NATIONAL AGRICULTURAL DEVELOPMENT PROGRAMME (NADP)

DISTRICT AGRICULTURE PLAN

KARUR DISTRICT

Centre for Agricultural and Rural Development Studies
(CARDS)
Tamil Nadu Agricultural University
Coimbatore – 641 003

2008

NATIONAL AGRICULUTRAL DEVELOPMENT PROJECT
DISTRICT AGRICULTURE PLAN

PROJECT TEAM

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FOREWORD

Date.....

The National Development Council resolved that Agricultural Development strategies must be reoriented to meet the needs of farmers and called upon the Central and State governments to evolve a strategy to rejuvenate agriculture with a commitment to achieve four per cent annual growth in the agricultural sector during the 11th plan. The council also recommended special Additional Central Assistance Scheme named National Agriculture Development Programme (NADP) be launched. To implement this, formulation of District level action plans is the pre-requisite and thus District Agriculture Plan of various districts in Tamil Nadu has been prepared with the financial assistance of Government of India.

The task of preparing the District Agriculture Plan has been given to Tamil Nadu Agricultural University by Government of Tamil Nadu. Thus 29 Districts level Plans, excluding Chennai and Nilgris, were prepared by the Centre for Agricultural and Rural Development Studies, Tamil Nadu Agricultural University. Several meetings were held at TNAU during the last few months. Steering committee, district planning unit and plan finalizing team were putting their efforts in shaping up the District Agriculture Plans. All the District Collectors representing the 29 districts have actively participated in the sensitizing meeting organized by TNAU and officials of line departments in the respective districts. The plan documents have identified the major thrust areas in agriculture and allied sectors for achieving the envisioned growth in the district and also in Tamil Nadu state. I appreciate the team work of TNAU scientists and the officials from line departments for bringing out the valuable action plans for each district. I am sure that these plans would also lead to more fruitful exercises like formulation of State level plans and project proposals for funding through NADP.

I solicit the cooperation of the line department officials in implementing these action plans and commit to achieve a better growth in agriculture and allied sectors in each and every district of Tamil Nadu during the 11th plan.

(C. RAM AS AMY)

Coimbatore
June 30, 2008

Dr. K. Palanisami
Director, CARDS

Tamil Nadu Agricultural University
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PREFACE

The District Agriculture Plan is brought out based on the details provided by the line department officials of the respective districts. The District Agriculture Plan thus identifies the problems, needed interventions and the financial requirement for the developments in Agriculture and allied sectors of Agriculture viz. Horticulture, Agricultural Engineering, Animal husbandry, Fisheries, Sericulture, Agricultural marketing and Agricultural business and Public Works Department.. The Government sponsored various on-going schemes and programmes in the development of agriculture have also been dovetailed in the preparation of plan. Besides, the plan would also help in formulating the State Agriculture Plan and the project proposals under Stream I and Stream II to be funded by Government of India for the remaining four year plan periods viz. 2008-2012.

My sincere thanks to District Collectors of the respective districts in Tamil Nadu who have been instrumental in providing the felt needs of the farmers and other stakeholders. The help and full cooperation rendered by the line department officials in each district is highly appreciable. Without their assistances, the formulation of the plan will be a mere academic exercise.

My sincere thanks to Shri. Surjit K. Chaudhary I.A.S., Agricultural Production Commissioner and Principal Secretary to Government of Tamil Nadu who is instrumental in integrating the multi-level functionaries and providing valuable guidance in bringing out this plan document.

My sincere thanks to Dr. C. Ramasamy, Vice-Chancellor, Dr. P. Santhana Krishnan, Registrar of Tamil Nadu Agricultural University, for their full administrative and technical support without which the time schedule in preparing the document could not have been adhered to. Special thanks to Dr.S. Natarajan, Director, Soil and Crop Management Studies and Dr. E. Vadivel, Director of Extension Education, for their sustained support in the preparation of the district plans. All the Principal Investigators of the NADP I Phase projects also provided the needed inputs.

I take this opportunity to express my deep sense of gratitude to Commissioner of Agriculture, Commissioner of Horticulture and Plantation crops, Chief Engineer (Agricultural Engineering), Executive Director, Tamil Nadu Watershed Development Agency, Commissioner of Animal Husbandry and Veterinary Services, Commissioner of Fisheries, Commissioner for Milk Production and Dairy Development, Commissioner of Agricultural Marketing and Agri Business, Director of Seed Certification, and Director of Sericulture for providing constructive support and guidance in preparing the document.

I also place on record my sincere thanks to Vice-Chancellor of TANUVAS and his colleagues for providing the action plans for Animal Husbandry and Fisheries in Tamil Nadu.

Sincere thanks to Deans, Heads of Research Stations/KVK's and scientists of TNAU representing different districts and scientists of Directorate of CARDS for helping in collection of data, organising district level workshops and group meetings with stakeholders and preparation of this document.

Date: 30.06.2008

K. Palanisami
Director, CARDS & Nodal Officer (NADP)

EXECUTIVE SUMMARY

Karur District is the centrally located inland district lying between 10.45.” and 11.45” Northern latitude and 77.45” and 78.07” Eastern longitude. The topography of the district is almost plain except Rengamalai hills in extreme south of Aravakurichi Taluk, Tipasamimalai and Vellimalai hills in Kulithalai taluk. Cauvery is the major river flowing on northern and eastern boundaries. There is another river, Amaravathy, runs through Karur and confluences with Cauvery at Thirumukkudalur. There are Kudakanaru and Nanganchi rivers, which flow during rainy days. The major soil series in Karur district are Irugur and Thulukkanur. The soils are generally sandy loam and clay type. The average rainfall of the Karur district was 652.2 mm. The major rainfall occurs during North-East monsoon. Karur taluk is being covered by Amaravathy and Cauvery irrigation channels. Aravakurichi taluk is being covered by Amaravathy and Lower Bhavani Project channels. Kulithalai and Krishnarayapuram taluks are irrigated by Cauvery channels. Apart from these channels, 19 major tanks were in this district. There were 40,374 wells used for irrigation. The principal crops of the district are rice, millets, pulses, oilseeds, sugarcane and banana. The major rice area is in Kulithalai and Krishnarayapuram taluks. Pulses are grown in rice fallow areas. In uplands, millets like sorghum, pearl millet, pulses such as red gram and horse gram, oilseeds such as groundnut, gingelly and sunflower are grown both under irrigated and rain fed conditions.

The District’s economy is mainly agrarian. There were 1.22 lakhs small and marginal farmers constituting 86 per cent of total farmers sharing 35 per cent of the farm area. Utilization of land area in Karur district was 45 per cent. Five per cent of the land area remained as other uncultivated land. Rice and sorghum occupied 16 and 18 per cent of net sown area respectively in the district during 2007-08. Rice productivity is higher in the district as compared to State average. There exist potentials to increase rice productivity further through supply of quality seeds and other technological interventions. In most part of the district, livestock formed major source of income. Converting the vast tracts of land available in the district into fodder crop fields by

introducing emerging technologies is a real challenge for the Veterinarians, dairy professionals and agricultural experts. Such interventions would ensure a hefty increase in milk production in Karur district. Current status of 90 per cent deficit of green fodder should be given priority and hence village fodder nurseries, cultivation of green fodder, tree fodder, chaff cutter usage to enhance digestibility and to prevent wastage of feed is proposed.

Sericulture is one of the income generating enterprises and it needs technological and policy interventions for attaining growth momentum. The district is made fertile by the perennial flows of Cauvery on the northern side and also Amaravathy, Nanganjiyar and Noyyal Rivers. At present, the Cauvery river system comprises several supply channels and leading channels in Karur district. Since no major special nature of repairs and improvement works had been carried out for a long time, several deficiencies are noted in the system. After completion of restoration and improvement works, no doubt that the system efficiency will immensely be improved for optimum distribution and equitable assured water supply upto the tail end ayacut. A proposal is proposed for rehabilitation and improvements to tanks, supply channels and surplus courses including masonary structures to its original standards and the total ayacut of 1526.17 ha can be stabilised with the assistance of NADP funds. By impounding the water in the tanks to its full level, the ground water level in and around the tanks will be improved.

Stabilising and increasing the ayacut area under Amaravathy system by modernising and rehabilitation of Amaravathy old and new system in Karur district, envisaged in improving the social capital formation to run the irrigation infrastructure efficiently in sustainable manner by way of forming Water Users Association (WUA). The expected BCR for this project is 1:1.43 with IRR 21.38 per cent. At present the ayacut area under Amaravathy basin is 5,381 ha. It will be increased to 10,760 ha after implementing NADP. Potentials exist for production of high value crops like tropic vegetables, garland flowers, medicinal herbals etc. Sunflower is being cultivated on a

large-scale in the district providing ample opportunities for entrepreneurs to start oil extraction and refining units. A huge quantum of drumstick is being harvested in the Aravakurichi region of the district but due to lack of cold storage facilities, growers are forced to sell all their produce immediately.

Rice occupies major cultivable area and farmers are obtaining high productivity. So ensuring supply of quality seeds and other technological interventions like Integrated Nutrient and pest management with extension support would increase productivity of rice further. As 86 per cent of the farmers were small and marginal, for high levels of adoption of technologies, provision of subsidies is crucial. In most part of the district, livestock formed major source of income. Development of allied agricultural activities like animal husbandry and sericulture would bring higher income to the farmers. Potential exists for production of high value crops such as tropic vegetables, garland flowers, medicinal herbals etc.

The District Plan at a Glance

Agriculture Department has proposed a budget for Rs. 1101.11 lakhs for increasing area under major crops like rice from 19,000 ha to 21,000 ha during the end of the project period and increase of productivity from 3.6 tonnes to 5.9 tonnes per ha during the same period. Similarly, through technological interventions, it is proposed to increase the area under pulses and oilseeds and their yield levels. Pulses are cultivated normally to an extent of 20,000 ha and through proposed interventions, it is targetted to increase to 22,500 ha during the end of the project period. It is targetted to increase the productivity of pulses from 0.47 tonnes per ha to 0.625 tonnes per ha during the same period. Production of paddy and pulses in the district will be increased through provision of high quality seeds, promotion of hybrids, integrated fertilizer and pest management and adoption of SRI method. Horticulture Department has proposed Rs 669.86 lakhs for the plan period to bring more area under precision farming. The targetted crops are gloriosa, aonla, chillies, tomato, gourds and banana. Department of Agri Business and

Marketing has proposed a total of Rs. 493.68 lakhs for the establishment of commodity groups, market intelligence dissemination and training on marketing and exposure visits. Animal Husbandry Department has sought for Rs. 796.57 lakhs for the period 2008-2012 to undertake several activities to increase milk production and bring additional income to the farmers through rearing of goats and poultry. Similarly, Agricultural Engineering Department has proposed to supply tools and machines to ease out labour scarcity and increase the productivity of crops with timely operations. Department of Sericulture, PWD and Seed Certification Department have also proposed several interventions for the overall growth of the district. The year wise fund requirements of different departments are given below.

Sector Wise Fund Requirement - 2008-09 to 2009-2012

(Rs in Lakhs)

S. No.	Name of the Department	2008-2009	2009-10	2010-11	2011-12	Total
1	Agriculture	312.490	250.800	265.140	272.680	1101.110
2	Horticulture	162.425	159.250	170.200	177.984	669.859
3	Animal Husbandry	367.505	144.780	142.980	141.305	796.570
4	Fisheries	36.080	14.000	4.000	2.500	56.580
5	Agricultural Engineering	204.330	218.780	198.330	213.480	834.920
6	Agricultural Marketing	34.85	167.69	139.90	151.25	493.68
7	Sericulture	10.000	14.000	18.000	20.000	62.000
8	Public Works Department	2719	2465	500	420	6104
9	Special projects	25.730	25.730	26.010	26.010	103.480
	Total	**3872.41**	**3460.03**	**1464.56**	**1425.21**	**10222.20**

By implementing the NADP, it is expected that agricultural production would increase considerably and lead to high per capita income growth of the farm households. Such growth would induce the private sectors to initiate the starting up of processing industries and other related industries in the district. Such backward and forward linkage would ensure the overall growth of the district.

Programme will ensure that farmers would gain access to modern technology, adequate marketing means and storage facilities in a single location. The plan was expected to increase not only productivity but also quality. With the implementation of the programme, farmers in the district would get a remunerative price for their produce, besides ensuring that farm-related industries get a boost as regards supply of raw materials.

CHAPTER – I

INTRODUCTION

Concerned by the slow growth in the Agriculture and allied sectors, the National Development Council (NDC), resolved that a special Additional Central Assistance Scheme, named National Agriculture Development Programme (NADP / RKVY) be launched. The NDC also felt that Agriculture Development strategies must be reoriented to meet the needs of farmers and called upon the Central and State governments to evolve a strategy to rejuvenate agriculture with a commitment to achieve four per cent annual growth in the agricultural sector during the 11^{th} plan. To implement this, formulation of action plans by means of developing District Agriculture Plans (DAP) is recommended. It is of the view that such plans would also reflect the felt needs of the farmers and stakeholders. Such District Agriculture Plans aim at moving towards projecting the requirements for development of Agriculture and allied sectors of the district including animal husbandry and fishery, minor irrigation projects, rural development works, agricultural marketing schemes and schemes for water harvesting and conservation, etc. keeping in view the natural resources and technological possibilities in each district. These plans thus, present the vision for Agriculture and allied sectors within the overall development perspective of the district apart from the financial requirement and the sources of financing the agriculture development plans in a comprehensive way.

Once the preparation of District level agriculture planning exercise is completed, the operationalization of such plan is essential. This follows the preparation of a comprehensive State Agricultural Plan (SAP) by integrating the above District level agriculture plans. The DAP therefore could integrate multiple programmes that are in operation in the district concerned, include the resources and activities indicated by the state, combine the resources available from the other programmes and finalize the plan. With this in mind, the District Agriculture Plan for each district of Tamil Nadu is prepared.

Methodology Adopted for Preparation of District Agriculture Plan

The preparation of the District Agriculture Plan (DAP) is thus an elaborate, exhaustive and iterative process and therefore every care is taken in ensuring that the DAPs are properly and comprehensively made. The task of preparing such District Agriculture Plan is given to Tamil Nadu Agricultural University, Coimbatore. In Coordination with scientists from TANUVAS and officials from Department of Agriculture, Horticulture, Agricultural Engineering, Marketing, Animal Husbandry and Fisheries, Seed certification PWD etc. the task is fulfilled. In what follows, the procedure adopted to prepare the plan is discussed.

Major Areas of Focus

(a) Integrated development of major food crops like paddy, coarse cereals, minor millets, pulses, oilseeds;

(b) Agriculture mechanization;

(c) Activities related to enhancement of soil health;

(d) Development of rainfed farming systems in and outside watershed areas, as also Integrated development of watershed areas, wastelands, river valleys;

(e) Integrated Pest Management schemes;

(f) Strengthening of Market Infrastructure and marketing development;

(g) Strengthening of Infrastructure to promote Extension Services;

(h) Activities relating to enhancement of horticultural production and popularization of micro irrigation systems;

(i) Animal husbandry and fisheries development activities;

(j) Study tours of farmers;

(k) Organic and bio-fertilizers;

(l) Innovative schemes.

Collection of Data

The preparation of district level plan involved basically collection of base line and benchmark details. So a template is developed to collect these particulars from the different districts (29 districts) of Tamil Nadu. In order to dovetail the ongoing schemes,

with the action plans, the current ongoing agriculture programs were listed with their physical and financial performance and finally converged as the plan under National Agriculture Development Programme.

Formulation of District Planning Unit

To facilitate the involvement of local representatives in the preparation of plans, planning units in each district was formulated. The composition of the district planning units is as follows:

a) Deans of other campuses / Heads of Krishi Vigyan Kendra or Research Station in respective district and one scientist from each campus

b) Co-ordinating staff from Directorate of Centre for Agricultural and Rural Development Studies to represent each district

c) Officials of Line Departments from Agriculture, Horticulture, Agricultural Engineering, Marketing, Animal Husbandry and Fisheries, Seed certification, Public Works Department etc. the task are fulfilled.

Sensitization Workshop

A series of Sensitization Workshop was conducted from 4.3.08 to 18.3.08 at TNAU Campus. The TNAU Staff from Krishi Vigyan Kendras and Research Stations, officials from line Departments *viz.,* Agriculture, Horticulture, Agricultural Engineering and Tamilnadu Veterinary and Animal Sciences University attended the workshop. Also several meetings were held in Chennai for the National Agriculture Development Programme under the Chairmanship of Agriculture Production Commissioner and Secretary to Government of Tamil Nadu. The objectives of National Agriculture Development Programme, preparation of District Agriculture Plans, State Agriculture Plan and Formulation of Project proposals under stream - I and stream - II were discussed in the workshop.

Preparation of Draft Action plan and Presentation in District Collectors Meeting

Based on the baseline information and proposals, draft action plan was prepared and this was presented in the District Collectors Meeting held on 19th of May, 2008 under the chairmanship of District Collector. The meeting was attended by the scientists from TNAU, officials from line departments and the representatives of local bodies. Wide coverage was given in the media also. The proceedings of the meeting were appended in the appendix.

Finalisation

The feedbacks received in the District Collectors Meeting were incorporated before finalization of the District Agriculture Plan. The Strategic Research Extension Plan and Agriculture Technology Management Agency reports were also reviewed and relevant details have been incorporated in the draft report.

CHAPTER – II
GENERAL DESCRIPTION OF THE DISTRICT

2.1 Introduction

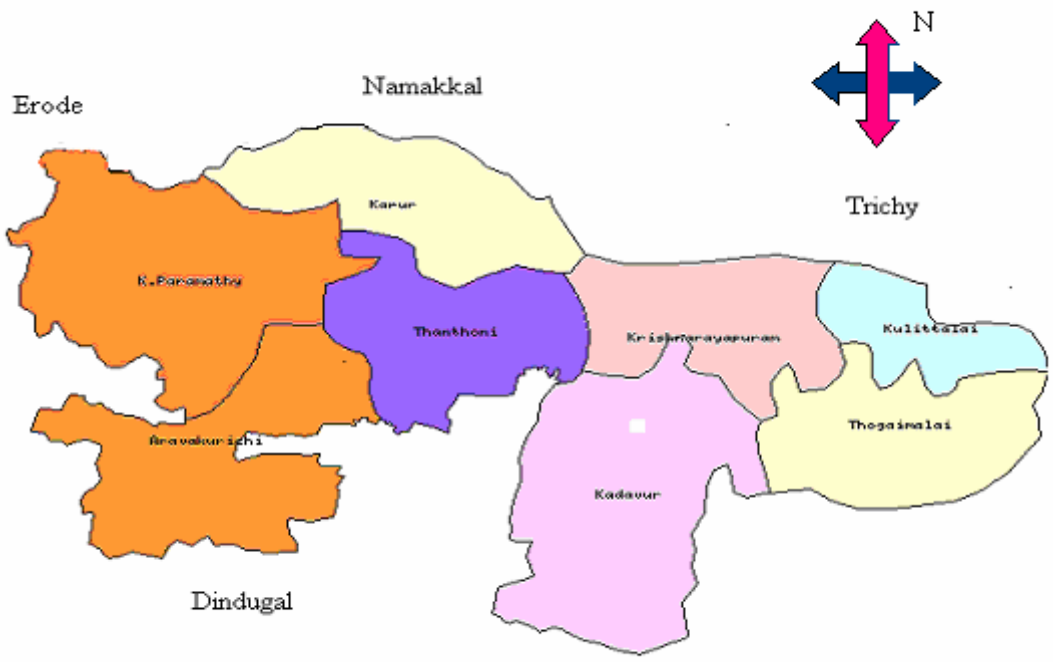
Karur district falls under the agro-climate zone of the southern plateau and hills, with semi-arid and dry sub-humid climate. Red soil is predominant in this district. The normal rainfall works out to 742.2 mm. Cauvery is the major river flowing on northern and eastern boundaries. The principal crops of the district are rice, millets, pulses, oilseeds, sugarcane and banana. The rice area is in Kulithalai and Krishnarayapuram taluks. Pulses are grown in rice fallow areas. In uplands, millets like sorghum, pearl millet, pulses such as red gram and horse gram, oilseeds such as groundnut, gingelly and sunflower are grown both under irrigated and rain fed conditions.

