.2 Abstract of scheme-wise financial target and achievements of
Ernakulam district**

Sl.No	Schemes	Allotment (Rs. Lakhs)	Revised allotment	Achievement	Achievement (%)	Remarks
		Rs Lakhs				
1.	Rice development	29.725	29.725	3.13	10.53	
2.	Pepper development	6.75	2.625	2.625	100.00	
3.	Development of other spices	13.51	13.51	10.87	80.46	
4.	Vegetable development	4.7	7.6	7.6	100.00	Convergence programme (AEZ)
5.	Fruit development	19.25	19.25	19.25	100.00	Convergence programme (AEZ)
6.	Soil and plant health clinics	0.90	0.90	0.90	100.00	
7.	Use of plastics in agriculture	1.0	1.08	1.08	100.00	
8.	Agri.extension and training	2.96	3.668	2.868	78.176	
9.	Small farm mechanization	2.05	2.37	2.37	100.00	
10.	Agricultural marketing and quality control	5.52	5.78	0.78	13.49	
11.	Floriculture development	22.5	23.4	20.948	89.52	
12.	Information technology	0.85	0.85	0.82	96.47	
13.	Women in agriculture	-	3.75	2.89	77.33	
Total			114.5087	76.131	66.49	

SCHEME -WISE PROGRESS

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented:

1. Rice development (Table 6.7.3)

Table 6.7.3 Target and achievement of Rice development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Assistance for seed production (ha)	240	192	80	Expenditure through KSSDA		
2.	Infrastructure development for seed storage (No.)	1	Nil	0	20.00	0	0
3.	Assistance for cultivation of HYV seeds on Padasekharam basis (t)	240	14	5.83	4.80	0.954	19.87
4.	Promotion of INM						
a	Distribution of green manure seeds (t)	5	5	100.0	0.125	0.125	100.00
b	Promotion of biofertilisers (Ha)	1000	1000	100.0	0.50	0.50	100.00
5.	Promotion of Pokkali as organic rice	-	-	-	3.30	0.571	17.30
6.	EI	-	-	-	1	0.9812	98.12
Total					29.725	3.1312	10.53

Under Registered Seed Growers Programme, out of 240 ha, the achievement is 192 ha. The shortfall of 48 ha in coverage was due to natural calamity [both drought as well as flood] and salinity problem. The salinity problem is a threat to rice cultivation in Alangad and Parakkadavu blocks where the late construction of the temporary bund [Purappillikkavu bund] every year results in sea water intrusion. The construction work is the responsibility of Minor Irrigation (MI) Department. This was brought to the notice of the officials of minor irrigation department. However, no action is taken till date for the timely construction of the bund by the MI Department. Even the drinking water of the area is becoming saline due to the seawater intrusion. Hence urgent steps have to be taken to see that a permanent bund with shutters is constructed. Another reason is that in third crop season, it is not feasible to implement seed production programme, due to rains during harvest season. In Ernakulam district, two- third of rice

area is ayacut area of irrigation projects. As maintenance of canals is not done periodically, water logging also is a perennial problem.

The poor achievement under assistance for cultivation of HYV seeds was mainly due to the following reasons: -

- a) Majority of the farmers are preserving grains for seed purpose (farm saved seeds) and they consider that it is not remunerative for them to invest on seeds.
- b) The preferred variety for the second crop is Ptb-20. The preference of farmers has a definite influence on seed selection.
- c) The high yielding variety preferred by the farmers is D₁ and the seeds of this variety are not available on a larger scale.

Another important component in rice production programme is the scheme for "Pokkali rice". This special system of rice cultivation under water logged situation requires special mention. Pokkali is considered to be organic in cultivation by default and has great demand among the consumers. However, though an amount of Rs.3.30 lakhs was allotted for scheme on Pokkali, only Rs.0.57050 lakhs is the expenditure and the rest was surrendered. This is inspite of the fact that a separate agency viz, Pokkali Land Development Agency (PLDA) exclusively for pokkali rice is functioning in the district.

The reason for shortfall was mainly due to the delay which occurred in getting allotment of funds. The fund allotment was received only in the month of August. In Pokkali only one crop can be cultivated and the crop season starts by June. By the time funds were received farmers were already half way through in cultivation.

The progress report of implementation furnished by Secretary, PLDA shows that Rs.7050 was given as assistance for HYV seed and Rs.50000 was spent as assistance to marketing. Since PLDA is not having a setup for marketing Pokkali rice, the assistance was given to "Ezhikkara Pokkali Karshaka Sahakarana Swasrya Group" a self help group engaged in processing of Pokkali rice.

The delay in releasing funds to such time-bound schemes which can be implemented only during a particular season is to be viewed seriously and steps for timely release of funds in future is to be taken.

2. Pepper development (Table 6.7.4)

Table 6.7.4 Target and achievement of pepper development

Sl.No.	Component	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted cuttings (lakh No.)	3.5	3.91	>100	2.625	2.625	100.0
Total					2.625	2.625	100.0

The target of production of 3.5 lakh numbers of rooted cuttings was allotted to SSF, Okkal. The planting material was procured from farmers' field at Erumeli region. The achievement exceeded the target with a production of 3.91 lakhs rooted cuttings instead of 3.5 lakhs. Out of this 2 lakhs of cuttings were transferred to meet the requirement of Wayanad district and 1.5 lakhs to Kasargode. The remaining 41000 cuttings were kept for general sale and the distribution is completed. On a visit to the farm it was seen that the cuttings were healthy and well maintained. The achievement is remarkable.

3. Development of other spices (Table 6.7.5)

Table 6.7.5 Target and achievement of Development other spices

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Ginger						
a	Production of planting materials in farmers field (ha)	2.25	2.25	100	0.450	0.450	100.0
b	Field demonstration (ha)	7	7	100	1.313	1.313	100.0
2.	Turmeric						
a	Multiplication of planting materials in department farms (ha)	0.5	0.5	100	0.325	0.325	100.0
b	Multiplication of planting materials in farmers field (ha)	5	4.9	98	0.813	0.795	97.79
c	Field demonstration (ha)	40	40	100.0	5.000	5.000	100.0
3.	Tree Spices						
	Production and distribution of planting materials						
a	Production of clove seedlings (Lakh Nos.)	0.2	0.152	76	1.800	1.187	65.55

b	Production of cinnamon (Lakh Nos.)	0.04	0.02003	50.07	0.120	0.120	100.0
c	Production of nutmeg grafts	150 0	1179	78.6	0.450	0.450	100.0
d	Production of garcinia grafts	110 0	1025	93.18	0.550	0.364	66.2
4.	Vanilla						
	Planting material production [No.]	--	250	--	2.000	0.184	9.2
5. a	Training Training on post harvest management (No.)	7	7	100.0	0.490	0.490	100.0
b	Training on product diversification (No.)	2	2	100.0	0.200	0.200	100.0
Total					13.51	10.87	80.46

Multiplication of planting materials of turmeric and production of seedlings /grafts of tree spices were allotted to DAF, Neriamangalam

1.Ginger

The varieties used for multiplication of planting material were Varada and Rajatha. The achievement is cent percent. However, the details about quantity of seed rhizomes harvested are not available.

2.Turmeric

Varieties used for demonstration and multiplications of planting material were Sudarsana and Prathibha. 6750 kg of rhizomes were planted and 18 tones of turmeric rhizomes were produced. The entire quantity was distributed. There is cent per cent achievement in the case of field demonstration.

3.Clove

Though it was targeted to produce 0.2 lakh numbers of clove seedlings, only 0.152 lakk numbers were produced. The shortfall was due to poor germination percentage of the supplied seeds.

4.Cinnamon

The physical achievement is only 50 per cent. Though above 2000 seedlings were raised, there is no demand for seedlings of cinnamon, as reported by the officials.

5.Nutmeg

In nutmeg the success percentage is low in grafting and hence the shortfall is justifiable.

6. Vanilla

The achievement reported is very poor. This is inspite of the fact that there is good demand for planting material of vanilla. The reason for poor achievement was that , as there was already a scheme on production of planting material of vanilla implemented utilizing funds of District Panchayat, further achievement was difficult. This component should have been allotted to some other districts, as now there is high price and demand for vanilla cuttings.

In brief, it is seen that in general, either the crop or target in the case of tree spices is unrealistic.

4. Vegetable development (Table 6.7.6)

Table 6.7.6 Target and achievement of Vegetable development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of vegetable cultivation in traditional area (ha)	150	150	100	7.500	7.500	100.0
2.	District level nursery (No.)	1	1	100	0.100	0.100	100.0
Total					7.60	7.60	100.0

The programme is operational in three panchayats, the details of which are given below:

Name of Krishi Bhavan	Area (ha)	Number of farmers	Amount disbursed (Rs. Lakhs)
Elanji	59.38	208	2.969
Thirumarady	39.62	176	1.981
Piravom	51.00	155	2.550
Total	150.00	539	7.500

The achievement is cent percent, as observed from the records. The team could not verify the achievements in the field due to off season (crop season already completed).

5. Fruit development (Table 6.7.7)

Table 6.7.7 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Lakhs)		
		T	A	%	T	A	%
1.	Promotion of export oriented Banana cultivation (AEZ) (ha)	100	100	100.0	15.00	15.00	100.0
2.	Promotion of Pineapple cultivation (ha)	80	80	100.0	4.000	4.000	100.0
3.	District level nursery (No.)	1	1	100.0	0.250	0.250	100.0
Total					19.25	19.25	100.0

The Krishi Bhavan -wise achievement is as follows:

Area expansion of banana

Name of Krishi Bhavan	Area (ha)	Amount disbursed (Rs.)
Ayyampuzha	60.54	9.081
Manjapra	39.46	5.919
Total	100.00	15.00

Area expansion of pineapple

Name of Krishi Bhavan	Area (ha)	Amount disbursed (Rs.)
Manjalloor	59.484	2.9742
Avoly	20.516	1.0258
Total	80.000	4.0000

For district level nursery Hafi floritech, Ambunad, Pookattupady is selected and the production of planting materials in this nursery is in progress.

6. Soil and plant health clinics (Table 6.7.8)

Table 6.7.8 Target and achievement of Soil and plant health clinic

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards (No.)	90	90	100.0	0.9	0.9	100.0
Total					0.9	0.9	100.0

Soil testing campaigns were organized in all the 15 blocks of the district and number of campaigns in each block is given below:

Name of the block	Number of campaigns undertaken
Perumbavoor	5
Aluva	5
North Paravoor	5
Narakkal	7
Angamaly	10
Muvattupuzha	9
Kothamangalam	11
Nedumbassery	5
Kalamassery	3
Tripunithura	2
Vyttila	2
Keezhmad	6
Poothrikka	6
Piravom	8
Mulamthuruthy	6
Total	90

Soil health cards are not distributed in many cases

7. Use of plastics in agriculture (Table 6.7.9)

Table 6.7.9 Target and achievement of Use of plastics in agriculture

Sl.No.	Components	Physical				Financial (Rs.Lakhs)		
		T	RT*	A	%	T	A	%
1.	Promotion of drip irrigation (ha)	0.7	3.1	3.1	100.0	0.320	0.320	100.0
2.	Setting up of green house (m ²)	2000	1725	1725	100.0	0.68	0.680	100.0
3.	Other expences (AEZ)	-	-	-	-	0.08	0.08	100.0
Total						1.08	1.08	100.0

*RT - Revised Target

The achievement is complete. The drip irrigation system was installed in an area of 1.0 ha each in Keezhmadu block, Muvattupuzha block and 1.10 ha in Piravom block. The subsidy for green house was availed mainly by farmers engaged in floriculture. The split up of physical target in different blocks were

Paravoor -500 sq.m, Kalamassery 125 sq.m, Vytilla 125 sq.m, Thrippunithura 125 sq.m, Alangode 500 sq.m, Keezhmadu 500 sq.m and Mulamthusuthy 250 sq.m.

8. Agricultural extension and training (Table 6.7.10)

Table 6.7.10 Target and achievement of agricultural extension and training

Sl.No.	Components	Physical			Financial (lakhs)		
		T	A	%	T	A	%
1.	Block level training to extension staff -2 days(No.)	15	14	93.33	0.659	0.658	99.85
2.	District level training on production technology (No.)	4	4	100.0	0.560	0.560	100.0
3.	District level interface (No.)	1	1	100.0	0.300	0.300	100.0
4.	AEZ Training (No.)	15	15	100.0	1.350	1.350	100.0
5.	MDDT (ha)	14	Nil	-	0.800	0	0
Total					3.669	2.86865	78.176

The district level interface was organized in 10th October 2003 at Ernakulam District Cooperative Bank hall and the proceedings and recommendations of the interface have been published. The major topics covered were agronomic, soil and nutritional problems of all crops of the district, plant protection aspects of all crops, farm mechanization, value addition, marketing and floriculture. Scientists from KAU and CPCRI participated in the interface.

Major topics related to 3-day training programme given to agricultural extension personnel were:

1. Scientific management for increasing productivity of coconut gardens.
2. Value addition in coconut.
3. Vanilla cultivation and marketing.
4. IPM and biological control of pests and diseases.
5. Commercial floriculture.
6. Pineapple cultivation.
7. Fruit storage and marketing.

Though an amount of Rs.8000 was allotted for MDDT programme, the amount was surrendered. The reason was that no major problems were reported from the field level and the amount could not be spent. The Task Force could not take this explanation in its face value, since the Task Force Leader himself is aware of at least

two instances from Ernakulam district, wherein problems related to pineapple and banana were brought to the notice of KAU for immediate intervention.

9. Small farm mechanization (Table 6.7.11)

The progress of implementation of the scheme is cent per cent as the targets were revised as per the demand from the farmers for the machinery. The flexibility allowed in revising the target of the various components has resulted in cent per cent achievement.

Table 6.7.11 Target and achievement of Small farm mechanization

Sl.No	Components	Physical				Financial (Rs.Lakhs)			
		T	RT	A	%	T	RT	A	%
1.	Garden tiller (No.)	4	2	2	100	0.920	0.281	0.281	100
2.	Power tiller (No.)	3	8	8	100	0.900	1.996	1.996	100
3.	Winnower/Reaper (No.)	1	-	-	-	0.30	0	0	0
4.	Threshers (No.)	1	-	-	-	0.150	0	0	0
5.	Power sprayers (No.)	5	23	23	100	0.100	0.093	0.093	100
Total						2.370	2.370	2.370	100

One beneficiary of the scheme, Mr. Paul Mathew, Chakkalakkal, Thuthiyoor of Thrikkakkara panchayat was interviewed so as to evaluate the performance of the garden tiller. The task force could observe that the farmer is using the machinery for cultural operation in his farm.

10. Agricultural marketing and quality control (Table 6.7.12)

Table 6.7.12 Target and achievement of agricultural marketing and quality control

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training (No.)	2	2	100.0	0.160	0.160	100.0
2.	Farmers training (No.)	2	2	100.0	0.160	0.160	100.0
3.	One day training (No.)	1	1	100.0	0.200	0.200	100.0
4.	Market infrastructure (No.)	1	-	-	5.00	0	0.0
5.	EI	-	-	-	0.26	0.26	100.0
Total					5.78	0.78	13.49

For construction of market infrastructure, Edakkathuvayal panchayat was selected. The project was approved by the district planning committee with contribution of Rs.7.5 lakh each from grama panchayat and block panchayat and Rs.5 lakhs from Department of Agriculture. However, since administrative delay occurred in publishing tender notice, the work got delayed. As the work could not be completed before March 2004, the expenditure could not be incurred by the Department of Agriculture. The work is under progress as the block panchayat has met the expenditure so far. The work will be completed during 2004-05. The PAO, Ernakulam has requested for revalidation of Rs.5.0 lakhs which was surrendered during the end of March. The achievement in the case of training component is cent per cent. However details regarding training could not be obtained.

11. Floriculture development (Table 6.7.13)

Table 6.7.13 Target and achievement of Floriculture development

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Area expansion programme						
a	Seed variety (No.)	15	15	100.0	0.150	0.150	100.0
b	Traditional Variety Units (No.) Bush jasmine	325	305	93.85	19.10	17.673	92.51
c	Orchids / Anthurium Units (No.)	13	13	100.0	3.250	3.125	96.15
2.	Training to officers (No.)	4	Nil	0	0.400	0	0
3.	Training to farmers (No.)	1	Nil	0	0.500	0	0
Total					23.40	20.948	89.52

Out of 325 units of bush jasmine targeted, 305 units were established. This is a commendable achievement. The evaluation team visited beneficiaries under the scheme in Kangarapady area under Kalamassery Krishi Bhavan. In Kalamassery Krishi Bhavan, the scheme has gained a good response from farmers. The major operational difficulty of the scheme in that area is related with marketing. The major problems were:

1. Farmers are not getting reasonable price for flowers and hence there is need of a market outlet in nearby place, or an oil extraction unit established in the area.
2. Also flowers come to market from Tamil Nadu at a cheaper rate, which is a threat.

But the farmers are satisfied with this scheme due to the fact that they can earn some income from bush jasmine cultivation. Also the crop needs less care compared to other crops, according to them.

The training component which is an important part in the scheme was not given due attention and the entire amount allotted for officers' training and farmers' training was lapsed. The officers' training was allotted to RATTTC, Vyttila. However, the amount could not be drawn due to treasury restrictions. The target of training to farmers was allotted to ADA, Trippunithura. The reason for non implementation was that the working instruction stipulates a seven day tour programme for 30 farmers to the nearby floriculture intensive states for which the funds were inadequate. However, this is not a valid reason as some other districts have successfully conducted the training. The training to officers is meant to orient the technical officers of the Department on all aspects of commercial cultivation of important flowers grown in the state. By not organizing the training, a good opportunity was lost to the officers for getting an exposure to the floriculture development in other states.

12. Information technology (Table 6.7.14)

Table 6.7.14 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware (No.)	61	61	100.0	0.850	0.821	96.5
Total					0.85	0.821	96.5

The list of offices where computer is installed is given as Appendix-I. The allotted funds were utilized almost completely. As Krishi Bhavans are not having telephone connection, the officers are not in a position to utilize the facility for extension work, and now the use is mostly confined to administrative work.

13. Women in agriculture (Table 6.7.15)

The funds were allotted for this scheme only towards the fag end of financial year. Out of Rs.3.75 lakhs allotted, Rs 2.9 lakhs was utilized. This is encouraging since there was only a short time available for implementation.

Table 6.7.15 Target and achievement of Women in agriculture

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Agroprocessing units (No.)	13	13	100.0	3.125	1.625	52.0
2.	Vermicompost units (No.)	51	51	100.0	0.625	1.275	>100.0
Total					3.75	2.89	77.0

Thirteen agro processing units and 51 vermicomposting units could be established. The agro processing unit under Kunnukara Krishibhavan was visited. The self help group of women “V-Seven” under the guidance from the Department officials could establish a pickle making unit where different types of pickles are being prepared. The seven members of this group have undergone a training programme on processing. According to the women group, major problem they face is marketing of the produce, as nearby “Kudumbasree” units are also selling pickles. Hence direct marketing also do not work in the locality and other marketing strategies may have to be adopted, which they are now searching for.

SUMMARY

The overall evaluation of the schemes implemented in the district indicated satisfactory performance in terms of physical as well as financial progress. Out of the 13 schemes implemented, the achievements of only two schemes i.e. Rice development and Agricultural marketing and quality control were low. The reason for poor performance of Rice development scheme was the same as that in the case of Thrissur, as allotment of Rs. 20 lakhs was for infrastructure development for seed storage and Rs. 3.30 lakhs was for Pokkali rice. In the case of assistance for HYV seed, the reasons for poor achievement are many which has to be taken care of while implementing the scheme in future. Steps to overcome delay, hindering implementation of components like market infrastructure also may be looked into. Special components like “Promotion of Pokkali rice as organic rice “ deserve more attention.

6.8 THRISSUR

The total geographical area of the district is 299390 ha; of which 145250 ha is the net area sown and 80729 ha is the net irrigated area. The major crops are coconut, rice, arecanut, banana and vegetables. The cropping pattern of the district is furnished in Table 6.8.1.

Table 6.8.1 Cropping pattern in Thrissur District during 2002-03

Sl. No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	37274	12.00
2.	Coconut	86068	9.57
3.	Banana	2844	5.10
4.	Tapioca	1376	1.32
5.	Vegetables	1170	4.45
6.	Arecanut	7526	7.72
7.	Cashew	3854	4.35
8.	Rubber	13396	2.81
9.	Pepper	4583	2.20
10.	Ginger	136	1.51
11.	Turmeric	125	3.98

Fourteen schemes under macro management in agriculture are operational in the district. Rice development enjoys the major share of allotment (54%) followed by floriculture development (17%).

An abstract of the scheme-wise final target and achievements of Thrissur district is presented in Table 6.8.2.

Table 6.8.2 Abstract of Scheme-wise financial target and achievements of Thrissur

Sl.No.	Scheme	(Rs. lakhs)			Percentage achievement	Remarks
		Allotment	Revised Allotment	Achievement		
1.	Rice development	64.2250	64.225	15.056	23.44	
2.	Pepper development	3.7500	3.85	3.457	89.8	
3.	Development of other spices	7.4750	7.475	5.751	76.94	
4.	Cashew development	0.8250	0.925	0.883	95.46	
5.	Vegetable development	5.1000	5.100	5.1	100.0	Convergence programme (AEZ)
6.	Fruit development	4.750	4.750	4.750	100.0	Convergence programme (AEZ)
7.	Soil and plant health clinics	1.000	1.000	0.04	4.00	
8.	Use of plastics in agriculture	1.000	0.53	0.53	100.0	
9.	Agri. extension and training	1.600	2.7625	2.75953	99.89	
10.	Small farm mechanization	4.000	4.32	3.777	87.43	
11.	Agricultural marketing and quality control	5.440	5.69	0.69	12.13	
12.	Floriculture development	20.430	20.425	14.79393	72.43	
13.	Information technology	0.3500	0.350	0.344	98.37	
14.	Women in agriculture	NA	11.137	7.539	67.69	
Total		120.9400	133.545	65.472	49.02	

SCHEME-WISE PROGRESS

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented.

1. Rice development (Table 6.8.3)

Table 6.8.3 Target and achievement of Rice development

Sl.No.	Components	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Seed production programme						
a	Assistance for seed production (ha)	960	882.373	91.91	Expenditure through KSSDA		
b	Infrastructure development for storage of seeds (No.)	1	Nil	0	20.000	0	0
c	Assistance for cultivation of High Yielding Variety seeds (t)	1200	177.593	14.80	24.000	3.550	14.80
2.	Promotion of INM						
a	Distribution of green manure seeds (t)	25	24.7	98.89	0.625	0.618	98.88
b	Promotion of biofertilisers	4000	3470.7	86.71	2.000	1.870	93.5
3.	Integrated Pest Management (IPM)						
a	IPM demonstration plots(No.)	50	50	100.0	1.250	1.250	100.0
b	Production and distribution of biocontrol agents						
	Pseudomonas (kg)	2000	2500	>100	Expenditure through SBCL		
	Trichocards(cc)	4250	6318	>100			
c	Farmers Field Schools (No.)	25	25	100	5.670	5.6023	98.81
4	Laying location specific demonstration plots for popularisation of suitable varieties (No.)						
a	Varsha	2	2	100.0	0.515	0.515	100.0
b	Gowri	2	Nil	0	0.515	0	0
5	Promotion of Pokkali rice as organic rice.						
a	Assistance for seed (ha)	500	Nil	0	2.000	0	0
b	Assistance for lime (ha)	500	Nil	0	5.000	0	0
c	Assistance for marketing	-	Nil	0	1.000	0	0
6	EI	-	-	-	1.65	1.6485	99.90
Total					64.225	15.05551	23.08

The total allotment for rice development programme in Thrissur district is Rs.304.22 lakh which includes the allotment for KSSDA. The allotment under RSGP

for KSSDA is Rs.140 lakh and for the seed bank programme Rs.100 lakh. Thus though an amount of Rs.240 lakh was allotted, the amount could not be drawn by JDA, KSSDA due to treasury ban. Considering this, the actual allotment for the district is only Rs.65.225 lakh, out of which expenditure is only Rs.15.055 lakh.

Though KSSDA submitted plan and estimate for construction of seed store, finance wing of the Directorate of Agriculture has objected the proposal. The proposal was submitted for construction of seed store and processing unit in Thrissur and Palakkad districts at an expenditure of 30 lakhs each and construction of seed store alone at a cost of Rs 15 lakhs each in three districts namely Palakkad, Malappuram and Thrissur. It is understood that the finance wing had raised objections based on the existing financial code of conduct for construction works.

The full target could not be attained in the case of RSGP. However, the achievement is encouraging. The main reason for the short fall was the difficulty in getting compact area under rice cultivation during Virippu season. Area under Virippu crop is comparatively low in the district, the plots are small and fragmented and the rice is mainly raised as broadcasted crop. For seed production transplanting is essential.

The component with very poor progress of implementation is the assistance for HYV seed. The physical achievement is only 177.59 t out of 1200 t seeds targeted for assistance.

The progress of the scheme at Vellangallur Block and Mala Block was assessed. The targets and achievements of five Krishi Bhavans of Vellangallur Block are:

Name of Krishi Bhavan	Physical (t)		Financial(Rs.Lakhs)		Financial Achievement
	T	A	T	A	%
Padiyoor	8000	690	16,000	1380	8.60
Poomangalam	8000	30	16,000	60	0.40
Puthenchira	14,000	3000	28,000	6000	21.00
Velookkara	15,000	2310	30,000	4620	15.40
Vellangallor	15,000	2490	12,000	4980	41.00

It could be seen that the achievement is on an average below 20 per cent.

The Assistant Directors attributed the poor achievement to low subsidy portion. The actual price of seed is Rs 14/kg where as subsidy is only Rs 2/kg. Earlier the subsidy

was Rs 5/kg. Now majority of the farmers of the area are using seeds produced in their fields itself.

The achievement of IPM and INM components are cent per cent. Even then the demand for biofertilisers and green manure seeds are low. Here also the subsidy is too low. The cost of green manure seed is Rs.14/kg where as subsidy is only Rs.2.5/kg. The green manure seeds were supplied by Regional Agro Industrial Development Corporation of Kerala Ltd. (RAIDCO) IPM demonstration plots were very effective. There is reduction in pesticide use by the farmers, consequent to the demonstrations.