2.2 District at a Glance

2.2.1 Location and Geographical Units

Karur is the most centrally located district of Tamil Nadu. Karur District was carved out of the composite Tiruchirappalli district by the Government in the G.O.Ms.No.683, Revenue Department, dated 25th July, 1996. The district spreads over an area of 2,895 Sq.Km It is bounded by Namakkal district in the north, Dindigul district in the south, Tiruchirapalli district in the east and Erode district in the west. Karur district is lying between 10.45.” and 11.45” Northern latitude and 77.45”and 78.07” Eastern longitude with an altitude of 78 metres above mean sea level. It is an inland district without any coastal line. The district consists of four taluks, viz., Karur, Aravakurichy, Kulithalai and Krishnarayapuram. Karur district has four Municipalities (Karur, Inama Karur, Thanthoni, Kulithalai) 10 Town Panchayats and 158 Village Panchayats and 203 Revenue Villages.The district map-indicating blocks is given in Figure 1. The topography of the district is almost plain with the exception of Rengamalai hills in extreme south of Aravakurichi taluk, Tipasamimalai and Vellimalai hills in Kulithalai taluk. The details of blocks and taluks in the district are furnished in the Table 1.

Figure 1. District Map of Karur



Map of Karur District showing Blocks

Table .1. List of Taluks and Blocks

Particulars	No	Name			
Taluks	4	Karur	Aravakurichi,	Kulithalai	Krishnarayapuram
Blocks	8	Karur, Thanthoni	Aravakurichi, K.Paramathy	Kulithalai, Kavavur, Thogamalai	Krishnarayapuram
Agricultural Divisions	8	Karur, Thanthoni	Aravakurichi, K.Paramathy	Kulithalai, Kavavur, Thogamalai	Krishnarayapuram

Source: Records of the office of the Joint Director of Agriculture, Karur

2.2.2 Demographic Profile

Total population of the district as per the 2001 census was 9, 35,686, out of which 4,65,538 were male and 4, 70,148 were female. The population density of the district was 323 sq. km. The total number of literates in the district constituted 60.56 per cent of the total population. Of which 58 per cent of male and 42 per cent of the female population were literates. Of the total population, 20.3 per cent were SC's and 0.15 per cent were ST's. Cultivators accounted for 23 per cent, while agricultural labourers constituted 34 per cent of the total population (Table 2). The four principal languages that are commonly used in the district are Tamil, Telegu, English and Urdu. Farmers are mainly engaged in the cultivation of rice. The major industries of the region are paper, bus bodybuilding and cement industries. A very common cottage industry is handloom industry engaged in the export of bed sheets, towels, floor rugs, tea towels, napkins, aprons, kitchen towels, pot holders, bathmats, tea mats, curtains, quill covers, shower curtains etc.

Table 2. Demographic Details - 2001

Industrial Category	District		Tamil Nadu	
	Persons	**% to total Workers**	**Persons**	**% to total Workers**
Total Main Workers	445450	89.73	23684611	85.16
a) Cultivators	100875	22.65	5114384	18.39
b) Agricultural Labourers	152993	34.35	8665020	31.16
c) Household Industry, Manufacturing, Processing, Servicing and Repairs	18228	4.09	1458546	5.24
d) Other Workers	173354	38.91	12573697	45.21
Marginal Workers	51014	5.45	4127036	14.84
Total Workers	496464	100	27811647	100
Non Workers	439222	46.94	34299192	55.22
Total Population	**935686**	**-**	**62110839**	**-**

Source: Records of the Office of the Joint Director of Agriculture - Karur

2.2.3 Topography and Agro Climatic Characteristics

The topography of the district is almost plain except Rengamalai hills in extreme south of Aravakurichi Taluk, Tipasamimalai and Vellimalai hills in Kulithalai taluk. The maximum temperature is recorded, as 36.3°C while the minimum temperature is 17.5°C. The highest temperature is obtained in early May to early June usually about 34 °C, though it usually exceeds 38 °C for a few days in most years. Average daily temperature in Karur during January is around 23°C, though the temperature rarely falls below 17°C. The average annual rainfall in the last five years (2003-07) is about 652 mm. It gets most of its seasonal rainfall from the northeast monsoon winds, from late September to mid November. The actual rainfall recorded during Northeast monsoon was 287 mm and South West monsoon was 238 mm. The distribution of rainfall over the years is given in Table 3.

Table 3. Distribution of Rainfall in Karur District

(in mm)

S.No	Season	Seasonal average	Year				
			2003	2004	2005	2006	2007
1	Winter	16.8	0	0	0	5.17	0.95
2	Summer	109.5	85.2	206.09	234.21	115.84	94.54
3	South West Monsoon	238.4	124.65	240.13	191.2	181.63	212.24
4	North East Monsoon	287.5	329.12	372.5	717.3	296.99	459.84
	Total	**652.2**	**538.97**	**818.72**	**1142.71**	**599.63**	**767.57**

Source: Records of the Office of the Joint Director of Agriculture, Karur

2.2.4 Land use Pattern and Land Holdings

The economy of the district is mainly agrarian. The total geographical area of the district is 2, 89,557 ha (Table 4). Of which the net area sown occupied 32 per cent of the total area in 2006-07. Nearly, 0.57 per cent area was sown more than once. 2.14 per cent of the land was under forest and current fallow occupied 7.83 per cent of the total

geographical area. There were 1.22 lakhs small and marginal farmers constituting 86 per cent of total farmers sharing 35 per cent of the farm area. The land utilization pattern in different blocks of Karur district is given in Table 5. Net cultivated area of the district was almost equally distributed in all the blocks of the district with highest total cultivated area in K.R. Puram block, followed by Kadavur, K.Paramathy and Thanthoni. Farmers in Thogamalai and Kulithalai blocks cultivate more than one crop in a year due to availability of water sources.

Table 4. Land Utilization Pattern in Karur District

(in hectare)

S.No	Particulars	2004-05	2005-06	2006-07
	Total Geographical Area	289557	289557	289557
1	Forests	6187 (2.14)	6187 (2.14)	6187 (2.14)
2	Uncultivable wastes.	2901 (1.00)	2901 (1.00)	2901 (1.00)
3	Land put to non-Agricultural use.	37025 (12.79)	37264 (12.79))	37317 (12.79))
4	Cultivable wastes.	68626 (23.70)	67831 (23.43)	67774 (23.41)
5	Permanent Pastures.	10801 (3.73)	10801 (3.73)	10801 (3.73)
6	Land under trees not included under net area sown.	1268 (0.44)	1278 (0.44)	1288 (0.44)
7	Current Fallows	6545 (2.26)	4774 (1.65)	22670 (7.83)
8	Other Fallows.	55772 (19.26)	46802 (16.16)	46194 (15.95)
9	Net Area sown	100432 (34.68)	111719 (38.58)	94425 (32.61)
	Area sown more than once	2234 (0.77)	2838 (0.98)	1666 (0.57)
	Total Area Irrigated	42880	54709	48083
	Total Area Rainfed	57552	57010	46342

Source: Records of the Office of the Joint Director of Agriculture, Karur

Figures in parenthesis indicates percentage to the total geographical area

Table 5. Blockwise Land Use Pattern –-2005-06

(in hectares)

	Karur	Thanthoni	Aravakurichi	K.Paramathy	Kulithali	Thogamalai	Kadavur	K.R. Puram	District Total
Forest	18	0	294	0	39	0	5684	152	6187
Barren and Uncultivable uses	391	154	92	436	271	316	631	610	2901
Land put to Non-Agricultural uses	6120	4569	2979	5569	3329	3393	5541	5764	37264
Cultivable Waste	3102	8863	17513	16505	2248	7866	8343	3391	67831
Permanent Pastures and Other Grazing Land	1258	38	2167	4808	116	311	313	1790	10801
Land under Miscellaneous Tree Crops and grasses not included in Net Area Sown	207	60	62	38	153	245	124	389	1278
Current Fallows	455	1821	296	718	260	201	225	798	4774
Other Fallows Land	2512	5803	9394	10414	1056	5830	5946	5847	46802
Net Area Sown	10272	15000	10892	15439	11431	12016	15907	20762	111719
Geographical Area According to Village Papers	24335	36308	43689	53927	18903	30178	42714	39503	289557
Total Cropped Area	10309	15084	10892	15467	12195	13034	16588	20988	114557
Area Sown More than Once	37	84	0	28	764	1018	681	226	2838

Source: Records of the Office of the Joint Director of Agriculture, Karur

The number of holdings and area cultivated of the various size groups are furnished in Table 6.

Table 6. Size Group Wise Number and Area of Holdings in Karur District

Size of holdings (ha)	Numbers				Area (ha)			
	S.C. (% to the total)	S.T. (% to the total)	Others (% to the total)	Total	S.C. (% to the total)	S.T. (% to the total)	Others (% to the total)	Total
1	2	3	4	5	6	7	8	9
Below 0.5	60.65	0	44.22	45.44	23.01	0	6.19	6.73
0.5 – 1.0	22.37	0	21.85	21.89	24.32	0	9.96	10.43
1.0 – 2.0	11.82	0	19.31	18.75	25.17	0	17.63	17.87
2.0 – 3.0	3.09	0	8.56	8.15	11.51	0	13.46	13.40
3.0 – 4.0	0.98	0	4.57	4.31	5.30	0	8.90	8.78
4.0 – 5.0	0.43	0	2.87	2.69	2.86	0	8.22	8.05
5.0 – 7.5	0.45	0	3.22	3.01	4.10	0	12.46	12.19
7.5 – 10.0	0.14	0	1.43	1.33	1.63	0	7.88	7.68
10.0– 20.0	0.08	0	1.46	1.36	1.62	0	13.67	13.28
20.0and Above	0	0	0.11	0.10	0.48	0	1.63	1.59

Source: Records of the Office of the Joint Director of Agriculture, Karur

2.2.5 Irrigation and Ground Water

Cauvery is the major river flowing on northern and eastern boundaries. There is another river, Amaravathy runs through Karur and confluences with Cauvery at Thiumukkudalur. The River Amaravathy which flows from the Annamalai and Travancore hills traverse through the parts of the district. The rivers Cauvery and Amaravathy, their tributaries and distributaries ensure irrigation potentiality of the northern part of the district. There are Kudakanaru and Nanganchi rivers, which flow during rainy days. Karur taluk is being covered by Amaravathy irrigation channel and Cauvery irrigation channel. Aravakurichi Taluk is being covered by Amaravathy and

Lower Bhavani Project Channel. Kulithalai and Krishnarayapuram taluks are irrigated by Cauvery channels. Apart from channels, 19 major tanks were in this district. There were 40,374 wells and it formed the major source of irrigation (59%). Area irrigated by different sources is set out in Table 7.

Table 7. Sources of Irrigation and Area Irrigated

(in hectares)

S.No	Source of Irrigation	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
1	Canal	25417 (43.39)	24720 (43.08)	21079 (43.57)	12423 (30.90)	8724 (24.47)	13424 (29.78)	16464 (28.54)	16006 (28.11)
2	Tanks	2080 (3.55)	1728 (3.011)	1336 (2.76)	0	0	2 (0.004)	675 (1.17)	26 (0.05)
3. Wells									
3.a	Tube Wells	694 (1.18)	672 (1.17)	630 (1.30)	2089 (5.20)	3275 (9.19)	3934 (8.73)	5478 (9.49)	6493 (11.40)
3.b	Ordinary Wells	29700 (50.70)	28815 (50.22)	24584 (50.82)	24845 (61.80)	23084 (64.76)	26907 (59.63)	34776 (60.28)	33717 (59.21)
3.c	Ordinary Wells (Supplement to Other sources)	691 (1.18)	869 (1.51)	711 (1.47)	844 (2.10)	565 (1.58)	817 (1.81)	301 (0.52)	698 (1.23)
4	Others	0.00	530 (0.92)	39.00 (0.08)	0.00	0.00	0.00	0.00	0.00
	Gross Area Irrigated (Ha.)	58582	57376	48379	40201	35648	45084	57694	56940

Source: Records of the G return (Fasli-1415)

Figures in parentheses indicate percentage to the gross area irrigated

Classification of blocks based on ground water potentials is presented in Table 8. Of the total eight blocks in the district, Karur and Kadavur blocks are under the category of grey and Kulithalai is categorized as dark block.

Table 8. Ground Water Potential

S.No	Name of the Block	White	Grey	Dark	Highly Dark
1	Karur		Grey		
2	Thanthoni	White			
3	Aravakurichi	White			
4	K.Paramathy	White			
5	Kulithalai			Dark	
6	Thogaimalai	White			
7	Kadavur		Grey		
8	Krishnarayapuam	White			

Source: Records of the office of the Joint Director of Agriculture, Karur

2.2.6 District income

The figures available for the Net Domestic Product at current prices (1993-94 series) showed that among 29 districts, Karur district ranked 9th place and shared 1.30 per cent of the Net State Domestic Product (Table 9).

Table 9. District income of Karur

(Rs. in lakhs)

Year	NDP	Percentage to the state domestic product
1993-94	73830	1.43
1994-95	83538	1.36
1995-96	100337	1.44
1996-97	111925	1.41
1997-98	138035	1.49
1998-99	143143	1.35
1999-2000	148949	1.32
2000-01	175857	1.40
2001-02	165462	1.30
2002-03	177998	1.30

Source: Records of the Directorate of Economics and Statistics, Chennai

2.3 Development Vision and Strategy

Rice is one of the major crops. Rice productivity is higher in the district as compared to State average. There exist potential to increase rice productivity further through supply of quality seeds and other technological interventions. In most part of the district, livestock forms the major source of income. Converting the vast tracts of land available in the district into fodder crop fields by introducing emerging technologies is a real challenge for the Veterinarians, animal husbandry, dairy professionals and agriculture experts. Such intervention would ensure a hefty increase in milk production in Karur district. Current status of 90 per cent deficit of green fodder should be given priority and hence village fodder nurseries, cultivation of green fodder, tree fodder, chaff cutter usage to enhance digestibility and to prevent wastage of feed is proposed.

Sericulture is one of the income generating enterprises and it needs technological and policy interventions for attaining growth momentum. The district is made fertile by the perennial flows of Cauvery on the northern side and also Amaravathy, Nanganjiyar and Noyyal Rivers. Since no major special nature of repairs and improvement works had been carried out for a long time, several deficiencies are noted in the system. After completion of restoration and improvement works, no doubt that the system efficiency will immensely be improved for optimum distribution and equitable assured water supply up to the tail end ayacut. By impounding the water in the tanks to its full level, the ground water level in and around the tanks will be improved.

Stabilising and increasing the ayacut area under Amaravathi system by modernising and rehabilitation of Amaravathi old and new system in Karur district, envisaged in improving the social capital formation to run the irrigation infrastructure efficiently in sustainable manner. Potential exists for production of high value crops like tropic vegetables, garland flowers, medicinal herbals etc.

CHAPTER III
SWOT ANALYSIS OF THE DISTRICT

3.1 Introduction

The district has potentials to increase agricultural production and production in the allied sectors. However, identifying the constraints and opportunities for timely interventions are critical for attaining further growth momentum in the district.

3.2 SWOT Analysis of the District

The economy of the district is mainly agrarian. There were 1.22 lakh small and marginal farmers constituting 86 per cent of total farmers sharing 35 per cent of the farm area. Utilization of land area in Karur district was 45 per cent. Five per cent of the land area remains as other uncultivated land. Rice and cholam occupied 16 and 18 per cent of net sown area in the district respectively during 2007-08. Rice productivity is higher in the district as compared to State average. There exist potential to increase rice productivity further through supply of quality seeds and other technological interventions. In most part of the district, livestock forms a major source of income. Converting the vast tracts of land available in the district into fodder crop fields by introducing emerging technologies is a real challenge for the Veterinarians, dairy professionals and agricultural experts. Such intervention would ensure a hefty increase in milk production in Karur district. Current status of 90 per cent deficit of green fodder should be given priority and hence village fodder nurseries, cultivation of green fodder, tree fodder, chaff cutter usage to enhance digestibility and to prevent wastage of feed is proposed.

Sericulture is one of the income generating enterprises and it needs technological and policy interventions for attaining growth momentum. The district is made fertile by the perennial flows of Cauvery on the northern side and also Amaravathy, Nanganjiyar and Noyyal Rivers. At present, the Cauvery river system comprises several supply channels and leading channels in Karur district. Since no major special nature of repairs and improvement works had been carried out for a long time, several deficiencies are

noted in the system. After completion of restoration and improvement works, no doubt that the system efficiency will immensely be improved for optimum distribution and equitable assured water supply upto the tail end ayacut. A proposal is proposed for rehabilitation and improvements to tanks, supply channels and surplus courses including masonary structures to its original standards and the total ayacut of 1526.17 ha can be stabilised with the assistance of NADP funds. By impounding the water in the tanks to its full level, the ground water level in and around the tanks will be improved.

Stabilising and increasing the ayacut area under Amaravathi system by modernising and rehabilitation of Amaravathi old and new system in Karur district, envisaged in improving the social capital formation to run the irrigation infrastructure efficiently in sustainable manner by way of forming WUA and farmers' irrigation system turn over were included. The expected BCR for this project is 1:1.43 with IRR 21.38 per cent. At present the ayacut area under Amaravathi basin is 13,451 acres. It will be increased to 26,902 acres after implementing NADP. Potential exists for production of high value crops like tropic vegetables, garland flowers, medicinal herbals etc. Sunflower is being cultivated on a large-scale in the district providing ample opportunities for entrepreneurs to start oil extraction and refining units. A huge quantum of drumstick is being harvested in the Aravakurichi region of the district but due to lack of cold storage facilities growers are forced to sell all their produce immediately.

3.3 Accommodating SWOT – Addressing Issues Emerging out of the Analysis

Agriculture Department has proposed for Rs.1101.31 lakhs for increasing area under major crops like rice from 19,000 ha to 21,000 ha during the end of the project period and increase productivity from 3.6 tonnes to 5.9 tonnes per hectare during the same period. Similarly, through technological interventions it is proposed to increase area under pulses and oilseeds and increase their yield levels. Pulses are cultivated normally to an extent of 20,000 ha and through proposed interventions, it is targeted to increase to 22,500 ha during end of the project period. It is targeted to increase productivity of pulses from 0.47 tonnes per ha to 0.625 tonnes per ha during the same period. Production of

paddy and pulses of the district will be increased through provision of high quality seeds, promotion of hybrids, integrated fertilizer and pest management and adoption of SRI method. Horticulture Department has proposed Rs 669.86 lakhs for the plan period to bring moto bring more area under precision farming. The targeted crops are gloriosa, anola, chillies, tomato, gourds and banana. Department of Agri Business and Marketing has proposed Rs. 150.82 lakhs for the establishment of commodity groups, market intelligence dissemination, training on marketing and exposure visits. Animal Husbandry Department has sought for Rs. 956.32 lakhs to undertake several activities to increase milk production and bring additional income to the farmers, through rearing of goats and poultry. Similarly, Agricultural Engineering Department has proposed to supply tools and machines to ease out labour scarcity and increase the productivity of crops with timely operations. Department of sericulture, PWD and Seed Certification Departments have proposed several interventions for the overall growth of the district.

3.4 Sectoral / Regional Growth Drivers of the District

Rice occupies major cultivable area and farmers are obtaining high productivity. So ensuring supply of quality seeds and other technological interventions like Integrated Nutrient and pest management with extension support would increase productivity of rice further. As 86 per cent of the farmers are small and marginal, for high levels of adoption of technologies, provision of subsidies is crucial. In most part of the district, livestock forms major source of income. Developing allied agricultural activities like animal husbandry and sericulture is needed for higher income of the farmers. Potential exists for production of high value crops tropic vegetables, garland flowers, medicinal herbals etc. The district also faces frequent drought and the problems of salinity. So, improving the irrigation efficiency is another growth driver of the district.

3.5 Composite Index of Agricultural Development of Karur District

Agricultural development of a district is a comprehensive multidimensional process involving large number of related indicators. Hence, it can be well represented by composite indices, which are used as yardsticks not only to gauge the development of

each district but also to compare its performance in relation to other districts. These indices help to classify the sub- regions based on a set of large multivariate data. The information contained in the large set is transformed into a small set of indices, which would provide a convenient method for classification. There are many methods of classification based on multivariate data. Among them, one method, which is statistically sound, is that developed by Iyengar and Sudarshan (1982). This method is simple and easy to apply and it helps to classify the districts into various stages of development, viz, highly developed, developed, developing, backward and very backward. In this method for each district a composite index is constructed. This index lies between "0" and "1" with 1 representing 100 per cent development and "0" representing no development at all. It is assumed that there are 'n' districts and 'm' development indicators and that X_{id} is the observed value of i^{th} development indicator for the d^{th} district (i=1,2,3……..m, d= 1,2,3…….n). First the values of development indicators for each district are to be standardized. When the observed values are related positively to the development (as in the case of cropping intensity), the standardisation is achieved by employing the formula.

$$Y_{id} = (X_{id}\text{-min } X_{id})/\text{Max } X_{id}\text{-Min } X_{id})$$

Where Min X_{id} and Max X_{id} are the minimum and maximum of $((X_{i1},X_{i2},\ldots\ldots X_{in})$ respectively. When the values of X_{id} are negatively related to the development (as in the case of area under wastelands, problem soils etc.), the standardised values will be computed by the formula.

$$Y_{id}=(\text{Max } X_{id}\text{-}X_{id})/(\text{Max } X_{id}\text{-Min } X_{id})$$

Obviously the standardised indices lie between 0 and 1. These indices are then used to determine the weights of individual variable and then they are subjected to further statistical analysis by fitting suitable probability distribution to determine the cut – off points for classification of the districts into five categories as mentioned above. The detailed methodology can be found in Iyengar and Sudarshan (1982). The date base for the current study on Karur district is taken from various government publications like

season and crops Report and Economic Appraisal of Tamil Nadu for the four periods viz., 1990-91, 1995-96, 2000-01 and 2005-06. In all, 25 indicators of agricultural development as given in Table 10 were used for estimating the composite index of development of development for the district. The 25 indicators were grouped into six different components:

1) Crop area variables (10)
2) Irrigation (7)
3) Livestock (3)
4) Fisheries (1)
5) Fertiliser (3) and
6) Cultivators and labourers (2)

The analysis showed that Karur district which was classified as very backward in agricultural development during the three periods, viz., 1990-91, 2000-01 and 2005-06, and it was classified as backward in 1995-96. In terms of overall agricultural development, its rank among the 29 districts of Tamil Nadu varied from 22 to 28 during the 1990-91 to 2005-06. As far as the individual components of agricultural development are concerned, its ranks in the above periods are summarized in the following Table 11. The table shows that performance in the first two periods is not satisfactory. For example, in crop area variables its rank is between 24 and 28 and in irrigation variables it ranks between 21st and 26th rank. Similarly in livestock also it occupied the rank between 20 th and 26th rank.

Table 10. Selected indicators of Agricultural Development for Karur district

Component	Indicators	No of Indicators
Crop – Area - Variables	**Cropping Intensity**	10
	% Of Gross Cropped Area to Total geographical area	
	% Share of food grains to Gross cropped area	
	% Share of food crops to Gross cropped area	
	% Share of non-food crops to Gross cropped area	
	% Share of cultivable waste to total geographical area	
	% Area under High Yielding Variety- PADDY	
	% Area under High Yielding Variety- CHOLAM	
	% Area under High Yielding Variety- CUMBU	
	% Area under High Yielding Variety- RAGI	
Irrigation	**Irrigation intensity**	7
	% Of Gross Irrigated Area to Gross cropped Area	
	% Of Net Irrigated Area to Net Area Sown	
	% Area under Canal Irrigation to Gross irrigated area	
	% Area under tank Irrigation to Gross irrigated area	
	% Area under well Irrigation to Gross irrigated area	
	% Area under other sources of Irrigation to Gross irrigated area	
Livestock	Milk production (lakh tonnes) Egg production (lakh)	2
Fisheries	Inland + marine fish production in tonnes	1
Fertiliser	Consumption of Nitrogen per hectare of Gross Cropped Area (tonnes)	3
	Consumption of phosphorus per hectare of Gross Cropped Area (tonnes)	
	Consumption of potassium per hectare of Gross Cropped Area (tonnes)	
Cultivators-labourers	% Of cultivators to total population	2
	% Of Agricultural labourers to total workers	
	Total	**25**

Table 11. Rank of Karur District in terms of Agricultural Development 1990-91 to 2005-06

Component of Composite index(Period)	Crop – Area - Variables	Irrigation	Livestock	Fisheries	Fertiliser	Cultivators-labourers	Overall
1990-91	25	26	26			7	27
1995-96	24	22	22	25	16	10	22
2000-01	28	21	20	20	20	12	27
2005-06	27	22	22	24	24	8	28

CHAPTER IV

DEVELOPMENT OF AGRICULTURE SECTOR

4.1 Introduction

The economy of the district mainly depends on agriculture. There were 1.22 lakh small and marginal farmers constituting 86 per cent of total farmers sharing 35 per cent of the farm area. Development of agriculture through appropriate interventions is needed as there are many challenges currently thwarting this sector in the district like acute shortage of labour for agricultural operations, large tracts of unutilized lands and lack of processing industries for providing the farmers the benefits of vertical integration and lack of marketing infrastructure facilities.

4.2 Land Use

Total geographical area of the district is 2, 89,557 ha. Of which the net area sown occupied 32 per cent of the total area. 0.57 per cent area was sown more than once. 2.14 per cent of the land was under forest. Current fallow occupied 7.82 per cent of the total geographical area. The principal crops of the district are paddy, millets, pulses, oilseeds, sugarcane and banana. The major paddy area is in Kulithalai and Krishnarayapuram taluks. Pulses are grown in rice fallow areas. In uplands, millets like sorghum, pearl millet, pulses such as red gram and horse gram, oilseeds such as groundnut, gingelly and sunflower are grown under both irrigated and rain fed conditions.

4.3 Soil Health

The major soil series in Karur district are Irugur and Thulukkanur .The Soils are generally sandy loam and clay type. The Irugur soil is red to dark red, fine loamy, non calcareous, well drained, slightly acidic to neutral soils. The Tulukkanur soil is reddish

brown to dark grayish brown, moderately deep to very deep, fine loamy, calcareous and well-drained soil. The other soil series are Palladam, Palathurai, Palaviduthi, Vannapatti and Mixed alluvium. Black soil is the predominant soil type in this district accounting for 35.51 per cent followed by lateritic soil with 23.85 per cent. The remaining 20.31 per cent is comprised of sandy, coastal and alluvium soils. The details of soil classification are furnished in Table 12. The soil map along with the extent of soil series of Karur District is furnished. (Figure. 2 and Table. 13)

Table 12. Taluk Wise Soil Classification in Karur District

Type of Soil	Name of Soil Series	Taluk wise Area (Ha.)					% to Total Geographical Area	Soil Characters
		Karur	Arava kurichi	Kulithalai	Krishna-rayapuram	Total		
Darkgreyish Brown to Dark yellowish Brown, Fine loamy Soil.	Adhanur	0	0	3497	0	3497	1.21	Moderately drained
Red to Dark Red Fine Loamy Soil	Irugur	4620	18786	49491	19888	92785	32.04	Well drained
Darkgreyish Brown to Greyish Brown, Fine loamy Soil.	Kalukur	0	0	2869	509	3378	1.17	Moderately drained
DarkRed to Darkbrown coarse loamy soil	Palathurai	0	0	5380	6827	12207	4.22	Moderately well drained
Red to Dark RedishBrown Fine Loamy Soil	Palaviduthi	0	0	9593	466	10059	3.47	Well Drained
Dark Brown Coarse Loamy Soil.	Palladam	2905	11872	1435	0	16212	5.60	Well Drained
Dark brown to Very dark Greyish brown fine soil	Pilamedu	0	0	3228	0	3228	1.11	Moderately well drained
Yellowish brown Coarse Loamy soil	Syamalagoundan-pudur	333	2870	0	0	3203	1.11	Well Drained

Table 12. Contd…

Type of Soil	Name of Soil Series	Taluk wise Area (Ha.)					% to Total Geographical Area	Soil Characters
		Karur	Arava kurichi	Kulithalai	Krishna-rayapuram	Total		
Reddish brown to DarkGreyish Brown fine Loamy soil	Thulukkanur	30955	59293	0	0	90248	31.17	Well Drained
Redish brown to Red Coarse Loamy soil	Vannapatti	12382	65	0	0	12447	4.30	Well Drained
Mixed Alluvium		2857	2413	0	4961	10231	3.53	
Others		6573	2023	10579	6700	25875	8.94	
Forest		18	294	5723	152	6187	2.14	
Total		**60643**	**97616**	**91795**	**39503**	**289557**	**100.00**	

Source: Records of the Directorate of Economics and Statistics, Chennai

Table 13. Types of Soils and Area

Soil Description	Area (ha)
Deep, fine loamy, mixed, Alfisols	30195.91
Shallow, clayey, mixed, Alfisols	23680.63
Very deep, fine loamy, mixed, Alfisols	19565.18
Moderately shallow, fine loamy, mixed, Alfisols	16897.53
Very shallow, loamy, mixed, Entisols	13969.12
Very deep, fine loamy, mixed, Inceptisols	13945.52
Moderately deep, clayey skeletal, mixed, Alfisols	13940.27
Very deep, fine, montmorillonitic, Inceptisols	12580.44
Moderately deep, loamy skeletal, mixed, Inceptisols	12428.52
Moderately shallow, fine, mixed, Alfisols	11987.64
Moderately shallow, loamy skeletal, mixed, Entisols	10078.95
Moderately deep, fine loamy, mixed, Alfisols	8833.36
Deep, fine, mixed, Alfisols	8201.85
Deep, fine loamy, mixed, Inceptisols	7678.16
Deep, coarse loamy, mixed, Inceptisols	7664.09
Moderately shallow, fine loamy, mixed, Entisols	7101.01
Deep, fine, mixed, Inceptisols	7082.07
Moderately shallow, fine, mixed, Inceptisols	7045.20
Deep, fine, montmorillonitic, Vertisols	5634.09
Moderately shallow, loamy skeletal, mixed, Inceptisols	4882.85
Very deep, fine, mixed, Inceptisols	4545.36
Moderately deep, fine, mixed, Inceptisols	3530.61
Very deep, fine, montmorillonitic, Vertisols	3525.28
Moderately deep, fine, mixed, Alfisols	3058.90
Moderately deep, fine loamy, mixed, Inceptisols	2918.31
Moderately deep, fine, montmorillonitic, Inceptisols	2591.94
Shallow, loamy, mixed, Alfisols	1797.22
Deep, fine, montmorillonitic, Entisols	1574.45
Moderately shallow, coarse loamy, mixed, Entisols	1501.72
Very deep, very fine, montmorillonitic, Vertisols	1469.02
Deep, fine, montmorillonitic, Inceptisols	1267.74
Shallow, clayey skeletal, mixed, Alfisols	1063.18
Shallow, clayey, mixed, Entisols	1050.01
Shallow, sandy skeletal, mixed, Inceptisols	901.97
Shallow, loamy skeletal, mixed, Alfisols	898.45
Deep, fine loamy, mixed, Entisols	661.99
Shallow, loamy, mixed, Entisols	635.53
Deep, clayey skeletal, mixed, Alfisols	522.03
Deep, coarse loamy, mixed, Alfisols	489.91
Moderately deep, loamy skeletal, mixed, Alfisols	407.77
Shallow, loamy, mixed, Inceptisols	329.54
Very deep, fine silty, mixed, Entisols	240.62
Shallow, clayey skeletal, mixed, Inceptisols	136.58
Very deep, clayey skeletal, kaolinitic, Alfisols	18.44

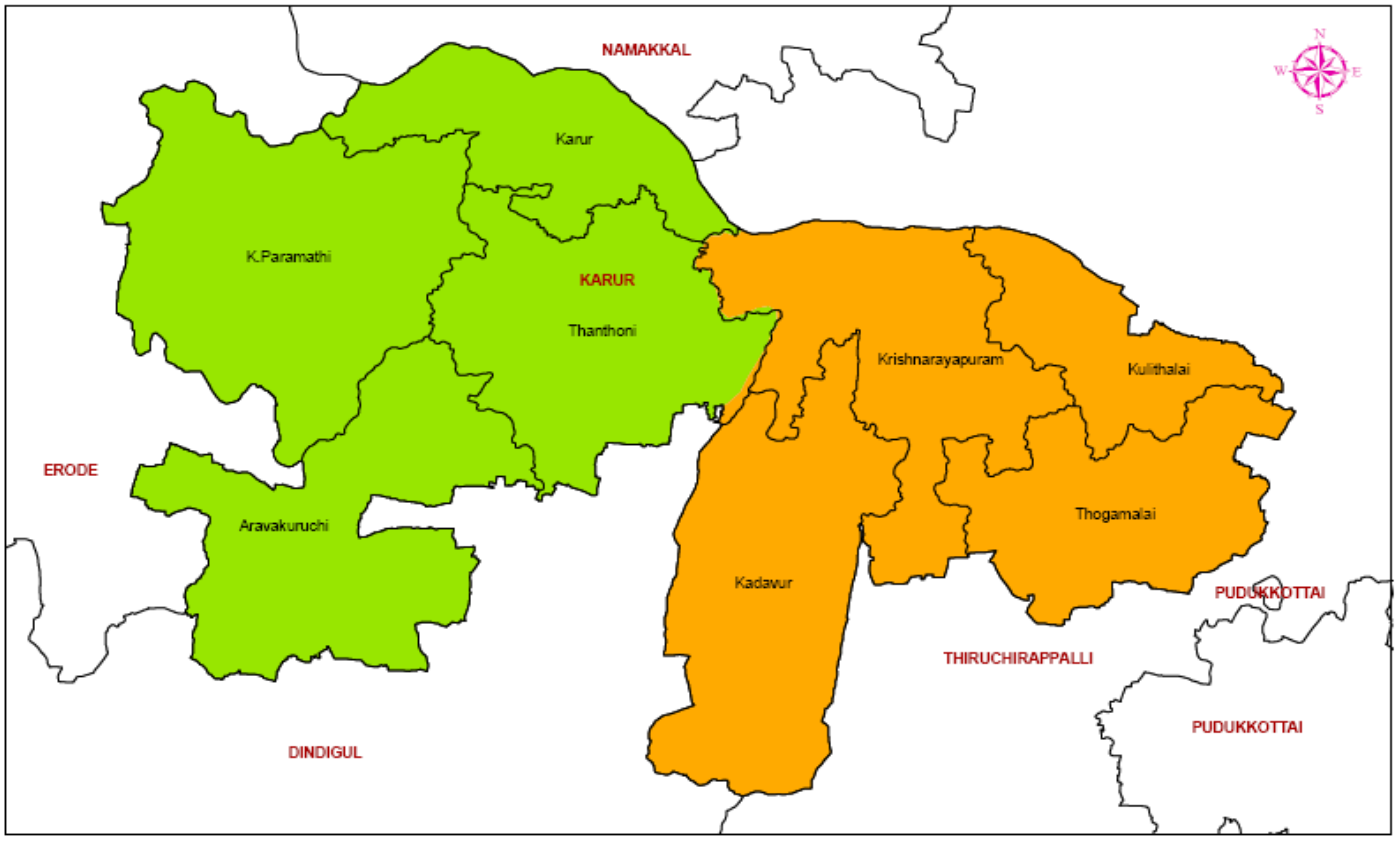
In Tamil Nadu out of 4.7 lakh hectares of salt affected soils, about 3.0 lakh hectares are in inland and 1.7 lakh hectares are confined to coastal areas. In inland salt affected soils, about 2.0 lakh hectares are alkali and 1.0 lakh ha are saline in nature. Karur district alone has an area of 6,097 hectares of problem soils. Extent of affected area in Karur district is furnished in Table 14.

Table 14. Area Under Different Problem Soils

Name of Village	Name of Panchayat Union	Total Extent (Ha)	Moderately Alkaline area (Ha)	% to Total Area
Moderately Alkaline (PH. 7.8-8.4) -- Peelamedu Soil series				
Kulithalai Taluk				
Edaiyapatty East	Kadavur	8457	2214	26
Vadasei	Thogamalai	2159	108	5
Kalladai	Thogamalai	2376	713	30
Pathiripatti	Thogamalai	1286	193	15
Total		**14278**	**3228**	**22.6**
Strongly alkaline (PH 8.4) Soil series -- Kalugur Soil series				
Kulithalai Taluk				
Chinniayapalayam	Thogamalai	1063	530	50
Gudalur	Thogamalai	3561	356	10
Keelapaguthi	Kadavur	1499	150	10
Naganur	Thogamalai	1587	80	5
Kalugur	Thogamalai	3105	1753	56
	Total	**10815**	**2869**	**26.52**
Krishnarayapuram Taluk				
Pappakkapatty	Krishnarayapuram	1807	145	8.02
Sivayam	Krishnarayapuram	3675	364	9.90
	Total	**5482**	**509**	**9.28**

Source: Records of the Directorate of Economics and Statistics, Chennai

AGROCLIMATIC ZONES OF KARUR DISTRICT



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NORTH EASTERN ZONE

Districts of Thiruvallur, Vellore, Chinglepattu, Thiruvannamalai, Viluppuram, Cuddalore (excluding Chidambaram and Kattumannarkoil taluks), some parts of Perambalur including Ariyalur taluks and also Chennai.

NORTH WESTERN ZONE

Dharmapuri district (excluding hilly areas), Salem, Namakkal district (excluding Tiruchengode taluk) and Perambalur taluk of Perambulur district.

WESTERN ZONE

Erode, Coimbatore, Dindugal, Theni districts, Tiruchengode taluk of Namakkal district, Karur taluk of Karur district and some western part of Madurai district.

CAUVERY DELTA ZONE

Thanjavur, Thiruvarur, Nagapattinam districts and Musiri, Tiruchirapalli, Lalgudi, Thuraiyur and Kulithalai taluks of Tiruchirapalli district, Aranthangi taluk of Pudukottai district and Chidambaram and Kattumannarkoil taluks of Cuddalore district.

SOUTHERN ZONE

Sivagangai, Ramanathapuram, Virudunagar, Tuticorin and Tirunelveli districts and Natham and Dindigul taluks of Dindigul district, Melur, Tirumangalam, Madurai South and Madurai North taluks of Madurai district and Pudukkottai district excluding Aranthangi taluk.