The farmers' field schools conducted at Velloorkara and Padiyoor panchayat had helped the farmers in getting an orientation to organic pesticides and biocontrol agents.

The achievement in the case of IPM component is commendable with more than 100 per cent. Achievement in the distribution of biocontrol agents (*Pseudomonas* and *Trichogramma*). The location of Biocontrol Laboratory in the district has probably helped in this achievement.

It was observed that out of the four demonstration plots of new varieties, two demonstrations could not be laid out due to non-availability of seeds of the variety 'Gouri' from the Rice Research Station, Moncombu. By the time the variety came to harvest at the Research Station, the crop season was over and hence the seeds could not be distributed. (Only one crop is raised Mancompu which is situated in Kuttanad).

The district has only 194 ha area under pokkali cultivation distributed in three blocks - Mala, Vellengallur and Kodungallur. For pokkali cultivation, the funds were released only in October and hence there was no physical and financial achievement for this component, since Pokkali cultivation is from May-June to Sep-Oct.

2. Pepper development (Table 6.8.4)

Table 6.8.4 Target and achievement of Pepper development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1	Production and distribution of rooted pepper cuttings departmental farms (Lakh No.)	5	3.47	66.94	3.75	3.35689	89.52
2	TE	-	-	-	0.100	0.100	0.0
Total					3.850	3.45689	89.79

The physical target was production of 5 lakh-rooted cuttings of pepper. The target was allotted to six farms one lakh numbers each to SSF, Mannuthy, Pazhayannur and Pananchery and 1.5 lakh numbers to DAF, Chelakkara and 0.25 lakh numbers each to SSF, Nadavaramba and Kodassery. But a production of 3.457 lakh numbers of rooted cuttings only could be achieved. The shortfall was due to quickwilt. The cuttings were mainly distributed to Wayanad and Kasaragod districts and only less number of cuttings were distributed to farmers within the district.

A visit to SSF, Pananchery was made. It was observed that though prophylactic sprayings were given to the rooted cuttings, severe incidence of quick wilt had resulted in loss of more than 50 per cent of cuttings produced here. The varieties used were Panniyur and Karimunda. The distribution of the cuttings was under progress and not complete at the time of visit.

At SSF, Mannuthy one lakh numbers of rooted cuttings were produced. Out of this 76,300 numbers were transported to Wayanad district and the remaining cuttings were kept for sale to farmers @ Rs.1.5/cutting, when the visit was made.

3. Development of other spices (Table 6.8.5)

Table 6.8.5 Target and achievement of development of other spices

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1	Ginger						
a	Multiplication of planting material in farmers field (ha)	2.5	2.5	100.0	0.500	0.500	100.0
b	Layout of field demonstration (No)	6	6	100.0	1.125	1.125	100.0
2	Turmeric						
a	Multiplication of planting material in Departmental Farms (ha)	0.5	0.5	100.0	0.325	0.30435	93.65
b	Layout of field demonstration	15	15	100.0	1.875	1.875	100.0
3	Tree spices						
	Production and distribution of quality planting materials (No.)						
a	Clove seedlings	20000	12000	60	1.8	0.95591	53.106
b	Cinnamon seedlings	3000	3000	100.0	0.09	0.09	100.0
c	Nutmeg grafts	1500	500	33.33	0.450	0.141	0.0
d	Garcinia grafts	1100	-	-	0.550	0.0	0.0

4	Training programmes						
a	Training programme on post-harvest management (No.)	8.0	8.0	100.0	0.560	0.560	100.0
b	Training on product diversification and value addition (No.)	2.0	2.0	100.0	0.200	0.200	100.0
Total					7.475	5.75095	76.94

1. Ginger

The variety used for multiplication of planting material was 'Varada'. The seed rhizomes were procured from a farmer, who is a registered seed grower of Indian Institute of Spices Research (IISR), Kozhikode. Though 100 kg of rhizomes were harvested, it was used on the farm itself for further multiplication.

2. Turmeric

As the scheme was delayed, the programme could not be implemented in the actual planting season i.e. April-May. The varieties of turmeric used for multiplication of planting material were "Prabha" and "Prathibha". Prabha and Prathibha were planted in an area of 0.5 ha last year, of which only Prathibha was harvested. Prabha was not harvested, as it was severely affected by drought. About 1000 kg of rhizome was the yield, which is now planted in 0.5 ha area for seed purpose. The seed material was produced at the farm itself from the seeds purchased from registered IISR farmers in the previous year.

3. Cinnamon

The production of cinnamon seedlings, nutmeg and garcinia grafts were also allotted to SSF, Mannuthy. The seeds of cinnamon and quality mother plants of nutmeg are available at the farm itself. The targeted 3000 numbers of cinnamon seedlings were produced and kept ready for sale @Rs 3/seedling.

4. Nutmeg

Out of the targeted 1500 numbers of nutmeg grafts, only 500 grafts could be produced. The success percentage is below 50 per cent. The price is Rs.80/graft for general sale, though farmers are getting the grafts at a price of Rs.10/graft under subsidized rates. Though SSF, Pananchery was also allotted the target of production of nutmeg grafts, the achievement is 'nil' as there is no mother plant of nutmeg in the farm.

5. Clove

The target of production of 20,000 numbers of clove seedlings was allotted to SSF, Pananchery. Though 100 kg seeds were sown, the seeds were of poor quality, which

resulted in poor germination percentage of only 27-35%. The seeds were purchased from Kuleena Estate, PTP Nagar, Thiruvananthapuram (a private firm). Out of the total seedlings, 6000 seedlings were transported to Malappuram district for distribution to various Krishi Bhavans. The remaining seedlings are kept for general sale. However, incidence of fungal disease is a big threat to the establishment of seedlings, though periodic sprayings are being given.

6. *Garcinia*

The production of *Garcinia* grafts could not be undertaken at SSF, Mannuthy (target was 1100 numbers) due to the nonavailability of mother plants in the farm. Though scions were taken from farmer's field and grafting attempted, it failed. The entire amount was surrendered.

4. Cashew development (Table 6.8.6)

Table 6.8.6 Target and achievement of Cashew development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Distribution of plant protection equipments (No.)	25	25	100.0	0.200	0.18463	92.315
2.	Establishment of demonstration plots (No.)	25	25	100.0	0.625	0.5984	95.750
3.	EI	-	-	-	0.100	0.100	100.00
Total					0.925	0.883	95.45

There is cent per cent achievement in both distribution of plant protection equipments and establishment of demonstration plots. The demonstration plot laid out at Puthur Panchayath was visited. Though the farmer had planted 25 seedlings, due to severe drought, only a few seedlings were seen survived. The farmer, Mr. Ajith Peter, Mooppattil, Chennaippara (P.O.), Puthur said though he provided shade and mulch, the seedlings could not overcome the severe drought. The same was the case with other demonstration plots also in the district.

5. Vegetable development (Table 6.8.7)

Table 6.8.7 Target and achievement of Vegetable development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1	Vegetable seed production (ha)	1	0	0.0	0.100	0.0	0.0

2	AEZ area expansion of vegetables (ha)	100	100	100.0	5.000	5.000	100.0
Total					5.100	5.100	100

An area of 100 ha has been brought under vegetable cultivation. The scheme was implemented in five blocks namely Wadakkanchery, Pazhayannur, Ollukkara, Kodakara and Irinjalakkuda. The vegetable plot of Mr. Ajith Peter, Mooppattil, Chennaippara (P.O) in Puthur Panchayath was visited. He has grown snake gourd var. Baby in an area of 50 cents. Two harvests were already over during the visit and he informed that he was selling the produce at Thrissur market, though the programme is meant for export promotion.

The details regarding vegetable seed production programme were not furnished.

6. Fruit development (Table 6.8.8)

Table 6.8.8 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of export oriented banana cultivation (ha)	30	30	100.0	4.500	4.500	100.0
2.	Establishment of small private nurseries (No.)	1	1	100.0	0.250	0.250	100.0
Total					4.750	4.750	100.0

An area of 30 ha has been brought under export oriented banana cultivation in the blocks of Ollukkara, Kodakara and Irinjalakkuda. The harvested bunches are sold in the internal market through VFPCCK outlets. The component on establishment of small private nursery was completely entrusted to Social Action Forum, Irinjalakuda an NGO. The Federal Bank, Padiyoor branch, has passed the loan amount. However, the subsidy amount is kept in suspense account of the PAO pending implementation of the component.

7. Soil and plant health clinics (Table 6.8.9)

Table 6.8.9 Target and achievement of Soil plant health clinics

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	100	4	4.0	1.00	0.04	4.0
Total					1.000	0.04	4.0

Hundred numbers of soil testing campaigns were initially targeted. However, the achievement reported is only four. Hence the financial achievement is only 0.04 lakh and balance amount of Rs. 0.96 lakh was refunded. It was reported that short fall during 2003-04 was due to carry over target of previous year which was achieved during 2003-04. However, progress regarding backlog achievement is not furnished

8. Use of plastics in agriculture (Table 6.8.10)

Table 6.8.10 Target and achievement of Use of plastics in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of drip irrigation (ha)	2.22	2.22	100.0	0.250	0.250	100.0
2.	Setting up of green house (m ²)	500	500	100.0	0.200	0.200	100.0
	AEZ green house (commercial farm)**				0.08	0.08	100.0
Total					0.530	0.530	100.0

** Commercial farm not selected during 2003-04. The fund encashed (Rs.8,000) will be utilized in 2004-05.

The revised target is only 0.53 lakh and the expenditure is cent percent. There was component change and assistance was given for green house and drip irrigation.

The field of Mr.V.L.Thomas, Vadakkepeedika, Kalletungara, Iringalakuda who has availed subsidy for installation of drip irrigation under Aloor panchyat of Mala Block was visited. It was found that the farmer is utilizing the drip irrigation system installed for crops like vanilla, nutmeg and pathimukom in an efficient manner.

8. Agricultural extension and training (Table 6.8.11)

Table 6.8.11 Target and achievement of Agricultural extension and training

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Training to extension personnel - 2-days (no.)	17	17	100.0	0.850	0.850	100.0
2.	Farmers' training 3-days (no.)	5	5	100.0	0.700	0.69703	99.58
3.	MDDT						
a	Area (ha)	16	16	100.0			
b	Assistance to farmers	-	-	-	0.800	0.800	100.0
c	Contingencies	-	-	-	0.090	0.090	100.0

d	Honorarium to scientists	-	-	-	0.0225	0.0225	100.0
4.	District level interface	1	1	100.0	0.300	0.300	100.0
Total					2.7625	2.75953	99.89

The achievement is complete. Seventeen numbers of trainings to extension personnel and five numbers of farmers' training were conducted. The details regarding the trainings organized are not maintained at district level. The MDDT component was implemented and the district has a team constituted for the purpose with the following members from KAU

1. Dr. C.T. Abraham, Associate Professor & Head, Dept. of Agronomy, College of Horticulture, Vellanikkara (Chairman)
2. Dr. U. Jaikumaran, Associate Professor & Head, Agricultural Research Station, Mannuthy
3. Dr. Jim Thomas, Associate Professor & Head, Department of Entomology, College of Horticulture, Vellanikkara
4. Dr. Sam T. Kurumthottikkal, Associate Professor, Department of Soil Science and Agricultural Chemistry, College of Horticulture, Vellanikkara
5. Dr. Sally K. Mathew, Associate Professor, Department of Plant Pathology, College of Horticulture, Vellanikkara
6. Dr. C. Narayanankutty, Associate Professor (Horticulture), Agricultural Research Station, Mannuthy

The major problem identified by the team was boron deficiency in coconut for which control measures have been recommended.

The taskforce has observed that MDDT functioning in Thrissur District is the most effective team compared to other districts. The team of scientists, which are found to be effective, makes the visits.

9. Small farm mechanization (Table 6.8.12)

Table 6.8.12 Target and achievement of Small farm mechanization

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Garden tiller (No.)	5	4	80	0.750	0.550	73.33
2.	Tractor (No.)	2	1	50	0.600	0.300	50.00
3.	Power tiller (No.)	4	11	>100	1.200	2.56744	>100
4.	Winnower/Reaper (No.)	3	-	-	0	0	0
5.	Threshers (No.)	3	-	-	0	0	0
6.	Power sprayers/dusters	5	74	-	1.450	0.35979	24.813

	(No.)						
7.	AEZ (comm. farm tiller and sprayer)	-	-	-	0.320	0	0
Total					4.32	3.777	87.43

The targets were revised, as there was no demand for winnowers, reapers and threshers. However, the allotment was not fully utilized and expenditure is 87 per cent. The balance amount of Rs.0.543 was surrendered.

Vellangallur block of Thrissur district was visited to study the implementation of this scheme in the field. Apart from tiller, Aspee knapsack sprayer and rocker sprayer were also given on subsidy from this block. Mr. Subramanian, Thenassery of Vellangallur Panchayath who has purchased power tiller under SFM scheme was visited. The actual cost of the CAMPCO (model ER 90N/KHB94P) power tiller is Rs. 89300/- and accessories worth Rs.6185/- were also purchased. The subsidy amount availed by the farmer is Rs. 22325/-. The farmer is utilizing the machinery for tillage operations in his field. Two more beneficiaries each from Poomangalam Panchayat and Padiyoor Panchayath of the same block have also availed subsidy for purchase of power tiller, were also visited.

10. Agricultural marketing and quality control (Table 6.8.13)

Table 6.8.13 Target and achievement of Agriculture marketing and quality control

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training (no.)	2	2	100.0	0.16	0.160	100.0
2.	Farmers' training (no.)	1	1	100.0	0.08	0.08	100.0
3.	Market infrastructure (no.)	1	Nil	0.0	5.00	0.0	0.0
4.	One day seminar (no.)	1	1	100.0	0.200	0.200	100.0
5.	TE	-	-	-	0.050	0.04984	99.68
6.	POL	-	-	-	0.200	0.19628	98.14
Total					5.69	0.68612	12.13

Though Pazhanji market was selected for market infrastructure development, the project could not be implemented due to the difficulties experienced in getting contribution from the panchayat. The area selected for the market infrastructure was a low-lying area, which needed filling up before starting construction work. This also led to difficulty in the implementation and the entire amount of 5 lakhs was surrendered. The general opinion is that the selection of site for the market itself was inappropriate.

12. Floriculture development (Table 6.8.14)

Table 6.8.14 Target and achievement of Floriculture development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Area expansion						
a.	Seed variety (units)	25	20	80.0	0.250	0.200	80.0
b.	Traditional variety (units)	-	64	-	0.625	3.66744*	>100
c.	Orchids/ Anthurium (units)	75	44	58.66	18.75	10.32649	55.074
2.	Ten days farmer's training	1	1	100.0	0.500	0.500	100.0
3.	Two day officer's training	3	1	33.3	0.300	0.100	33.33
Total					20.425	14.79393	72.43

- Reallocation within the scheme

The scheme was implemented in 15 blocks 64 bush jasmine units 20 marigold units and 44 orchid/anthurium units were established. Two orchid and anthurium units established at Vilvattom Panchayat of Ollukkara block were visited. The beneficiaries are Mrs. Kanthmathi Balakrishnan, Cheroor and Kathrine Johnson, Thrissur. The farmers' have availed Rs.25000/- as subsidy. The farmers have purchased planting materials, manures, fertilizers, and greenhouse structures for an amount of Rs. 1.0 lakh.

There was component change and a part of allocation under orchid/anthurium was utilized for bush jasmine. The bush jasmine cultivation at Madakkathara Panchayat was also evaluated and the plants were observed coming up well.

An amount of Rs. 5 lakhs was surrendered. This was mainly because the scheme was implemented late. The working instruction for the scheme was issued only in August 2003.

13. Information technology (Table 6.8.15)

Table 6.8.15 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware (No.)	70	70	100.0	0.35	0.34431	98.37
Total		70	70	100.0	0.35	0.34431	98.37

The computers were installed in 70 offices (65 nos at Krishi bhavan offices and 5 at PAO's office). The list of Krishi Bhavans where computer is installed is given as Appendix. However, all the officers are not trained in computer operation. All the

ADA's had received training, where as only few AO's and AA's are found computer literate.

14. Women in agriculture (Table 6.8.16)

Table 6.8.16 Target and achievement of Women in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Execuational cost.	-	-	-	0	0	0
a	Hon. For facilitators	-	-	-	0.720	0.38451	53.40
b	Grant for overheads	-	-	-	0.120	0	0
2.	Training & Extension cost.						
a	Basic survey	-	-	-	0.0325	0.0325	100.0
b	Farm women group training	-	-	-	1.5375	1.435	93.33
c	Facilitators training	-	-	-	0.050	0.050	100.0
d	Link workers training	-	-	-	0.100	0.100	100.0
e	TE for facilitators	-	-	-	0.3265	0.090	0.0
3.	Monitoring and evaluation	-	-	-	0.250	0.0	0.0
4.	Assistance to women groups	-	-	-	2.000	0.0	0.0
5.	Assistance for new enterprises	-	-	-	6.000	5.4465	90.77
	Total				11.1365	7.53851	67.69

Though the programme was implemented very late, the works such as baseline survey, farmwomen group training, facilitators training and link workers training were not conducted. Training to farmwomen was conducted. Most of the women groups have started new enterprises. Women groups are engaged in activities like vermicomposting, banana cultivation, vegetable cultivation, agro processing etc.

The major bottleneck in the implementation was the late issue of working instructions, which resulted in late implementation. Such delay should not have occurred in the case of loan- linked programmes. The banks did not entertain the loan applications submitted after March 15th.

At Mala Krishi Bhavan of Mala Block, 5 units were established. But the scheme could not be implemented. The newly started branch of Federal Bank, Mala did not entertain the loan application, though earlier they had agreed to provide loan for the scheme.

At Velookkara Krishi Bhavan of Vellangallur block, the women groups have established vermicomposting units. Here 16 units have been established. The estimate

for a single unit is Rs 10000 and the beneficiaries have availed Rs 2500 as subsidy. The amount is given as loan and the loan is sanctioned mainly by Service Co-operative Bank of the panchayat.

SUMMARY

It could be seen that the poor progress of implementation of three schemes ie; Rice development, Soil and plant health clinics and Agricultural marketing and quality control had resulted in overall utilization of only 50 per cent of funds allotted to the district. The major share of allotment was for rice. Under rice development the non-implementation of a major component ie, infrastructure for storage of seeds, (outlay Rs. 20 lakhs) and very poor progress of the component on assistance for HYV seed (outlay Rs. 24 lakhs) resulted limiting the expenditure to only 23 per cent of total allotted funds. The component for Pokkali rice was not implemented in Thrissur district due to late release of funds. However, excluding these, the schemes have been implemented fairly well in the district and field level verifications also indicated the same.

6.9 PALAKKAD

The total geographical area of the district is 438980 ha of which 204169 ha is net sown area and 75531 ha net irrigated area. Rice is the major crop of the district. More than one-third of State area under rice is in Palakkad.

The major crops of the district are rice, coconut, rubber, vegetables and pepper. The cropping pattern in Palakkad District is furnished in Table.6.9.1

Table 6.9.1 Cropping pattern in Palakkad district during 2002-03

Sl. No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	115910	37.33
2.	Coconut	53207	5.92
3.	Banana	8155	14.65
4.	Tapioca	4960	4.76
5.	Vegetables	6408	24.47
6.	Arecanut	4936	5.06
7.	Cashew	5463	6.17
8.	Rubber	29064	6.10
9.	Pepper	5482	2.63
10.	Ginger	1133	12.59
11.	Turmeric	698	22.22

Fourteen schemes are operational in the district. The major share of allotment is for rice development (34.6%) followed by floriculture development (18.7%), pepper development (13.8%), fruit development (8.5%) and cashew development (8.3%).

An abstract of the scheme-wise target and achievement in the case of Palakkad District is given in Table 6.9.2.

Table 6.9.2 Abstract of scheme-wise financial target and achievement of Palakkad District

Sl.No.	Scheme	Allotment	Revised Allotment	Achievement	Percentage achievement	Remarks
		Rs. Lakhs				
1.	Rice development	72.6050	71.250	17.1689	24.10	
2.	Pepper development	28.8900	28.89	28.775	99.60	
3.	Development of other spices	6.2600	7.58	5.5885	73.6	
4.	Cashew development	17.3250	19.125	19.11211	99.41	
5.	Vegetable development	5.1000	5.10	5.10	100.00	Convergence programme (AEZ)
6.	Fruit development	17.7500	17.750	15.250	85.90	Convergence programme (AEZ)
7.	Soil and plant health clinics	1.0000	1.050	1.050	100.00	
8.	Use of plastics in agriculture	4.6250	4.625	4.6233	100.00	
9.	Agri. extension and training	3.5000	3.5	3.4835	99.52	
10.	Small farm mechanization	5.1000	5.100	4.4565	87.38	
11.	Agricultural marketing and quality control	5.4400	5.44	0.240	4.41	
12.	Floriculture development	39.1250	39.125	39.1103	99.96	
13.	Information technology	0.7500	0.75	0.64004	85.34	
14.	Medicinal and aromatic plants	2.1200	2.120	2.1153	99.78	
Total		209.5900	211.405	146.713	69.39	

SCHEME-WISE PROGRESS

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented.

1.Rice development (Table 6.9.3)

Table 6.9.3 Target and achievement of Rice development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Seed production programme						
a	Assistance for seed production (ha)	1000	882	88	Expenditure through KSSDA		
b	Infrastructure development for storage of seeds (No.)	1	Nil	0	20.000	0	0
c	Assistance for cultivation of High Yielding Variety seeds on padashekham basis (t)	1600	541.59	33.85	32.000	5.0572	15.80
2.	Promotion of INM						
a	Distribution of green manure seeds (t)	40	19	47.50	1.000	0.475	47.50
b	Promotion of biofertilisers (ha)	10000	7993.5	79.93	5.000	3.99721	80
3.	Integrated pest management						
a	IPM demonstration plot	50	6	12.00	1.250	0.517	41.36
b	Production and distribution of biocontrol agents						
	Pseudomonas (kg)	4500	3500	77.78	Expenditure through SBCL		
	Trichocards(cc)	4250	1600	37.65			
c	Farmers field schools (No.)	25	25	100	5.670	5.5501	97.89
4.	Laying location specific demonstration plots						
a	Varsha	3	-	-	0.7725	0	0
b	Swetha	5	-	-	1.2875	0	0
c	Koottumundakan variety	10	-	-	2.575	0	0
5.	EI	-	-	-	1.65	1.57236	95
Total					71.25	17.1689	24.10

The major share of allotment was for rice development programme (Rs.71.250 lakhs). The achievement is very poor with an expenditure of only about 25 per cent of allotment. This should be viewed very seriously, Palakkad being the rice granary of Kerala. In rice development programme, Rs.32 lakhs was earmarked as assistance for

cultivation of HYV seeds, and 20 lakhs for infrastructure development for storage of seeds. In the case of assistance for HYV seeds only one third of target could be met.

The reasons for this are:

1. Severe drought affected the successful implementation. Also, seeds were made available to the farmers on 100 per cent subsidy as part of drought relief programme. This reduced further achievement under this scheme.

2. As the seeds were not available with KSSDA, an amount of Rs.30.52 lakhs was resumed.

3. The subsidy is too low and hence farmers are not interested to buy the seeds. The price for 1 Kg seed is Rs.14/- out of which only Rs.2/Kg is the subsidy.

In RSGP, the major problems that hindered successful implementation of the scheme were drought and BPH infestation.

The demonstration plots for popularisation of new varieties could not be laid out due to non-availability of seeds and hence the entire amount was surrendered.

Though 50 IPM demonstration plots were targeted, only six could be laid out due to severe drought condition.

The evaluation team interviewed some of the beneficiaries of rice development programme at Lakkidi Perur Krishi Bhavan of Shoranur Block. Sri. Chamunni, Ushus, Thekkumcherode, Mangalam(P.O) and Sri, A.Janardhanan, Avinjiyil House, Kotta, Akaloor(P.O) also opined that the subsidy rate for HYV seed is very low. Shortage of irrigation water is the major problem for rice cultivation in the area.

2. Pepper development (Table 6.9.4)

Table 6.9.4 Target and achievement of Pepper development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings (Lakh No.)	10	9	90	7.500	7.500	100
2.	Area expansion through intercropping (Lakh No.)	0.3	0.3	100	1.500	1.500	100
3.	Rehabilitation of old and senile gardens (ha)	400	400	100	16.000	15.8994	99.37
4.	Development of infrastructural facilities for Departmental pepper nurseries and establishment of progeny gardens	-	-	-	2.000	2.000	100

5.	Promotion of organic pepper second year (ha)	100	100	100	1.450	1.43525	98
6.	Training on production of organic pepper, post harvest management, value addition and quality maintenance						
a.	2- day training programme to field officers	1	1	100	0.140	0.140	100
b.	1- day training programme to farmers and representative of women groups	2	2	100	0.300	0.300	100
Total					28.89	28.775	99.6

The achievement is 100 per cent in the case of all the components. Panniyur and Karimunda were the varieties selected for production of rooted cuttings. The multiplication was carried out in eight farms in the district.

Drought resulted in the poor establishment of the cuttings planted under the components intercropping and rehabilitation in some areas of the district. One of the beneficiaries of the scheme, Sri. Ibrahim, Valayil House, Akaloor(P.O) of Shoranur block has planted pepper cuttings in an area of 50 cents in his coconut garden and the crop stand was good. In the case of rehabilitation, though physical target was achieved, due to drought, farmers could not apply the fertilizer and hence financial achievement is not complete.

For infrastructure work, six farms were identified – Malampuzha, Ananganadi, Kongad, Muthalamada, Kunnannur and Alathur. The major works carried out include construction of green house, shade net and irrigation facilities.