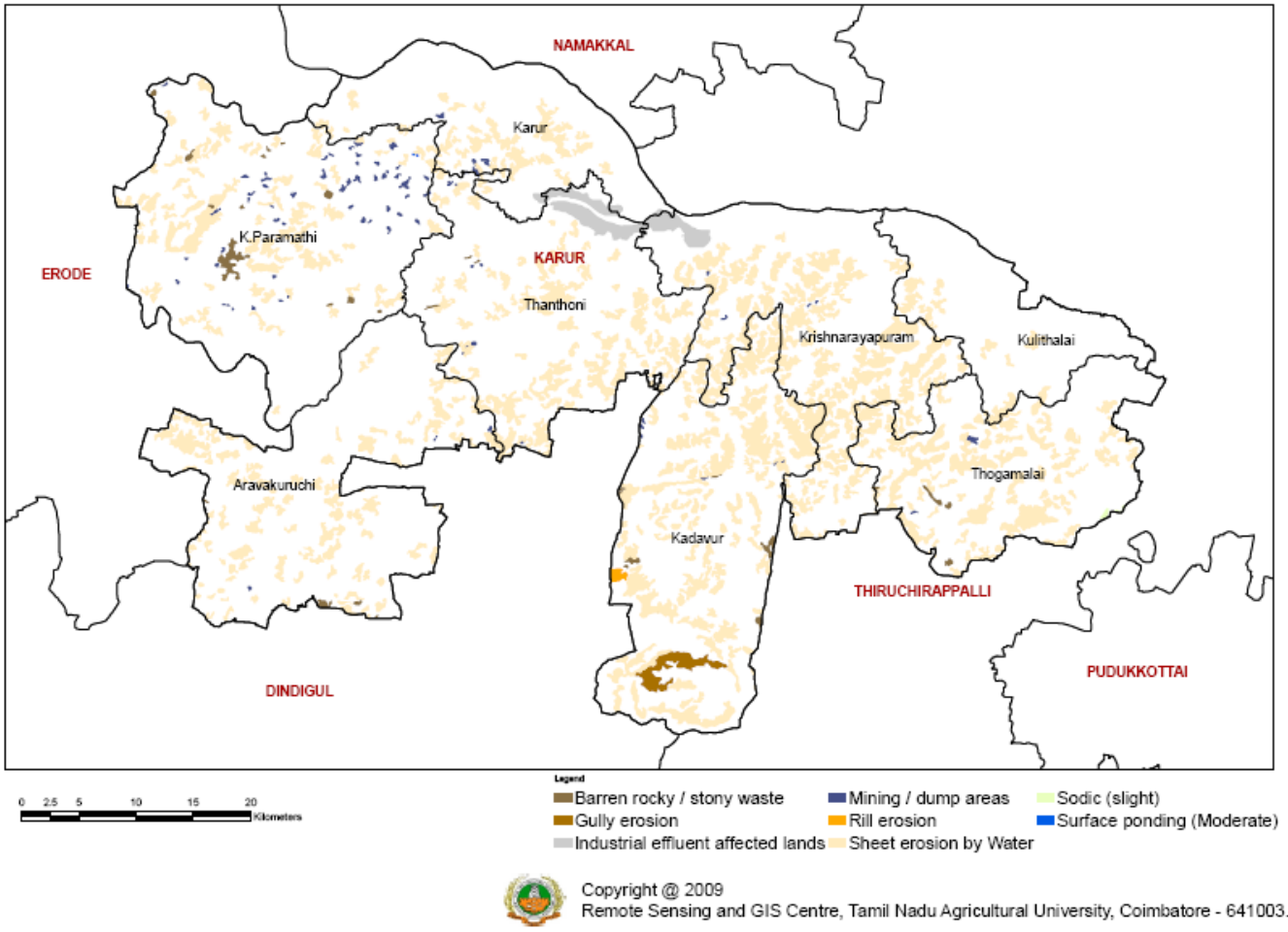
HIGH RAINFALL ZONE

Kanayakumari district.

HIGH ALTITUDE AND HILLY ZONE

Hilly regions, namely the Nilgiris, Shevroys, Elagiri-Javvadhu, Kollimalai, Patchaimalai, Anamalais, Palanis and Podhigaimalais.

LAND DEGRADATION MAP OF KARUR DISTRICT



EXPLANATION OF DIFFERENT LAND DEGRADATION CATEGORIES

Land degradation, in general, implies temporary or permanent recession from a higher to a lower status of productivity through deterioration of physical, chemical and biological aspects. The physical processes, which contribute to land degradation, are mainly water and wind erosion, compaction, crusting and water logging. The chemical processes include salinization, alkalization, acidification, pollution and nutrient depletion. The biological processes, on the other hand are related to the reduction of organic matter content in the soil, degradation of vegetation and impairment of activities of micro-flora and fauna.

Water Erosion

Water erosion is the most widespread form of degradation and occurs widely in all agro-climatic zones. The displacement of soil material by water can result in either loss of top soil or terrain deformation or both. This category includes processes such as splash erosion, sheet erosion, rill and gully erosion. The soil erosion is initiated when raindrops fall onto the bare soil surface. The impact of raindrops breaks up the surface soil aggregates and splashes particles into the air. On sloping land relatively more of the detached material will fall down slope resulting in runoff. This subsequently lead to different types of water erosion depending on the gravity of the problem, susceptibility of land and continuity of the process.

1. **Sheet erosion**

   It is a common problem resulting from loss of topsoil. The loss of topsoil is often preceded by compaction and/or crusting, resulting in a decrease of infiltration capacity of the soil. The soil particles are removed from the whole soil surface on a fairly uniform basis in the form of thin layers. The severity of the problem is often difficult to visualize with naked eyes in the field.

2. Rills

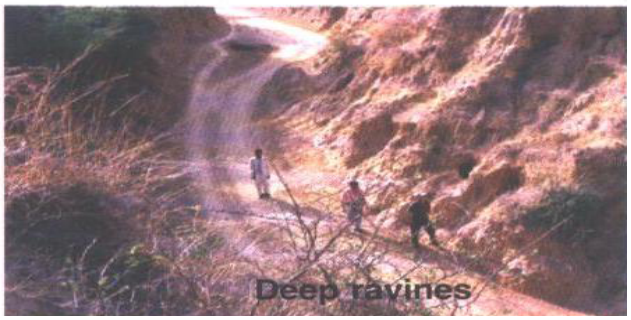
When the surface runoff goes in the form a concentric flow, a tiny water channels are formed in the field. These are small rivulets of such a size that they can be worked over with farm machinery. Rills are generally associated with the cultivated lands and are visible in the ploughed soil after first heavy showers. One important feature of rills is that they do not occur at the same place repeatedly. This is a temporary concentric flow of runoff, which could vanish after ploughing the land.

3. Gullies

Gullies are formed as a result of localized surface run-off affecting the unconsolidated material resulting in the formation of perceptible channels causing undulating terrain. If rills are neglected and the erosion continues for a long time, it develops in to gullies. They are commonly found in sloping lands, developed as a result of concentrated run-off over fairly long time. They are mostly associated with stream courses, sloping grounds with good rainfall regions and foot hill regions. These are the first stage of excessive land dissection followed by their networking which leads to the development of ravenous land.

4. Ravines

The word ravine is usually associated not with an isolated gully but an intricate network of gullies formed generally in deep alluvium and entering a nearby river, flowing much lower than the surrounding tablelands. Ravines are basically extensive systems of gullies developed along river courses. Further classification of this category is possible based on the depth, width, bed slope, frequency and morphology of bed material of the ravines. Based on the depth of the ravines, which has a characteristic manifestation on the satellite image, two subcategories are possible for delineation viz., shallow ravinous and deep ravenous lands.



Wind Erosion

It implies uniform displacement of topsoil by wind action. It can result in loss of topsoil and the deposition of the eroded material elsewhere leads to formation dune complexes. The risk of wind erosion is severe in the arid and semi-arid areas. It includes both the removal and deposition of soil particles by wind action and the abrasive effects of moving particles as they are transported. Not only can the wind remove topsoil from good farmland; it can result in additional damage by burying land, buildings, machinery, etc. with unwanted soil. It occurs when soil is left devoid of vegetation either because of poor rainfall to support any vegetal cover or loss of vegetation due to overgrazing. In the sand deposited areas with rainfall the sand gets stabilized partially of fully depending on vegetal cover it establishes.

During high winds the finer, and commonly more fertile, particles are swept high in the air and are sometimes carried for great distances as dust storms; while coarser particles are rolled or swept along on or very near the soil surface to be piled into depressions. The process is highly dynamic and requires careful evaluation of the site and process.

5. Sheet Erosion

It implies uniform displacement of topsoil by wind action as thin layers / sheets. During wind storms, the dry finer soil particles which could be suspended into air will be transported longer distances, while the heavier particles creeps on the surface and generally will be transported to a shorter distances. It may seriously influence the infrastructures (roads. railway lines. buildings. waterways, etc.). The uneven displacement of soil material by wind action leads to deflation hollows and dunes. The lifted medium to coarse soil particles may reduce the productivity of adjacent fertile land when they are deposited in the form of sand castings.

6. Stabilized Dunes / Partially stabilized Dunes

Depending on the rainfall and protection available from grazing, the bare sand dunes gradually establishes vegetal cover thus making them to get stabilized. In partially stabilized dunes, the erosion / deposition will be still active to some extent. When they established a good vegetal cover either in the form of grasses, shrubs and scrubs, they get stabilized and the erosion / deposition activity will be at minimal. By virtue of vegetal cover and physiography, they are discernible on satellite imagery.

Stabilized sandune

Partially stabilized sanddune

7. Un-stabilized dunes

Due to their inherent vulnerability because of lack of vegetal cover, these are quite active during summer season. The sand starts moving and engulfing the adjoining agricultural lands, engineering structures and demands immediate attention for their stabilization. The unstabilized sand dunes changes their location and shape from season to season and hence they are often called shifting dunes.

Water logging

Water logging is considered as physical deterioration of land. It is the affected by excessive ponding / logging of water for quite some period and affects the productivity of land or reduces the choice of taking crops.

8. Surface Ponding

This category addresses the water logging caused by flooding of river water, submergence by rainwater and human intervention in natural drainage systems that adversely affect the natural drainage, where the water stagnates for quite a long time. Depending the number of crops it affects it has been sub-divided into two severity classes, slight- affecting one crop and moderate – affecting more than one crop. Flooding of paddy fields is not included as it is a unique cultural practice rather than degradation of soil.

Waterlogging may be seasonal or permanent. Seasonally waterlogged areas are those low lying or depression areas that get saturated due to heavy rains and are normal in post-monsoon season. Permanent waterlogged areas are those areas where there is continuous surface ponding of water or soil profile is saturated for one or more seasons.

9. Sub-surface Water logging

If the water table is with in 2 m from the surface it adversely affects crop by virtue of saturating the root zone due to capillary rise. These areas are potential threat to get surface ponded in due course of time, if the water accumulation continues. The sub-surface waterlogged areas can be reclaimed with little ease.

10. Salinization / Alkalization

Salinization can result from improper management of canal irrigation water resulting in the rise of water table and consequent accumulation of salts in the root zone in arid, semi-arid and sub humid (dry) conditions and ingress of sea water in coastal regions and/or use of high-salt containing ground water. They also become saline when soils have developed on salt-containing parent materials or have saline ground water. The soils with EC more than 2ds/m in vertisols and >4ds/m in non-vertisols was considered as saline in the present project. Increase in soil pH beyond 8.5 results in sodicity or alkalization that result in increase of exchangeable sodium percentage in soils (> 15). Based on the type of problem, it has been divided into saline, sodic and salinesodic.

Salinity

Sodic

11. Acidification

pH is one of the most-important soil property that affects the nutrient uptake by plants and there by influencing the crop productivity. Any soil processes or management practices which lead to buildup of hydrogen cations (also called protons) in the soil will result in soil acidification. It also occurs when base cations such as Calcium, Magnesium, Potassium and Sodium are lost from the soil leading to high hydrogen ion concentration. This results in decrease of soil pH below 6.5. It occurs in laterite regions, coastal regions upon drainage or oxidation of pyrite containing soils.

If the pH is 4.5 to 5.5 then they are called *moderate* and if the pH is < 4.5,then they are mapped under *severe* category. The soils respond to lime application, which results in improvement of crop productivity.

Glacial

These are the areas under perpetual snow covered areas confined to Himalayan region. The type of degradation includes frost heaving and snow covered areas.

12. Frost Heaving

Frost heaving is defined as a process in glacial and periglacial environment where intense frost action and freezing of water evolves peculiar forms of rock, regolith and soil. The water crystallizes to ice below the surface horizon leading to micro-relief variations on the surface. This process affects the germination and root growth of several crops there by limiting the productivity of land.

13. **Snow covered areas**

The area covered with permanent snow cover will limit any vegetation to come up in these areas leading to a desert like conditions. These areas are generally associated with very high mountainous regions. The glacier regions are also included in this category.

Degradation due to anthropogenic factors

Human economic activities like mining, industries etc., have also contributed to decreased biological productivity, diversity and resilience of the land. Mining, brick kiln activities and industrial effluent affected areas are included under this type of degradation.

14. **Industrial effluent affected areas**

These are areas where the human activity is observed in the form of industry along with other supporting establishments of maintenance. Heavy metallurgical industry, thermal, cement, leather, petrochemical, engineering plants etc., are included under this. These are the lands which have been deteriorated due to large scale industrial effluent discharge. These areas are seen around urban areas and other areas where industrial activity is prominent.

15. **Mining and dump areas**

These are the areas subjected to removal of different earth material (both surfacial and sub-surfacial) by manual and mechanized operations. Large scale quarrying and mechanizations results in mining and mine dumps. It includes surface rocks and stone quarries, sand and gravel pits, brick kilns, etc. Mine dumps are those areas where waste debris is accumulated after extraction of required minerals. Generally these lands are confined to the surroundings of the mining area.

***16*. Brick kiln areas**

These areas are associated with human activity and are generally seen in the vicinity of urban activity. The areas include brick kiln per se and area dugged for making bricks.

Others

Some of the degraded lands, which could not be included in the above type of land degradation, are included here. They are mass movement/ mass wastage, barren rocky / stony waste areas.

17. Mass movement/ Mass wastage

Landslide areas are mostly included under mass movement/ mass wastage type of land degradation. On sloping land when soil is saturated, the weight of the soil may exceed the forces holding the soil in place. Under such circumstances mass movement in the form of landslides or mudflows may occur. On steep slopes this mass movement may be very rapid, involving the movement of large volumes of soil, usually on an isolated event and localized basis. In geologically recent and unstable mountain areas, such as the Himalayas, and areas prone to seismic and volcanic activity, landslides may be natural phenomena. This class also includes the areas with mass wastage in terms of foothill depositions like scree and bazada zones, where the coarse material like sand and pebbles gets deposited because of erosion in upper catchment area. However, their frequency and severity may greatly increase following destruction of the natural vegetative cover by logging and/or clearing for cultivation

18. Barren rocky / stony areas

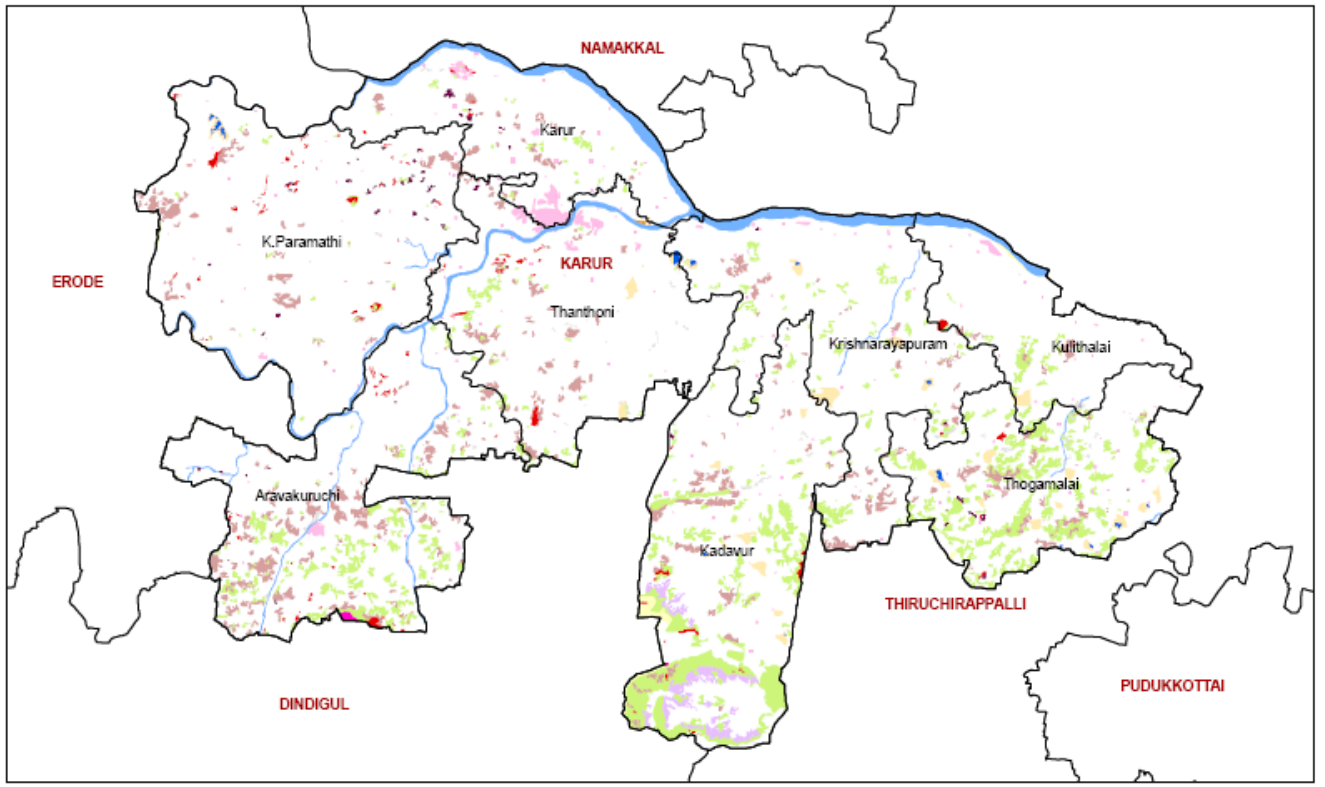
Barren / rocky / stony areas are the rock exposures of varying lithology often barren and devoid of soil and vegetal cover. They occur in hill forests as openings or as isolated exposures on plateau and plains. These can be easily delineated from other type of degraded land because of their severe nature of degradation and typical spectral signature.

19. Miscellaneous

This includes riverine sand areas, sea ingression areas mainly with sand deposition excluding the sandy areas of desert region.

Sea Ingress areas

WASTELAND MAP OF KARUR DISTRICT



Generated at
Remote Sensing and GIS Centre, Tamil Nadu Agricultural University, Coimbatore - 641003.

WASTELAND CLASSIFICATION

Culturable Wastelands

Land which is capable or has the potential for the development of vegetative cover and is not being used due to different constraints of varying degrees is termed as culturable wastelands. Culturable wastelands comprise the following categories.

i. **Agricultural Land inside notified forest:** Lands put under cultivation within the restricted forest areas.

ii. ***Degraded forest – Scrub domination:*** Lands as noticed under the Forest Act and those lands with various types of forest cover, in which vegetative cover is less than 20% are classified as degraded forest land. Among the vegetative types scrubs and thorny bushes are dominated species.

iii. ***Degraded land under plantation crops:*** This includes degraded lands containing plantations inside and outside of the notified forest area.

iv. ***Degraded pastures / grazing land***: All those grazing land in non-forest areas, whether or not they are permanent pastures or meadows, which have become degraded due to lack of proper soil conservation and drainage measures fall under this category.

v. ***Gullied / ravenous land***: The gullies are formed as a result of localised surface run off affecting the friable unconsolidated material resulting in the formation of perceptible channels resulting in undulating terrain. The gullies are the first stage of excessive land dissection followed by their networking which leads to the development of ravinous land. The world 'ravine' is usually associated not with an isolated gully but a network of gullies formed generally in deep alluvium and entering nearby river flowing much lower than the surrounding table lands. The ravines then are extensive systems of gullies developed along river courses.

vi. ***Land with or without scrub***: This is the land which is generally prone to degradation and may or may not have scrub over. Such land occupies topographically high locations in the respective systems. This excludes hilly and mountainous terrain.

vii. ***Water-logged and marsh:*** Surface water-logged land is that land where the water is near the surface and water stands for most of the year. Marsh is a land which permanently or periodically inundated by water and is characterised by vegetation which includes grasses and reeds.

viii. ***Salt Affected Lands (Saline / Alkaline):*** The salt affected land is generally characterised as the land that has adverse effects on the growth of most of the plants due to the action or presence of excess soluble salts or excess exchangeable sodium. The saline soils have more of soluble salts with electrical conductivity of more than 4 dSm^{-1}. Alkali land has an exchangeable sodium percentage (ESP) of above 15 which is generally considered as the limit between normal and alkali soils. The predominant salts are carbonates and bicarbonates of sodium.

ix. ***Sands*** **:** Sandy areas are those areas which have stabilized accumulation of sand, in situ or transported, in tank / river bed, coastal, riverine or inland areas.

x. **Mining / industrial Waste lands**: These are lands where large-scale mining operations bring about the degradation of land and resultant mine dumps.

Unculturable Wastelands

Lands which cannot be developed for vegetative cover are defined as unculturable wastelands. Unculturable wastelands are divided into:

i. Barren rocky / stony wastes / sheet rock area.

ii. Steep sloping area - Land with very steep slopes (greater than 35 degrees); Prone to erosion and mass wasting (Landslides).

4.4: Water Resources and Management

Cauvery is the major river flowing on northern and eastern boundaries. Another river, Amaravathy runs through Karur and confluences with Cauvery at Thiumukkudalur. The River Amaravathy which flows from the Annamalai and Travancorehills traverse through the part of the District. The rivers Cauvery and Amaravathy, their tributaries and distributaries ensure irrigation potentiality of the northern part of the District. There are Kudakanaru and Nanganchi rivers, which flow during rainy days. Karur taluk is being covered by Amaravathy irrigation channel and Cauvery irrigation channel. Aravakurichi Taluk is being covered by Amaravathy and Lower Bhavani Project Channel. Kulithalai and Krishnarayapuram taluks are irrigated by Cauvery channels. Apart from channels, 19 major tanks and 40374 wells were in the district. Of the total rice area, 18,398 ha of rice were irrigated through various sources. Of the total cropped area, 57,393 ha were irrigated during 2005-06. The details of area irrigated by crops are furnished in Table. 15.

Table 15. Area Irrigated by Crops - 2005-06

(Area in hectares)

Sl.No.	Crop	Area	Percentage to the total Irrigated area
1	Paddy	18398	32.06
2	Cholam	2714	4.73
3	Cumbu	267	0.47
4	Ragi	9	0.02
5	Maize	182	0.32
6	Green Gram	149	0.26
7	Black Gram	1014	1.77
8	Thattai	24	0.04
9	Chillies	518	0.90
10	Turmeric	264	0.46
11	Sugarcane - planted	5371	9.36
12	Sugarcane – Ratoon	1818	3.17
13	Onion	130	0.23
14	Gingely	769	1.34
15	Groundnut	6598	11.50
16	Coconut	4704	8.20
17	Sunflower	3306	5.76
18	Cotton	210	0.37
19	Others	10948	19.08
20	Total Irrigated. Crops	57393	100.00

Source: Records of the Directorate of Economics and Statistics, Chennai-6.

4.5 Major Crops in the District

Area under crops is furnished in Table 16. The principal crops of the district are rice, millets, pulses, oilseeds, sugarcane and banana. The major rice area was in Kulithalai and Krishnarayapuram taluks. Rice is cultivated in samba season and to some extent farmers also cultivate rice during navarai season. For the last three years, area under rice during samba season has been increasing, while rice area during navarai season was showing high variability. Cholam was cultivated both under irrigated and rainfed conditions. Pulses were grown in rice fallow areas. In uplands, millets like sorghum and pearl millet, pulses such as red gram and horse gram and oilseeds such as groundnut, gingelly and sunflower were grown both under irrigated and rain fed conditions. From the table, it is clear that the area under paddy, pulses and sugarcane had shown an increasing trend in the last three years whereas the area of cotton and oil seeds had reduced to a smaller extent.

Table 16. Area Under Crops

(in hectares)

S.No.	Crop	Area coverage (year wise)					% to the Total area
		2004-05	% to the Total area	2005-06	% to the Total area	2006-07	
1	Paddy	16250	16.53	17832	15.97	19013	17.08
2	Cholam	46320	47.12	45907	41.12	44939	40.37
3	Cumbu	3923	3.99	5114	4.58	3775	3.39
4	Ragi	4	0.004	3	0.00	0	0.00
5	Maize	181	0.18	462	0.41	329	0.29
6	Other millets	12	0.01	0	0.00	0	0.00
7	Red gram	4170	4.24	4202	3.76	3093	2.77
8	Blackgram	2009	2.04	3635	3.26	6897	6.19
9	Green gram	640	0.65	667	0.60	452	0.40
10	Horse gram	2358	2.40	2180	1.95	4582	4.11
11	Other pulses	2784	2.83	4708.00	4.22	2124	1.90
12	Cotton	753	0.77	299	0.27	81	0.07
13	Sugarcane	1988	2.02	6322	5.66	6615	5.94
14	Groundnut	9708	9.88	10138	9.08	5959	5.35
15	Gingelly	4705	4.79	6109	5.47	4687	4.21
16	Sunflower	2343	2.38	3839	3.44	8683	7.80
17	Castor	150	0.15	214	0.19	76	0.07
	Total	**98298**	**100.00**	**111631**	**100.00**	**111305**	**100.00**

Source: Records of the office of the Joint Director of Agriculture, Karur

4.6: Input Management

Fertilizers have played an important role in increased crop production, especially in cereals and will continue to be a cornerstone of the science-based agriculture required to feed the expanding population. Although the use of all three nutrients viz., nitrogen, phosphate, and potash increased, nitrogen use grew much faster. In 2005-06, nitrogen fertilizers accounted for 54 percent of the fertilizers consumed, phosphate for 17.7 percent, and potash for 28 percent. This emphasis on nitrogen, has contributed to nutrient imbalances in the district like other parts of the State. Fertilizer consumption in the district is presented in Table 17.

Table 17. Consumption of Chemical Fertilizers and Pesticides - 2005-06

Fertilisers (in '000' Tonne)				Pesticides		Urea ('000' Tonne)
Nitrogeneous (N)	Phosphatic (P2 05)	Potassic (K2 0)	Total (NPK)	Dust (Kgs.)	Liquid (Lit.)	
3785	1233	1948	6966	28859	5634	8104

Source: Records of the office of Joint Director of Agriculture, Karur

4.7 Farm Mechanization/ Farm Equipments

Degree of mechanization is one of the most crucial factors for realizing the production potential of the modern varieties. Much of the controversy centers on the adoption mechanization due to smaller farm size and poor resource capacity of the farmers, which hinders on adoption of mechanization. Data presented in Table. 18 clearly indicate that the use of machinery (tractor, power tiller, combined harvest and power sprayer) was more pronounced on both small and large farms.

Table 18. Agricultural Implements and Machinery

(in Numbers)

Sl.No.	Item	1989	1994	1999
1.	Ploughs			
	a) Wooden	74191	40533	20964
	b) Iron	5709	7257	2565
	c) Total	79900	47790	23529
2.	Water Pumps for Irrigation Purpose			
	a) Worked by Oil Engine	5899	7908	7670
	b) Worked by Electric Power	22630	20665	29045
	c) Total	28529	28573	36715

Table 18. contd.

(in Numbers)

Sl.No.	Item	1989	1994	1999
3.	Tractors			
	a) Government	20	10	10
	b) Private	547	672	1011
	c) Total	567	682	1021
4.	Sugarcane Crushers			
	a) Worked by Power	83	117	33
	b) Worked by Bullocks	144	97	-
	c) Total	227	214	33
5.	Oil Ghanis			
	a) 5 Kg. & above	-	-	-
	b) Less than 5 Kg.	70	46	16
	c) Total	70	46	16

Source: Based on 16 th Quinquennial Livestock Census.

4.8. On Going Special Projects / Programmes in the District

Seed mini kit, Integrated Cereal Development Program, ISO POM, Pulses Development Scheme, Oilseeds Production Programme, Technology Mission, Integrated Horticulture Development Scheme and organic farming are currently in progress. The details of the programmes, beneficiaries and subsidies are set out in Table. 19.

Table 19. Ongoing Programmes and Achievements

Name of the Scheme	2004-05			2005-06			2006-07		
	Area	Beneficiary	Subsidy Amount Rs.	Area	Beneficiary	Subsidy Amount Rs.	Area	Beneficiary	Subsidy Amount Rs.
Seed mini kit	-	-	-	575 Nos	575	-	1146 Nos	1146	-
Integrated cereal development program	-	3865	427943		7272	563593	-	15970	854173
ISO POM	-	-	-	-	-	-	-	-	-
Pulses development scheme	-	1510	240300	-	4823	480922	-	-	876521
Oilseeds Production Programme	-	3998	1034999	-	4705	1176949	-	-	1302800
Technology Mission	-	1260	592800	-	229	159206	-	716	193496
Integrated horticulture development scheme	-	-	-	-	-	-	-	-	-
Organic Farming etc.	-	5	-	-	10	-	-	10	-

Source: Records of the office of Joint Director of Agriculture, Karur

4.9. Constraint Analysis

Still the agricultural experts are not able to bridge the yield gap due to variations in technology adoption, socio-economical, institutional and endowment factors. Though Karur, district has achieved highest productivity in rice, there is a potential for increasing it to further through timely and appropriate interventions. Popularizing the saline and alkaline tolerant rice genotypes and management practices and mechanization at farm field level are the right steps to improve the yield potential of rice in the salt affected areas. In other crops like cholam and other millets, the farmers are not tapping the productivity potential due to technology gaps and other related constraints. Sunflower is being cultivated on a large-scale in the district providing ample opportunities for entrepreneurs to start oil extraction and refining units. However, due to lack of such units, farmers are not benefiting from the value addition. Potential exists for production of high value crops like tropic vegetables, garland flowers, medicinal herbals etc. A huge quantum of drumstick is being harvested in the Aravakurichi region of the district but due to lack of cold storage facilities growers are forced to sell all their produce immediately. Data presented in Table. 20 show that there is an urgent need to insulate the farmers from production risks in order to benefit from the potentials of new technology.

Table 20. Number of beneficiaries and amount sanctioned under crop insurance scheme for the fasli Year-1412 (2002-2003)

Name of the Crop	Name of the Blocks notified	No. of Experiments	Premium collected (Rupees)	No. of Beneficiaries	Amount Sanctioned (Rupees)
Paddy-II	Thanthoni	18	15443.17	37	830245
	Thogamalai	18	51880.74	104	2700169
	Kulithalai	18	29655.52	129	1602403
	Kadavur	18	41681.40	110	2226352
	Krishnapuram	18	102238.17	216	5285041
	K.Paramathi	18	6145.40	5	307270
Groundnut (Irrigated)	Thanthoni	18	33513.27	100	1726205
	K.Paramathi	18	2564.84	6	130780

Source: Office of the Joint Registrar of Co-operatives, Karur

4.10. Projected outcome and growth rate during the plan period

Farmers would benefit from increase in productivity of crops. Cultivation of high value crops under precision farming would improve use efficiency of all technological inputs and farmer's income. Sericulture is one of the income generating enterprises and it needs technological and policy interventions for attaining growth momentum. After completion of restoration and improvement works no doubt that the system efficiency will immensely be improved for optimum distribution and equitable assured water supply up to the tail end ayacut. Rehabilitation and improvements to tanks, supply channels and surplus courses including masonary structures to its original standards would result in improvement in ground water level leading to more area under cultivation. Stabilising and increasing the ayacut area would envisage in improving the social capital formation.

4.11. Researchable issues

- Development of varieties and management practices for salinity and alkalinity tolerance in rice
- Cultivation of high value crops under precision farming for improving efficiency of all technological inputs and farmer's income
- Supply of seeds at subsidized price, integrated nutrient management, integrated pest management, supply of machines and equipments and scaling up extension activities

CHAPTER - V
ALLIED SECTORS

Allied sectors in the district also play an important role in the overall development of the district. Potentials exist in the district to increase the area under high value crops, improve milk and silk production and marketing efficiency.

5.1 Horticulture Development

In Karur District, medicinal plant, Gloriosa, comes up well in Aravakuruchi block due to the soil and climatic condition, which is suitable for the crop cultivation. In Karur District, major part of the cultivable area comes under dry tract red soil with less water availability. In those areas, aonla crops come up well. So this crop is getting popularized in parts of Karur district. Chilli crop is grown in well-irrigated area in red latent soil. The major varieties grown in Karur District are K1 and K2 apart from the hybrid varieties like US-341, US-622, and Namthain seeds. Tomato is cultivated in parts of Karur, Thanthoni, Aravakuruchi blocks. The major varieties grown are PKM-1, CO-3. In Karur, Thanthoni, Aravakurichi, and parts of Kulithalai blocks, gourds are cultivated under well-irrigated condition. The varieties like CO - 1, CO-2 and CO-3 of the Bitter gourd, Ribbed gourd, Snake gourd and Bottle gourd are cultivated. In Karur District, Cauvery water catchments area's like Kulithalai and Krishnaranayapuram area comes under major banana growing area. Here the soil type is clay with good water holding capacity and more water availability, which formed the main reason for Banana cultivation through out the year. The irrigation facility is available through river and canal irrigation. The major varieties grown in these areas are Poovan, Rasthali, and Karpooravallli.

5.2. Sericulture Development

Farmers are taking up cocoon production as one of the alternative income generating activity. Cocoon production in Kulithalai and Kadavanur is found higher as compared to other blocks. Block wise area under mulberry and cocoon production is furnished in Table. 21.

Table 21. Blockwise Area under Mulberry and Cocoon Production

Name of the Block	Area under Mulberry (Hectare)	Production of Cocoons (Kg.)	Value (Rupees)
Karur	2.83	1630	1,98,860
Thanthoni	2.83	1524	1,72,212
Aravakurichi	4.95	1423	1,86,413
K. Paramathi	2.00	1840	2,33,680
Kulithalai	8.00	4279	5,04,922
Thogamalai	3.45	2469	3,16,103
Krishnarayapuram	2.5	2001	2,28,114
Kadavur	8.2	3180	3,91,140
Total	34.76	18346	22,31,444

Source : Records of the Assistant Director (Sericulture), Namakkal

5.3. Animal Husbandry

Cattle population in the district was 1, 17,781 and there were 65,486 buffaloes. Common crossbreeds are jersey/Holsltein Fresian, Upgraded Zebu/Murrah. Number of Breedable bovine population in the district was 91609 (cow) and 65486 (buffalo). Number of artificial insemination undertaken for cow was 60000 and it was 12000 in the case of buffalo. Productivity of indigenous cow and buffalo declined at the rate of 1.05 and 3.43 per cent respectively, while productivity of crossbred grew at the rate of 1.92 per cent for the period between 1998-99 and 2006-07. Normal production for the period between 2004-05 and 2006-07 was 61.68 tonnes of cow milk and 37.2 tonnes of Buffalo milk. Demand for green fodder was 1.6099 million tonnes during 2004, while supply was 0. 1044 million tonnes, and the gap was 1.5054 million tonnes (93.5 per cent). Similarly, demand for dry fodder was 0. 691 million tonnes and supply was 0.326 million tonnes leaving a gap of 0.365 million tonnes (52.8 per cent). There were 2, 18,514 sheeps and 1, 73,591 goats in the district with mutton and cheven production of 174.7 and 489.04 metric tones respectively. Common breeds of sheep are Mecheri, Keezakkarisal, Ramanathapuram white, Vembur and various crosses and in the case of goat areKanni aadu, Kodi aadu, Pallai aadu, Salem black and crosses. Blockwise livestock population and broiler and layers are furnished in Tables. 22 and 23 respectively.

Table 22. Livestock Population of Karur District - 2005-06

S.No.	Classification	Numbers
1.	Cattle	
	Male	26172
	Female	91609
	Cattle Total	**117781**
	Buffaloes	7581
	Male	65486
	Female	**617878**
	Sheep	493883
	Goats	2481
	Total Livestock	**498470**

Source: Records of the 17 th Livestock census

Table 23. Number of broilers and layers in Karur District

S.No.	Name of the Block	Broiler (Nos.)	Layer (Nos.)
1.	Karur	8500	506000
2.	Thanthoni	10000	12000
3.	Aravakurichi	71000	10000
4.	K. Paramathi	140700	7500
5.	Kulithalai	0	0
6.	Thogamalai	8000	124000
7.	K.R. Puram	0	0
8.	Kadavur	0	0
	Total	**238200**	**659500**

Source: Records of the Office of the Joint Director of Agriculture, Karur

The number of veterinary hospitals and institutions are furnished in Table. 24 and 25 respectively.

Table 24. Number of Veterinary Hospitals in Karur District

S. No.	Name of the Block	Number of	
		Government Hospitals	Private Hospitals
1.	Karur	-	-
2.	Thanthoni	1	-
3.	Aravakurichi	-	-
4.	K. Paramathi	-	-
5.	Kulithalai	-	-
6.	Thogamalai	-	-
7.	K.R. Puram	-	-
8.	Kadavur	1	-
	Total	**2**	**-**

Source: Records of the 17 th Livestock census

Table 25. Veterinary institutions and Animals treated

(Numbers)

Name of the Block	Poly-clinic	Hos-pitals	Dispen-saries	Clinician Centers	Sub centers	Mobile units	Animals treated	Castration performed
Karur			4	1	5	1	64930	1401
Thanthoni		1	3		4		55869	1880
Aravakurichi			2		10		42969	1322
K. Paramathi			3		9		50714	2255
Kulithalai			2		5		31233	1367
Thogamalai			3		2		23944	939
K.R. Puram			3		9		47723	2343
Kadavur		1	2		2		10399	357
Total		**2**	**22**	**1**	**46**	**1**	**327781**	**11864**

Source: Records of the 17 th Livestock census.

I. Baseline Information of Livestock / Poultry Sector

a. Dairy farming (Cattle and Buffalo)

Population (2004)

Cattle	:	117781
Buffalo	:	65486

Breeds : Crossbred Jersey / Holstein Friesian, Upgraded Zebu / Murrah

Productivity (Per Animal) (1998-99 to 2006-07)

(Annual Compound Growth Rate in %)

Indigenous cow	:	-1.05
Crossbred cow	:	1.92
Buffalo	:	-3.43

Average Production of Livestock Commodity-

Normal Production – 2004-05 to 2006-07

Cow milk	:	61.68 metric ton
Buffalo milk	:	37.2 metric ton

Demand and Supply of Fodder (2004) Million Ton Per Year

	Demand	Supply	Deficit	Deficit %
Green fodder	1.6099	0.1044	1.5054	93.5
Dry fodder	0.691	0.326	0.365	52.8

Number of Breedable Bovine Population (2004)

Cow	:	91,609
Buffalo	:	65,486

Number of artificial insemination (2007)

Cow	:	60,000
Buffalo	:	12,000

The artificial insemination carried out by private people are not included in this figure.

SWOT Analysis

Dairy Farming

Strength

- Growing demand for milk and daily / weekly income / easy maintenance
- Procurement of milk by Govt. / Private entrepreneurs / vendors
- Conducive atmosphere for dairy farming / Loan facilities / hide export potential
- Dung for organic farming, others products for panchakavya

Weakness

- Reluctance to grow fodder as it is uneconomical
- Insufficient veterinary institutions (required – 37, available – 25, deficit – 12)
- Low milk price offered by milk men and vendors
- Reluctance in technology adoption for increased milk production, augmenting fertility, deworming and required vaccination and reluctance to produce clean milk
- Non availability of A.I. service in time and also door to door

Opportunities

- More loan facilities with a condition to grow fodder (at least 10 cents/cow)
- Supplementing micronutrients to augment fertility
- Establishing village fodder nurseries to cater the need of fodder seeds, saplings, root slips etc. to the farmers to grow fodder
- Chaff cutter to improve nutrient utilization and minimize wastage

- Knowledge and technology empowerment of farmers / rural women (SHGs) on scientific dairy farming to increase milk production, to augment fertility, to produce clean milk and preparation/marketing of value added milk products wherever possible
- Sensitizing Veterinarians and farmers on Ethno Veterinary Medicine and Practice as primary health care of livestock to save time, energy and money and it is ecofriendly.
- Registration / updating farmers database and issuing Cards for incentives for growing fodder, tree fodder, micro nutrients, preference for farmers tour, etc.