3. Development of other spices (Table 6.9.5)

Table 6.9.5 Target and achievement of Development of other spices

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Ginger						
a	Multiplication of planting material in Departmental Farms (ha)	2.75	2.75	100	2.200	2.200	100
b	Multiplication of planting material in farmers field (ha)	1.5	1.5	100	0.300	0.300	100
2.	Turmeric						
a	Multiplication of planting	1	1	100	0.650	0.65	100

	material in Departmental Farms (ha)						
3.	Tree spices						
1.	Production and distribution of quality planting materials (no.)						
a	Clove seedlings	20000	2000	10	1.80	0.48	26
b	Cinnamon seedlings	3000	1500	50	0.09	0.035	50
c	Nutmeg grafts	2000	500	25	0.6	0.15	25
4.	Training programmes						
a	Training programme on post-harvest management (No.)	6	5	83	0.42	0.35	83
b	Training on product diversification and value addition (No.)	2	1	50	0.20	0.10	50
5.	EI	-	-	-	1.32	1.32*	100.0
Total					7.58	5.585	73.6

(*Rs.1.32 lakhs resumed from H.D. Farm, Malampuzha for transportation of pepper.)

Out of 6.26 lakhs allotted to the district, 5.585 lakhs was the expenditure.

The achievement in the case of ginger and turmeric is 100 per cent. Turmeric varieties Alleppey, Prabha and Prathibha were selected for multiplication of planting material. As the planting season was over by the time the scheme was allotted to the district, planting could not be undertaken in 2003-04. However, the seeds were procured and planting was done during April 2004. The target could not be achieved in the case of production of clove seedlings and nutmeg grafts. The targeted number of clove seedlings could not be produced due to the poor germination percentage of seeds supplied. In the case of nutmeg, the poor achievement was due to the fact that there is no mother plants of nutmeg for collection of scion at Central Orchard, Pattambi to which the scheme was allotted. Such unrealistic allotment of targets may be dispensed with. The target for production of cinnamon seedling was reduced to 1500 from 3000 numbers due to limitation of space at Central Orchard, Pattambi, to which the scheme was allotted. Also, there is no demand for seedlings of cinnamon.

As advance drawal was not permitted, two trainings could not be conducted and hence an amount of Rs. 17,000/- was surrendered.

4. Cashew development (Table 6.9.6)

Table 6.9.6 Target and achievement of Cashew development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Area expansion in waste land (ha)	266.674	269	>100	16.000	16.000	100.0
2.	Replanting/ rehabilitation of old and uneconomic gardens (ha)	*	-	-	0	0	0
3.	Adoption of plant protection measures (ha)	50	50	100	0.500	0.5000	100.0
4.	Distribution of plant protection equipments (No.)	25	38	>100	0.200	0.19193	95.96
5.	Establishment of demonstration plots (No.)	25	25	100	0.625	0.62365	99.78
6.	EI	-	-	-	1.8	1.78981	99.4
Total					19.125	19.11211	99.41

*Component change to area expansion

The achievement is almost cent percent. The component on rehabilitation was converted as new planting and an area of 269 ha could be brought under cashew. The varieties used for demonstration plots were Dhana and Madakkathara-1. The demonstration plot laid out in the field of Sri Sukumaran, Sukunilayam, Nellikurissi, Manjaloor (P.O) of Lakkidi Perur Krishi Bhavan was visited as part of evaluation and it was seen that the grafts of variety Dhana is planted in an area of 50 cents at the recommended spacing of 7.5x7.5m. The grafts have established well. However, in the same panchayat there are reports of poor establishment of cashew grafts due to incidence of drought as in the case of Sri. Dinakaran, Idathodi, Lakkidi Peroor (P.O), Shoranur.

5. Vegetable development (Table 6.9.7)

Table 6.9.7 Target and achievement of Vegetable development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AEZ area expansion of vegetables (ha)	100	100	100	5.000	5.000	100

2.	District level nursery (No.)	1	-	-	0.100	0.100	100
Total					5.100	5.100	100

An area of 100 ha was brought under solanaceous and cucurbitaceous vegetable cultivation. The programme was implemented in Nenmara Block. Though beneficiary for district level nursery was identified, the party has not submitted the proposal and hence the money was kept in bank.

6. Fruit development (Table 6.9.8)

Table 6.9.8 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of export oriented banana cultivation (ha)	100	100	100.0	15.00	15.00	100.0
2.	Promotion of pomegranate (ha)	25	Nil	0	2.50	0	0.0
3.	District level nursery (No.)	1	Nil	-	0.250	0.250	100.0
Total					17.750	15.250	85.90

Some of the beneficiaries of the scheme on area expansion of export oriented banana cultivation at Mannarkad block was visited. Mr. Jayakrishnan, Madathil house, Pallikuruppu. P.O, Sakthidharan M, Amritha, Pallikuruppu.P.O and Abdul Rahman K.V, Kalladi, Vellathodi, Pallikuruppu(P.O), of Karakurissy panchayat have planted 'Nendran' under this scheme. The plants were six months old and the crop stand was very good when the visit was made.

Promotion of pomegranate cultivation has not been implemented and hence requested for revalidation. Pomegranate, being a high value crop and commercial cultivation is not popular in Kerala, this scheme may be given priority in implementation. Though the beneficiary for district level nursery is already selected, the party has not submitted the project till March 2004. The amount is kept in Savings Bank account at Indian Overseas Bank, Palakkad as per Govt. order.

7. Soil and plant health clinics (Table 6.9.9)

Table 6.9.9 Target and achievement of Soil and plant health clinics

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	100	100	100.0	1.00	1.00	100.0

2.	Unloading charge	-	-	-	0.050	0.050	100.0
Total					1.050	1.050	100

The target of 100 soil-testing campaigns was completed as on 31.03.2004. The campaigns were conducted in all Krishi Bhavans of the district. Soil samples of 45 campaigns were analysed by MSTL and 55 campaigns by Stationary laboratory. The soil health cards of samples analysed by Mobile Soil Testing Lab were distributed, while the distribution of soil health cards from Stationary laboratory is not complete. The communication of soil test results to farmers has not taken place in some cases, which is a serious lapse.

8. Use of plastics in agriculture (Table 6.9.10)

Table 6.9.10 Target and achievement of Use of plastics in agriculture

Sl.No.	Components	Physical				Financial (Rs.Lakhs)		
		T	RT*	A	%	T	A	%
1.	Promotion of drip irrigation (ha)	10	42.45	42.45	100.0	1.125	3.02619	>100.0
2.	Promotion of sprinkler irrigation (ha)	6.66	23.2	23.2	100.0	0.500	1.2448	>100.0
3.	Setting up of green house (m ²)	7500	881	881	100.0	0.3523	0.3487	98.98
Total						4.625	4.6233	99.96

*Revised target

The original targets were revised, as there was no demand for construction of green house. There is no change in financial outlay and out of Rs.4.625 lakhs allotted, Rs.4.6233 lakhs was spent.

The sprinkler irrigation system installed in the field of Sri. P.K. Sukumaran, Avanthi, Kalkulam of Kuthannoor Krishi Bhavan of Kuzhalmannam block was visited. The system is functioning properly and is being utilized for irrigating intercrops in coconut garden. The sprinkler system is of the make 'Ranguta', Bangalore.

9. Agriculture extension and training (Table 6.9.11)

Table 6.9.11 Target and achievement of Agricultural extension and training

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1. a	Training to extension personnel - 2-days (No.)	12	12	100.0	0.600	0.600	100.00
b	Training to extension personnel - 3-days (No.)	4	Nil	0	0.560	0	0
2.	District level interface (No.)	1	1	100.0	0.300	0.300	100.00
3.	AEZ training (No.)	10	3	30.0	0.900	0.900	100.00
4.	MDDT	20	20	100.0	1.140	1.1235	99.00
Total					3.5	3.4835	99.52

The two-day training to extension personnel, district level interface and MDDT were the components implemented. Though four numbers of three day training to extension personnel were targeted, the programme was not implemented due to lack of time and an amount of Rs.56, 000 was refunded.

The topics of AEZ trainings are given below:

Sl.No.	Topic	Resource person
1.	Pesticide and fertilizer application	Sri. Joseph John Therattil, Assistant Manager, VFPCCK
2.	Banana production	Sri. V.S. Pramod, Asst. Manager, VFPCCK
3.	Projects under AEZ	Sri. Janardhanan, S. ADA (AEZ)
4.	Soil and water analysis	Sri. Roy Mathew, Superintendent, ISD Farm, Eruthampetty
5.	Possibilities of AEZ	Ms. Merlin Jose, TA, AEZ
6.	Integrated pest and disease management in banana	Sri. V.S. Pramod, Asst. Manager, VFPCCK
7.	Organic farming	Ms. Santhini, AO, Krishi Bhavan, Thachanpara
8.	Irrigation management	Ms. Sheena, S.L., AO, Krishi Bhavan, Mannarkad
9.	Pest harvest handling and management	Ms. Mini George, AO, SSF, Kunnanur
10.	IPM	Sri. Ajith, K., AO, SBCL, Mannuthy

The MDDT team of the district has the following members

1. Associate Director of Research, RARS, Pattambi, KAU
2. DD (Training), Palakkad
3. Entomologist from KAU
4. Plant Pathologist from KAU

Under MDDT, stem bleeding of coconut, attack of red palm weevil and rhinoceros beetle, sigatoka leaf spot of banana, quick wilt of pepper, mahali disease of arecanut, nematode infestation in banana, yellowing of arecanut, boron deficiency in coconut were the problems for which assistance was given. From a visit to Kuzhalmannam block it was seen that only a single member of the team visited the area, instead of diagnostic team visit as envisaged. This practice may be discouraged to the extent possible, as the purpose of MDDT will be defeated by such individual visits.

10. Small farm mechanization (Table 6.9.12)

Table 6.9.12 Target and achievement of Small farm mechanization

Sl.No.	Components	Physical				Financial (Rs.Lakhs)		
		Original T	Revised T	A	%	T	A	%
1.	Garden tiller (No.)	5	-	-	0	0.750	-	-
2.	Tractor (No.)	2	6	6	100.0	0.600	*1.800	>100
3.	Power tiller (No.)	5	7	7	100.0	1.500	1.733	>100
4.	Winnower/Reaper (No.)	5	-	-	0	1.500	0	0
5.	Threshers (No.)	3	-	1	33.3	0.450	0.024	5.33
6.	Power sprayers/dusters (No.)	15	168	168	100.0	0.300	0.8993	>100
Total						5.100	4.4565	87.38

* As physical targets were revised, the expenditure is more than target in some of the components.

Under this scheme, six tractors, seven-power tillers and one thresher were distributed apart from 168 sprayers. Out of the Rs.5.10 lakh of allotment, Rs.0.614 lakh was surrendered. According to demand from the farmers, the components were changed. The garden tillers were not purchased and instead more number of power tillers and sprayers were distributed on subsidy. A beneficiary of the scheme,

Mr.Udayakumar, S/o. Veerappan, Chemangadu veedu of Kannadi panchayat under Kuzhalmannam block was interviewed. The farmer has availed a subsidy of Rs 30,000 for purchasing Mahindra 475 D1 model tractor [Reg.No: KL-9-585]. The farmer is utilizing the machinery for ploughing his rice fields and is also hiring it to others @ Rs 280 per hour.

Though the original target was 15 numbers in the case of sprayers, it was revised based on the increased demand from farmers. Hence the financial achievement is more than the target.

11. Agricultural marketing and quality control (Table 6.9.13)

Table 6.9.13 Target and achievement of Agricultural marketing and quality control

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training (No.)	1	1	100.0	0.080	0.080	100.0
2.	Farmers' training (No.)	2	2	100.0	0.160	0.160	100.0
3.	One day training (No.)	1	Nil	Nil	0.200	0	0.0
4.	Market infrastructure (No.)	1	Nil	Nil	5.000	0	0.0
Total					5.440	0.240	4.41

Out of Rs.5.44 lakhs allotted, Rs.5 lakhs was for market infrastructure. The infrastructure work is under progress at Kollengode. An amount of Rs. 15 lakhs is the contribution of grama panchayath. As the work is progressing as per the approved plan, the PAO has requested for revalidation of the amount of Rs. 5 lakhs. The expenditure till March 2004 was met by the grama panchayat.

The topics of the trainings conducted under this scheme are:

- Latest techniques in agricultural marketing.
- Market survey and intelligence.
- Procedure for agmark grading.

Though an amount of Rs.20, 000/- was earlier allotted for the District Seminar, it was later resumed as per direction from the Directorate of Agriculture.

12. Floriculture development (Table 6.9.14)

The components were changed as per the demand from farmers. During 2003-2004, 45 floriclubs were established in the district under which 1038 jasmine cultivation units, 160 units of marigold cultivation and one orchid/ anthurium unit were established. The bush jasmine plots of Sri. Jaffar Ali, Padinjaakkara House, Akaloor(P.O) and Sri Ibrahim, Vazhayil House, Akaloor (P.O) were visited by the

taskforce members and it was seen from the records that the farmers have availed subsidy of Rs.2788/- for 12 cent plot for purchase of cuttings and manures. The cuttings were procured from BSS, Palakkad. Marketing of flowers is a major problem here also, as reported from some other districts

Though 4 numbers of 10day trainings were targeted, only two could be conducted due to lack of time and hence an amount of Rs. one lakh was remitted back. Two trainings were conducted by RATTC, Malampuzha.

Table 6.9.14 Target and achievement of Floriculture development

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Area expansion						
a	Seed variety (ha)	20	22	>100	36.125	1.59236	0
b	Traditional variety (ha)	58.34	60.8	>100		34.40795	0
c	Orchids/anthurium	Nil	1	Nil		0.11	0
2.	One day farmer's training	4	2	50.0	2.00	1.00	100.0
3.	Two day officer's training	10	10	100.0	1.00	1.00	100.0
Total					39.125	39.11031	99.96

13. Information technology (Table 6.9.15)

Table 6.9.15 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware (No.)	51	51	100.0	0.75	0.64004	85.3
Total					0.75	0.64004	85.34

51 computers were installed in Palakkad District. The list of offices where computers are installed is given in Appendix I. The use of computers in agrl extn work *per se* is yet to be evolved.

14. Medicinal and aromatic plants (Table 6.9.16)

Table 6.9.16 Target and achievement of Medicinal and aromatic plants

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Establishment of demonstration-cum-seed	120	120	100	1.800	1.800	100

	production centres in the farmers field						
2.	Area expansion programme (ha)	2	2	100	0.250	0.250	100
3.	Training to farmers (No.)	1	1	100	0.070	0.065	93.2
Total					2.120	2.115	99.8

The scheme was implemented in two blocks of the district viz., Sreekrishnapuram and Agali. In Sreekrishnapuram block, 110 demonstration plots and in Agali 10 demonstration plots were laid out. Medicinal plants like Iruveli, Kattarvazha, Kacholam, Pathimukam etc. were chosen for demonstration plot and the plot size is 12 cents. The beneficiaries have availed subsidy @ 1500/-. For area expansion, Pathimukam and Kattarvazha were selected and farmers have availed subsidy @ Rs.12, 000/- per ha. Under the area expansion programme, the whole target [2 ha] could be covered at Agali block and farmers have availed subsidy @ Rs. 12500/- per ha. One training was organized for the farmers of the Agali block regarding cultivation of medicinal plants.

SUMMARY

About 70 per cent of financial allotment under Macro management in Agriculture was utilized in the district. The severe drought experienced during 2003-04 has adversely affected the successful implementation of the major programme ie., Rice development. The financial achievement of the Agricultural marketing and quality control is low, as the funds could not be drawn during the financial year. The construction of market infrastructure is progressing and hence the amount may be revalidated for 2004-05. The achievement of all other schemes was fairly good with an expenditure percentage in the range of 85-100 per cent. The fixing of targets based on farmer needs and preferences and prevailing field conditions might have resulted in a higher achievement of targets in respect of two schemes in the district viz, development of other spices and small farm mechanization.

6.10 MALAPPURAM

The total geographical area of the district is 363230 ha; out of which 198838 ha is the net sown area and 24027 ha is the net irrigated area. The major crops of the district are coconut, rubber, rice and arecanut.

The cropping pattern of the district is furnished in table 6.10.1.

Table 6.10.1 Cropping Pattern in Malappuram District during 2002-2003

Sl.No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	19678	6.34
2.	Coconut	107254	11.93
3.	Banana	13950	25.06
4.	Tapioca	6947	6.67
5.	Areca nut	19622	20.13
6.	Rubber	29335	6.16
7.	Pepper	9846	4.72
8.	Ginger	181	2.01
9.	Turmeric	339	10.8
10.	Cashew	10735	12.12
11.	Vegetables	3442	13.10

Thirteen schemes have been implemented in the district as furnished in the table. Cashew development received maximum allotment (39.79 %), followed by pepper development (29.18 %) and rice development (19.1%) in that order.

An abstract of the scheme-wise financial target and achievement in the case of Malappuram District is given in Table 6.10.2.

Table 6.10.2. Abstract of Scheme wise financial target and achievement in Malappuram District

Sl. No.	Scheme	Financial targets (Rs. Lakhs)	Financial achievements (Rs. Lakhs)	Achievement (%)
1	Rice development	31.438	4.525	14.39
2	Pepper development	44.805	41.85	93.40
3	Other spices	5.965	5.965	100.00
4	Cashew development	56.78	3.60	6.34
5	Fruit development	1.00	0.5265	52.65
6	Soil and plant health clinics	0.95	0.00	0.00
7	Use of plastics in agriculture	1.22284	0.73553	60.15
8	Agricultural extension & training	2.45	2.11	86.12
9	Small farm mechanization	3.44288	3.4428	100.00
10	Agricultural marketing and quality control	5.16	0.16	3.10
11	Information technology	0.8	0.4	50.00
12	Medicinal and aromatic plants	2.12	2.12	100.00
13	Women in agriculture	11.57581	11.57581	100.00
	TOTAL	167.715	77.01	53.41

SCHEME -WISE PROGRESS

A detailed analysis of scheme wise progress, achievements and shortfalls is presented.

1. Rice development (Table 6.10.3)

Seven components were originally proposed to be implemented in the district. However, three components were cancelled and ultimately four components only were implemented:

Table 6.10.3 Target and achievement of Rice development

Sl. No	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Assistance for seed production (ha)	700	587.625	83.95	Expenditure through KSSDA		
2.	Infrastructure development for seed store	1	Nil	0	20	0	0
3.	Assistance for cultivation of HYV seeds on padasekharam basis	400	39.454	9.86	7.50	2.19	29.20
4.	Promotion of INM						
a	Distribution of green manure seeds (t)	20	19.73	98.65	0.50	0.475	95.00
b	Promotion of biofertilizers	3000	3000	100	1.50	1.50	100
5.	Location specific demonstration plot (Koottumundakan)	5	Nil	Nil	1.288	0	0
6.	EI	-	-	-	0.65	0.45	69.23
Total					31.438	4.525	14.39

The component on infrastructure development for seed store was not implemented for want of administrative sanction. There was request for revalidation, and since timely revalidation was not received, the amount was surrendered to the Director of Agriculture. As sanction for the programme was delayed, the demonstration plot of Koottumundakan variety could not be laid out.

Cent per cent achievement has been made for both the sub components under the component on integrated nutrient management (INM), viz., distribution of green manure seeds and promotion of biofertilizers. Sannhemp seeds were distributed under the component on distribution of green manure seeds, which were incorporated into

the soil. Azospirillum was distributed under the scheme on promotion of biofertilizers in the wet paddy lands. Full realization of the physical target was achieved in the case of both components, but full realization could not be made for financial achievements because some claims are yet to be settled.

The physical as well as financial achievements of the component on assistance for cultivation of HYV seeds on padasekharam basis were very low. This component envisaged persuading farmers to cultivate a single high yielding variety most suitable in a location on a padasekharam (contiguous) basis with a participatory approach. As the cultivation of other varieties was not possible in the same padasekharam where this component was implemented, farmers were not very enthusiastic about participating in the scheme. The use of farmers' seed and exchange of farmers' seed were also discouraged even though it belonged to the specific identified variety. As the farmer's decision to select a particular variety is a very complex one, influenced by diverse factors, the subsidy of Rs.2/ kg of seed was not a strong enough inducement to overcome these reservations. This resulted in a low acceptability of scheme among the farming community. Another reason was that seeds were made available to farmers on 100 per cent subsidy as part of drought relief programmers.

As the rice cultivating seasons for the reference period were over, field level verification was not possible. Hence, a discussion was held with the Assistant Director of Agriculture (ADA), Perumpadappu Block regarding the implementation of the rice schemes. He also concurred with the view that the subsidy of Rs.2/ kg of paddy seed was inadequate. However, he firmly believes that the use of Azospirillum has resulted in reduced use of urea in paddy. But, interaction with a farmer Mr. Hameed.V.K, Kozhisserril, Cheruvallur was inconclusive. Azospirillum is an aerobic nitrogen-fixing bacterium. In the wetland where anaerobic situation prevails, the efficiency of the bacteria is expected to be low. Hence, seed treatment for broadcasted paddy or root dipping for transplanted paddy can provide better results.

The Task Force is of the view that introduction of technology components like bio-fertilizers need proper pre-use orientation to target beneficiaries regarding objectives, application and possible impacts. The credibility of a technology has to be fully imbibed by the farmers before it is adopted by them.

2. Pepper development (Table 6.10.4)

The scheme is intended to produce sufficient number of rooted pepper cuttings of improved varieties and to overcome the non-availability of quality planting materials. The following components of pepper development were implemented in the district:

Table 6.10.4 Target and achievement of Pepper development

Sl. No.	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings by conventional methods (Lakh Nos.)	13.50	10.6	85.17	10.125	7.50	74.07
2.	Area expansion through intercropping (Nos.)	0.3	0.3	100.00	1.50	1.50	100.00
3.	Rehabilitation of old and senile gardens (ha)	410	410	100.00	16.40	16.40	100.00
4.	Development of infrastructure facilities for department pepper nurseries	-	-	-	2	1.6671	83.35
5.	Promotion of soil conservation measures (ha)	450	450	100	13.5	13.5	100.00
6.	Promotion of improved methods of primary processing at growers level (Nos.)	6	6	100.00	0.60	0.60	100.00
7.	Two day training programme to field officers	2	2	100.00	0.28	0.28	100.00
8.	One day training programme to farmers	2	2	100.00	0.30	0.30	100.00
9.	EI	-	-	-	0.1	0.1	100.00
	Total				44.805	41.85	93.40

Cent per cent achievements have been made for majority of components of the scheme. The target of producing 13.5 lakh-rooted pepper cuttings were distributed in the district and details of production are as follows:

These farms could produce 10.6 lakh rooted pepper cuttings.

SSF, Tavanur	-	0.6 lakhs
DAF, Chungathara	-	2.5 lakhs
SGC, Munderi	-	4 lakhs
SSF, Anakayam	-	0.5 lakhs
SSF, Chokkad	-	0.5 lakhs
CN, Parappanangadi	-	2.5 lakhs
		10.6 lakhs

The target of producing 50,000 pepper vines was assigned to the State Seed Farm, Tavanur. A total of 60,000 vines were raised, consisting of 3500 Karimunda varieties and 56500 Panniyur-1 varieties. Though the distribution of all the Karimunda varieties have been completed, a balance of 6500 Panniyur-1 varieties were yet to be distributed. During the visit of the task force it was revealed that the remaining vines be also distributed through Krishi Bhavans before the South West monsoon is over, as there is good demand for pepper vines in the area. It is understood that the pepper cuttings for the component were procured from the farmers' field. Quality control of the planting materials cannot be ensured in such cases. Maintenance of progeny orchards at the Departmental farm can also ensure the production of quality planting materials.

The plot of Sri. C.P.Moidu, Chittakkathu Palliyalil, Aynkalam, a beneficiary farmer in the jurisdiction of Assistant Director, Tavanur was visited in this connection. He had received financial assistance for 200 pepper vines (Panniyur-1) under the pepper rehabilitation programme. The crop stand was good, and the selection of the beneficiary was appropriate. He had also received Rs. 600/- under soil conservation for an area of 0.50 acres. The plot was well maintained with effective soil erosion measures adopted.

3. Development of other spices (Table 6.10.5,6&7))

1. Ginger (Table 6.10.5)

The scheme envisages the production of good quality, disease-free rhizomes and to supply it to selected farmers for further multiplication and distribution. The following two components of the scheme were implemented in the district.

Table 6.10.5 Target and achievement of Component on ginger

Component	Physical			Financial (Rs. Lakhs)		
	T	A	%	T	A	%
a) Production of planting materials in the department farm (ha)	2.25	2.25	100.00	1.80	1.80	100.00
b) Lay out of field demonstration (ha)	8	8	100.00	1.50	1.50	100.00
Total				3.30	3.30	100.00

There was cent per cent achievement in the case of the two components.

2. Turmeric

Table 6.10.6 Target and achievement of Component on turmeric

Component.	Physical			Financial (Rs. Lakhs)		
	T	A	%	T	A	%
a) Production of planting materials in the department farms	1.25	1.25	100.00	0.813	0.813	100.00
b) Lay out of field demonstration (ha)	10	10	100.00	1.25	1.25	100.00
Total				2.065	2.065	100

The scheme proposed to supply quality seed rhizome materials to selected farmers for laying out field demonstrations by allowing 25 per cent cost of seed rhizome or Rs.12,500/- per ha, whichever was less.

Good progress is seen achieved in the case of schemes under ginger and turmeric. Full achievements have been made in physical as well as financial targ

3. Tree spices (Table 6.10.7)

Only one component was implemented under the scheme in the district, viz., production and distribution of nutmeg grafts @ Rs. 30/- per graft.

Table 6.10.7 Target and achievement of Component on tree Spices

Sl. No.	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Nutmeg grafts (Nos.)	2000	500	25.00	0.60	0.60	100.00
Total					0.60	0.60	100.00

Generally softwood grafting is recommended. Approach grafting is found successful but large-scale multiplication is difficult.

4. Cashew development (Table 6.10.8)

Table 6.10.8 Target and achievement of Cashew development

Sl. No.	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Area expansion in waste land	200 ha	Nil	0.00	12.00	0	0.00
2.	Replanting/rehabilitation (ha)	400	27.50	6.88	40.00	2.10	5.25
3.	Adoption of plant protection measures	100	100	100.00	1.00	1.00	100.00
4.	Distribution of Plant Protection equipments (Nos.)	75	70	93.33	0.60	0.50227	83.71
5.	Establishment of demonstration plots (Nos.)	75	Nil	0.00	1.875	0	0.00
6.	Training for grafting (No. of trainees)	1	Nil	0.00	0.10	0	0.00
7.	EI	-	-	-	1.20	0.70941	59.12
Total					56.78	3.60	6.34

The progress of the components under cashew development except plant protection measures and distribution of plant protection equipments have been very poor. The overall achievement of schemes is 6.33 per cent only. This is in spite of the fact that cashew development schemes received maximum allotment of funds under macro management in agriculture in the district. The non-receipt of necessary sanction

hampered the implementation of two components, viz., cashew rehabilitation and area expansion. This disabled the drawal of advance for booking cashew grafts. However such procedural constraints affecting the implementation of central sector schemes are unfortunate. This reason cannot be attributed to the non-organization of training for cashew grafting. The lapse on the part of the implementing officials beyond their control, if any, has to be looked into.

5. Fruit development (Table 6.10.9)

The scheme originally envisaged giving assistance for area expansion of Olore variety of mango. As Olore mango grafts were not available, the scheme was modified as assistance for area expansion of guava varieties.

Table 6.10.9 Target and achievement of Fruit development

SlNo	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Promotion of Mango (Olore), Gauva and papaya varieties (ha)	10	0.36	3.60	0.50	0.0267	0.05
2.	Establishment of small private nursery (Nos.)	2	2	100.00	0.50	0.50	100.00
Total					1.00	0.53	52.65

The financial and physical progress of the scheme is quite unsatisfactory. The overall achievement of the scheme is only 53 per cent.

The private nursery of Sri.C.P.Ali, Chakkiamparambil, Magattoor, Tavanur under the Assistant Director Office, Tavanur, was visited to assess the extent of utilization of assistance received under the component on establishment of small private nursery. The nursery had established a progeny orchard of mango varieties, citrus, jack, sapota etc. The well and pump facilities were installed. However, the green house, the mist chamber and other infrastructure facilities are to be improved to meet the functional requirements.

6. Soil and plant health clinics (Table 6.10.10)

The scheme envisages that the soil testing campaigns are to be conducted in potential areas where group farming samithies or *Kera Samrakhsna Samithies* are

active. It seeks to enlighten farmers about the integrated nutrient management (INM) system and to undertake suitable methods of soil reclamation. Soil health cards are to be distributed to the farmers who are not in receipt of it during the last year.

Table 6.10.10 Target and achievement of Soil and plant health clinics

Sl.No.	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	95	Nil	Nil	0.95	Nil	0.00
Total					0.95	Nil	0.00

It may be noted that not a single campaign has been carried out in the district during the last year. The non-implementation of such an important scheme is quite disturbing. The campaigns are being launched in the current financial year. A proper and convincing explanation for the non-implementation of soil test campaign could not be furnished.

7. Use of plastics in agriculture (Table 6.10.11)

The scheme aims to promote drip irrigation, sprinkler irrigation and green houses.

Table 6.10.11 Target and achievement of Use of plastics in agriculture

Sl. No	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Promotion of sprinkler irrigation (ha)	5.59	0.41	7.33	0.41162	0.4116	100.0
2.	Promotion of drip irrigation (ha)	1	0.06	6.00	0.06122	0.0612	100.0
3.	Setting up of green house (m ²)	802.86	656.73	81.80	0.75	0.2627	35.03
Total					1.22284	0.7355	60.15

The overall achievement of schemes is 60.15 per cent only. Though there has been a shortfall in achieving the physical targets assigned, the full financial targets

have been achieved in the case of promotion of drip as well as sprinkler irrigation. The target realization for setting up of green houses has been low. Probably, this may also be a reflection of the planning of schemes without taking into account the actual needs of farmers in the field.

8. Agricultural extension and training (Table 6.10.12)

The following four components of the scheme were implemented in the district:

Table 6.10.12 Target and achievement of Agricultural extension and training

Sl. No.	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	District level training to extension personnel (2 days) (Nos.)	14	14	100.00	0.70	0.70	100.00
2.	Block level training to extension personnel (3 days) (Nos.)	14	14	100.00	0.70	0.70	100.00
3.	District level Research-Extension interface	1	1	100.00	0.30	0.30	100.00
4.	MDDT	14	12	85.71	0.75	0.41	54.67
Total					2.45	2.11	86.12

The overall achievement of schemes is 86.12 per cent. Cent percent achievement is observed for all components except the multi-disciplinary diagnostic team. As far as the training component was concerned, training register was not seen maintained in the office of the Principal Agricultural Officer. The topics of training and resource personnel were collected from the concerned file on training. They are indicated as below:

Topics	Resource personnel	Affiliation
Organic farming	Sri. Mustafa	Assistant Professor, KVK, Pattambi
Bio-fertilizers	Smt. Rosamma George	Assistant Director, FIB, Kozhikkode
Quality control	Smt. Ushamani	Assistant Director, PAO, Kozhikkode

IPM techniques in rice	Mr.Baby Raphael	Assistant Director, Bio-control lab, Mannuthy
Hybrid seed production in rice	Dr.Rose Mary Francis	Assistant Professor, RARS, Pattambi
Diseases in rice	Dr.Vimi Louis	Assistant Professor, RARS, Pattambi
Cultivation of spices	Dr.Ratinam	Scientist, Indian Institute of Spices Research, Kozhikkode
Cultivation of medicinal plants	Sri..Abdul Kareem	Centre for Medicinal Plants & Garden, Kottakkal
Water conservation	Dr.Abdul Hakkeem	Assistant Professor, KCAET, Tavanur
Weeds and weed control	Dr.S.Anitha	Assistant Professor, RARS, Pattambi

The topics were relevant and the selection of resource personnel was also appropriate. The multi-disciplinary diagnostic team (MDDT) consisted of representative scientists from the Kerala Agricultural University and officials from the Department of Agriculture. The team was expected to conduct field visits to examine problems reported by farmers and suggest remedies. The service of the diagnostic team is to be availed on a need-based manner. The financial expenditure comprises of the honorarium to scientists and contingent expenses like fuel and assistance to farmers to undertake remedial measure pointed out by the diagnostic team. The practice of fixing physical targets like a certain hectare of land is therefore unscientific. The team is expected to make field visits as and when the extension staff on their own can not solve a problem. This explains the low level of financial expenditure under this component.

A perusal of files pertaining to the visit of diagnostic team to the areas under the Office of Assistant Director of Agriculture, Perumpadappu block was carried out by the Task Force, as the registers relating to the visits were not maintained. The diagnostic team for the district consisted of Dr.Jim Thomas, Associate Professor (Entomology), Dr.Koshy Abraham, Associate Professor (Plant Pathology) and/or Dr.P.Raji, Assistant Professor (Plant Pathology) of Kerala Agricultural University and the Assistant Director of Agriculture as the representative from the Department of Agriculture. It was found that no multi-disciplinary team visited the farms of farmers affected by stem bleeding in coconut and yellowing of arecanut. Instead, a single scientist (Dr.P.Raji) visited the farms and recommended *Calyxin* drenching for stem bleeding in coconut and borax application for yellowing

of arecanut. There was control of stem bleeding in coconut, but the recommendation was ineffective for yellowing of arecanut. The Task Force is of the opinion that visits by single scientist shall be discouraged to the extent possible since the purpose is not fully served by such visits.

8. Small farm mechanization (Table 6.10.13)

Improved agricultural machinery and implements have a significant role to play for reducing the drudgery in farm operations and in reducing the cost of cultivation. Many of the modern machineries may not be economical for individual purchase owing to their limited hours of use on smallholdings. In order to bring more area under mechanization, assistance is to be provided to farmers for its purchase. It is with these objectives that the scheme on small farm mechanization was formulated and implemented. The components were modified based on local realities.

Table 6.10.13 Target and achievement of Small farm mechanization

Sl. No	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Tractor (Nos.)	4	4	100.00	1.17756	1.17758	100.00
2.	Power Tiller (Nos.)	7	7	100.00	1.88386	1.88386	100.00
3.	Sprayers (Nos.)	49	49	100.00	0.38146	0.38146	100.00
Total					3.44288	3.44288	100.00

The overall achievement of the scheme is 100 per cent. It is appreciable to note that the scheme has achieved physical as well as financial targets in full. However, there was difference in disbursement of the amount, which is on account of the norm that 25 per cent subsidy on cost or a specified amount, whichever is low will be admitted. A noticeable drawback of the scheme is that the subsidy admissible for large machinery like tractor and small machinery like power tiller are the same. This discrepancy shall be corrected while formulating the scheme for the subsequent years.

10. Agricultural marketing and quality control (Table 6.10.14)

Marketing is as critical as production in agriculture. The desired growth rate in agriculture has not been attained due to lack of proper marketing infrastructure. The

following three components of the scheme were implemented in the district with this background:

Table 6.10.14 Target and achievement of Agricultural marketing and quality control

Sl.No	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	AA Training to Extension personnel (2 days)	1	1	100.00	0.08	0.08	100.00
2.	Farmers' training (3 days)	1	1	100.00	0.08	0.08	100.00
3.	Market infrastructure	Dropped					
4.	Establishment of Agmark lab (Nos.)	1	Nil	0.00	5.00	0.00	0.00
Total					5.16	0.16	3.10

The overall achievement of the scheme is only 3.10 per cent. The training components were fully attained while the development of market infrastructure was dropped. The establishment of Agmark Lab could not be materialized because sanction for implementation was received on 31 March 2004, on the last day of the financial year. Such casual approach towards the implementation of the central sector schemes is to be viewed seriously. The request for revalidation of the component for the next financial year was still pending, when the team visited

11. Information Technology (Table 6.10.15)

The original scheme visualized the installation of hardware & software of computer. However, the hardware and software were procured centrally at the Directorate of Agriculture, and the expenditure here pertains to electrification of the computer room.

Table 6.10.15 Target and achievement of Information Technology

Sl.No	Component.	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
	Installation of hardware and software (Nos.)	50	50	100.00	0.80	0.40	50.00
	Total				0.80	0.40	50.00

Every Krishi Bhavan was provided with a CPU unit, UPS, Printer and a Monitor. The list of Assistant Directors' office and Krishi Bhavans that were provided with this facility are appended. Only 50 per cent of the allotted funds were utilized under the head, and the balance amount was surrendered. The declared objective of the IT programme was to establish a total networking system from village level Krishi Bhavans to Directorate of Agriculture at the head quarters. It was also proposed to establish IT enabled rural reference centers to serve as Kiosk/ Portals to specific information regarding the availability of planting materials, critical inputs like fertilizers, location and details of nurseries and other institutions, occurrence of pests and diseases etc.

An evaluation of the scheme at the Assistant Director's level as well as Agricultural Officer's level showed that there was no proper pre-use computer orientation before the launching of the programme. Instead, an interactive CD was provided. This is no substitute for a formal training in computer application. When there was no dearth of funds, and when unspent balances were surrendered, this approach to IT is inexplicable, especially in an era of cyber extension. A visit to Krishi Bhavan, Vattankulam showed that there was no e-mail connection available. This is despite the fact that this particular Krishi Bhavan is selected as a model Krishi Bhavan in the district. However, the Agricultural Officer of that Krishi Bhavan is doing his level best to make use of the facility in the most effective manner, which is to be appreciated.

12. Medicinal and aromatic plants (Table 6.10.16)

The following three components of the scheme were implemented in the district:

Table 6.10.16 Target and achievement of Medicinal and aromatic plants

Sl.No	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Establishment of demonstration-cum-seed production units	120	120	100.00	1.80	1.80	100.00
2.	Area expansion programme	2	2	100.00	0.25	0.25	100.00
3.	Training to farmers	1	1	100.00	0.07	0.07	100.00
Total					2.12	2.12	100.00

The establishment of demonstration-cum-seed multiplication centers in the farmers' field is intended to produce planting materials of the medicinal plants locally, and make it available to interested farmers in the area at a reasonable cost fixed by the Department of Agriculture. Full achievement has been made for all the three components of the scheme.

A field visit was conducted to the demonstration plots of Sri.E.Viswanathan, Padmalayam, Kavalmukkatta, P.O. and M.G. Prabhakaran, Midhila, Kavalmukkatta, P.O., both under the Amarambalam Krishi Bhavan (under Assistant Director, Nilambur). The plants selected were chittaratta, pathimukham and nutmeg graft. While chittaratta and pathimukham are medicinal plants, nutmeg is a tree spice – and not a medicinal plant. Though it can be argued that nutmeg possesses medicinal properties also, the plant selection could have been carried out more carefully. Out of six nutmeg grafts supplied to the first farmer, four had dried up. The crop stand of chittaratta, and pathimukham were good.

13. Women in Agriculture (Table 6.10.17)

It is observed that the original scheme was modified and new components were added even towards the fag end of the financial year. The working instructions of implementing the "Scheme for Women in Primary Sector (SWIP) 2003-04 " was found to be issued only towards the fag end of the financial year. A chronology of activities envisaged is as below:

Sl. No.	Period	Activities
1	21-1-04	Receipt of working guidelines
2	Period from 4-2-04 to 10-2-04	Scrutiny of proposals
3	Period from 11-2-04 to 18-2-04	Processing of applications
4	Period from 19-2-04 to 23-2-04	Release of funds
5	24-2-04	DD Drawal

Such hasty practices are to be desisted from, and new components are to be launched as a well thought out programme in the beginning of new financial year. Otherwise, the quality of implementation will be affected.

Table 6.10.17 Target and achievement of Women in agriculture

Sl.No.	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Training & extension cost	Scheme cancelled, and the fund surrendered					
2.	Grant to overhead expenses				0.06477	0.06477	100
3.	Monitoring & evaluation cost	Cancelled					
4.	Training to facilitators (Nos.)	1	Nil	0.0	0.00	0.00	0.00
5.	Honorarium to facilitators				0.89161	0.89161	100.0
6.	Training to farm women groups (Nos.)	30	23	76.7	2.3755	2.3755	100.0
7.	Training to link workers (Nos.)	2	1	50.0	0.11	0.11	100.0
8.	Honorarium to link workers				0.39	0.39	100.0
9.	TA for facilitators				0.307	0.307	100.0
10.	TA for link workers				0.11	0.11	100.0
11.	Mahila ghosti	Cancelled					
12.	Result demonstration	74	74	100	0.74	0.74	100.00
13.	Literature support						
14.	Monitoring & Evaluation				0.4419	0.4419	100.0
15.	Assistance to women group				1.50	1.50	100.0

16.	Assistance for starting new enterprises	140	140	100	4.645	4.645	100.0
	Total				11.5758	11.578	98.83

It may be noted that good progress was made despite the late launching. The overall achievement of the scheme is 98.83 per cent. It is understood that not any formal training was imparted to the facilitators before the launching of the scheme. Pre-launching orientation about the objectives, working instructions and modalities of a scheme are highly essential for its success. The amount earmarked for training to facilitators was surrendered to the Director of Agriculture based on instruction from that side. Such *ad hoc* approach to programme formulation and implementation is not professional, to say the least. Women groups were assisted for starting new enterprises in paddy cultivation, vanilla cultivation, organic vegetable production, medicinal (*navara*) cultivation, vermi-composting, *azolla* cultivation, pepper rooted cutting production, areca nut sheath plate making, copra processing, food processing activities like pickling units, fish processing, banana powder preparation, tender coconut parlor etc. The new entrepreneurship started in Vattankulam Krishi Bhavan area was visited to conduct an on the spot evaluation. The following activities were seen organized in the area, which benefited over 350 women:

Sl. No.	Entrepreneurship	No. of women benefited
1	Paddy cultivation	120
2	Organic vegetable production	120
3	Vermi-composting	24
4	Food processing	27
5	Areca nut sheath plate making	12
6	Vanilla cultivation	2
7	Azolla cultivation	1
8	Production of rooted pepper cuttings	40
9	Medicinal (<i>navara</i>) rice production	4
10	Copra processing unit	3
	Total	353

A visit to the "Susthira Women Group" showed that the group has been successfully running paddy, vegetable, and vanilla cultivation along with production of rooted pepper cuttings. Sri. Abdul Jabbar, P.K., Agricultural Officer, ably supports them. They are also in the making of areca nut sheath plate making, an eco-friendly plate in place of paper and plastic plates. It is worthwhile mentioning that the "

Grameen women group “ received the NBPGR “**National Biodiversity Conservation Award – 2003**” for outstanding performance in dealing with local biodiversity conservation. However, the link workers complained that they were not paid honorarium for the year under reference. The district level expenditure on the other hand shows full realization of financial targets. Discussion with the Deputy Director revealed that no claims for honorarium were received from the Krishi Bhavan. Strict follow up in such cases are recommended in view of the sustainability of the scheme.

A major difficulty experienced in the implementation of the scheme was designating one facilitator for 10 groups. When the groups were scattered, one facilitator could not cover 10 groups effectively. This norm requires more realistic approach.

SUMMARY

As is evident, the schemes on pepper development; women in agriculture, small farm mechanization, medicinal plants and spices have made very good progress. The progress of schemes on extension and training and use of plastics in agriculture were also satisfactory. The schemes on fruit development, information technology and rice development are to be formulated more carefully in future by rectifying the built-in shortcomings so that the desired impacts are made. The progress of schemes on cashew development, agricultural marketing and soil health clinics were very poor. The low performance of cashew schemes in spite of large cashew areas in the district and highest allotment of funds shall receive more scrutiny. Keeping in view of the importance of agricultural marketing and quality control and soil health, the failure of those schemes to take off shall invite more introspection.

6.11 KOZHIKODE

The total geographical area of the district is 233330 ha, of which 160094 ha is the net area sown and the net irrigated area is 3381 ha. The major crops grown are coconut, pepper, arecanut and rice.

The cropping pattern of Kozhikode district is furnished in Table 6.11.1

Table 6.11.1 Cropping pattern in Kozhikode district during 2002-2003

Sl.No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	5085	1.64
2.	Coconut	127402	14.17
3.	Banana	1963	3.53
4.	Tapioca	3964	3.80
5.	Arecanut	10584	10.86
6.	Rubber	17591	3.69
7.	Pepper	12365	5.93
8.	Ginger	217	2.41
9.	Turmeric	305	9.71
10.	Cashew	3883	4.38
11.	Vegetables	522	1.99

Of the 16 schemes under evaluation, ten schemes are operational in the district. The major share of allotment (49%) is for pepper development followed by cashew development (35%).

An abstract of the scheme-wise target and achievement in the case of Kozhikode district is presented in Table 6.11.2.

Table 6.11.2 Abstract of scheme-wise financial target and achievements in Kozhikode district

Sl.No.	Scheme	Allotment	Revised Allotment	Achievement	Achievement (%)
		(Rs. lakhs)			
1.	Pepper development	38.5200	41.82	35.046	84.66
2.	Cashew development	27.52	24.35	16.84	69.16
3.	Fruit development	1.00	1.00	0.949	94.90
4.	Soil and plant health clinics	0.75	0.75	0.46	61.33
5.	Use of plastics in agriculture	0.50	0.50	0.50	100.00
6.	Agri. extension and training	3.12	1.53	1.42	92.81
7.	Small farm mechanization	0.79	0.64	0.62	96.88
8.	Agricultural marketing and quality control	5.9400	6.35	1.34	21.10
9.	Information technology	1.0000	0.58	0.55	94.83
10.	Women in agriculture	-	5.625	3.064	54.47
Total		79.14	83.145	60.79	73.11

SCHEME-WISE PROGRESS

An evaluation of scheme-wise progress, achievements and shortfalls is presented:

1. Pepper development (Table 6.11.3)

Table 6.11.3 Target and achievement of Pepper development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings (Lakh No.)	7.5	6.574	87.65	5.625	5.625	100.0
2.	Area expansion through intercropping (Lakh No.)	0.3	0.205	68.33	1.5	0.763	50.87

3.	Rehabilitation of old and senile gardens (ha)	350	345	98.57	13.920	13.845	99.46
4.	Development of infrastructural facilities for Departmental pepper nurseries and establishment of progeny gardens	-	-	-	2.00	0.375	18.75
5.	Promotion of soil conservation measures (ha)	450	388.7	86.38	12.66	11.658	92.09
6.	Promotion of organic pepper second year (ha)	100	100	100.00	1.45	1.45	100.00
7.	Promotion of improved methods primary processing at growers level (No.)	6	-	-	0.60	0	0
8.	Demonstration on integrated pest management (ha)	50	32	64	0.625	0.295	47.20
9.	Training on production of organic pepper, post harvest management, value addition and quality maintenance						
a.	2 day training programme to field officers	1	1	100.0	0.14	0.14	100.0
b.	1 day training programme to farmers and representative of women groups	2	2	100.0	0.30	0.30	100.0
10.	Pepper apex body (marketing promotion with growers participation)	-	-	-	2.50	0.465	18.6
11.	EI	-	-	-	0.50	0.49	98.0
Total					41.82	35.406	84.66

The production of 7.5 lakhs of pepper-rooted cuttings of Karimunda variety was undertaken in four farms, as given below: -

Farm	Target	Produced and distributed
DAF, Kothali	4 lakhs	3.724
SSF, Perambra	1 lakh	1.17
SSF, Puduppadi	1 lakh	0.80
Coconut nursery, Tikkody	1.5 lakh	0.88
Total	7.5 lakh	6.574

There was shortage in production to the tune of about one lakh due to quick wilt. All the produced pepper cuttings were intended for distribution to farmers within the district.

The area expansion of pepper through intercropping could not be achieved fully. Target amount of Rs. 6 lakhs was earmarked for development of infrastructural facilities for departmental pepper nurseries and establishment of progeny garden. Proposal was obtained from DAF, Kothali only. Since proposals were not obtained from other farms in the district, the balance amount was surrendered. The Farm Superintendents must have taken more interest in utilizing the amount earmarked for development of infrastructural facilities which was surrendered unspent.

Based on the interaction with the officials (mostly AOs) in the district, the following constraints were identified in relation to pepper development scheme.

1. Most of the farmers were of the opinion that the survival of pepper cuttings in the field is quite low. The reasons for low survival are:

a) Diseases affecting cuttings

b) Early lift of rooted cuttings from the nursery

c) Damage during transportation, which is done in an unscientific way. The cuttings are transported in hired lorries in layers, which create shock to the cuttings.

d) In many cases, the untimely supply of cuttings also lead to poor establishment

2. The Department officials opined that the decentralized nursery scheme must be restored, as cuttings for distribution in one panchayath may be raised in one or two nurseries identified, under the technical guidance of the Agricultural Officer. It will help to supply the required number of cuttings without any damage due to unscientific transport. It is ideal to supply cuttings between February 15th to March 15th so that the cuttings get well established in the field during southwest monsoon.

In the case of IPM demonstration plots the difficulties faced by the implementing officers are the following: -

1. As per the working instruction, the minimum area for demonstration should be 5 ha of contiguous pepper garden. It is very difficult to get contiguous area of 5 ha under pepper.
2. Since the subsidy portion is nominal, the response from the farmers is very poor.

3. There is no return to the farmers commensurate to the efforts that they have to take in adopting the various activities under IPM.

Under the component Establishment of primary processing units at growers level working instruction for the component was received only on 27/02/2004 and the final allotment was received on 9/03/2004. Though the allotment was reallocated to different ADAs, the component could not be implemented due to time delay. Advance drawal also was not permitted and hence requested for revalidation.

For the component Marketing promotion with growers participation (Pepper Apex Body) an amount of Rs 2.50 lakhs was allotted on 9/03/2004. However, as per direction from Department of Agriculture, Rs 2.035 lakh was resumed to Director of Agriculture on 26/03/04 [Order No.F(4) 35170/03 dt 26.3.04]. Here also, working instructions were received only on 27/02/04. A committee was formed including a representative from Spices Board. As working instruction were not clear the district officials had written to the Directorate for further clarification. But no reply was received. Hence requested for revalidation so that the activity can be undertaken during 2004-2005.

2. Cashew development (Table 6.11.4)

Table 6.11.4 Target and achievement of Cashew development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Area expansion in waste land (ha)	308	203	65.91	18.48	12.02	65.04
2.	Replanting/ rehabilitation of old and uneconomic gardens (ha)	5.0	5.0	100.0	0.50	0.50	100.00
3.	Adoption of plant protection measures (ha)	152	144	94.74	1.52	1.44	94.74
4.	Distribution of plant protection equipments (No.)	75	73	97.33	0.60	0.52	86.67
5.	Establishment of demonstration plots (No.)	50	22	44	1.25	0.36	28.80
6.	Training on grafting to agri. labourers (No. of trainees)	20	20	100.0	0.20	0.20	100.00
7.	EI	-	-	-	1.8	1.8	100.00
Total					24.35	16.84	69.16

The components originally envisaged under cashew development scheme were modified. For instance, the original physical target for cashew rehabilitation which was 200 ha was reduced to 5 ha. The target under area expansion in wasteland was reduced to 308 ha.

There was shortage in the physical achievement in relation to area expansion and establishment of demonstration plots. In both the cases, the major impediment was availability of good quality cashew grafts. The main source of supply of cashew grafts is Kerala Agricultural University through the two centres, viz. Madakkathara and Anakkayam. In the case of supply of grafts of KAU, University insists that advance payment has to be made by the Department to reserve the grafts exclusively for the Department. The Department is not in a position to make advance payments due to two reasons: -

- 1) Lack of availability of funds in the early stages.
- 2) Department rules do not permit advance payment.

So what happens is that there will not be sufficient quantity of cashew grafts available with KAU when the Department puts the request. The procurement of cashew grafts to some extent was met from Aralam Farm (which does not insist advance payment) and also from the approved regional nurseries.

The department officials have suggested that either the University shall waive the insisting of advance payment or the Department shall formulate a workable strategy of advance payment in genuine cases such as these. There shall be sufficient planning with regard to available source, quantity, mode of payment, etc. before such schemes involving procurement of planting material/graft is an essential component.

Since the DD (Training) in Kozhikode district is also in charge of the trainings under cashew in Kasaragod, Kannur, Malappuram and Palakkad, the entire amount of Rs.0.5 lakh was first allotted to Kozhikkode District. However, trainings were conducted only in three Districts – Kannur, Kasaragod and Kozhikkode and an amount of Rs.0.15 lakh each was transferred to Kannur and Kasaragod districts for conducting trainings. It was reported that training to 15 labourers in Kozhikode district was conducted.