Challenges

- Diminishing pasture land , deficit of green fodder is 93.5 %
- Diminishing indigenous germplasm
- Increasing cost of dairy feed ingredients / shortage of labour due to higher labour cost
- Diseases such as Anthrax, HS, BQ, FMD often demoralize the farmers
- Mastitis and lack of will to produce clean milk

Sheep and Goat

Population

Sheep	:	218514
Goat	:	173591

Breeds

Sheep	:	Mecheri, keezakkarisal, ramanathapuram white, vembur and various crosses
Goat	:	Kanni aadu, kodi aadu, pallai aadu, salem black and crosses

Average Production of Livestock Commodities-

Normal Production- 2004-05 to 2006-07

Mutton in metric tons	:	174.7
Chevon in metric tons	:	489.04

Demand and Supply of Fodder (2004) Million Ton Per Year

	Demand	Supply	Deficit	Deficit %
Green fodder	1.6099	0.1044	1.5054	93.5
Dry fodder	0.691	0.326	0.365	52.8

SWOT Analysis – Small Ruminants Farming (Sheep and goat)

Strength

- Consumers most preference, growing demand, higher cost (selling by body weight)
- Easy flock management and very easy market
- Dung for organic farming, hide export

Weakness

- Reluctance to grow fodder as it is uneconomical
- Insufficient veterinary institutions (required – 37, available – 25, deficit – 12)
- Reluctance in technology adoption for health cover ,augmenting fertility, deworming and required vaccination
- Improper / insufficient shelter leads to low productivity, disease problems
- Very poor slaughter hygiene, unauthorised slaughter
- Local ban on goat rearing, ban on foraging in forest
- Labour shortage , malpractices in trade

Opportunities

- More loan facilities with a condition to grow fodder (at least 10 cents/5 sheep/goat)
- Cultivation of fodder, tree fodder, agro forestry in private/community lands/wastelands with livestock integration to boost income and improve soil fertility

- Supplementing micronutrients / grains/concentrates to augment fertility, production
- Establishing village fodder nurseries to cater the need of fodder seeds, saplings, root slips etc. to the farmers to grow fodder and tree fodder
- Chaff cutter to improve nutrient utilization and minimize wastage
- Knowledge and technology empowerment of farmers / rural women (SHGs) on scientific dairy farming to increase milk production, to augment fertility, to produce clean milk and preparation and marketing of value added milk products wherever possible
- Sensitizing Veterinarians and farmers on Ethno Veterinary Medicine and Practice as primary health care of livestock to save time, energy and money and it is ecofriendly
- Registration / updating farmers database and issuing Cards for incentives for growing fodder, tree fodder, micro nutrients, preference for farmers tour, etc.
- Distribution of elite rams / bucks to registered flock owners/rural women SHGs
- Utilization of processed crop residues, unconventional feedstuffs

Challenges

- Diminishing pasture land , deficit of green fodder is 93.5 %, tree fodder
- Diminishing indigenous germplasm / unhygienic slaughter / poor shelter
- Shortage of labour due to higher labour cost
- Diseases such as Anthrax, HS,BT, sheep pox and ET, PPR demoralize the farmers

Poultry Farming

Population : 498470

Breeds

Fowls	:	493883
Ducks	:	2481
Others	:	2106

Productivity (1998-99 to 2006-07) (Annual Compound Growth Rate in %)

Desi egg	:	20.81
Improved egg	:	22.63

Average Production (Normal Production - 2004-05 to 2006-07)

Improved egg in lakh	:	1491.00
Desi egg in lakh	:	108.2
Poultry meat in metric ton	:	2048.00

SWOT Analysis : Poultry Farming

Strength

- Growing demand for desi chicken, eggs, other poultry, products
- Premium price for desi chicken and desi eggs/Encouraging loan facilities
- TANUVAS rural women friendly technologies on low cost/high return desi chicken production, rearing and marketing

Weakness

- Reluctance to feed with nutrient rich feed, sufficient grains, etc.
- Insufficient veterinary institutions (required – 37, available – 25, deficit – 12) to cover immunization to prevent Ranikhet disease

Opportunities

- Supplementing feed/grains/micronutrients to increase production of birds/eggs
- Establishing custom hatching units in rural women households to energise rural women economy through desi chicken production, rearing and marketing
- Registration / updating farmers database and issuing Cards for incentives for grains/concentrates/immunization cover and preference for tour, etc.

Challenges

- Diminishing indigenous germplasm /Heavy fluctuation in broiler chicken / farm egg rate
- Unhygienic slaughter of birds
- Lack of bio-security and spread of rumours

5.3.1. On going Government Development Schemes for Livestock & Poultry (State and Central)

1) Tamil Nadu Livestock Development Agency (TNLDA) – programmes
   - Supply of frozen semen straws for A.I / Training rural educated unemployed youth on A.I. / Orientation program for Field veterinarians and Veterinary officers

2) Assistance to States to Control Animal Diseases (ASCAD)- programmes
   - To control endemic livestock diseases (FMD & PPR) in intensive way / Farmers training on livestock diseases and their prevention and control.

3) Tamil Nadu Women Development Agency (TNWDA) – programmes
   - To train women SHG on self employment micro enterprises including livestock rearing.

4) Irrigated Agricultural Modernisation-Water Bodies Restoration Project (IAM WBRP) programes
   - Fodder seeds distribution to farmers-CO3 in 4 hectares and Fodder Cholam in 90 hectares
   - Farmers training- 200 farmers trained on fodder cultivation, feeding and livestock farming
   - Sterility camps in villages to augment fertility and Door to door Clinical services including A.I through 2 Cluster Sub basic veterinary Units.

5) District Rural Development Agency (DRDA) programmes
   - Capacity building programme for women and farmers on livestock farming

6) Dist. Industries Centre (DIC) programmes:
   - Training farmers before issuing loan for livestock units

7) Tamil Nadu Adi dravidar Housing Development Corporation (THADCO) programmes
   - Training farmers before issuing loan for livestock units

5.3.2. Interventions required Areas

Livestock and Poultry Sector

Dairy

- Perennial fodder production
- Tree fodder biomass production
- Popularizing chaff cutter-immunization for FMD, Anthrax, HS
- Clean milk production
- Milk chilling facilities
- Facilities to prepare value added milk products
- Supply of micro nutrients
- Door to door A.I. service
- Capacity building of farmers on newer technologies to augment fertility, productivity, production

Sheep and goat

- Fodder production
- Tree fodder biomass production
- Cold storage facilities for vaccines
- Immunization for PPR, BTV, sheep pox
- Supply of micro nutrients
- Supply of rams and bucks to augment fertility, productivity and production
- Capacity building of farmers on newer technologies

Poultry

- Popularising turkey, Japanese quails in rural area
- Supply of feed to supplement foraging- immunization against NCD door to door
- Capacity building of rural women and farmers
- Distribution of turkeys and Japanese quails for additional revenue generation

Knowledge Empowerment on Ethno Veterinary Medicine (EVM)

- Rural farmers will be sensitized on Ethno veterinary medicine for primary health care of livestock and poultry

5.3.3. Strengthening the Infrastructure of Existing Units and Expansion of Ongoing Development Schemes

Veterinary University Training and Research Centre, Karur; Department of Animal Husbandry, Karur and Karur district co-operative milk producers Union (KDCMPU) require strengthening the infrastructure of existing units and expansion of ongoing development schemes pertaining to capacity building of rural farmers, milk chilling, preparation of value added milk products, handling the excess milk during flush season, encouraging rural dairy farmers to produce more milk so as to earn more profit, door to door immunization and A.I. Facilities for the above programmes are included. Revival of dormant Aavin milk societies are included to facilitate more milk production by farmers.

The number of milk societies and milk production in Karur district are furnished in Table .26.

Table 26. Number of milk societies and milk production in Karur District

Name of the Block/Urban Town	Number of milk societies	Quantity of milk produced (000 Litres)	Value of milk produced (Rs '000')
Karur	14	1.14	10.83
Thanthoni	56	6.89	65.52
Aravakurichi	12	1.27	12.10
K. Paramathi	20	2.08	19.92
Kulithalai	37	2.56	24.52
Thogamalai	22	1.62	15.45
K.R. Puram	34	2.13	20.66
Kadavur	26	3.76	36.09
Total	**221**	**21.45**	**205.09**

Source: Records of the Office of the Joint Director of Agriculture, Karur

5.3.4 Fisheries Development

Number of tanks in the district exceeds 275 with overall water spread area of 3663 ha. The total fisherman population in the district was 3,940. Noyyal Athuppalayam is the major reservoir available in Karur District with the water spread area of 169 ha. The district currently produces 75 tonnes of fish whereas the actually potential of the district is 750 tonnes. There is a Department fish farm located at Thirukampuliyur having nursery area of 3590 m^2. There were two inland fishermen cooperative societies with the strength of 767 members.

I. Baseline Information

- Noyyal Athuppalayam is the major reservoir available in Karur District. Water spread area is 169.30 ha
- The total fishermen population is 3940.
- The No. of tanks are 275 with water spread area 3663.0 ha.
- The present production is only 75.0 tonnes and the potential is 750 tonnes.
- There is a department fish farm located at Thirukampuliyur having nursery area 3590 sq.m.
- There are two inland fishermen cooperative societies functioning in this district (the enrolment of members is 767)

Strength

- There is a Government fish farm located at Thirukampuliyur having nursery area of 3590 m^2.
- There are two inland fishermen cooperative societies functioning in this district and the enrolment of members is 767

Weakness

- No self sufficiency in fish seed production.
- The average fish production of large seasonal tanks being 360 kg / ha against the potential of1500 kg/ha.

- ❖ Fish culture in natural small water system is being practiced by stock and harvest method and not by scientific culture method
- ❖ Non availability of stock size quality fish seeds throughout the year

Opportunities

- ❖ Seasonal community ponds could be utilized for fish culture
- ❖ Backyard ornamental fish breeding
- ❖ Culture of hard water resistant fish species like tilapia and catfish
- ❖ Market for value added fishery products
- ❖ Fish malls

Challenges

- ❖ Involving further more for fish culture activities
- ❖ Dissemination of fish culture techniques

II. On going Government Development Schemes

1. Fishermen Group Accident Insurance – (Central scheme)
2. Fishermen savings – cum Relief scheme
3. Construction of new ponds and tanks in beneficiaries own land with proper screened inlet, outlet and shallow tube well.
4. Training of fish farmers
5. Anna Marumalarichi Thittam – All Villages
6. IAMWARM –

III. Intervention required Areas

- ❖ Strengthening of Thirukampuliyur Fish Seed Farm.
- ❖ To increase the fish production and promote marketing facilities through hygienic marketing.

- ❖ Supply of fishing implements (modified or advanced craft & gear for operation in deep inland water bodies).

Production of early fry through Chinese hatchery to fulfill the requirements of other department fish farm available in Trichy region

5.4 Agricultural Marketing

There were eight Agri Depots, four Sub depots and one State Seed Farms in the district. There were only two regulated markets, two co-operative marketing societies and three Uzhavar Sandhais to meet the marketing requirements of the farmers. Two regulated markets were located in Chinnadharapuram and Karur. As evident from Table. 27, regulated markets are not in commensurate with production. The commodities notified were paddy, cholam, cumbu, coconut, chillies, turmeric, groundnut, jowar and bajra.

Table 27. Arrival in Regulated Markets - 2005-06

Name of Regulated Market	No.of Sub Regulated Markets	Quantity arrivals (Product wise) (tones)	Receipts (Product wise) (Lakh Rs.)
Chinnadharapuram	Nil	Paddy -26 Cholam -24 Cumbu-4 Coconut-204.200	0.86 0.31 0.07 6.73
Karur	Nil	Paddy- 95 Chillies (Dry) 5 Jowar – 3 Bajra -12 Turmeric – 564 Coconut – 290 Manila – 440	2.83 0.43 0.35 0.13 53.40 12.51 19.43

Source : Records of the District Agricultural Marketing Committee, Karur.

5.5 Agricultural Credit

In all, there were 82 Co operative outlets and banks and 81 Commercial banks in the district to meet the credit requirement of the farmers. The Potential Linked Credit Plan (PLCP) for Karur district for the year 2007-08 prepared by the NABARD envisaged an outlay of Rs. 795.76 crores. The projection made under agriculture and allied activities was Rs. 365.16 crores, under the non-farming sector the projection was Rs. 337.10 crores and that under other priority sector it was Rs. 93.50 crores. The bankers are urged to extend adequate credit based on a proper appraisal of project reports submitted under the Prime Minister's Rozgar Yojana (PMRY). Against the target of 530, only 493 loans have alone been sanctioned.

5.5.1. Credit Disbursement

Government of India, State Government, Reserve Bank of India and NABARD have taken a number of steps and policy measures for the growth and development of Agriculture and Rural sectors. Besides, they have introduced several innovations in Agricultural Credit flow system to augment access of the rural people to the banking system. Some of the important policy measures / innovations are outlined in what follows.

I. Policy Innovations of Government of India:

1. Agricultural Debt Waiver (For Small Farmers / Marginal Farmers) and Debt Relief (for other Farmers) Scheme covering direct Agricultural Credit.
2. Short Term Crop Loans continued to be disbursed at seven per cent with interest subvention.
3. National Agricultural Insurance Scheme (NAIS) to continue in the present form for Kharif and Rabi 2008-09.
4. Adoption of concept of Total Financial Inclusion (TFI) and meeting the entire credit requirement of Self-Help-Groups.

5. Implementation of Rain-fed Area Development Programme with an allocation of Rs.348 crores with priority to areas not benefited by Watershed Development Schemes.
6. Central Banks and Rural Regional Banks (RRBs) to add 250 accounts every year in Rural and Semi-urban branches.

II. Policy initiatives of Reserve Bank of India:

1. Guidelines on Priority Sector Lending (PSL) revised enlarging its scope.
2. Limits for loans under DRI scheme raised from Rs.6500 to Rs.15000 and that for housing loan under scheme from Rs.5000 to 20000.
3. CBs/RRBs to introduce on a pilot basis in one district, a simplified cyclical credit product whereby the farmers can use core component of 20 per cent of credit limit throughout the year, provided interest is serviced.
4. Banks are allowed to utilize the services of retired bank / Government employees and ex-servicemen as business correspondents.

III. Policy and Development Initiatives of NABARD:

1. NABARD to play an active and supportive role in the implementation of 'Rural Business Hub' Scheme of Ministry of Panchayat Raj envisaging Public-Private-Panchayat Partnership to develop holistic and integrated partnership between decentralized rural production units and larger corporate entities.
2. A new find "Farmers' Technology Transfer Fund" created to support programmes, workshops / seminars on technology transfer, marketing of agriculture produce and imparting training on new technologies / agriculture practices
3. NABARD in collaboration with Department of Posts, Government of India, to set up showcases in 100 post offices across the country to showcase the products of SHGs and rural artisans.
4. Krishak Saathi Scheme introduced to provide refinance to banks to provide loans to farmers to free themselves from the clutches of money lenders.

5. RIDF loan at 90 per cent of the project cost allowed for roads and social sector projects in Hill States; also, higher mobilsation advance at 30 per cent of total RIDF loans allowed for these states.

IV. Policy Initiatives of Government of Tamil Nadu:

1. Rs.1150 crores allocated in 2008-09 for compensating co-op. banks for waiver of crop loans.
2. It is proposed to disburse new crop loans to the tune of Rs.1,500 crores during 2008-09.
3. The rate of interest on crop loan reduced from five per cent to four per cent for prompt repayments in 2008-09.
4. Rs.40 crores to provide 50 per cent Insurance Premium for 25 lakhs farmers towards crop insurance.
5. SRI cultivation of paddy to be extended to all districts at an estimated cost of Rs.64 crores.
6. 25 per cent subsidy to farmers for purchasing farm machinery under NADP.
7. Afforestation Progrmme in 51,500 hectares at a cost of Rs.113 crores. 1,000 check dams and 300 percolation ponds to be constructed throughout the State. Rupees three crores provided for forest roads. Rs.10 crores allocated for planting one crore saplings in private lands.
8. Tamil Nadu Co-operative Milk Producers Federation to provide 10,000 crossbred milch animals to Women Self Help Groups in 200 villages covering 5000 women. This scheme will be implemented at a cost of Rs.22 crores for a period of two years.
9. IAMWARD Project extended to another 16 sub-basins.
10. Construction of 48,500 checkdams and perculation tanks in 232 over exploited blocks for conserving ground water at a cost of Rs.550 crores.
11. State Government to open 4 SEZs in Tirunelveli, Tiruvannamalai, Erode and Vellore Districts.

12. A sum of Rs.504 crores is allocated under "Anaithu Grama Anna Marumalarchi Scheme" for undertaking basic infrastructure related works in 2521 village panchayats.
13. Rs.50 crores provided in 2008-09 for 1625 community developmental works under 'Namakku Naame Thittam'.

Activity wise credit disbursement and projection under agricultural and allied sectors in Karur district is furnished in Table 28.

Table 28. Activity Wise Credit Disbursement and Projections under Agricultural and Allied Sectors in Karur District

(Rs. lakh)

Sectors	2008-09	2009-10	2010-11	2011-12
Crop loan	31579	33157.95	34815.85	36556.64
Term loan				
Micro Irrigation	953.05	1000.7	1050.74	1103.27
Land Development	480.2	504.21	529.42	555.89
Farm Mechanization	2654.21	2786.92	2926.27	3072.58
Plantation & Horticulture	693.99	728.69	765.12	803.38
Forestry & Waste land Development	82.25	86.36	90.68	95.21
Dairy Development	1406.05	1476.35	1550.17	1627.68
Poultry	333.8	350.49	368.01	386.42
Sheep/Goat/Piggery	565.69	593.97	623.67	654.86
Fisheries	10	10.5	11.03	11.58
Storage Godown & Market yards	164.5	172.73	181.36	190.43
Bio-gas	0	0	0	0
Sericulture	0	0	0	0
Others	1853.42	1946.09	2043.4	2145.57
Sub total - Term loan	9197.16	9657.01	10139.87	10646.87
Total Agriculture Credit (1+2)	40776.16	42814.96	44955.72	47203.51
Non Farm sector	47649.05	50031.5	52533.08	55159.73
Other Priority Sector	14636.08	15367.88	16136.28	16943.09
Grand Total	**103061.29**	**108214.34**	**113625.08**	**119306.33**

From the table it could be seen the projected flow of credit disbursement for agriculture and allied sectors during 2009-10, 2010-11 2011-2012 would be respectively Rs. 108214.34 , Rs. 113625.08and Rs. 119306.33lakhs. The total flow of agriculture credit in terms of crop loan and term loan in 2011-12 would be Rs. 47203.51lakhs. The flow of credit for non farm sector and other priorty sectors in 2011-12 would be respectively Rs. 55159.73and Rs. 16943.09lakhs.

5.6. Constraint Analysis

- Demand for green fodder and dry fodder far exceeds the supply. Thus there is a need to develop new high yielding forage crop varieties to boost up the milk production.
- Development of market infrastructure viz., forming more regulated markets and thereby by mitigating the production loss.
- Rehabilitation and improvements to tanks, supply channels and surplus courses including masonry structures to its original standards
- Disbursement of credit at proper time.

CHAPTER - VI
DISTRICT PLAN

District Agriculture Plan aim at moving towards projecting the requirements for development of Agriculture and allied sectors of the district including animal husbandry and fishery, minor irrigation projects, rural development works, agricultural marketing schemes and schemes for water harvesting and conservation, etc., keeping in view of the natural resources and technological possibilities in each district. These plans thus, present the vision for Agriculture and allied sectors within the overall development perspective of the district apart from the financial requirement and the sources of financing the agriculture development plans in a comprehensive way.