3. Fruit development (Table 6.11.5)

Table 6.11.5 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of Olore mango and papaya (ha)	10.0	10.0	100.0	0.50	0.449	0.0
2.	Establishment of small private nurseries (No.)	2	2	100.0	0.50	0.50	100.00
Total					1.00	0.949	94.90

The quality planting materials (mango grafts and papaya) procured from DAF, Koothali were distributed to selected farmers in eight blocks identified for implementation of the scheme. The financial achievement is not cent per cent, since all the claims here not been settled.

Small private nurseries (one each) have been established in Koduvally Krishibhavan in Thamarassery Block and Chakkittappara Krishibhavan in Perambra Block.

4. Soil and plant health clinics (Table 6.11.6)

Table 6.11.6 Target and achievement of Soil and plant health clinics

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	75	75	100.0	0.75	0.46	61.33
Total					0.75	0.46	61.33

Soil testing campaigns were conducted in 5 blocks viz. Tuneri, Ulleri, Thikkodi, Thodannur and Kunnamangalam. Thirty nine soil testing campaigns were organized by MSTL, Thikkodi. While the results of soil testing conducted by MSTL are given to the farmers immediately, there is time lag in giving the soil test results for the soil samples taken from the farmer's fields for testing in the stationary soil testing lab. Though the physical achievement is cent per cent, the financial achievement is only above 60 per cent.

5. Use of plastics in agriculture (Table 6.11.7)

Table 6.11.7 Target and achievement of Use of plastics in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of drip irrigation (ha)	3.16	3.16	100.0	0.362	0.362	100.00
2.	Setting up of green house (m ²)	500	500	100.0	0.139	0.139	100.00
Total					0.5	0.5	100.00

The two components viz, promotion of drip irrigation and green house were implemented in three blocks viz, Thodannur, Kunnamangalam and Thikkodi and achievement is cent percent.

The Asst. Director of Kunnamanglam Block indicated that the scheme was implemented well in this Block, as the beneficiaries were quite satisfied.

6. Agricultural extension and training (Table 6.11.8)

Table 6.11.8 Target and achievement of Agricultural extension and training

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Training to extension personnel. 3-days (No.)	4	4	100.0	0.56	0.56	100.0
2.	Farmers' training 2-days (No.)	12	12	100.0	0.60	0.58	100.0
3.	District level interface (No.)	-	-	-	0.3	0.3	100.0
4.	MDDT	-	-	-	0.07	0	0
Total					1.53	1.42	92.81

It was reported that the trainings were organized as per the target. The training to extension personnel and farmer's training were organized as per the physical target fixed. However, the records relating to training were not available from the PAO's office. Some of the extension personnel expressed satisfaction on the training they received, while some of them were not happy as to the contents of the training. Thus a mixed response was obtained. Though MDDT was constituted with Dr.Habeebur Rahiman, Associate Professor (Agronomy), Kelappaji College of Agricultural Engineering and Technology, Tavanur and Dr.M.Govindan, Associate Professor (Plant Pathology), RARS, Pilicode and Dr.K.M.Sreekumar, Assistant Professor (Entomology), College of agriculture, Padannakad (KAU) as members, it is quite

disappointing that the team had not rendered any service to the farmers. Not even a single visit to farmers field was made by the MDDT members.

It was told by the Department officials that there were many administrative problems, which the team members had raised whenever they were contacted. It is quite unfortunate that the relevance and importance of MDDT is not realized, both by the members as well as the Department officials. The specific instance of leech problem in paddy fields was pointed out as an important field problem which was not given proper attention either by the MDDT or KAU.

7. Small farm mechanization (Table 6.11.9)

Table 6.11.9 Target and achievement of Small farm mechanization

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Power tiller (No.)	2	2	100.0	0.60	0.60	100.00
2.	Power sprayers/dusters (No.)	-	-	-	0.04	0.02	50.00
Total					0.64	0.62	96.88

The allotment for this scheme was poor. As the subsidy portion for the garden tiller is too low; there was no demand from the farmers for garden tiller. There was component change requested, which was approved. Two power tillers were purchased under the scheme. The exact number of sprayers distributed is not obtained. The general opinion of the officials is that the farmers are satisfied with the scheme.

8. Agricultural marketing and quality control (Table 6.11.10)

Table 6.11.10 Target and achievement of Agricultural marketing and quality control

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training (No.)	1	1	100.00	0.08	0.08	100.00
2.	Farmers' training (No.)	2	2	100.00	0.16	0.16	100.00
3.	One day training (No.)	1	1	100.00	0.20	0.20	100.00
4.	Market infrastructure (No.)	-	-	-	5.0	0	0
5.	Market survey and research (No.)	-	-	-	0.50	0.50	100.00
6.	EI	-	-	-	0.41	0.41	100
Total					6.35	1.34	21.10

Though an amount of Rs.5 lakhs was earmarked for market infrastructure, the amount could not be utilized. Perambra market was initially selected for development of infrastructure. Since the panchayath could not submit the proposal, later on Kakkattil village market in Kunnumel panchayath has been selected for implementation of the scheme. Subsequently, request has been made to revalidate the amount of Rs.5 lakh for utilization in the next financial year. The position after this is not clear. The district authorities are also not aware of the present position.

The amount earmarked for market survey and research was transferred to Secretary, EEC market, Vengeri. As a part of this, a study on coconut marketing is in progress. The details about the study are not available in the PAO Office. It could have been better if a study on pepper marketing is commissioned with this fund, instead of marketing of coconut. The reason for commissioning a study on coconut marketing is not clear.

9. Information technology (Table 6.11.11)

Table 6.11.11 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware (No.)	50	50	100.0	0.5838	0.5474	94.83
Total					0.5838	0.5474	94.83

Computers have been installed in 31 Krishibhavans, 12 ADA offices and 4 farms. The details are given as Appendix I. The computers are mostly used for administrative jobs and preparation of reports. The exact purpose for which computers have been installed is yet to be achieved.

10. Women in agriculture (Table 6.11.12)

Table 6.11.12 Target and achievement of Women in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.		-	-	-	5.625	3.064	54.47
Total					5.625	3.064	54.47

This scheme was not allotted to the district in the initial stage. Since this district was not covered under the original scheme 'Women in Agriculture', nothing

was done till January 2004. Subsequently in February 2004, this district was included under Scheme for Women in Primary Sector (SWIP).

The following units were established under the SWIP with loan amount and subsidy, as detailed below:

1. Banana -- 71 units

Mukkom--12, Koyilandi --3, Perambra -- 10, Tuneri-- 20, Thamarassery--25, Kakkur--1

2. Agroprocessing --2 units

Mukkom--1, Thikkodi --1

3. Vegetables – 10 units

Mukkom --2, Thodannur --8

4. Medicinal plants --5 units

Mukkom --5

5. Ornamental plants --1 unit

Koyilandy

6. Vanilla --26 units

Kunnumel --16, Perambra --6, Thodannur --2, Thikkodi --1, Tuneri --1

Though the scheme started functioning only towards the fag end of the financial year, due to sincere efforts of the implementing officials more than 50 per cent age of the total achievement could be effected by March 2004. Some of the units visited in Mukkom were found to be encouraging, as the women showed much interest and enthusiasm. The sustainability of the programme is yet to be assessed.

SUMMARY

The progress of majority of the schemes implemented in the district was good with an average financial expenditure of 73 per cent. It was noted that the performance of the schemes Women in agriculture, Agriculture marketing and quality control and Soil and plant health clinics were poor. In the case of cashew development scheme, the non availability of planting material was found to be a major problem. It is disappointing to note that the component for market promotion of pepper (Pepper apex body) could not be implemented fully due to lack of proper guidelines and also due to late release of funds and subsequent resumption, which are not justifiable on any ground. As the PAO has requested for revalidation, the component may be implemented with necessary guidelines at least in the subsequent final year.

6.12 WAYANAD

The total geographical area of the district is 212560 ha, out of which 115827 ha is the net sown area and 9399 ha is the net irrigated area. The major crops of the district are coffee, pepper, coconut, rice and banana.

The cropping pattern in Wayanad district is furnished in Table 6.12.1.

Table 6.12.1 Cropping pattern in Wayanad District during 2002-03

Sl.No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	12988	4
2.	Coconut	10958	1
3.	Banana	13304	12
4.	Tapioca	1915	2
5.	Vegetables	5778	3
6.	Areca nut	7201	7
7.	Cashew	1455	2
8.	Coffee	66973	81
9.	Tea	6049	16
10.	Rubber	6451	1
11.	Pepper	40839	20
12.	Ginger	3450	38
13.	Turmeric	127	4

Fourteen schemes were implemented in the district as furnished in the Table 6.12.2. Pepper development received maximum allotment, followed by floriculture development and vegetable development in that order.

An abstract of the scheme wise financial target and achievement in the case of Wayanad district is given in Table 6.12.2

Table 6.12.2 Abstract of scheme-wise financial target and achievements in Wynad District

Sl.No.	Scheme	Financial targets	Financial achievements	% Achievement
		(Rs. Lakhs)		
1.	Rice development	5.50	5.38	97.73
2.	Pepper development	79.71	68.86	86.40
3.	Other spices	7.152	6.91	96.14
4.	Fruit development	1.25	1.25	100.00
5.	Floriculture development	20.35	14.54	71.45
6.	Vegetable development	12.25	10.92	89.14
7.	Soil and plant health clinics	0.30	0.25	83.33
8.	Agricultural extension and training	1.05	0.35	33.49
9.	Small farm mechanization	2.90	2.45	84.36
10.	Agricultural marketing and quality control	10.44	7.72	73.97
11.	Information technology	0.80	0.40	50.00
12.	Medicinal and aromatic plants	2.12	2.05	96.70
13.	Use of plastics in agriculture	1.00	0.35	35.00
14.	Women in agriculture	11.88	5.48	46.12
Total		156.702	126.91	82.00

SCHEME –WISE PROGRESS

A detailed analysis of scheme wise progress, achievements and shortfalls is presented.

1. Rice development (Table 6.12.3)

Two special components of rice development programme viz., training programme to farmers on organic cultivation of Jeerakasala and Gandhakasala, two traditional scented rice varieties cultivated in the district; and the market promotion of scented rice under a brand name with a valid certification scheme by taking advantage of the geographical indications under the provisions of TRIPS are implemented in Wyanad District. This is intended to exploit the export potential of these products, and thereby ensure a premium price. The progress and achievement of the components are presented in Table 6.12.3.

Table 6.12.3 Target and achievement of Rice development.

Sl. No	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	One day training for farmers on organic cultivation of scented rice varieties Jeerakasala and Gandhakasala [Nos.]	4	3	75	0.50	0.375	75.0
2.	Market promotion of scented rice using geographical indications under TRIPS	-	-	-	5.00	5.00	100.0
Total					5.50	5.375	97.73

The overall achievement of schemes is nearly 98 per cent. A total of four training programmes were targeted to be organized. The advance was also drawn for four trainings. However, it is observed that only three trainings were conducted, and the balance amount was refunded after the financial year. The selection of topics and resource personnel are furnished below

Topic	Resource personnel	Affiliation
Organic farming of scented varieties of	Smt.Susamma George	Assistant Professor, RARS, Ambalavayal
Bio-composting	Smt. Sobha Ramachandra	Anakha, Vellamunda
Organic certification procedures and	Mr. Salumon	Special Officer, SDAOF Cell, EEC Market, Sultan Bathery

Marketing strategies	Mr.Abdul Majeed	Assistant Director, Mananthavadi
Integrated pest control in rice	Mr.Suresh	Agricultural Officer, Krishi Bhava Thavinal
Processing and value addition in scented rice	Mr. Mukundan	Agricultural Officer, Krishi Bhavan, Thondannadu

The selection of topics has been appropriate. The expertise of the resource persons is not clear. However, the resource persons are to be “specialists” in the area to the extent possible so that training will be more effective.

The ADA (Marketing) through the Small Farmers Agri-business Consortium (SFAC) and Rural Market, Sultan Bathery is implementing the scheme on market promotion of scented rice. The objective was to promote certified traditional scented rice varieties under a registered brand name. The brand name, “Wynad Hills” has been finalized, but the registration and certification are to be operationalized. This is to be expedited. The formalities regarding the purchase of equipments have not been completed. This shall also be speeded up.

2. Pepper development (Table 6.12.4)

The progress and achievement of eight components of the scheme implemented in the district is given Table 6.12.4

Table 6.12.4 Target and achievement of Pepper development.

Sl. No.	Components	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings (Lakh No.)	10.00	10.00	100	7.50	7.50	100
2.	Area expansion through intercropping (Lakh No.)	0.5	0.6725	14	2.5	0.33	13
3.	Rehabilitation of old and senile gardens (ha)	900	900	100	36.00	28.0	78
4.	Organic farming I st Year (ha)	400	400	100	15.60	15.6	100
	II nd Year (ha)	150	150	100	2.175	2.17	100
5.	Promotion of soil conservation measures	450	450	100	13.5	13.5	100
6.	Two day training programme to field officers (No.)	2	2	100	0.28	0.28	100

7.	One day training programme to farmers (No.)	2	1	50	0.30	0.15	50
8.	Demonstration on Integrated pest management IPM-(ha)	100	100	100	1.25	1.05	84
9.	Promotion of improved methods of primary processing at growers level (No.)	6	2	33	0.60	0.20	33
Total					79.705	68.8	86

The overall achievement of the scheme is 86.40 per cent. The target of producing 7 lakh pepper vines was assigned to the Chingeri Extension Scheme, Chingeri (Ambalavayal), and the balance was procured from the State Seed Farms of other districts. A total of 7.5 lakh Panniyur-1 variety of pepper rooted cuttings were raised during the reference period and distribution completed in the following panchayats as shown below:

Ambalavayal	-	60,000 Nos.
Nenmeni	-	40,000 Nos.
Mullamkolli	-	1,90,000 Nos.
Pulpalli	-	80,000 Nos.
Noolpuzha	-	1,95,000 Nos.
Total	-	5,65,000 Nos.

The distribution of the balance number in the Poothadi, Suthan Bathery and Meenagadi panchayats are to be completed. This was not done as the cuttings were not fully established (5 leaf stage). This was the condition during the visit of the Task force. Since the rooted cuttings were getting ready, its distribution was expected to be over before the South West monsoon receded. On a visit to the farm, it was seen that the cuttings were healthy and well maintained. It is noted with great satisfaction that the Agricultural Officer in charge of the farm is doing a commendable work in spite severe limitations in manpower and physical infrastructure.

Wayand is not having a District Farm or State Seed Farm. This farm (Chingeri) with perennial water sources and vast area under coffee, arecanut, pepper, cardamom, mango, sapota, avocado, orange, cinnamon and coconut is having

tremendous potential of being developed into a District Farm capable of catering to the requirements of quality planting materials in the District.

Cent per cent achievement has been made in the case of schemes on area expansion through intercropping, promotion of soil conservation measures and organic farming of pepper (Ist and IInd years). Even though the physical target has been fully achieved for rehabilitation of old and senile gardens, it is observed that there are shortfalls in the financial achievement. A field visit was conducted in the area coming under Krishi Bhavan, Muttill, and an interaction with beneficiary farmers and the Secretary, Ward 9, Pepper Samithy, Muttill. There was widespread discontentment regarding the quality of rooted cuttings supplied. As bulks of the cuttings were disease-affected, many farmers have not planted them in the field. Even planted cuttings were found to be wilted. The discussion with the farmers and technical officers revealed that while locally produced cuttings were not disease-affected, cuttings brought from outside were affected and were of low quality. Hence it is suggested that the procurement of runner vines and its multiplication are to be carried out more carefully under strict technical supervision in the identified localities, on community nursery-basis, instead of bringing rooted cuttings from outside.

The organic cultivation of pepper was done in 400 ha at an outlay of Rs.15.6 lakhs for the first year, and in 150 ha for Rs.2.18 lakhs in the second year. Four farmer groups were formed under ADA, Manathawadi, Kalpatta and Sulthan Bathery.

The promotion of improved methods of primary processing at growers' level is meant to establish small primary processing units for production of clean and quality black pepper/ white pepper and ground pepper by providing assistance to Kurumulaku Vikasana Samithies / Women Groups/ NGOs for the benefit of the member growers. Against a target of 6 units, assistance was given for 2 under the Vellamunda Krishi Bhavan, and the balance amount was refunded.

Two trainings each were to be organized for the officers and the farmers during the reference period. Two trainings were conducted for the field officers, and one for the farmers. However, training registers were not maintained, and hence the Task Force could not evaluate the selection of topics of training , resource persons and such other details

3. Development of other spices (Table 6.12.5 &6)

A. Ginger (Table 6.12.5)

Table 6.12.5 Target and achievement of Ginger

Sl. No.	Components	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Production of planting materials in farmers'	3	3	100	0.60	0.60	100
2.	Lay out of field demonstration (ha)	20	25	125	3.75	3.75	100
Total					4.35	4.35	100

The scheme envisages the production of good quality, disease-free rhizomes and its supply to selected farmers for further multiplication and distribution.

Cent per cent achievement has been made for both the components of the scheme. As ginger seed materials were available at a price lower than the anticipated price of Rs.50/ Kg, more area was brought under coverage under demonstration. The field of Smt. V.K. Padmini, Vattathottil, Kakka Vayal post was visited for a field study. Since the crop season was over, only discussion could be held with the farmer. The variety Rio-De- Janeiro was cultivated on a plot of 0.10 ha from where a yield of 900 Kg was obtained.

B. Turmeric (6.12.6)

The scheme proposed to supply quality rhizome materials to selected farmers for laying out field demonstrations by allowing 25 per cent cost of seed rhizome or Rs.12,500/- per ha, whichever is less.

Table 6.12.6 Target and achievement of Turmeric

Sl.No	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Production of planting materials in the farmers' field (ha)	3	3	100	0.487	0.487	100
b)	Lay out of field demonstration (ha)	15.48	20.88	135	1.935	1.935	100

2.	Training to farmers' on post harvest technology (No.)	4	2	50	0.28	0.14	50
3.	Training on product diversification (No.)	1	-	-	0.10	0.00	0.00
Total					2.802	2.562	91.4

Good progress is seen achieved in the case of component under ginger and turmeric. The physical and financial targets have been fully achieved.

4. Vegetable development (Table 6.12.7)

As against the ICMR recommendation of a daily intake of 285 gm vegetable/day, the actual consumption in Kerala is estimated to be around 125 gm/day only. Even at this rate, there is a huge gap between the demand for vegetables and its availability in the State, estimated to be about 6.90 lakh tonnes. The need to increase vegetable production is to be viewed in this context.

Table 6.12.7 Target and achievement of Vegetable development

Sl.No.	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Vegetable seed production in farmers' field	2.5	2	80	0.25	0.25	100
2.	Promotion of vegetable cultivation in traditional areas	100	92	92	5.00	4.60	92
3.	Promotion of organic farming in cool season vegetables	50	44	88	5.00	4.40	88
4.	Laying out of demonstration plots	25	25	100	1.00	0.92	92
5.	Marketing facilities to Haritha Sangham	4	3	75	1.00	0.75	75
Total					12.25	10.92	89.14

The overall achievement of the scheme is 89.14 per cent. The production of vegetable seeds in the farmers' field with their participation is necessitated by the inadequacy of the Departmental farms to meet the entire seed requirements of the vegetable growers in Kerala. Hence, a strategy to meet the vegetable seed requirement of the farmers in a particular agro climatic region from that region itself was evolved so

that its timely supply is made possible. Eighty per cent of the physical target has been realized – but full financial expenditure is observed. The explanation offered is that only quality seed production is accounted, and hence the shortage.

The promotion of vegetable cultivation in traditional areas consists of providing assistance @ Rs.5000/ ha for the scientific cultivation of vegetables following the concept of self-help groups in traditional areas having potential for vegetable cultivation in summer fallows and as intercrop in coconut gardens. 92 per cent physical as well as financial achievements have been made in the scheme. Organic farming in cool season vegetables like cabbage, carrot, cauliflower, tomato etc. were promoted in 44 ha, out of a target 50 ha assigned under Padinjarethara, Tirunelli, Vellamunda and Panamaram Krishi Bhavans.

In the case of laying out of vegetable demonstration plots, 25 plots were laid out as demonstration units. However, some plots were not meeting the technical requirements and hence claims were not disbursed. Therefore, the financial achievement is 92 per cent only.

Under the scheme on providing marketing facilities, facilities like mobile vending units, weighing balance etc. worth Rs.25,000/- were provided to three Haritha Sanghams who had a vegetable cultivating area of more than 5 ha.

5. Fruit development (Table 6.12.8)

The scheme originally envisaged giving assistance for area expansion of Olore variety of mango and establishment of small private nursery.

Table 6.12.8 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Promotion of Mango (Olore), Gauva and papaya varieties [ha]	10	10	100	0.50	0.50	100
2.	Establishment of small private nursery [No.]	3	3	100	0.75	0.75	100
Total					1.25	1.25	100

Full achievements of the physical as well as the financial components have been made under the scheme. The Olore mango varieties were procured from the Regional Agricultural Research Station, Ambalavayal.

6. Soil and plant health clinics (Table 6.12.9)

The soil testing campaigns are envisaged to be conducted in potential areas where group farming samithies or Kera Samrakhsna Samithies are active. It seeks to enlighten farmers about the integrated nutrient management (INM) system and to undertake suitable methods of soil reclamation. Soil health cards were planned to be distributed to the farmers who were not in receipt of it during the last year.

Table 6.12.9 Target and achievement of Soil and plant health clinics

Sl.No	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	30	25	83	0.30	0.25	83
Total					0.30	0.25	83.33

Twenty five soil-testing campaigns have been organized in the district with an outlay of Rs.0.25 lakhs as against a target of 30 numbers. The physical as well as financial achievements worked out to 83.33 per cent. It may be noted that though campaigns have been carried out, health cards were not issued so far. A major limitation regarding the scheme pointed out was that the post of Assistant Soil analyst was lying vacant at the district soil testing lab, Manathawady till recently. Another major limitation is the absence of a mobile soil-testing laboratory in the district. The augmentation of this vital infrastructure has to be planned ahead for the successful conduct of the scheme.

7. Use of plastics in agriculture (Table 6.12.10)

The scheme aims to promote drip irrigation, sprinkler irrigation and green houses. However, only one component, viz., the promotion of green house technology was implemented in the district

Table 6.12.10 Target and achievement of Use of plastics in agriculture

Sl No	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Setting up of green house (Sq.m)	2500	250	10	1.00	0.096	10
2.	Sprinkler	--	--	--	--	0.254	--

	Total	--	--	--	1.00	0.35	35.00
	Backlog of previous years target						
	Green house	--	--	--	--	0.2524	--
	Drip	--	--	--	--	0.9836	--
	Sprinkler	--	--	--	--	0.9574	--

This is a poor state of scheme implementation and supervision, which the Task Force views very seriously. The Department of Agriculture may have to examine that whatever may be the reasons for such poor scheme implementation, such things shall not happen in future. It is also understood that 0.25 lakhs under greenhouse, 0.98 lakhs under drip irrigation and 0.95 lakhs under sprinkler irrigation were also achieved during the financial year 2003-04, these being the carryover target of previous year(2002-03).The carry over of implementation of the previous years target in the current year will definitely affect the current years implementation also, this being a typical case.

8. Agricultural extension and training (Table 6.12.11)

The following four components of the scheme were implemented in the district:

Table 6.12.11 Target and achievement of Agriculture extension and training

Sl.No.	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	District level training to extension personnel -2 days	1	-	-	0.14	-	-
2.	Block level training to extension personnel -3 days	3	1	33	0.15	0.05	33
3.	District level Research-Extension interface	1	1	100	0.30	0.30	100
4.	MDDT	-	-	-	0.455	0	0
Total					1.045	0.35	33.49

The overall achievement of schemes is only about 34 per cent. The district level research-extension interface was conducted, but registers were not seen maintained recording the topics of discussion and list of resource persons. The concerned files

were also not containing any such details. Similar was the situation for other training programmes also. It was observed that a general lethargy existed regarding the conduct of training in the district. As trainings are important opportunities for the field level staff to acquire new skills and to update their existing knowledge, the Task Force observes that the training components are to be taken up more seriously in future.

There was an amount of Rs.45,500/- earmarked towards meeting the expenses in connection with the visit of the multi-disciplinary diagnostic team as well as contingent expenses like fuel and assistance to farmers to undertake remedial measure pointed out by the diagnostic team. Though there were activities of the team during the reference period, it is noted that financial expenditure was not incurred in this regard during the reference period. Hence, the Director of Agriculture resumed this amount. This is a sad state of affair, especially in view of the fact that Wayanad district is having a number of peculiar problems of its own.

The composition of the multi-disciplinary diagnostic team (MDDT) consisted of Associate Professor (Agronomy), Assistant Professor (Plant Pathology), Assistant Professor (Horticulture), from RARS, Ambalavayal and Deputy Director (Training), Wayanad District as the Convener. The task force strongly felt that the funds earmarked for the functioning of the multi-disciplinary diagnostic team shall be utilized to help farmers facing field level problems in a need-based manner.

9. Small farm mechanization (Table 6.12.12)

Improved agricultural machinery and implements have a significant role to play in reducing the drudgery in farm operations and also in reducing the cost of cultivation. Many of the modern machineries may not be economical for individual purchase owing to their limited hours of use on small holdings. In order to bring more area under mechanization, assistance is to be provided to farmers for its purchase. It is with these objectives, that the scheme on small farm mechanization was formulated and implemented. The components were modified based on local realities, and the revised targets are presented:

Table 6.12.12 Target and achievement of Small farm mechanization

Sl.No.	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Garden tillers	4	-	-	0.60	-	-
2.	Tractor	2	2	100	0.60	0.60	100
3.	Power tiller	4	7	175	1.60	1.8016	>100
4.	Sprayers	5	3	60	0.10	0.0449	45
Total					2.90	2.4465	84.36

The overall achievement of schemes is 84.36 per cent. The components of the scheme were modified according to local needs. Two tractors and seven power tillers have been distributed in the district. As garden tillers are not in demand in the area, for the next year, this component need not be included and more thrust for locally needed components have to be given.

10. Agricultural marketing and quality control (Table 6.12.13)

Marketing is as critical as production in agriculture. The desired growth rate in agriculture has not been attained due to lack of proper marketing infrastructure. The following three components of the scheme were implemented in the district with this background.

Table 6.12.13 Target and achievement of Agricultural marketing and quality control

Sl.No.	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	AA Training to Extension personnel -2 days (No.)	1	1	100	0.08	0.08	100
2.	Training for Master Farmers -3 days (No.)	2	2	100	0.16	0.16	100
3.	One day seminar to traders and farmers (No.)	1	1	100	0.20	0.20	100
4.	Market infrastructure (No.)	1	1	100	5.00	5.00	100

5.	Establishment of Agmark Lab (No.)	1	-	-	5.00	2.28	46
Total					10.4	7.72	73.97

The overall achievement of schemes is 74 per cent. The training components were fully attained. Under market infrastructure development, Panamaram village market under Panamaram Krishi Bahavan was selected. The full financial expenditure is indicated on account of the amount being transferred to the Panamaram panchayat for the development of the market facilities. It is understood that the works are not over. This shall be speeded up.

A moisture analyzer, computer and furniture for Rs.2.28 lakh were procured for the Agmark Laboratory. However, they are yet to be made operational.

11. Floriculture development (Table 6.12.14)

The following components of the scheme were implemented.

Table 6.1214 Target and achievement of Floriculture development

Sl.No	Component	Physical			Financial(Rs. Lakhs)		
		T	A	%	T	A	%
1.	Area expansion	10	-	-	0.375	-	-
b)	Orchid/Anthuriums units [No.]	75	58	77	18.75	13.915	74.21
c)	Cut foliage units	5	1	20	0.625	0.125	20.0
2.	One day farmers' training	1	1	100	0.50	0.50	100
3.	Training to technical officers of	1	1*	100	0.10	0.10	100
Total					20.35	14.64	71.94

*Conducted after 31st March

The overall achievement of the scheme is only above 70 per cent. It is highly disappointing that such a vital scheme is not taken up seriously in a district where the potential for floriculture development is tremendous. No achievements were made under the area expansion programme with graft varieties. Area

expansion of grafts of rose, chrysanthemum etc was the basic objective of the scheme. The achievement made under the area expansion programme with cut foliage is just 20 per cent. Asparagus, ferns etc. were included as components of the scheme. A reasonable progress is made under area expansion with orchids and anthurium.

The plot of Mrs.Sicily Mathew, Pazhaya Madhom, Muttill Post was visited to assess the extent of utilization of assistance received under establishment of anthurim nursery. The selection of the beneficiary was appropriate. The nursery had established a green house, for which she received Rs.25,000 by way of assistance. She was utilizing the green house for maintaining and multiplying anthurium . A good collection of mother plants of Tropical Red, Acropo live and Lima white has been made. The plantlets and flowers are being produced and sold to Bathery Flower Society since a tie-up has been made with the society. Hence it is hopeD that the marketing will not be a problem.

Even though one 10-day training programme was conducted for the farmers at an outlay of Rs.50,000, details were not available about the participants, topics discussed or the resource persons. When large amounts are spent on training components, a more careful approach towards its organization is called for.

The training to officers was meant to orient the technical officers of the Department on all aspects of commercial cultivation of important flowers grown in Kerala. By not organizing the training, a good opportunity was to get exposed to latest knowledge lost. This shall be looked upon.

12. Information technology (Table 6.12.15)

Table 6.12.15 Target and achievement of Information technology

Sl.No.	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Installation of hardware and software	20	20	100	0.80	0.40	50
	Total				0.80	0.40	50

CPU units, UPS, Printer and Monitors were provided to the office of the Principal Agricultural Officer, Assistant Directors and Krishi Bhavans as indicated below:

Principal Agricultural Officer, Wayanad

Assistant Directors	-	2 Nos.
Assistant executive Engineer (Agri.)	-	1 No.
Krishi Bhavans	-	15 Nos.

The list of Krishi Bhavans that were provided with this facility are appended. Only 50 per cent of the allotted funds were utilized under the head, and the balance amount was surrendered.

13. Medicinal and aromatic plants (Table 6.12.16)

The following three components of the scheme were implemented in the district.

Table 6.12.16 Target and achievement of Medicinal and aromatic plant

Sl.No	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Establishment of demonstration-cum-seed production units (No.)	120	120	100	1.80	1.80	100
2.	Area expansion programme (ha)	2	2	100	0.25	0.25	100
3.	Training to farmers (No.)	1	-	-	0.07	-	-
	Total				2.12	2.05	96.70

The establishment of demonstration-cum-seed multiplication centers in the farmers' field is intended to produce planting materials of the medicinal plants locally, and make it available to interested farmers in the area at a reasonable cost fixed by the Department of Agriculture. The area expansion programme and demonstration have achieved the physical and financial targets fully. The selection of species is appropriate. Locally important species like Pathimukham, Tippali, Pani koorka, Pachouli, Brahmi, Stevea, Koduveli, Coleus, Chittaratta, Vetiver, Koovalam, Asokam etc were included.

The training to farmers was not organized, and the unspent amount was refunded. One day training was to be imparted to farmers on improved production technology by drawing experts from TBGRI, Thiruvananthapuram, Pharmaceutical firms and Kerala Agricultural University. The pre-season orientation would have been highly useful to the farmers. Such orientations have definite value since they are useful learning situations where farmers can understand and clear their doubts.

14. Women in agriculture (Table 6.12.17)

The following components were implemented in the district as indicated below:

Table 6.12.17 Target and achievement of Women in agriculture

Sl.No.	Component	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Training to facilitators	As the scheme was in the 3 rd year of operation, no provision was made for training facilitators					
2.	Honorarium to facilitators	-	-	-	1.44	0.79871	56
3.	Training to farm women groups	8	8	100	0.82	0.82	100
4.	Training to link workers	2	-	-	0.11	-	0
5.	Honorarium to link workers	-	-	-	0.455	0.455	100
6.	TA for facilitators	-	-	-	0.80	0.21966	27.46
7.	TA for link workers	-	-	-	0.11	0.11	100
8.	Mahila ghosti	1	-	-	1.18	-	0
9.	Study Tour	-	-	-	0.42	-	-
10.	Result demonstration(No.)	48.	101.	210	1.20	0.101	84.16
11.	Literature support	-	-	-	0.72	-	-
12.	Monitoring and evaluation	-	-	-	0.25	-	-
13.	Assistance to women group	-	-	-	1.50	0.75	50
14.	Assistance for starting new enterprises (SWIP)	-	-	-	2.875	2.225	77.39
	Total				11.88	5.47937	46.12

An amount of Rs.11.88 lakhs was available under the scheme. The overall achievement of scheme is low (46 per cent). Being in the third year of implementation of WIA scheme, the district was free from handicaps facing other districts which were implementing the scheme for the first time.

The services of the facilitators were not available during the entire year. That explains the low expenditure in honorarium and TA for facilitators. 101 result demonstrations were carried out. Assistance for starting new enterprises were given for Rs.2.23 lakhs (77 per cent achievement). While assistance to women groups was low (50 per cent), achievements were not made under monitoring and evaluation, training to link workers, literature support, study tour and Mahila ghosti.

SUMMARY

As is evident, the schemes on fruit development, rice development, medicinal plants, other spices and vegetable development have made very good progress. The progress of schemes on extension and training and use of plastics in agriculture were also satisfactory. The progress of schemes on floriculture development, agricultural marketing, small farm mechanization and soil and plant health clinics were fair. The achievements were low in the case of schemes on extension & training, women in agriculture and information technology.

A major operational problem that was found to hinder the smooth implementation of the schemes in the district was that while the Drawing and Disbursing Officer (DDO) of all schemes under macro management of agriculture was the Principal Agricultural Officer (PAO), the Implementation Officers were the concerned Deputy Director of Agriculture. Instances of improper reconciliation etc. could be attributed to this dichotomy in execution. This is one aspect which has to be further probed into.

7.13 KANNUR

The total geographical area of the district is 296797 ha, of which 202502 ha is the net sown area and the net irrigated area is 17580 ha. The major crops of the district are coconut, pepper, cashew, rubber, rice and arecanut.

The cropping pattern of the district is furnished in Table 6.13.1

Twelve schemes are operational in the district. The major share of allotment is for cashew followed by pepper and women in agriculture.

Table 6.13.1 Cropping pattern in Kannur District during 2002-03

Sl. No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	11323	3.65
2.	Coconut	94217	10.48
3.	Banana	2445	4.39
4.	Tapioca	3247	3.12
5.	Vegetables	1167	4.44
6.	Arecanut	14182	14.55
7.	Cashew	27123	30.63
8.	Rubber	34085	7.16
9.	Pepper	22492	10.78
10.	Ginger	266	2.96
11.	Turmeric	136	4.33

An abstract of the scheme wise financial target and achievement in the case of Kannur district is given in Table 6.13.2

Table 6.13.2 Abstract of scheme-wise financial target and achievements of Kannur District

Sl.No.	Scheme	Allotment	Revised Allotment	Achievement	Achievement (%)
		(Rs.lakhs)			
1.	Rice development	2.575	2.575	0.00	0.00
2.	Pepper development	27.220	36.365	25.880	71.17
3.	Cashew development	72.5	69.15	19.21	27.77
4.	Vegetable development	7.250	4.88	4.815	98.66
5.	Fruit development	1.000	1.00	1.000	100.00
6.	Soil and plant health clinics	0.750	0.75	0.750	100.00
7.	Use of plastics in agriculture	0.500	0.50	0.430	86.00
8.	Agri.extension and training	0.930	0.99	0.918	92.73
9.	Small farm mechanization	1.130	1.13	0.88	77.88
10.	Agricultural marketing and quality control	0.460	5.36	0.36	6.71
11.	Information technology	0.860	0.86	0.850	98.83
12.	Women in agriculture	7.87	7.8815	5.627	71.32
Total		123.045	134.792	60.72	45.05

SCHEME-WISE PROGRESS

An evaluation of scheme-wise progress, achievements and shortfalls is presented.

1. Rice development (Table 6.13.3)

Table 6.13.3 Target and achievement of Pepper development

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Laying location specific demonstration plots for popularisation of suitable variety Karuna (ha)	10	Nil	0.00	2.575	0.00	0.00
Total					2.575	--	--

There was only one component included under rice development scheme. Due to lack of availability of seed of Karuna variety, the programme could not implemented.

2. Pepper development (Table 6.13.4)

Table 6.13.4 Target and achievement of Pepper development

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings in Departmental farms (Lakh No.)	10	6.6	66	7.500	7.170	96
2.	Area expansion through intercropping (Lakh No.)	0.3	0.2025	68	1.500	1.012	68
3.	Rehabilitation of old and senile gardens (ha)	400	241	60	16.00	9.500	59
4.	Development of infrastructural facilities for departmental pepper nurseries and establishment of progeny gardens	-	-	-	1.00	0.00	0.00
5.	Promotion of soil conservation measures (ha)	200	196	98	6.000	5.900	98
6.	Organic farming of pepper (first year)	100	64.4	64	3.000	0.930	31

7.	Demonstration on integrated pest management (ha)	50	40.7	81	0.625	0.430	69
8.	Training on production of organic pepper. 2- day training programme to field officers	1	1	100	0.140	0.140	100
9.	Promotion of improved methods of primary processing at growers level.	6	4	67	0.600	0.400	67
Total					36.365	25.880	71.2

The production of rooted cuttings was undertaken in 5 departmental farms and the split up was:

DAF, Karimbam	:	6.0 lakh
SSF, Vengad	:	0.5 lakh
SSF, Kankol	:	1.0 lakh
Coconut nursery, Palayadu	:	1.5 lakh
Agricultural demonstration center, Chalode	:	<u>1.0 lakh</u>
		10.0 lakh

There is heavy demand for quality planting materials of pepper in Kannur district. The production and distribution of rooted pepper cuttings were completed. Karimunda and Panniyur-1 are the varieties used for the multiplication. A visit was made to the pepper nursery at Agricultural Demonstration center, Chalode. But the full target for the production of rooted pepper cuttings could not be achieved due to heavy dearth of quality mother vines. Steps may be taken to develop progeny gardens of mother vines in departmental farms urgently. The plot of Sri.Puthukudi Padmanabhan, Cheruveanchery, Pattiam, Kuthuparambu block was visited. The farmer has been given 200 vines for replanting of lost vines in the existing gardens. The planted vines were seen well established. In the case of rehabilitation of old and senile gardens and intercropping target could not be achieved due to dearth of quality planting material.

The amount allotted for development of infrastructural facilities for departmental pepper nurseries could not be utilised due to lack of administrative sanction and financial restriction imposed on drawal of advance. The money is intended for developing infrastructure facilities like establishing rapid multiplication system, irrigation facilities

etc .The amount could have been spent for developing a rapid multiplication system or a progeny garden. Anyhow, it is quite unfortunate that the amount could not be utilized.

The present financial assistance of Rs. 3000/- per hectare promotion of soil conservation measures is too meager. It would be difficult to implement the scheme in the coming years also due to low subsidy component. The subsidy portion has to be enhanced.

The scheme on organic pepper was started during the year 2003-2004. The aim of the programme is to promote the cultivation of organic pepper. Assistance to the tune of Rs.2900/- per hectare is provided for inputs and Rs.1000/- per hectare as compensation for yield loss. The package of practices for organic pepper standardize by IISR is being followed. There is no facility at present to test quality of the organic products. The State Biocontrol Lab located at Thrissur is unable to cater the demands of biocontrol agents. Hence there is a need to establish Biocontrol Laboratories at regional level.

The IPM could not be effectively implemented due to lack of availability of compact area under pepper to the tune of five hectares as envisaged in the scheme.

Under the component, promotion of improved methods of primary processing at growers level, four primary processing units have been established, of which 2 units are at Peravoor block and another 2 units at Iratti block mainly for blanching of berries and thereby to improve the quality of black pepper. However, the full target could not be achieved.

3. Cashew development (Table 6.13.5)

Table 6.13.5 Target and achievement of Cashew development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Area expansion in waste land (ha)	200	46.75	23	12.000	2.805	23.37
2.	Replanting/ rehabilitation of old and uneconomic gardens (ha)	500	45.75	9	50.000	9.700	19.4
3.	Adoption of plant protection measures (ha)	150	150	100	1.500	1.500	100
4.	Distribution of plant protection equipments (No.)	200	214	>100	1.600	1.300	81.25

5.	Establishment of demonstration plots (No.)	150	150	100	3.750	3.600	96.0
6.	Training on grafting (No. of trainees)	15	15	100	0.15	0.15	100
7.	EI	--	--	--	0.15	0.15	100
Total					69.15	19.21	27.77

* Total allotment is 72.95 lakhs of which 31.87 lakhs resumed by Director of Agriculture.

The low achievement for area expansion in wasteland is mainly due to lack of availability of quality grafts. Arrangements have been made to augment the production of grafts and hence it is hoped that from the current financial year onwards, sufficient grafts will be available for supply under the scheme.

A field visit was conducted to the plot of Kolayad Sri. P.N. Sunil Kumar, Chandroth house. P.O., Vayanoor under the Krishi Bhavan Kolayad where cashew rehabilitation has been carried out in an area of 0.3 ha. The area was originally occupied by low yielding trees. They have been cut and removed and grafts have been planted. The grafts have established well.

There was cent per cent achievement in the adoption of plant protection measures and also distribution of plant protection equipments. In fact, the number of equipment distributed exceeded the target. But the financial achievement is less since all claims are not settled

4. Vegetable development (Table 6.13.6)

Table 6.13.6 Target and achievement of Vegetable development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Vegetable seed production in farmers' field (ha)	2.5	2.5	100	0.250	0.235	94
2.	Promotion of vegetable cultivation in traditional areas (ha)	52.6	52.6	100	2.630	2.630	100

3.	Laying out demonstration plots (No.)	25	25	100	1.000	0.950	95
4.	Marketing facilities to Haritha Sangham (No.)	4	4	100	1.000	1.000	100
Total					4.88	4.815	98.66

The subsidy component is too low and hence vegetable seed production in farmers' field is an unattractive scheme. The sample size for quality testing of seeds is 400 g. There is no provision to pay the cost of seed sample taken from farmer for testing. Input assistance is given based on the quantity of the seed produced by the farmer. But if the crop fails, there is no provision for giving any assistance to the farmer. In spite of these problems, there was cent per cent achievement of this component.

For promotion of vegetable cultivation in traditional areas, the present assistance of Rs.5, 000/- per hectare as revolving fund is too low. This may be enhanced to at least Rs.10, 000/- per hectare. Certain amount may also be given as subsidy in this component also. Though such suggestions were made by the farmer, the achievement of the component is full.

Under marketing facilities to Haritha Sangham, four goods vehicle have been purchased for marketing of vegetables. Field visits could not be conducted, as crop harvesting was over. The task force members visited the Peravoor Haritha Sangham, Peravoor, Iratty block. The Sangham has been given a goods vehicle for marketing vegetables. On enquiry it was revealed that the Sangham is utilizing the vehicle for the vegetable marketing during the cropping period. In the remaining part of the year (off season) the vehicle is being used a general goods vehicle, and they thus earn income from transportation.

5. Fruit development (Table 6.13.7)

Table 6.13.7 Target and achievement of Fruit development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of Olore mango, papaya and guava (ha)	10	10	100	0.500	0.500	100

2.	Establishment of small private nurseries (No.)	2	2	100	0.500	0.500	100
Total					1.000	1.000	100

There is cent per cent achievement under this scheme. The scheme is implemented in all the blocks of the district. The mango grafts have been supplied from DAF, Thaliparamba.

The fruit nursery of Sri. V.P Karunakaran, Jhansi Nivas, Thalamunda, Kanjirode under Krishibhavan Munderi was visited. Assistance was given to him for constructing a shade house. The farmer has raised seedlings of arecanut fruit plants and rooted pepper cuttings in the nursery.

6. Soil and plant health clinics (Table 6.13.8)

Table 6.13.8 Target and achievement of Soil and plant health clinics

Sl.No.	Components	Physical			Financial (Rs. Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards (No.)	75	75	100	0.750	0.750	100.0
Total					0.750	0.750	100.0

The target has been given for the mobile soil-testing lab and the soil-testing lab located at Kannur. The target has been fully achieved. A district soil fertility map covering the 82 panchayats and six municipalities of the district has been prepared for the integrated nutrient management programme. The distribution of soil health cards is not completed.

7. Use of plastics in agriculture (Table 6.13.9)

Table 6.13.9 Target and achievement of Use of plastics in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Setting up of green house (m ²)	1250	1080	86.4	0.5	0.430	86.0
Total					0.5	0.430	86.0

There is only one component included under this scheme. The target has been revised to 1250 m² and the financial allotment to Rs.0.50 lakh. It was observed that rigid working instructions do not provide flexibility in implementation of the scheme according to local situation. For example, the substitution of high density polyethylene pipe (HDP) with PVC is widely followed and cost effective also, but cannot be implemented in this scheme. For green house, shade net is more practical and useful than UV sheet as cover. This being the field reality and the common practice among the farmer, flexibility to the technical parameters should be honoured.

8. Agricultural extension and training (Table 6.13.10)

Table 6.13.10 Target and achievement of Agricultural extension and training

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Training to extension personnel 2-days (No.)	4	1	25	0.29	0.29	100
2.	Block level training to extension staff 2-days (No.)	9	6	67	0.300	0.300	100
3.	District level interface (No.)	1	1	100	0.300	0.300	100
4.	MDDT	--	5	--	0.100	0.028	19
Total					0.99	0.918	93.0

It was seen that only one training to extension personal was conducted against the targeted number of 4. Similarly, though 9 block level trainings were targetted, only 6 could be achieved.

The research extension interface of Kannur district was organised on 22-10-2003. The scientists from KAU, CPCRI Kasargode, IISR Kozhikode and the officials of Department of Agriculture actively participated in the interface. The summary and proceedings of the interface were documented has come out in the form of a publication, which is worth emulating by other district. The interface has addressed the major issues facing important crops of the district and has come out with suggestions to tackle them. Developing a package of practice for organic farming in vegetables, rice, banana and pepper, AEZ for spices and cashew in Kannur, organic certification for Kaipad lands and

non availability of quality planting materials which are now exclusively under organic farming are some of the major issues that needs immediate attention.

MDDT has conducted five visits during the year. The team comprising of Dr.M.Govindan, Dr.Madhu Subramaniam and Dr.K.P.Mammotty (Scientists of KAU) had visited the plots. The reports at the visits of the diagnostic team are well documented. But the details regarding the adoption of the recommendations and its impact were not furnished to the task force members.

9. Small farm mechanization (Table 6.13.11)

Table 6.13.11 Target and achievement of Small farm mechanization

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Power tiller (No.)	3	2	67	0.900	0.800	89
2.	Threshers (No.)	1	--	--	0.150	--	--
3.	Power sprayers/dusters (No.)	4	9	>100	0.080	0.080	100
	Total				1.13	0.88	78.0

The scheme is not attractive due to low subsidy component. The subsidy component is uniform irrespective of the total cost of the machinery. Under the scheme two power tillers and nine sprayers have been supplied. Though one thresher was included, there was no demand from the farmers.

10. Agricultural marketing and quality control (Table 6.13.12)

Table 6.13.12 Target and achievement of Agricultural marketing and quality control

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training (No.)	1	1	100	0.080	0.080	100
2.	Farmers' training (No.)	1	1	100	0.080	0.080	100
3.	One day training (No.)	1	1	100	0.200	0.200	100
4.	Market infrastructure (No.)	1	--	--	5.00	0	0
	Total				5.36	0.36	6.7

In this scheme, only the training component has been achieved. The amount allotted for construction of a market has been sent for revalidation. Already an agricultural market is under construction at Payam, Vallithode panchayat. The scheme is

being implemented with assistance from NABARD. The share from this scheme is intended to be utilized for constructing an information center cum office, cold storage, sales counter and a roofed platform for auction in this market and hence requested for revalidation.

11. Information technology (Table 6.13.13)

Table 6.13.13 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware (No.)	50	50	100	0.860	0.850	98.83
	Total				0.860	0.850	98.83

Installation work of computer and accessories in ADAs' office [6 no], 38 Krishibhavans, three farms, soiltesting lab, AEE's office and PAO's office has been completed. The detailed list is given in Appendix I. The use of computers in field of extension is yet to be evolved.

12. Women in agriculture (Table 6.13.14)

Table 6.13.14 Target and achievement of Women in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Executorial cost. Organization of women groups	--	--	--	0.84	0.814	96.9
2.	Training and extension cost.	--	--	--	2.0465	1.8677	91.26
3.	Monitoring and evaluation	--	--	--	0.25	0	0
4.	Assistance to women groups	--	--	--	2.735	1.895	69.28
	Total				7.8815	5.6217	71.32

The total allocation for the district is Rs 7.8 lakhs of which Rs 5.6 lakhs has been spent with an overall achievement of 71.79 per cent. Under the SWIP programme, different activities were undertaken. A total of 150 units were targeted for the year of which 90 units could be achieved, the percentage achievement, being 60 per cent. The details are as follows:

1. Banana cultivation - 22 units.

2. Vegetable cultivation	-	32 units.
3. Vanilla cultivation	-	1 unit.
4. Vermicomposting	-	30 units.
5. Bee keeping	-	3 units.
6. Mushroom	-	1 unit.
7. Agro processing	-	<u>1 unit.</u>
		90 units

Under the scheme for assistance to the women group, 61 units were established, the percentage achievement was around 50 per cent. There is more or less cent per cent achievement in executional cost and training and extension expenses. But nothing has been spent from the amount of Rs 0.25 lakhs allocated for monitoring and evaluation. On enquiry at PAO's office it was revealed that the scheme was sanctioned very late towards the fag end of the year and hence monitoring and evaluation could not be carried out properly.

Field visits were undertaken to some of the units in the district. A visit was made to the Gramalekshmi group involved in vermicompost production under Krishibhavan Munderi. The total loan amount is Rs 10,000 and the subsidy component is Rs.2500. The construction of the unit is completed and the production of compost is going on. In Iratty block under Krishibhavan Koodali, a copra drier of 500 nuts capacity has been given to a group lead by Sri.Pushpa.O, Dhanya Nivas, Padanur, The women have already started producing copra using the drier. The Krishibhavan Kolyad has supplied three bee-keeping units under the SWIP. The task force visited the bee keeping unit of Sri.Daisy Ulhanan, Kariyanjal house, Edayar. The cost of one box including bees is Rs.1500. Eight such boxes are given to each beneficiary. As there is a honey processing society already existing in this panchayat, selling of honey is not a problem. The Krishi Bhavan, Munderi has given assistance to one women group for banana [Nendran] cultivation. About 250 banana plants have been raised in an area of 0.25 acres.

Also visited one of the vermicompost units assisted by Krishi Bhavan Kolyad under this scheme. Here also the construction of the unit is over and the production has started. In general, although the scheme was sanctioned and implemented only towards the

fag end of the year, majority of the units have already established and started functioning well. This is quite commendable and at present there is great enthusiasm among the women groups. This needs to be sustained and more innovative programmes should be chalked out in future. More funds should be allocated to projects on agro processing, bee keeping, mushroom cultivation etc. Less emphasis should be given to projects which are mere repetitions of the schemes being currently operated by the Department.

SUMMARY

Though the overall status of implementation of schemes under Macromanagement in Agriculture in the district can be rated as good, the achievement in the case of major scheme ie, cashew development was only about 28 per cent, the reason for which was discussed earlier. It is encouraging to note that steps to ensure quality-planting material of cashew have already been taken up. The dearth of quality planting materials of pepper has hindered the successful implementation of area expansion and rehabilitation programme. It is also to be noted that due to nonavailability of quality mother vines, the targeted production of rooted cuttings also could not be taken up. However, the funds earmarked for infrastructure facilities for pepper nurseries including establishment of rapid multiplication system was lapsed. It is felt that there is need to prioritize the implementation of components which can compliment the successful improvement of others. Demonstrations should be accorded a higher priority by the extension officials, and if it is done, the physical achievement of some of the schemes could be improved and also do the transfer of technology process becomes more effective.