Rice occupies major cultivable area and farmers are obtaining high productivity. So ensuring supply of quality seeds and other technological interventions like Integrated Nutrient and pest management with extension support would increase productivity of rice further. As 86 per cent of the farmers were small and marginal, for high levels of adoption of technologies, provision of subsidies is crucial. In most part of the district, livestock formed major source of income. Developing allied agricultural activities like animal husbandry and sericulture is needed for higher income of the farmers. Potential exists for production of high value crops like tropic vegetables, garland flowers, medicinal herbals etc. The district also faces frequent drought and the problems of salinity. So, improving the irrigation efficiency is another growth driver of the district.

6.1. Agriculture Sector

It is proposed to increase area and productivity of crops like rice, pulses and oilseeds. Targetted area and productivity are provided in Table 29. Target will be achieved through supply of seeds at subsidized price, integrated nutrient management, integrated pest management, supply of machines and equipments and scaling up extension activities. Popularizing the saline and alkaline tolerant rice genotypes, management practices and mechanization at farm field level will be done to improve the yield potential of rice for the

improvement of salt affected areas. Development of varieties and management practices for salinity and alkalinity tolerance in rice will be helpful to increase the rice yield and the net income of the farmers. This will improve the standard of the living of poor and downtrodden farmers who live in the stressful environment such as salt affected soils.

The expenditure incurred in one ha due to adoption of improved technology is Rs. 25,500 approximately. The net profit obtained from salt affected soil is Rs.22, 000 per ha per season if the fine grain rice varieties such as Improved White Ponni and BPT 5204 are grown with average grain yield of 2750 kg ha^{-1} and a minimum grain cost of Rs. 8 per kg. Similarly, The net profit obtained from salt affected soil due to adoption of improved technology is Rs.16, 500 per ha per season if the fine grain rice varieties such as Co 43, TRY 1 and TRY (R) 2 are grown with average grain yield of 2750 kg ha^{-1} and a minimum grain cost of Rs. 6 per kg.

Table 29. Target Area and Productivity of Crops

Sl.No.	Crop	Details	Normal	Year			
				2008-09	2009-10	2010-11	2011-12
1	Rice	Area (Ha)	19000	19000	20000	21000	21000
		Productivity (Tons/ Ha.)	3.610	3.900	4.800	5.150	5.900
		Production (Lakh Tons)	0.6859	0.741	0.96	1.0815	1.239
2	Pulses	Area (Ha)	20000	21000	21500	22000	22500
		Productivity (Tons/ Ha.)	0.47	0.500	0.550	0.600	0.625
		Production (Lakh Tons)	0.094	0.105	0.11825	0.132	0.140625
3	Oil seeds	Area (Ha)	14000	14500	15000	16000	16550
	Irrigated	Productivity (Tons/ Ha.)	1.397	1.700	1.950	2.150	2.400
		Production (Lakh Tons)	0.1956	0.2465	0.2925	0.3440	0.3972
	Rainfed	Area (Ha)	6000	6250	6400	6600	6900
		Productivity (Tons/ Ha.)	0.810	0.950	1.100	1.200	0.00
		Production (Lakh Tons)	0.0486	0.0594	0.0704	0.0792	0.0000

Source: Records of the Office of Joint Director of Agriculture, Karur

Proposed budgets for various interventions – crop wise and components wise are furnished in Table 30 to 34.

Table 30. Proposed Budget- Crop wise – Department of Agriculture

(Rs in lakhs)

Crop	2008-2009	2009-2010	2010-2011	2011-2012
Rice	189.54	146.95	163.54	168.71
Pulses	36.15	32.85	32.85	32.85
Groundnut-Irrigated	28.91	29.91	30.66	31.41
Gingelly-Irrigated	3.50	3.60	3.60	3.60
Sunflower	10.69	12.29	12.29	13.91
Extension Activities	37.70	25.20	22.20	22.20
Seed Certification	6.00	---	---	---
Total	**312.49**	**250.80**	**265.14**	**272.68**

Table 31. Components Wise Proposed Budget for Irrigated Rice – Seed Production and Distribution

(Rs. in lakhs)

S.No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No. of Units	Total Cost	No. of Units	Total Cost	No. of Units	Total Cost	No. of Units	Total Cost
1	One time grant to TANWABE / FIG to take certified seed production and distribution @ Rs.50000/- per group for 23 districts (30 MT / Annum)	No. of Groups	2	1.000	0	0.000	0	0.000	0	0.000
2	Incentive for seed production to Self Help Groups @ Rs.3 / kg. - TABWABE Groups	Tonnes	120	3.600	120	3.600	120	3.600	120	3.600
3	Seed distribution subsidy for the seeds produced by Self Help Groups @ Rs.5 / kg.	Tonnes	120	6.000	120	6.000	120	6.000	120	6.000
4	Supply of Quality Certified seeds at nominal cost to enhance the SRR @ Rs.5/- per kg.	Tonnes	310	15.500	330	16.500	350	17.500	370	18.500
5	Seed Minikit of new HYV @ Rs.100/- minikit	Nos.	320	0.320	360	0.360	380	0.380	400	0.400
6	Hybrid Rice seed distribution subsidy - 75% cost or Rs.100/- whichever is less	Tonnes	2	2.000	3	3.000	4	4.000	4	4.000
		Sub Total		**28.420**		**29.460**		**31.480**		**32.500**

Table 32. Components Wise Proposed Budget for Irrigated Rice – Integrated Nutrient Management

(Rs in lakhs)

S.No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
II	**Integrated Nutrient Management**									
1	Distribution of Green Manure seeds at 75% subsidy of Rs.15/kg.	Tonnes	15	2.250	20	3.000	25	3.750	30	4.500
2	Distribution of Soil Health Card @ Rs.100/- per card (Soil + Water testing)	Nos.	10000	10.000	10000	10.000	15000	15.000	15000	15.000
3	Assistance to start vermin compost production unit @ Rs.10000 per unit (Self Help Group women farmers)	Nos.	15	1.500	20	2.000	25	2.500	25	2.500
4	Distribution of Micro Nutrient Mixture @ Rs.500 / Ha.or 50% subsidy	Ha.	3500	17.500	3500	17.500	3600	18.000	3600	18.000
5	Gypsum 500 kg/ ha @ Rs.500/Ha.	Ha.	1250	6.250	1500	7.500	1750	8.750	2000	10.000
		Sub Total		**37.500**		**40.000**		**48.000**		**50.000**

Table 33. Components Wise Proposed Budget for Irrigated Rice – Integrated Pest Management and Supply of Machineries and Equipments

(Rs in lakhs)

S.No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
III	**Integrated Pest Management**									
1	Farmers Field School @17000/ No.	Nos.	16	2.720	16	2.720	16	2.720	16	2.720
2	IPM @ 500 / Ha.	Ha.	625	3.125	650	3.250	700	3.500	750	3.750
3	Massive Rat control campaign in village @ Rs.5000/village	Nos.	70	3.500	70	3.500	70	3.500	70	3.500
4	Publicity & Training @ Rs.50000/- per district	Nos.	2	1.000	2	1.000	2	1.000	2	1.000
IV	**Machineries and Equipments**									
1	**Promotion of SRI** Distribution of Marker, Conoweeder and other items @ Rs.3000 / Ha.	Ha.	50	1.500	50	1.500	60	1.800	70	2.100
2	Transplanter to TANWABE / FIG / farmers @ Rs.75000 each or 50% subsidy	Nos.	3	2.250	5	3.750	7	5.250	9	6.750
3	Power Tiller, Mounted Harvester @ Rs.75,000 each or 50% subsidy	Nos.	5	3.750	5	3.750	5	3.750	5	3.750
4	Power Thrasher @ Rs.50000/- per No.	Nos.	4	2.000	4	2.000	4	2.000	4	2.000
		Sub Total		**19.845**		**21.470**		**23.520**		**25.570**

Table 34. Components Wise Proposed Budget for Irrigated Rice – Technology Transfer

(Rs in lakhs)

S.No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
V	**Technologies**									
1	Demonstration on SRI / Hybrid Rice @ 1 demonstration / 100 Ha. Rs 3000per demo.	Nos.	170	5.100	170	5.100	200	6.000	200	6.000
2	Village campaigns - Kharif / Rabi @ Rs.1000/- per campaign	Nos.	176	1.760	181	1.810	190	1.900	200	2.000
3	Production of short film on New technologies each Rs.2.5 lakhs	Nos.	1	2.500	1	2.500	1	2.500	1	2.500
VI	**Others**									
1	Tarpaulin @ Rs.4000/- Nos.	Nos.	150	6.000	150	6.000	200	8.000	200	8.000
2	Biofertiliser @ 50% subsidy @ Rs.3 per No.	Lac. Nos.	0.25	0.750	0.25	0.750	0.3	0.900	0.3	0.900
3	Publicity / POL @ Rs.50000/- per district	Nos.	1	0.500	1	0.500	1	0.500	1	0.500
4	Thrashing floor @ Rs.100000/- per No.	Nos.	1	1.000	1	1.000	1	1.000	1	1.000
	Sub Total			**17.610**		**17.660**		**20.800**		**20.900**
	Total			**103.375**		**108.59**		**123.8**		**128.97**

6.1.1. Dissemination of Stress Tolerant Varieties, Management Practices and Mechanization for Rice Cultivation in Saline and Alkaline Soils in Karur District

Rice (*Oryza sativa*) is one of the world's most important food crops, particularly in Asia. Rice and wheat provide approximately 50 percent of the calories consumed by the human population. The projected increase of human population from six billions in 2000 to nine billions in 2050 requires increase in the production of rice. Any further increase in production will come principally from intensification of production in the abiotic stress environments such as salinity, alkalinity, drought, *etc*. Rice is sensitive to salt stress, particularly at the seedling stage and during reproduction. Tolerance at these two stages is weakly associated and involves several independent mechanisms. Rice is suitable for rehabilitating saline and alkaline soils because of its ability to grow under flooding and its high potential for genetic improvement.

In Tamil Nadu, out of 4.7 lakhs ha of salt affected soils, about 3.0 lakhs ha are inland and 1.7 lakhs ha are confined to coastal areas. In inland salt affected soils, about 2.0 lakhs ha are alkali and 1.0 lakh ha are saline in nature. Karur district alone has an area of 6,315 ha of salt affected soils.

Hence popularizing the saline and alkaline tolerant rice genotypes, management practices and mechanization at farm field level have to be done to improve the yield potential of rice for the improvement of salt affected areas of Karur district.Our team combines TNAU, Saraswathi KVK, (Puzhutheri, Karur district), Agriculture Department, Government of Tamil Nadu which include expertise on Agronomy, Soil Science and Agricultural Chemistry, Agricultural Microbiology, Plant Breeding and Genetics, Agricultural Extension, Agricultural Entomology, Plant Pathology, Farm Machinery and Agricultural Engineering to disseminate the best management practices for maximum grain yield in saline and alkali lands.

(i) Project Objectives

1. Disseminating saline and alkaline tolerant rice varieties and management technologies to saline and alkaline soil areas of Karur district.
2. Demonstration of mat nursery, machine planting, cono-weeder operation and mechanical harvester.
3. Training farmers and monitoring the implementation of best management practices for rice cultivation and mechanization of rice in salt affected areas of Karur district

(ii) Excepted Outcome / Utility of the Project

Development of varieties and management practices for salinity and alkalinity tolerance in rice will be helpful to increase rice yield and the net income of the farmers in an area of 2,200 ha in Tiruchirappalli and Karur districts of Tamil Nadu. This will improve the standard of the living of poor and downtrodden farmers who live in the stressful environment such as salt affected soils.

Average rice yields normal soil	:	3000 kg ha^{-1}
Average rice yield in salt affected soils	:	2250 kg ha^{-1}
Expected rice yield in salt affected soils with best management practices	:	5000 kg ha^{-1}
Yield advantage in normal soil	:	2000 kg ha^{-1}
Yield advantage in salt affected soil	:	2750 kg ha^{-1}

The expenditure incurred in one ha in this project is Rs. 25,500 approximately. The net profit obtained from salt affected soil due to adoption of improved technology is Rs.22,000 per ha per season if the fine grain rice varieties such as Improved White Ponni and BPT 5204 are grown with average grain yield of 2750 kg ha^{-1} and a minimum grain cost of Rs. 8 per kg. Similarly, The net profit obtained from salt affected soil due to adoption of improved technology is Rs.16,500 per ha per season if the fine grain rice varieties such as Co

43, TRY 1 and TRY (R) 2 are grown with average grain yield of 2750 kg ha^{-1} and a minimum grain cost of Rs. 6 per kg.

(iii) Project strategy

An average area of 100 ha will be selected from each block totaling 800 ha in Karur district, depending on the extent of salt affected soils that can be brought under rice cultivation. The details of technology intervention, agencies to be involved and cost of implementation are furnished in tables. From the 8 blocks, 100 farmers from each block will be trained on the best management practices for rice production in salt affected soils @ 25 farmers per batch, with a total of 800 farmers. Anbil Dharmalingam Agricultural College and Research Institute, Tiruchirappalli and Saraswathi Krishi Vigyan Kendra, Puzhutheri, Karur district will adopt 4 blocks each. The trainings will be spanned throughout the project period. All the 800 farmers, those who got trained on the rice production technologies will be trained on usage of transplanter, harvester and tillage implements for rice production in salt affected soils by College of Agricultural Engineering and Research Institute, Kumulur.

Budgets proposed for dissemination of stress tolerant varieties, management practices and mechanization for rice cultivation in saline and alkaline soils in Karur District are presented in Table 35 through Table 42

Table 35. Technologies and Input Costs for Improving Rice Production and Productivity

S.No.	Technology intervention	Materials Required	Cost (Rs)	To be implemented by
1.	Reclamation of alkali soils with gypsum	~ 2.5 tonnes of gypsum per ha (@ Rs.6000 ha^{-1} for 800 ha)	48,00,000	Agriculture Department, Government of Tamil Nadu – JDA, Karur
2.	SRI Method of rice cultivation			
i.	Seeds	10 kg per ha (@ Rs.105.00 per ha for 400 ha)	42,000	ADAC & RI, TNAU, Tiruchirappalli
	A) Rice Varieties for Medium duration			
	i. CO 43			
	ii. TRY 1			
	iii. BPT 5204			
	iv. Improved White Ponni			
	B) Rice Varieties for Short duration	10 kg per ha (@ Rs.105.00 per ha for 400 ha)	42,000	Saraswathi KVK, Puzhutheri, Karur district
	i. ADT 43			
	ii. ADT 45			
	iii. ADT 36			
	iv. TRY 2			
ii.	SRI Marker	Two per block (16 Nos.) @Rs.2000 per unit	32,000	CAE & RI, TNAU, Kumulur
iii.	Mechanized Transplanter	One per block (8 Nos.) @ Rs.2, 00,000/= per unit (VST make)	16,00,000	Agriculture Department, Government of Tamil Nadu– JDA, Karur
iv.	Power operated mechanized cono-weeder	Two per block (16 Nos.) @ Rs.10, 000/unit	1,60,000	CAE & RI, TNAU, Kumulur
v.	Fertilizers			
	Nitrogen management by using Leaf Colour Chart (LCC)	One per ha (400 Nos) @Rs.50 per unit	20,000	ADAC & RI, TNAU, Tiruchirappalli
		One per ha (400 Nos) @Rs.50 per unit	20,000	Saraswathi KVK, Puzhutheri, Karur district
	Bio fertilizers	10 kg BGA per ha @ Rs.12/kg (Rs. 120 x 800 ha)	96,000	ADAC & RI, TNAU, Tiruchirappalli

Table 35. contd…

S.No.	Technology intervention	Materials Required	Cost (Rs)	To be implemented by
		250 kg Azola per ha @ Rs.3.00/kg (Rs.750 x 800 ha)	6,00,000	ADAC & RI, TNAU, Tiruchirappalli
		4 kg Azophos (or) 2 kg Azospirillum + 2 kg phosphobacterium per ha @ Rs.216/ha for 800 ha	1,72,800	ADAC & RI, TNAU, Tiruchirappalli
vi.	Herbicide	Butachlor 1.25 kg per ha @ Rs.400 per ha for 800 ha	3,20,000	Agriculture Department, Government of Tamil Nadu– JDA, Karur
vii.	Plant protection			Agriculture Department, Government of Tamil Nadu– JDA, Karur
	Pseudomonas fluorescens	Seed treatment: 40 g per ha @Rs.7.50/ha for 800 ha	6,500	
	Fungicide (Thiram/Captan / Carbendazim	Seed treatment: 20 g per ha @Rs.10.00/ha for 800 ha	8,000	
	Trichogramma japonicum	5 cc in the main field 3 times = 15 cc per ha @ Rs.300/ha for 800 ha	2,40,000	
	Trichogramma chilonis	5 cc in the main field 3 times = 15 cc per ha @ Rs.300/ha for 800 ha	2,40,000	
	Contact insecticide	Chloripyriphos @Rs.230/ha for 800 ha	1,84,000	
	Systemic insecticide	Monocrotophos @Rs.210/ha for 800 ha	1,68,000	
	Fungicide	Dithane @ Rs 210 per ha for 800 ha	1,68,000	
		Total for plant protection	**10,14,500**	

Table. 35 contd…

S.No.	Technology intervention	Materials Required	Cost (Rs)	To be implemented by
	Bund Trimmer	One per block (8 Nos) @ Rs. 15,000 per unit	1,20,000	CAE & RI, TNAU, Kumulur
	Bund Trimmer	One each for ADAC&RI, Trichy; Saraswathi KVK, Puzhutheri, Karur district & CAE & RI, TNAU, Kumulur (3 Nos.) @ Rs.15, 000 per unit	45,000	CAE & RI, TNAU, Kumulur
Viii	Combined harvester Small size harvester @Rs.2.0 lakhs	Small size harvester one per block (8 Nos.) @ Rs.2, 00,000 per harvester	16,00,000	Agriculture Department, Government of Tamil Nadu– JDA, Karur
	Small size harvester @Rs.2.0 lakhs	Small size harvester one each for ADAC&RI, Trichy; CAE & RI, Kumulur & Saraswathi KVK, Puzhutheri, Karur district (3 Nos. @ Rs.2, 00,000 per harvester	2,00,000	ADAC & RI, TNAU, Tiruchirappalli
			2,00,000	CAE & RI, Kumulur
			2,00,000	Saraswathi KVK, Puzhutheri, Karur district
3.	Demonstration of mat nursery	One per block (4 blocks) @ Rs. 8600 per demonstration	34,400	ADAC & RI, TNAU, Tiruchirappalli
		One per block (4 blocks) @ Rs. 8600 per demonstration	34,400	Saraswathi KVK, Puzhutheri, Karur district

Table 36. Budget for Staff Salary on Contractual Basis

(Rs in lakhs)

Staff on contractual basis	Nos	I Year	II Year	III Year	IV Year	Total
Senior Research Fellow (5 Nos.)						
Agronomy	1					
Soil Science and Agricultural Chemistry	1	7.74	7.74	8.94	8.94	**33.36**
Agricultural Microbiology	1					
Agricultural Entomology	1					
Plant Pathology	1					
Junior Research Fellow (3 Nos)						
B.Sc.(Agri)/ BE(Agri) @ one per three blocks in Karur district	3	3.15	3.15	3.15	3.15	**12.60**
Total		**10.89**	**10.89**	**12.09**	**12.09**	**45.96**

Senior Research Fellow: @ Rs. 12,000/- + HRA Rs. 900 per month for I and II year & Rs.14, 000/- + HRA Rs. 900 per month from III year

Junior Research Fellows: @ Rs.8000/- + HRA Rs. 750 per month

Table 37. Budget Components for Training During 2008-09 to 2011-12 for Anbil Dharmalingam Agricultural College and Research Institute, Tiruchirappalli

(Rs in lakhs)