6.14 KASARAGOD

The total geographical area of the district is 196133 ha, of which 135716 ha is the net sown area and 43859 ha is the net irrigated area. The major crops of the district are coconut, cashew, arecanut, rice and pepper.

The cropping pattern in Kasaragod District is furnished in Table 6.14.1

Table 6.14.1 Cropping pattern in Kasaragod District during 2002-03

Sl. No.	Crops	Area (ha)	As % to state cropped area
1.	Rice	7196	2.32
2.	Coconut	56236	6.25
3.	Banana	764	1.37
4.	Tapioca	1148	1.10
5.	Vegetables	892	3.40
6.	Arecanut	15183	15.57
7.	Cashew	20218	22.83
8.	Rubber	22420	4.70
9.	Pepper	6948	3033
10.	Ginger	147	1.63
11.	Turmeric	68	2.16

Eleven schemes are operational in the district. The allotment amount for the district is Rs. 112.932 lakhs of which a major share was for cashew development (63 %).

An abstract of scheme- wise financial target and achievement in the case of Kasaragod District is given in Table 6.14.2

Table 6.14.2 Abstract of scheme-wise financial target and achievements of Kasaragod District

Sl.No.	Scheme	Allotment	Revised Allotment	Achievement	Achievement (%)	Remarks
		(Rs.lakhs)				
1.	Pepper development	16.00	14.366	14.49	>100.00	Additional expenditure (Rs.0.12642 lakhs.)
2.	Cashew development	71.70	72.00	60.80	84.40	
3.	Vegetable development	4.70	4.70	4.50	95.74	
4.	Fruit development	19.25	1.00	1.00	100.00	
5.	Soil and plant health clinics	0.40	0.40	0.40	100.00	
6.	Use of plastics in agriculture	1.00	0.50	0.41	82.00	
7.	Agri.extension and training	1.292	1.292	0.60	46.51	
8.	Small farm mechanization	1.43	1.43	0.625	43.70	
9.	Agricultural marketing and quality control	10.16	10.212	0.210	2.05	
10.	Information technology	1.00	0.143	0.103	72.39	
11.	Women in agriculture	---	4.36	4.20	96.52	
	Total	112.932	110.401	87.338	79.12	

The major share of allotment is for cashew development (63%) followed by pepper development (14%), agricultural marketing (8%) and vegetable development (4%).

A detailed analysis of scheme-wise progress, achievements and shortfalls is presented.

SCHEME-WISE PROGRESS

1. Pepper development (Table 6.14.3)

Table 6.14.3 Target and achievement of Pepper development

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Production and distribution of rooted pepper cuttings (Lakh No.)	2	1.746	87.3	1.500	0.812	54.1
2.	Rehabilitation of old and senile gardens (ha)	300	296.65	98.9	11.866	11.866	100.0
3.	EI (transportation cost)	--	--	--	1.000	1.810	>100
Total					14.366	14.490*	>100

*Additional expenditure = Rs. 0.12642 lakhs

Production and distribution of rooted pepper cuttings were undertaken at the SSF, Pullur and SSF, Kasargod. A field visit was made to SSF, Pullur. The production and distribution of pepper cuttings were almost complete at the time of visit by task force. The quality of planting material produced is in general good. At present, mother vines are sourced from farmer's fields. The Farm does not have a mother vine garden. Now only Panniyur -1 and Karimunda are being produced. There is need to produce and popularize the latest varieties as demanded by the farmers. This is possible only if the Department takes a serious attempt to plant mother vine gardens of the latest varieties. In general, the achievement under this scheme can be rated as good.

Rehabilitation was implemented mainly in Kanhangad and Nileswar Blocks. The task force members visited the pepper plots of three beneficiaries in the two blocks. The first one was that of Shri.E.Thampan Nair, Meelanchery, (P.O.) and Kattipoyil. Two hundred numbers of pepper plants have been rehabilitated in an area of 2 ha. The pepper is raised as intercrop in coconut garden. The second plot was that of Shri. Abraham Mathew, Chimmathodu, (P.O.) Karinthalam (Nileswar block). Here 400 numbers of pepper plants have been planted in an area of 0.4 ha. Also visited the plot of Shri Madhavan, Ramanagiri, (P.O.) Rameswaram in Ajannoor panchayath (Kanhangad Block). Here pepper also is planted as an intercrop in coconut garden. About 50 cuttings have

been planted. In general, the crop stand in the three cases is good. The farmers are interested in getting more vines for planting.

2. Cashew development (Table 6.14.4)

Table 6.14.4 Target and achievement of Cashew development

Sl. No	Components	Physical			Financial (Rs.lakhs)		
		T	A	%	T	A	%
1.	Area expansion in waste land (ha)	200	75	37.5	12.000	4.500	37.5
2.	Replanting/ rehabilitation of old and uneconomic gardens (ha)	500	500	100.0	50.000	50.000	100.0
3.	Adoption of plant protection measures (ha)	150	150	100.0	1.500	1.500	100.0
4.	Distribution of plant protection equipments (No.)	200	266	>100.0	1.600	1.523	95.2
5.	Establishment of demonstration plots (No.)	150	NIL	0	3.750	0	0
6.	Training for grafting (No. of trainees)	15	15	100.0	0.150	0.150	100.0
7.	EI	--	--	--	3.130	3.130	100.0
Total					72.000	60.803	84.4

Though cashew is a major crop of the district and there is good scope for area expansion of this crop in the existing wastelands, the achievement of area expansion component is very poor. The Deputy Director in charge of the scheme attributed the low physical achievement to the non-availability of grafts. Though this could be a reason, attempts ought have been taken to procure the grafts and supply to farmers who are also interested in raising this crop.

Earnest attempts made by the Department to augment the production and availability of grafts has now started yielding good results. Progeny gardens established in farmers' plots four years ago have now started yielding and graft production using scions from these orchards are on a commercial stage now. The cashew progeny orchard

and nursery of Sri. K.V. Manoj kumar, S/o Narayanan, Kamalapilavu, Kanjiradukka is one of them. The nursery is well laid out. Around 40,000 grafts were ready for supply at this nursery when the task force visited the nursery. This observation was quite contrary to the remarks of the Deputy Director about the non-availability of grafts.

The farmer's plots where cashew area expansion and rehabilitation were carried out in the various blocks were also visited. In the plot of Shri. Babu Rao, Nelliadukka, (P.O.) Kattilpoyil in Kinannoor-Karinthalam Panchayath (Nileswar block) cashew grafts have been planted (200 Numbers) in an area of one ha. The farmer was not available in the plot at the time of visit. Nearly 30 per cent of plants have been lost in the drought during last summer. Shri. Damodaran, K. S/o Kunhikannan Nair, Katukochi House, Edaneer (P.O), K.B., Chengala, Kasargod Block got assistance for area expansion in 0.5 acres. The crop stand is fairly good.

Shri. Vinobina, Chennakkodu, (P.O.) Hithayath Nagar, Madhur Panchayath and Shri Narasimha Bhat, Adhirakuzhi, Chengala panchayat both under Kasaragod block got assistance under cashew rehabilitation for planting 50 grafts. Nearly 50 per cent of the plants were lost in drought during summer. In general there is a growing awareness on the part of farmers about new varieties of cashew, grafts and their potential to yield better. Farmers have now started giving more attention to this crop which was hitherto planted and forgotten. At present grafts are planted in the inter spaces of the existing trees. Cutting of the existing trees in a phased manner may be permitted or otherwise, the farmer will be put to much hardship.

It is disappointing to note that not even a single demonstration plot could be laid out during the year out of the 150 numbers targeted. Lack of availability of grafts is cited as the reason, but does not provide sufficient explanation for total non-implementation of this component in a potential area.

Under the component training on grafting techniques, training has been given to 15 permanent labourers of Adhur - Gwalimukha farm.

3. Vegetable development (Table 6.14.5)

Table 6.14.5 Target and achievement of Vegetable development

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Vegetable seed production in farmers' field (ha)	2	2	100.0	0.20*	--	--
2.	Promotion of vegetable cultivation in traditional areas (ha)	50	50	100.0	2.500	2.500	100.0
3.	Laying out demonstration plots (No.)	25	25	100.0	1.000	1.000	100.0
4.	Marketing facilities to Haritha Sangham (No.)	4	4	100.0	1.000	1.000	100.0
Total					4.700	4.500	95.7

*Requested for revalidation

The aim of vegetable seed production component is to augment the seed production of vegetable in the State through farmer participatory approaches. The seed has to be produced as per the provision of Seed Act and Seed Rules. No effort has been made by the Seed Authority so far to procure the seed. Hence the only alternative now is to exchange the seeds to other farmers. This is practically unfeasible under the present circumstances. The procured seed should be distributed through other schemes after necessary quality testing. The assistance provided under the scheme is also low and needs revision. As the expenditure was not realized during the financial year, request has been made for revalidation of Rs.0.2 lakh.

Regarding laying out demonstration plots, efforts should be taken to collect and popularize latest varieties and techniques as envisaged in the scheme.

The component on promotion of vegetable cultivation is implemented in traditional vegetable growing areas. Assistance is given @ Rs.5000/ ha in the form of revolving fund. The amount of the revolving fund should be enhanced to Rs.10000/ ha considering the high cost of cultivation of vegetables in the state. There should be some provision for subsidy or other forms of assistance. There is reluctance on the part of farmers to remit back the amount spent from the revolving fund. None of the beneficiaries' plots could be visited as the crop was already over.

The entire amount under marketing facilities to Haritha Sangham has been given to KAICO. The units are under construction. Four units were allotted to the district. Now KAICO has supplied the units and the same has been handed over to the selected Haritha Sanghams. Visit was made to one of the units supplied to the Kanwatheertha Haritha Sangham, in Manjeswar panchayat. The unit supplied is totally unsuitable for the purpose for which it is intended. The cabinet size is too small with hardly any space for storing and displaying. It was also noticed that the vegetables might get spoiled due to excessive heat generated inside.

4. Fruit development (Table 6.14.6)

Table 6.14.6. Target and achievement of Fruit development

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of Olore mango, papaya and guava (ha)	10	10	100	0.500	0.500	100
2.	Establishment of small private nurseries (No.)	2	2	100	0.500	0.500	100
Total					1.000	1.000	100

This scheme is poorly implemented in the district. Although the targets have been fully achieved, in the field there was nothing much to be seen. Supply of grafts was completed, as per the opinion of the officials. The task force members could not visit the planted sites.

Under the component, establishment of nurseries, the task force visited the nursery of Shri P.Ravindran, Marrikkyam House, (P.O.) Pallikkara, Nileswar panchayath. Here, the subsidy has been given to an existing ornamental nursery. At present no fruit plants are available in the nursery. However, the owner of the nursery informed that fruit plants are being raised in his home garden. The nursery owner should also provide fruit plants in his nursery.

5. Soil and plant health clinics (Table 6.14.7)

Table 6.14.7 Target and achievement of Soil and plant health clinics

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Soil testing campaigns and issue of soil health cards	40	40	50.0	0.400	0.400	100.0
Total					0.400	0.400	100.0

Under this scheme 40 campaigns were to be conducted in the district during the year 2003–2004. The Assistant Soil Chemist, Soil Testing Laboratory, Kasargod, implements the scheme. In each campaign, soil samples are to be analysed and soil health cards issued to farmers. At Kasargod, only an Assistant Soil Chemist is available. Due to lack of supporting staff, only 20 campaigns could be conducted by the end of March 2004. * However, rest of the campaigns were conducted after March 2004 and the target was achieved.

The block wise split up of the campaigns conducted and soil health cards issued are given below:

Name of the block	Number of campaigns	Number of soil health cards issued
Manjeswar	6	383
Kanhangad	1	85
Nileswar	7	463
Kasargod	6	418
Total	20	1349

6. Use of plastics in agriculture (Table 6.14.8)

Table 6.14.8 Target and achievement of Use of plastics in agriculture

Sl.No	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Promotion of drip irrigation (ha)	4.04	4.04	100	---	0.250	--
2.	Setting up of green house (m ²)	2500	600	100	0.50	0.160	32
Total					0.500	0.410	82.0

The scheme was initially conceived to provide assistance only to construction of green houses in an area of 2500 sqm. But the target of green house component was reduced to 600 m² and assistance was also provided for laying out drip irrigation plots. Two plots were visited where assistance was provided for constructing green houses. The first plot was that of of Shri Aythappa Poochari, Lakshmi Nilayam, Kandaigyi, (P.O), Perla of Namajakae Krishi Bhavan in Manjeswar block. Here green house has been constructed in an area of 300 m² for vanilla cultivation. The green house of Timex Nursery, Chengala (P.O.) in Chengala panchayath of Kasaragod block was also visited. Here green house has been constructed in an area of 263 m² for raising nursery plants.

One of the beneficiaries of 'assistance for drip irrigation' was Shri. P.S.Viswanathan, Raghu Nivas, Nmajakae panchayath of Manjeswar block. Drip irrigation has been laid out in an area of 1.2 ha in arecanut garden. On the whole, it is observed that the implementation of the scheme in Kasaragod District is fairly good.

7. Agricultural extension and training (Table 6.14.9)

Table 6.14.9 Target and achievement of Agricultural extension and training

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Block level training to extension staff 2-days (No.)	4	4	100.0	0.200	0.200	100.0
2.	District level training to staff (No.)	2	--	--	0.280	--	--
3.	District level interface (No.)	1	1	100.0	0.300	0.300	100.0
4.	MDDT	--	--	--	0.5125	0.100	20.0
Total					1.293	0.5995	46.4

All the components under this scheme have been poorly implemented. The DDA (Training) was not available in the office during the visit of the task force members. He has also not taken any interest to furnish the details of activities undertaken to the team. The records of the trainings could not be verified. Under the MDDT component, only one diagnostic team visit has been conducted during the entire year. An unidentified disease characterised by yellowing of leaves and sudden death of palms of arecanut was noticed in

Idaneer area of Chengala Krishi bhavan. The MDDT visited the plot on 14-01-04. By that time 7-8 trees had completely succumbed to disease. The recommendation given was calixin@ 1 ml / litre, lime @ 0.5 Kg / palm, neem cake@ 5 Kg / palm and K as per package of practices. Assistance was given for purchase of calixin and lime to four farmers. It was encouraging to note that the disease spread has been completely controlled and no further disease incidence is reported. The above details were collected from the Agrl. Officer, K.B. Chengala during the field visit.

8. Small farm mechanization (Table 6.14.10)

Table 6.14.10 Target and achievement of Small farm mechanization

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Garden tiller (No.)	3	Nil	Nil	0.450	0	0.0
2.	Power tiller (No.)	4	4	100	0.900	0.545	60.55
3.	Power sprayers/dusters (No.)	6	6	100	0.080	0.080	100.0
Total					1.430	0.625	43.7

The garden tillers have not been supplied yet and hence requested for revalidation. There were no takers for tractors as the present subsidy of 25% subjected to a maximum of Rs.30000 for tractor is too low. Hence there was component change in the scheme. The preferences of the farmers were not considered in fixing the targets, which led to a low per centage achievement.

9. Agricultural marketing and quality control (Table 6.14.11)

Table 6.14.11 Target and achievement of Agricultural marketing and quality control

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	AA training (No.)	1	1	100.0	0.080	0.080	100.0
2.	Farmers' training (No.)	1	1	100.0	0.080	0.080	100.0
3.	Market infrastructure (No.)	1	--	--	5.000	--	--
4.	Establishment of Agmark lab (No.)	1	--	--	5.000	--	--
5.	EI	--	--	--	0.05	0.05	100.0
Total					10.212	0.210	2.05

Here also, the details of the trainings conducted were not available. Regarding market infrastructure, five lakh rupees has been allotted for construction of a rural market in the district. The site selected is in Kumbala panchayat and the grama panchayat has agreed to contribute Rs.15 lakhs including Rs. 10 lakhs as cost of the land.

10 cents of land in survey no. 9 of Koyipadi village located in the heart of Kumbala town has been surrendered for the project by the Kumbala panchayat.

The plan for construction of the structure has been prepared by the Asst. Engineer, PWD and approved by the Market Management Committee constituted for the purpose. The idea is to construct the market in two floors each with a plinth area of 2210 X 770 square feet. There will be six shops in each floor having an area of 3m X 6m. The contribution of Agricultural Department has been sent for revalidation. Since by the time other formalities have been completed, it was too late and the financial year was over.. The panchayat's contribution will be sanctioned in this year's DPC. So the market will be constructed during current year. The task force members visited the site selected for the market and the team is quite impressed about the location of the site.

The Agmark laboratory will be constructed at the State Seed Farm, Pullur located in the Kasaragod block. An existing quarter will be converted into an Agmark laboratory. Quotations have been invited for purchasing laboratory equipments, chemicals, furniture etc. as per the guidelines of Govt. of India and the quotations had been approved. The purchase will be effected once the fund is revalidated. It is disappointing to note that the two vital components of the scheme, viz; market infrastructure and establishment of Agmark laboratory were not given the priority, which they deserve, which resulted in non-implementation. However, it is reported that these two components will be completed during the current financial year, which needs regular follow up.

10. Information technology (Table 6.14.12)

Under this programme installation of the computers were carried out in 30 locations, the details of which are given in Appendix I. The electrification work has been carried out in

only those Krishi Bhavans where the department has its own building with power connection.

Table 6.14.12 Target and achievement of Information technology

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Installation of software and hardware (No.)	30	30	100	0.143	0.10352	72.39
Total					0.143	0.10352	72.39

Krishi Bhavan Kumbbla, which is one of the Krishi Bhavans where computer is installed, was visited. The computers are used for office work and preparation of reports. Use of computers for extension work is still to emerge.

11. Women in agriculture (Table 6.14.13)

Table 6.14.13 Target and achievement of Women in agriculture

Sl.No.	Components	Physical			Financial (Rs.Lakhs)		
		T	A	%	T	A	%
1.	Agro nurseries	19	19	100	1.375	1.375	100
2.	Promotion of jasmine cultivation	19	18	94	0.156	0.1485	95
3.	Vanilla cultivation	15	15	100	0.750	0.750	100
4.	Promotion of banana cultivation	16	15	93	0.320	0.300	94
5.	Vegetable cultivation	2	2	100	0.025	0.025	100
6.	Agro processing	12	11	91	1.325	1.201	91
7.	Vermi composting	12	12	100	0.300	0.300	100
8.	Mushroom cultivation	1	1	100	0.0325	0.0325	100
9.	Bee keeping	2	2	100	0.075	0.075	100
Total		98	95	96.93	4.3585	4.207	96.5

Kasaragod district was not initially included under this scheme for 2003-2004. However, towards the end of the financial year, the district was included in the scheme under SWIP. The entire allotment was utilized for starting new enterprises. Ninety-five out of ninety eight units targeted have been achieved. Thus there is good response among rural women for all the enterprises under women in agriculture.

To assess the present state of the implementation of the scheme, the newly started agronursery of Smt. Savithri.K.Bhat, Kamadenu farms, Ramdasnagar (P.O), Peeredukka was visited. Here a new greenhouse has been constructed with assistance from the scheme in an area of 800 sq m for raising anthurium. The nursery is in Mogral-Puthur panchayat of Kasargod block.

Smt. Reshma, Ushas gardens, Nileswar is running an ornamental nursery in Nileswar panchayat. She has been given assistance under this scheme for constructing a new shade house. Assistance has been given to Smt. Sheeja .K.V, w/o Babu, Poovalungal Puthariadukka, Nileswar panchayat for starting a mushroom production unit. Paddy straw mushroom production is in progress. Assistance was given for promotion of banana cultivation to Smt. K.Vasantha Kumari, w/o Viswanatha Bhat ,Kumarakripa, Kankar, Perdala under Krishi Bhavan Badiadukka for banana cultivation in an area of 0.25acres. Here the loan amount is Rs 8000 with a subsidy of Rs 1960 and the crop stand was good. Smt. Sharmila.C.Naik was given assistance for starting two units [copra drier] and arecanut leaf-moulding unit from Krishi Bhavan Dhelambady of Manjeswar block. Here the total loan is Rs. 50000 with subsidy component of Rs 12400.Both the units have been installed. Assistance was given for starting a nursery of rubber, pathimukam and vanilla to Smt. Susheela Bhat, Padmasree Farms, Nekrajae under Krishibhavan Chengala. The nursery is well established with budded rubber plants and seedlings.

In general, majority of women beneficiaries selected are rural women engaged in agriculture. It is observed that in some of the cases, male farmers of the area have cornered the benefits of the scheme in the name of their housewives. This defeats the objective of women empowerment envisaged in the scheme. Proper implementation of the scheme through baseline surveys, appointment of link workers and facilitators is highly essential to identify the needy and deserving among rural women.

SUMMARY

The overall status of implementation of macro management scheme in Kasaragod district can be rated as good. Out of the total allotment of Rs 110.40 lakhs to the district, Rs 87.338 lakhs could be utilized. The financial achievement of the scheme on 'Agricultural marketing and quality control' is only 2.05 per cent as expenditure could

not be effected in 2003-04. However, progress of implementation is very good as steps for construction of market infrastructure and Agmark laboratory are complete. Excluding this, the two schemes that recorded poor progress were 'Agricultural extension and training' and 'Small farm mechanization'. The poor achievement of 'Small farm mechanization' scheme can be justified as discussed in scheme wise progress. But the negligence and lack of objection in implementation of an important scheme aimed at capacity building of Extension officers of the Department and farmers to be viewed seriously. Similarly more focused attention on implementation of some of the components of the cashew scheme (eg. demonstration) is also needed.

7. GENERAL SUGGESTIONS FOR IMPROVEMENT

1. Administrative factors leading to non-implementation of components under the schemes and lapse of money may be viewed seriously and appropriate corrective measures shall be taken. The timely release of funds, administrative sanction and working instructions especially in the case of special components, which are time bound have to be ensured, as already referred earlier.
2. The working instructions for the schemes were issued till February 2004, which definitely had adversely affected the field level implementation of many schemes. (The details regarding the date of issue of working instructions are furnished as Appendix II).
3. The working instructions may be made more flexible and there should be provision for inter component change, without diluting the spirit of the scheme eg. Small farm mechanization, use of plastics in agriculture.
4. Realistic targets should be assigned. Targets should be need based and realistic.
5. Potential areas in each district may be identified before allocation of target of schemes. Definite norms should be fixed for assigning targets to each district.
6. The schemes shall not be implemented for the sake of meeting targets, unless they make an impact on the stakeholders.
7. Absence of forward linkages is a serious drawback in programmes like floriculture development, vegetable seed production, medicinal and aromatic plants etc., where programme support ends with production. This aspect has to be seriously considered while formulating such programmes in future. In general, forward and backward linkages for production schemes are to be strengthened.
8. Instead of subsidy on material inputs, the subsidy component may be modified to include production and marketing incentives.
9. In schemes where civil work is involved, the norm that the expenditure can be made only after the work is completed is hindering the execution. The feasibility of release of funds in two to three equal installments in line with the progress of work may be examined to overcome the problem.

10. Overlapping programme funded by state government or local bodies with varying levels of subsidy often hinders successful implementation of macromanagement schemes. Eg. In macro management scheme subsidy for green manure seeds is Rs.2.50/kg whereas in coconut development scheme which is a state sector scheme, the subsidy for seed is Rs.10/- kg. Such types of variations are to be corrected to ensure uniformity. Other examples are scheme on soil conservation in pepper, biofertilizer, HYV seed of paddy etc.
11. For schemes like location specific demonstration plots, arrangements for seeds/planting materials are to be planned and implemented sufficiently earlier.
12. The work plan indicates that a minimum of ten per cent of the sanctioned amount will be utilized for the benefit of SC farmers and one per cent to ST farmers. However, the details about beneficiaries under SC/ST category are not seen maintained. In future, action may be taken to ensure that the list is maintained separately.
13. The financial restrictions like treasury ban have affected the smooth implementation of the schemes. The central sector schemes shall be exempted from the treasury ban and financial cuts. Since 50 per cent of the total outlay is already released in the first quarter.
14. Demonstrations have an educational value and many of the schemes have demonstration as a component. It was observed that demonstrations are not accorded a higher priority which they deserve. It is suggested that demonstrations have to be given serious attention by the implementing officers. Suitable guidelines for this may be framed and implemented.
15. There should be proper display of the implementation of the schemes like small farm mechanization, demonstration plots, floriculture, market infrastructure etc. which must convey the message that the scheme is funded by the Department of Agriculture. This is needed for proper visibility and transparency in implementation of the programme.
16. In schemes aimed towards agricultural export, proper planning should be done at the formulation stage itself to identify and establish forward linkages for procurement and export of the produce.
17. Computerized farmer information system containing farm size, cropping pattern, resource endowments etc are to be established and maintained at the

level of Krishi Bhavan to meet the basic objectives of the scheme, with a common identification number. Soil testing and soil health cards shall be made inevitable components of a farmer data base to be established in Krishi Bhavan

Appendix I

Information technology – list of offices where computers are installed

(1) Thiruvananthapuram District

No.	Name of ADA/KB	Computer
1	ADA Parassala	1
2	KB Karode	1
3	KB Kulathoor	1
4	KB Chenkal	1
5	KB Thirupuram	1
6	KB Parassala	1
7	ADA Aryancode	1
8	KB Perumpazhuthoor	1
9	KB Perumkadavila	1
10	KB Kollayil	1
11	KB Aryancode	1
12	KB Amboori	1
13	KB Athiyanoor	1
14	KB Kanjiramkulam	1
15	KB Kottukal	1
16	KB Vizhinjam	1
17	ADA Pallichal	1
18	KB Balaramapuram	1
19	KB Maranalloor	1
20	KB Kalliyoor	1
21	KB Vilavoorkal	1
22	KB Vilappil	1
23	KB Marukil	1
24	ADA Kattakada	1
25	KB Aryanadu	1
26	KB Kuttichal	1

27	KB Tholicode	1
28	KB Anad	1
29	KB Panavoor	1
30	KB Vembayam	1
31	KB Aruvikara	1
32	ADA Chettivilakam	1
33	KB Ulloor	1
34	KB Vattiyookavu	1
35	KB Kallara	1
36	KB Manickal	1
37	KB Nanniyode	1
38	KB Karakulam	1
39	KB Pangode	1
40	ADA Kazhakuttom	1
41	KB Sreekaryam	1
42	KB Attipra	1
43	KB Andoorkonam	1
44	KB Pothencode	1
45	KB Kizhuvilam	1
46	KB Chirayinkeezhu	1
47	KB Mudakkal	1
48	KB Kadakavoor	1
49	KB Vakkom	1
50	ADA Varkala	1
51	KB Elakamon	1
52	KB Ottoor	1
53	KB Manampoor	1
54	ADA Pullinath	1
55	KB Navaikulam	1
56	KB Pulimath	1

57	KB Madavoor	1
58	KB Kilimannoor	1
59	KB Nemom	1
60	KB Kazhakoottom	1
61	KB Pazhayathumoodu	1
62	KB Chemmaruthy	1
63	BDO	1
64	DAF	1
65	AEE (Agri.)	1
66	Soil Testing Lab, TVPM	1
67	PAO's Office	4
	Total	70

(2) Kollam District

No.	Name of ADA/KB	Computer
1	ADA Chavara	1
2	KB Chavara	1
3	KB Thevalakara	1
4	KB Panmana	1
5	KB Thodiyoor	1
6	KB Karunagapally	1
7	KB K.S. Puram	1
8	KB Mynagapally	1
9	ADA Punaloor	1
10	KB Pattazhy South	1
11	KB Pattazhy North	1
12	KB Piravanthoor	1
13	ADA Sastamkottah	1
14	KB K.B. Sooranadu South	1
15	ADA Vettikavala	1
16	KB Melila	1
17	KB Ummannor	1
18	ADA Eravipuram	1
19	KB Kottarakara	1
20	ADA Anchal	1
21	KB Edamulackal	1
22	KB Kulathupuzha	1
23	ADA Kottarakara	1
24	KB Kottamkara	1
25	KB Ezhukone	1
26	KB Ittiva	1
27	KB Elamadu	1
28	KB Chadayamangalam	1

29	KB Kadakkal	1
30	KB Kilikollur	1
31	ADA Chathannor	1
32	KB Paravoor	1
33	KB Adichanallor	1
34	KB Chathannor	1
35	KB Kalluvathukkal	1
36	ADA Kundara	1
37	KB Perinadu	1
38	KB East Kallada	1
39	Asst. Soil Chemist (DSTL)	1
40	AEE Kureepuzha	1
41	DAF Anchal	1
42	SSF Kottarakkara	1
43	C.N. Karunagappally	1
44	SSF Kadakkal	1
45	PAO Office	6
	Total	50

(3) Pathanamthitta District

No.	Name of ADA/KB	Computer
1	KB Adoor	1
2	KB Enadimangalam	1
3	KB Ezhamkulam	1
4	KB Kalanjoor	1
5	KB Kodumon	1
6	KB Erathu	1
7	KB Kadampanadu	1
8	KB Pallikkal	1
9	ADA Pandalam	1
10	KB Pandalam	1
11	KB Thumpamon	1
12	KB Pandalam, Thekkekara	1
13	ADA Kulanada	1
14	KB Mezhuvely	1
15	KB Aranmula	1
16	KB Kuttoor	1
17	KB Kadapra	1
18	KB Peringara	1
19	ADA Koippuram, Pullad	1
20	KB Puramattom	1
21	KB Thottappuzhassery	1
22	KB Ayroor	1
23	ADA Mallappally	1
24	KB Kunnamthanam	1
25	KB Kallooppa	1
26	KB Kottanad	1
27	KB Kottangal	1
28	ADA Ranny	1
29	KB Ranni Angadi	1

30	KB Ranni Pazhavangadi	1
31	KB Perunadu	1
32	KB Vadasserikkara	1
33	KB Chittar	1
34	KB Mylapra	1
35	KB Aruvappulam	1
36	KB Vallicodu	1
37	ADA Pathanamthitta	1
38	KB Omalloor	1
39	KB Chenneerkara	1
40	KB Elanthoor	1
41	KB Kozhencherry	1
42	KB Cherukole	1
43	State Seed Farm, Koippuram	1
44	State Seed Farm, Adoor	1
45	Sugarcane Seed Farm, Kadakkadu	1
46	Asst. Exe. Engineer, Pandalam	1
47	Principal Agrl. Office, PTA	4
	Total	50

(4) Alappuzha District

No.	Name of ADA/KB	Computer
1	ADA Panavally	1
2	ADA Alapuzha	1
3	ADA Harippad	1
4	ADA Mavelikara	1
5	ADA Chengannur	1
6	ADA Champakulam	1
7	ADA Kaymkulam	1
8	KB Perumbalam	1
9	KB Arookutty	1
10	KB Thycattussery	1
11	KB Chennampallipuram	1
12	KB Pattanakkadu	1
13	KB Vayalar	1
14	KB Kodamthuruthu	1
15	KB Ezhupunna	1
16	KB Cherthala South	1
17	KB Thancermukkom	1
18	KB Kanjikuzhi	1
19	KB Mararikulam South	1
20	KB Punnapara	1
21	KB Purakkadu	1
22	KB Thakazhi	1
23	KB Veeyapuram	1
24	KB Pallippad	1
25	KB Thrikkunnapuzha	1
26	KB Kandaloer	1
27	KB Krishnapuram	1
28	KB Puthiyoer	1
29	KB Chettikulangara	1

30	KB Thazhakkara	1
31	KB Chennithala	1
32	KB Chunakkara	1
33	KB Palamel	1
34	KB Nooranadu	1
35	KB Bharanikavu	1
36	KB Vallikunnam	1
37	KB Nedumudy	1
38	A E E (Agri) Alapuzha	1
39	KB Edathua	1
40	KB Pulinkunnu	1
41	The Executive Engineer (Agri) Alapuzha	1
42	KB Kavalam	1
43	KB Neelamprur	1
44	KB Puliyoor	1
45	KB Mannar	1
46	KB Venmony	1
47	KB Cheriyanadu	1
48	DAF Mavelikara	1
49	SSF Veeyapuram	1
50	SSF Arunoottimangalam	1
	Total	50

(5) Kottayam District

No.	Name of ADA/KB	Computer
	KOTTAYAM BLOCK	
1	KB Nattakom	1
2	KB Vijayapuram	1
3	KB Thiruvvarpu	1
4	KB Puthuppally	1
5	KB Panachikkad	1
	PAMPADY BLOCK	
6	KB Pampady	1
7	KB Meenadam	1
8	KB Koroppada	1
9	KB Akalakkunnam	1
10	KB Pallickathode	1
	VAZHOOR BLOCK	
11	KB Kangazha	1
12	KB Vellavoor	1
13	KB Vazhoor	1
14	KB Chirakkadavu	1
	MADAPPALLY	
15	KB Madappally	1
16	KB Thrikkodithanam	1
17	KB Paippadu	1
18	KB Karukachal	1
19	KB Vazhappally	1
	PALA BLOCK	
20	KB Mutholy	1
21	KB Karoor	1
22	KB Meenachil	1
23	KB Kadanad	1
24	KB Bharananganam	1

	ERATTUPETTA	
25	KB Erattupetta	1
26	KB Thidanad	1
27	KB Teekoy	1
28	KB Poonjar	1
29	KB Thalanad	1
	KANJIRAPPALLY	
30	KB Manimala	1
31	KB Erumely	1
32	KB Parathod	1
33	KB Mundakkayam	1
	UZHAVOOR BLOCK	
34	KB Kidangoor	1
35	KB Kadaplamatom	1
36	KB Veliyannor	1
37	KB Uzhavoor	1
38	KB Ramapuram	1
39	KB Kuravilangad	1
	KADUTHURUTHY BLOCK	
40	KB Kaduthuruthy	1
41	KB Mulakkulam	1
42	KB Kallara	1
43	KB Velloor	1
	ETTUMANOOR BLOCK	
44	KB Aymanam	1
45	KB Arpookkara	1
46	KB Neendoor	1
47	KB Ettumanoor	1
	VAIKOM BLOCK	
48	KB Vechoor	1
49	KB Thalayazham	1
50	AFO, Vaikom	1
	Total	50

(6) Ernakulam District

No.	Name of ADA/KB	Computer
1	KB Chendamangalam, Kochangadi	1
2	KB Kottuvally	1
3	KB Alangad (at ADA Aluva)	1
4	KB Eloor	1
5	KB Edavanakkad	1
6	KB Elamkunnappuzha	1
7	KB Nayarambalam	1
8	ADA Narakkal	1
9	ADA Tripunithura	1
10	KB Kumbalam, Panangad	1
11	KB Maradu, Nettur	1
12	ADA Vyttila	1
13	KB Parakkadavu	1
14	KB Kunnukara	1
15	KB Chengamanad	1
16	ADA Nedumbassery	1
17	KB Karukutty	1
18	KB Ayyampuzha	1
19	KB Mookkannur	1
20	KB Sreemoolanagaram	1
21	ADA Angamaly	1
22	ADA Kalamassery	1
23	KB Cheranelloor (at KB Trikkakkara)	1
24	KB Mudakkuzha	1
25	KB Koovappady, Okkal	1
26	KB Rayamangalam, Keezhillam	1
27	KB Asamannoor	1
28	KB Valakam, Kunnukad	1
29	KB Arakuzha	1

30	KB Kalloorkkad	1
31	KB Munjallur, Vazhakkulam	1
32	KB Amballore, Kanjiramattom	1
33	KB Thiruvankulam	1
34	KB Edakkattuvayal	1
35	KB Poothrikka, Vadayampady	1
36	KB Aikkaranad, Kadayiruppu	1
37	KB Kunnathunadu, Pattimattom	1
38	KB Mazhuvannur, Nellad	1
39	ADA Poothrikka, Vadayampady	1
40	KB Vengola	1
41	ADA Keazhmad	1
42	KB Vazhakkulam, Marampilly	1
43	ADA Kothamangalam	1
44	KB Nellikuzhy	1
45	KB Kottappady	1
46	KB Varapetty	1
47	KB Pallarimangalam	1
48	KB Paingottoor, Kadavoor	1
49	KB Kuttampuzha, Vadattupara	1
50	KB Thirumarady	1
51	KB Piravom, Mulakkulam	1
52	KB Elenji	1
53	KB Koothattukulam	1
54	KB Palakkuzha	1
55	KB Maneed	1
56	DAF Neriyamangalam	1
57	AEE (Agri), Vytila	1
58	Principal Agri Office	4
	Total	61

(7) Palakkad Distriet

No.	Name of ADA/KB	Computer
1	PAO , Palakkad	2
2	Orange & Veg. Farm, Nelliampathy	1
3	Integrated seed development farm, Eruthiampathy	1
4	Horticulture development farm, Malampuzha	1
5	AEE (Agri) Malampuzha	1
6	Soil testing lab, Pattambi	1
7	ADA Nemmara	1
8	ADA Kollengode	1
9	ADA Mannarkad	1
10	ADA Sreekrishnapuram	1
11	ADA Agali	1
12	ADA Trithala	1
13	ADA Pattambi	1
14	KB Kavaserry	1
15	KB Vandazhy	1
16	KB Alathur	1
17	KB Kannady	1
18	KB Peruvemba	1
19	KB Puduserry	1
20	KB Coyalmanam	1
21	KB Thenkurissy	1
22	KB Ayilur	1
23	KB Melarcode	1
24	KB Elavancherry	1
25	KB Muthalamada	1
26	KB Koduvayur	1
27	KB Pattancherry	1
28	KB Vadakarapathy	1
29	KB Malampuzha	1

30	KB Parali	1
31	KB Kongad	1
32	KB Mankara	1
33	KB Karakurissy	1
34	KB Tachampara	1
35	KB Kottopadam	1
36	KB Alanelloor	1
37	KB Cherupalaserry	1
38	KB Katampazhipuram	1
39	KB Sreekrishnapuram	1
40	KB Ambalappara	1
41	KB Lakkidi Perur	1
42	KB Ottappalam	1
43	KB Vaniyamkulam	1
44	KB Thirumittacode	1
45	KB Nagalaserry	1
46	KB Muthuthala	1
47	KB Pattambi	1
48	KB Koppam	1
49	KB Ongalloor	1
	Total	50

(8) Malappuram District

No.	Name of ADA/KB	Computer
1	Principal Agrl. Officer, Malappuram	1
2	KB Alamkode	1
3	ADA Tavanur	1
4	KB Edappal	1
5	KB Vattamkulam	1
6	KB Valanchery	1
7	KB Edayur	1
8	KB Marakkara	1
9	ADA Ponmundam	1
10	KB Valavannur	1
11	KB Kalpakanchery	1
12	KB Thanalur	1
13	ADA Parappanangadi	1
14	KB Munniyoor	1
15	KB Vallikkunnu	1
16	KB Thernala	1
17	KB Edarikode	1
18	KB Othukkungal	1
19	ADA Malappuram	1
20	KB Ponmala	1
21	KB Anakayam	1
22	ADA Angadippuram	1
23	KB Pulamnthole	1
24	KB Kuriva	1
25	KB Moorkanad	1
26	KB Vettom	1
27	KB Keezhattoor	1
28	KB Melattur	1
29	ADA Manjeri	1

30	KB Areakode	1
31	KB Oorangattiri	1
32	KB Keezhparamba	1
33	ADA Wandoor	1
34	KB Thuvvor	1
35	KB Porur	1
36	ADA Kondotty	1
37	KB Chelembra	1
38	KB Pulikkal	1
39	KB Vazhayoor	1
40	KB Amarambalam	1
41	KB Edakkara	1
42	DDA, S.G.C. Munderi	1
43	Supdt. DAF Chunkathara	1
44	CN Parappanangadi	1
45	SSF Anakayam	1
46	SSF Chokkad	1
47	SSF Tavanur	1
48	ASC, Soil Testing Lab, Malappuram	1
49	ASC, MSTL, Malappuram	1
50	AEE (Agrl) Malappuram	1
	Total	50

(9) Wayanad District

No.	Name of ADA/KB	Computer
1	PAO Wayanad	2
2	ADA S. Bathery	1
3	ADA Mananthavady	1
4	AEE (Agrl)	1
5	KB Kalpetta	1
6	KB Meppadi	1
7	KB Vengappally	1
8	KB Muttill	1
9	KB Bathery	1
10	KB Poothady	1
11	KB Noolpuzha	1
12	KB Ambalavayal	1
13	KB Pulpally	1
14	KB Mullankolly	1
15	KB Thavinjal	1
16	KB Mananthavady	1
17	KB Edavaka	1
18	KB Vellamunda	1
19	KB Panamaram	1
	Total	20

(10) Kozhikkode District

No.	Name of ADA/KB	Computer
1	KB Feroke	1
2	KB Kadalundi	1
3	KB Ramanattukara	1
4	KB Peruvayal	1
5	KB Kunnamangalam	1
6	KB Mavoor	1
7	KB Kodiyathur	1
8	KB Maniyur	1
9	KB Villiappally	1
10	KB Moodadi	1
11	KB Chengottokave	1
12	KB Thalakkulathur	1
13	KB Narikkuni	1
14	KB Kokkodi	1
15	KB Azhiyur	1
16	KB Tuneri	1
17	KB Varimel	1
18	KB Purameri	1
19	KB Maruthonkara	1
20	KB Kunnummel	1
21	KB Velom	1
22	KB Nadapuram	1
23	KB Keezhariyur	1
24	KB Payyoli	1
25	KB Chakkittapara	1
26	KB Madavoor	1
27	KB Koduvally	1
28	KB Puduppadi	1
29	KB Panangad	1

30	KB Ulleari	1
31	KB Koorachundu	1
32	SSF Puduppadi	1
33	SSF Perambra	1
34	DAF Koothali	1
35	CN Thikkodi	1
36	ADA (SD) Vadakara	1
37	AEE (Agri) Kozhikode	1
38	Exe. Eng. (Agri) Calicut	1
39	ADA Kozhikode	1
40	ADA Mukkom	1
41	ADA Thodannur	1
42	ADA Koyilandy	1
43	ADA Kakkur	1
44	ADA Vadakara	1
45	ADA Tuneri	1
46	ADA Kunnumel	1
47	ADA Tikkoti	1
48	ADA Perambra	1
49	ADA Thamarassery	1
50	ADA Ulleari	1
	Total	50

(11) Kannur District

No.	Name of ADA/KB	Computer
1	ADA Taliparamba	1
2	ADA Irikkur	1
3	ADA Iritty	1
4	ADA Edakkad	1
5	ADA Kuthuparamba	1
6	ADA Peravoor	1
	PAYYANNUR BLOCK	
7	KB Kankole-Alapadamba	1
8	KB Peringome – Vayakkara	1
9	KB Cheruthazham	1
	TALIPARAMBA BLOCK	
10	KB Kurumathur	1
11	KB Pariyaram	1
	IRIKKUR BLOCK	
12	KB Kolacheri	1
13	KB Eruvessy	1
14	KB Payyavoor	1
	IRITTY BLOCK	
15	KB Keezhallur	1
16	KB Koodali	1
17	KB Payam	1
18	KB Ayyankunnu	1
19	KB Aralam	1
	KANNUR BLOCK	
20	KB Puzhathi	1
21	KB Pallikkunnur	1
	EDAKKAD BLOCK	
22	KB Chembilode	1
23	KB Anjarakkandy	1

24	KB Edakkad	1
25	KB Elayavoor	1
	KUTHUPARAMBA BLOCK	
26	KB Kuthuparamba	1
27	KB Vengad	1
28	KB Mangattidam	1
29	KB Chittariparamba	1
30	KB Kunnothuparamba	1
	THALASSERY BLOCK	
31	KB Pinarayi	1
32	KB Kadirur	1
33	KB New Mahe	1
34	KB Kariyad	1
	PERAVOOR BLOCK	
35	KB Peravoor	1
36	KB Kolayad	1
37	KB Muzhakkunnur	1
38	KB Kanicker	1
39	DAF Taliparamba	1
40	SSF Vengad	1
41	Coconut Nursery, Palayad	1
42	STL Taliparamba	1
43	AEE (Agri) Kannur	1
44	PAO Kannur	7
	Total	50

(12) Kasargod District

No.	Name of ADA/KB	Computer
1	KB Vorkady	1
2	KB Manjeshwar	1
3	KB Meenja	1
4	KB Mangalpady	1
5	KB Paivalike	1
6	KB Kumbbla	1
7	KB Kumbadaje	1
8	KB Bellur	1
9	KB Pallikara	1
10	KB Pullur-Periya	1
11	KB Balal	1
12	KB Panathady	1
13	KB Kodom-Belur	1
14	KB Madhur	1
15	KB Chengala	1
16	KB Muliyar	1
17	KB Karadka	1
18	KB Bedadka	1
19	KB East Eleri	1
20	KB Nileshwar	1
21	KB Cheruvathur	1
22	KB Pilicode	1
23	ADA Kasaragod	1
24	ADA Manjeshwar	1
25	Cashew Dev. Officer	1
26	Asst. Soil Chemist	1
27	Asst. Exe. Engineer (A)	1
28	SSF Pullur	1
29	SSF Kasaragod	1
30	PAO, Kasaragod	1
	Total	30

(13) Thrissur District

No.	Name of ADA/KB	Computer
1	HQ	2
2	ADA Wadakkanchery	3
3	ADA Pazhayannur	4
4	ADA Chavakkad	6
5	ADA Chowannur	1
6	ADA Mullassery	4
7	ADA Ollukkara	4
8	ADA Cherpu	2
9	ADA Anthikkad	2
10	ADA Puzhakkal	6
11	ADA Kodakara	2
12	ADA Vellangallur	5
13	ADA Talikulam	3
14	ADA Chalakudy	5
15	ADA Irinjalkuda	3
16	ADA Mala	3
17	ADA Mathilakam	3
18	ADA Kodungallur	2
19	SSF Mannuthy	1
20	SSF Pazhayannur	1
21	SSF Nadavaramba	1
22	SSF Kodassery	1
23	SSF Pananchery	1
24	SSF Edathiruthy	1
25	DAF Chelakkara	1
26	AO SD Chavakkad	1
27	SBCL Mannuthy	1
28	Asst.Ex Eng(Agri)	1
	Total	70

14)Idukki district

Sl.No	Name of ADA/KB	Computer
1	KB Thodupuzha	1
2	KB Manakkadu	1
3	KB Kumaramangalam	1
4	KB Edivetty	1
5	KB Muttam	1
6	KB Purppuzha	1
7	KB Karinkunnam	1
8	ADA Elandesam	1
9	ADA Thodupuzha	1
10	KB Alakkode	1
11	KB Valliyamattam	1
12	KB Udayathur	1
13	KB Karimannur	1
14	KB Udumpannur	1
15	KB Vannappuram	1
16	KB Koikkulam	1
17	ADA Idukki	1
18	KB Arakkulam	1
19	KB Kanjikuzhi	1
20	KB Mariyapuram	1
21	KB Kamakshi	1
22	KB Vathikkudi	1
23	ADA Kattappala	1
24	KB Achankovil	1
25	KB Upputhara	1
26	KB Kanjiyar	1
27	KB Chakkuvallom	1
28	KB Vandam medu	1
29	ADA Nadumkandam	1

Sl.No	Name of ADA/KB	Computer
30	KB Nadumkanda	1
31	KB Pampadumpara	1
32	KB Karunapuram	1
33	KB Rajakkad	1
34	KB Senapathi	1
35	ADA Peerumed	1
36	KB Kumily	1
37	KB Vandiperiyar	1
38	KB Peruvanthanam	1
39	KB Peerumed	1
40	KB Kanthallur	1
41	KB Marayur	1
42	KB Chinnakkanal	1
43	ADA Adimaly	1
44	KB Bison valley	1
45	KB Adimaly	1
46	KB Vellathuval	1
47	KB Pallivassal	1
48	District Agriculture Farm, Arikkuzha	1
49	State Vegetable Farm, Vandiperiyar	1
50	State Seed Farm, Karimannur	1
51	PAO Office	5
	Total	55

APPENDIX II

WORKING INSTRUCTIONS ISSUED FOR MOU SCHEMES

Working instructions	Order No. & Date
1. Rice Development	
a) Seed production programme b) Promotion of INM c) Promotion of IPM d) Infrastructure development in padasekharam for water management e) Promotion of sorted rice	TA(1)28939/04 dated 16.6.03
f) I P M	TD (1)29087/03 dated 11.6.03
g) Establishment & maintenance of seed bank h) Location specific demonstration plots for popularization of new varieties i) Promotion of Pokkali rice as organic rice	TA (1)28939/03 dated 13.8.03
2. Pepper development (Except 2 components)	TS(2)28983/03 dated 24.6.03
Pepper development a) Promotion of improved methods of primary processing at growers level b) Market promotion with growers participation	TS(2)28983/03 dated 16.02.04
3. Other spices	TS(2)28984/03 dated 24.06.03
4. Cashew development	TR(2)65796/02 dated 23.6.02
5. Fruits & Vegetables	AEZ 9801/03, 29.11.03 AEZ 9801/03, 9.2.04
6. Agrl. Extension Training	TE(1)25718/03 dated 6.03
7. Small Farm Mechanisation	TG II (2)28773/03 dated 03.07.03
8. Agrl. Marketing & Quality control	TM(2) 31590/03 dated 25.6.03
9. Soil & Plant health clinics	--
10. Use of plastics	Working instruction available
11. Information Technology	--
12. Floriculture	TS(1)28982/03, 12.8.03
13. Medicinal & Aromatic Plants	TC 25723/03, 28.6.03
14. Women in Agriculture	TV(2)28975/03, 16.1.04
15. Biotechnology	--

Abbreviations used in the report

A	Achievement
ADA	Assistant Director of Agriculture
AEZ	Agricultural Export Zone
APA	Alappuzha
ATR	Action Taken Report
BMFC	Biotechnology and Model Floriculture Centre
COA	College of Agriculture
COH	College of Horticulture
DA	Director of Agriculture
DAF	District Agricultural Farm
DDA	Deputy Director of Agriculture
DDO	Drawing and Disbursing Officer
DoA	Directorate of Agriculture
DSTL	District Soil Testing Laboratory
EI	Executional Infrastructure
EKM	Ernakulam
FFS	Farmers Field School
FIB	Farm Information Bureau
HDP	High Density Polythene
HQ	Head Quarters
HYV	High Yielding Variety
ICMR	Indian Council of Medical Research
IDK	Idukki
IISR	Indian Institute of Spices Research
INM	Integrated Nutrient Management
IPM	Integrated Pest Management
IT	Information Technology
JDA	Joint Director of Agriculture
KAU	Kerala Agricultural University
KB	Krishi Bhavan
KCAET	Kelappaji College of Agricultural Engineering and Technology
KGD	Kasaragod
KLM	Kollam
KNR	Kannur
KSSDA	Kerala State Seed Development Authority
KTM	Kottayam
KZD	Kozhikode
MDDT	Multi Disciplinary Diagnostic Team
MoU	Memorandum of Understanding
MPM	Malappuram
MSTL	Mobile Soil Testing Laboratory

NABARD	National Bank for Agriculture and Rural Development
NGO	Non-Governmental Organization
PAO	Principal Agricultural Officer
PIO	Principal Information Officer
PKD	Palakkad
PLDA	Pokkali Land Development Agency
POL	Petrol Oil and Lubricants
PTA	Pathanamthitta
RARS	Regional Agricultural Research Station
RATTC	Regional Agricultural Technology Training Centre
RSGP	Registered Seed Growers Programme
RT	Revised Target
SBCL	State Bio Control Laboratory
SRR	Seed Replacement Ratio
SSF	State Seed Farm
SWIP	Scheme for Women In Primary sector
T	Target
TBGRI	Tropical Botanical Garden and Research Institute
TC	Tissue Culture
TE	Travelling Expense
TRIPS	Trade Related Intellectual Property Rights
TSR	Thrissur
TVM	Thiruvananthapuram
VFPCK	Vegetable and Fruit Promotion Council Keralam
WYD	Wayanad