S.No.	Particulars	Budget
1.	Accommodation charges @ Rs.100/day/farmer 25 farmers x 4 batches per block x 4 blocks (16 trainings) = Rs.100 x 400 farmers	0.40
2.	Breakfast, lunch, Dinner and Refreshment charges @. Rs.200/farmer/day Rs.200 x 400 farmers	0.80
3.	Training hall rent @ Rs.2000 /day Rs. 2000 x 16 days	0.32
4.	Fuel charges for vehicle for demonstration and training programme	0.18
5.	Training kit, Stationery items, CDs etc @ Rs.200 per farmer Rs.200 x 400 farmers	0.80
6.	Training manual, course materials & books @Rs.100 per farmer Rs.100 x 400 farmers	0.40
7.	Logistic charges, which include Honorarium to SMS, Course Managers and secretarial charges etc. @ Rs.250/- per lecture; 6 lectures per day. Rs.250 x 6 lectures x 16 days	0.24
8.	Honorarium to nodal officer @ Rs.500/- per training Rs.500 x 16 trainings	0.08
9.	Secretarial Assistance, Computer lab charges, class arrangement, stationeries and other incidental expenses and other logistics including Miscellaneous charges @ Rs.2, 500 per training Rs.2500 x 16 trainings	0.40
	Total	**3.62**

Table 38. Budget Components for Training During 2008-09 to 2011-12 for Saraswathi

Krishi Vigyan Kendra, Puzhutheri, Karur district

(Rs in lakhs)

S.No.	Particulars	Budget
1.	Accommodation charges @ Rs.100/day/farmer 25 farmers x 4 batches per block x 4 blocks (16 trainings) = Rs.100 x 400 farmers	0.40
2.	Breakfast, lunch, Dinner and Refreshment charges @. Rs.200/farmer/day Rs.200 x 400 farmers	0.80
3.	Training hall rent @ Rs.2000 /day Rs. 2000 x 16 days	0.32
4.	Fuel charges for vehicle for demonstration and training programme	0.18
5.	Training kit, Stationery items, CDs etc @ Rs.200 per farmer Rs.200 x 400 farmers	0.80
6.	Training manual, course materials & books @Rs.100 per farmer Rs.100 x 400 farmers	0.40
7.	Logistic charges, which include Honorarium to SMS, Course Managers and secretarial charges etc. @ Rs.250/- per lecture; 6 lectures per day. Rs.250 x 6 lectures x 16 days	0.24
8.	Honorarium to nodal officer @ Rs.500/- per training Rs.500 x 16 trainings	0.08
9.	Secretarial Assistance, Computer lab charges, class arrangement, stationeries and other incidental expenses and other logistics including Miscellaneous charges @ Rs.2, 500 per training Rs.2500 x 16 trainings	0.40
	Total	**3.62**

Table 39. Budget Components for Training During 2008-09 to 2011-12 for College of Agricultural Engineering and Research Institute, Kumulur

(in Rupees)

S.No.	Particulars	Budget
1.	Accommodation charges @ Rs.100/day/farmer 25 farmers x 4 batches per block x 8 blocks (32 trainings) = Rs.100 x 800 farmers	0.80
2.	Breakfast, lunch, Dinner and Refreshment charges @. Rs.200/farmer/day Rs.200 x 800 farmers	1. 60
3.	Training hall rent @ Rs.2000 /day Rs. 2000 x 32 days	0.64
4.	Fuel charges for vehicle for demonstration and training programme	0.36
5.	Training kit, Stationery items, CDs etc @ Rs.200 per farmer Rs.200 x 800 farmers	1.60
6.	Training manual, course materials & books @Rs.100 per farmer Rs.100 x 800 farmers	0.80
7.	Logistic charges which include Honorarium to SMS, Course Managers and secretarial charges etc. @ Rs.250/- per lecture; 6 lectures per day Rs.250 x 6 lectures x 32 days	0.48
8.	Honorarium to nodal officer @ Rs.500/- per training Rs.500 x 32 trainings	0.16
9.	Secretarial Assistance, Computer lab charges, class arrangement, stationeries and other incidental expenses and other logistics including Miscellaneous charges @ Rs.2, 500 per training Rs.2500 x 32 trainings	0.80
	Total	**7.24**

Table 40. Budget Allotment for Different Implementing Agencies

(Rs in lakhs)

S.No.	Technology intervention and other particulars	Implementing agency				Total
		ADAC & RI, Tiruchirappalli	Saraswathi KVK, Puzhutheri, Karur district	CAE & RI, Kumulur	Agriculture Department, JDA-Karur	
1.	Staff on contractual basis	45.96	0	0	0	45.96
2.	Cost of inputs					0
	Gypsum for reclamation of alkali soils	0	0	0	48.00	48.00
	SRI marker	0	0	0.32	0	0.32
	Mechanized transplanter	0	0	0	16.00	16.00
	Power operated cono-weeder	0	0	1.60	0	1.60
	Bund trimmer	0	0	1.65	0	1.65
	Combined harvester small	2.00	2.00	2.00	16.00	22.00
	Seed	0.42	0.42	0	0	0.84
	Leaf Colour Chart (LCC)	0.20	0.20	0	0	0.40
	Bio-fertilizers	8.668	0	0	0	8.668
	Herbicides and plant protection chemicals	0	0	0	13.345	13.345
	Demonstration of mat nursery	0.344	0.344	0	0	0.688
3.	Training	3.62	3.62	7.24	0	14.48
4.	Traveling Allowances	1.15	1.15	1.15	0	3.45
5.	**Total**	**62.362**	**7.734**	**13.96**	**93.345**	**177.401**
6.	Institutional Charges/ Overhead Charges @ 15%	9.3543	1.1601	2.0940	14.00175	26.61015
7.	**Grand total**	**71.7163**	**8.8941**	**16.054**	**107.34675**	**204.01115**

Table 41. Year Wise Consolidated Budget for 2008-09 to 2011-12

(Rs in lakhs)

Budget Particulars	I Year	II Year	III Year	IV Year	Total
Cost of Persons	10.89	10.89	12.09	12.09	45. 96
Cost of inputs	59.55525	17.98525	17.98525	17.98525	113.511
Training	3.62	3.62	3.62	3.62	14.48
Traveling cost	0.8625	0.8625	0.8625	0.8625	3.45
Sub Total	74.92775	33.35775	34.55775	34.55775	177.401
TNAU Share	27.5915	18.0215	19.2215	19.2215	84.056
Agriculture Department share	47.33625	15.33625	15.33625	15.33625	93.345
Institutional Charges/Overhead charges @ 15% (TNAU)	4.13873	2.70323	2.88323	2.88323	12.60842
Institutional Charges/Overhead charges @ 15% (Agriculture Department)	7.10044	2.30044	2.30044	2.30044	14.00176
Total TNAU Share	31.73023	20.72473	22.10473	22.10473	96.66442
Total Agriculture Department share	54.43669	17.63669	17.63669	17.63669	107.34676
Grand Total	**86.16691**	**38.36141**	**39.74141**	**39.74141**	**204.011**

Table 42. Total Budget Proposed for Rice

(Rs in lakhs)

S.No	Particulars	2008-2009	2009-2010	2010-2011	2011-2012
1	Irrigated Rice	103.37	108.59	123.8	128.97
2	Drought tolerant rice (TNAU Proposal)	86.16	38.36	39.74	39.74
	Total	**189.54**	**146.95**	**163.54**	**168.71**

Table 43. Components Wise Proposed Budget for Pulses

(Rs in lakhs)

S.No	Components	Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
1	Seed production Subsidy @ Rs.10/Kg	Tons	40	4.00	40	4.00	40	4.00	40	4.00
2	Seed production through FIG/ TANWABE one time grant @ Rs.50000/group (10 MT/group/year)	No	6	3.00	0	0	0	0	0	0
3	Seed production Subsidy @ Rs.10/Kg shared by seed producing groups / grower @25:75 basis	Tons	40	4.000	40	4.000	40	4.000	40	4.000
4	Seed Distribution Subsidy @ Rs.12/Kg through Dept./Private/TANWABE and FIG	Tons	80	9.600	80	9.600	80	9.600	80	9.600
5	Pipes carrying water from source to field @50% subsidy limited to Rs15000/- max of 800mts.	Tons	20	3.000	30	4.500	30	4.500	30	4.500
6	Distribution of Bio fertilizer @50% subsidy Rs.3/No.	Lac. No	0.1	0.300	0.1	0.300	0.1	0.300	0.1	0.300
7	Integrated Nutrient management @ Rs.1250per Ha.	Lakh Ha	0.005	6.25	0.005	6.25	0.005	6.25	0.005	6.25
8	Integrated Pest Management @ Rs 750per Ha.	Lakh Ha	0.00	3.00	0.00	3.00	0.00	3.00	0.00	3.00
9	Farmers Training 50farmers for 2 days / Rs.15000/ Training	No	8	1.200	8	1.200	8	1.200	8	1.200
10	DAP 2% spray	Ha	900	1.800		--	--	--	--	--
	TOTAL			**36.15**		**32.85**		**32.85**		**32.85**

Table 44. Components Wise Proposed Budget for Groundnut Irrigated

(Rs in lakhs)

S. No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
1	Seed production Subsidy @ Rs. 10/ Kg	Tonnes	60	6.000	60	6.000	60	6.000	60	6.000
2	Seed Distribution @50% Subsidy limited to Rs 12/ Kg	Tonnes	60	7.200	60	7.200	60	7.200	60	7.200
3	Pipes carrying water from source to field @ 50% subsidy limited to Rs.15000/	No.	20	3.000	25	3.750	30	4.500	35	5.250
4	Bio fertilizer distribution subsidy@ Rs.3 / No.	Lac No.	0.250	0.750	0.250	0.750	0.250	0.750	0.250	0.750
5	Distribution of Gypsum Subsidy @ 50% cost + TC limited to Rs. 750 / Ha.	Ha	500	3.750	500	3.750	500	3.750	500	3.750
6	M.N.Mixure Distribution @50% cost limited to Rs. 500 / Ha.	Ha	200	1.000	200	1.000	200	1.000	200	1.000
7	Farmers Field School Rs. 22680/ No	No.	4	0.907	4	0.907	4	0.907	4	0.907
8	Tarpaulins Subsidy @Rs.5000/No.	No	16	0.800	16	0.800	16	0.800	16	0.800
	Sub Total			**23.407**		**24.157**		**24.907**		**25.657**
9	Publicity / POL/ Hiring of Vehicle @ Rs.100000/- per year/District	No.		1.000		1.000		1.000		1.000
10	Purchase and distribution of of Breeder seeds @Rs.50/Kg	Tonnes	1	0.500	1.5	0.750	1.5	0.750	1.5	0.750
11	Seed village scheme. - Seed distribution @50% cost limited to Rs.20/Kg.	Tonnes	20	4.000	20	4.000	20	4.000	20	4.000
	Sub Total			**5.500**		**5.750**		**5.750**		**5.750**
	Total			**28.907**		**29.907**		**30.657**		**31.407**

Table 45. Components Wise Proposed Budget for Irrigated Gingelly

(Rs in lakhs)

S.No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
1	Seed production Subsidy @ Rs. 10/ Kg	Tonnes	5	0.500	6	0.600	6	0.600	6	0.600
2	Seed Distribution @50% Subsidy limited to Rs 12/ Kg	Tonnes	5	0.60	5	0.60	5	0.60	5	0.60
3	M.N.Mixure Distribution @50% cost limited to Rs. 100 / Ha.	Ha	400	0.400	400	0.400	400	0.400	400	0.400
4	Tarpaulins Subsidy @ Rs 5000/No.	Nos.	40	2.000	40	2.000	40	2.000	40	2.000
	Total			**3.500**		**3.600**		**3.600**		**3.600**

Table 46. Components Wise Proposed Budget for Irrigated Sunflower

(Rs in lakhs)

S.No	Components	Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
1	Hybrid Seed distribution @50% Subsidy limited to Rs.150/Kg	Tonnes	2	3.000	3	4.500	3	4.500	4	6.000
2	Crop production technology demonstration @50% subsidy limited to RS.5000/ha	No.	40	2.000	40	2.000	40	2.000	40	2.000
3	Hybrid Seed Minikit @ free of cost 1 kg kit (Rs.400/Kit)	No.	160	0.640	160	0.640	160	0.640	160	0.640
4	Biofertilizer Distribution	Lac. Nos.	0.250	0.750	0.250	0.750	0.250	0.750	0.250	0.750
5	Distribution subsidy for Foundation and Certified seeds @ Rs.12/kg	Tonnes	5	0.600	5	0.600	5	0.600	5	0.600
6	M.N.Mixure Distribution @50% cost limited to Rs. 500 / Ha.	Ha.	80	0.400	100	0.500	100	0.500	125	0.625
7	Farmers Training @ Rs 15000/training	Nos.	2	0.300	2	0.300	2	0.300	2	0.300
8	Pipes carrying water from source to field @ 50% subsidy limited to Rs.15000/	Ha.	20	3.000	20	3.000	20	3.000	20	3.000
	Total			**10.690**		**12.290**		**12.290**		**13.915**

Table 47. Components Wise Proposed Budget for Extension Activities

(Rs in lakhs)

S.No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
1	Strengthening of Farmers Training Centre (FTC), Providing Lap Top, Printer, LCD, Scanner, Digital Camera, Copier etc	L.Rs.	1	2.5	0	0	0	0	0	0
2	Farmers Training through FTC @ 40 training (2 Days) / year @ 50 farmers / training. Rs.20000/ training	L.Rs	40	8.000	40	8.000	40	8.000	40	8.000
3	Formation of Farmers Interest Groups (FIG)- Setting up Library, Office automation, Issue of ID Cards and Training @Rs 12500per group.	L.Rs.	24	3.000	24	3.000	0	0	0	0
4	Exposure visit Inter state @ 30 farmers/Tour, 10 days @ Rs.600/day/farmer (Rs.1.8 Lakh)	L.Rs	4	7.200	4	7.200	4	7.200	4	7.200
5	Exposure visit Inter state @ 30 farmers/Tour, 10 days @ Rs.600/day/farmer (Rs.1.8 Lakh)	L.Rs	4	3.000	4	3.000	4	3.000	4	3.000
6	District level exhibition/ kissan mela @ Rs.2.0 Lakh/ District	L.Rs	1	2.000	1	2.000	1	2.000	1	2.000
7	Publicity & Propaganda, Printing of Lit., Display boards, conduct of press tour, Technology transfer through TV, Radio & other mass media @Rs.2.0 Lakh / district	L.Rs	1	2.000	1	2.000	1	2.000	1	2.000
8	Video Conferencing facilities to District HQ @Rs.10.0 Lakh/ District & State HQ @Rs.15 Lakh	L.Rs	1	10.00	0	0	0	0	0	0
	Total			**37.70**		**25.20**		**22.20**		**22.20**

6.2. Horticulture Sector

6.2.1. Development of Horticulture Through Precision Farming

(i) **Gloriosa:** In Karur District, medicinal plant gloriosa comes up well in Aravakuruchi block due to the soil and climatic condition, which is suitable for the crop cultivation. The medicinal content present in the crop colsicocide is highly valuable. So increasing the area and productivity under gloriosa cultivation through precision farming would promote the farming community in a better way by adapting latest technologies.

(ii) **Aonla:** In Karur District, major part of the cultivable area comes under dry tract red soil with less water availability. In those areas, aonla crop comes up well. So this crop is getting popularized in parts of Karur District. Aonla crop is having high marketability, because it is used for both edible and medicinal purpose and also it is a long duration crop. The maintenance of the crop cost is low. So farmers are interested in cultivating aonla in large scale.

(iii) **Chillies:** Chillies crop is grown in well-irrigated area in red latent soil. The major varieties grown in Karur District are K1 and K2 apart from the hybrid varieties like US-341, US-622, Namthain seeds, are also being introduced through precision farming. The hybrid varieties gives uniform yield with good quality produces which fetches marketability to the farmers.

(iv) **Tomato:** Tomato cultivation in part of Karur, Thanthoni and Aravakuruchi Blocks are in practice under red soil condition with good water availability. The major varieties grown are PKM-1 and CO-3. By introducing precision farming, the hybrid varieties like US-618, give high production and productivity. The keeping quality of hybrid Tomato is good and it withstand transport losses during marketing. Farmers can get high income in growing tomato under shade net condition in off-season also.

(v) **Gourds:** In Karur, Thanthoni, Aravakurichi and part of Kulithalai blocks, gourds are cultivated under well-irrigated condition. The varieties like CO-1, CO-2 and CO-3 of the Bitter gourd, Ribbed gourd, Snake gourd, Bottle gourds are cultivated. By introducing precision farming, the hybrid varieties of Abishake, NS-4, and NS-5 are giving increased yield and good quality produce. So the farmers get more profit and high-income through high tech cultivation. By adopting drip and Fustigation system, the pest and management is reduced and also the intercultural operation is easy. By adopting these methods the farmers benefit is much more than adapting local practice.

(vi) **Banana:** In Karur District, Cauvery water catchment areas like Kulithalai and Krishnaranayapuram area comes under major Banana growing area. Here the soil type is clay with good water holding capacity and more water availability, which forms the main reason for Banana cultivation through out the year. The Irrigation facility is available through river and canal irrigation. The major varieties grown in these areas are Poovan, Rasthali, and Karpooravallli. Through precision farming high yielding Varieties like G-9 (Tissue culture plant), Robusta are going to be introduced by adopting Drip and Fertigation system and 1NM / 1PM. So the farmers get high production and productivity with the high individual bunch weight. They also get uniformity in yield and marketability.

6.2.2. Interventions

a. Increase in Area Coverage

At present the area coverage is minimum. It is difficult to implement the various components of NADP, since the cultivated area is in a isolated condition. The consolidation of holdings is difficult. Since the size of holding is very minimum, the compatibility among farmers is also very less. Hence increasing the area coverage is recommended for operational convenience and better logistics in Karur District under NADP.

b. Precision Farming

It is a market driven crop production system for the total empowerment of the farmers to become entrepreneurs. This system of farming is less labor dependence. The water economy of this Precision farming is 30-40 per cent. The increase in yield is 60-80 per cent with 90 per cent first grade marketable produce. The produce from the precession farming is having 5-6 days more shelf life and hence fetches 30 per cent more premium price in the market. Due to higher wages for the labourers in the textile industry located in and around Karur, the labor shortage is acute in this District. Hence it is a must to introduce the precision farming system with less labor dependence under NADP.

c. Drip and Fertigation System

The water economy is 30-40 per cent in drip irrigation system. Drip and Fertigation system ensures precise application of water-soluble fertilizers to root zone at critical stages of the crop in the immediately available form and hence increased harvest is possible for extended period. This reduces the labour expenses on irrigation, fertilizer application, and weeding and plant protection. The drip and fertigation system is a must in Karur District since the District is a low rainfall District with just 626.63 mm annual average rainfall. The major irrigation source of this District is Amaravathi river. This river has been highly polluted with the effluents of dyeing and textile industry. Hence flood irrigation with the polluted water will further deteriorate the soil health and thereby the plant growth. Hence it is a must for the introduction of Drip and Fertigation system in this District under NADP, which prevents the salt deposit.

d. Nursery

In the High-Tech community nursery, the seedlings are to be raised in portrays. The seedlings will be uniform with physical and physiological age thus ensuring uniform filled stand and uniform harvest. The high-Tech nursery which will ensures 100% germination will reduce the cost of seeds and seed materials used for propagation. Since Karur District is a dry District, this shade net Nursery is a must to save the young seedlings from hot and dry windy weather during the summer season especially for crops like Chillies and Tomato.

e. Pandal for Gourds Production

Due to the higher cost involved in the installation of pandal for gourds, it becomes inevitable to bring more areas under Pandal system for Gourds to get increased yield with better marketable quality. Under NADP this component is included to produce quality vegetables with increased yield. The after cultivation practices like weeding, manuring, irrigation and harvesting will be very easy with the Pandal type of cultivations.

f. Plant Protection Chemicals

The farmers of the District are spending more money for the purchase of various plant protection chemicals without any scientific knowledge. Hence it is a must to supply the selected P.P. Chemicals with more advantages from the commercial P.P Chemicals used by the farmers. Further the supply of P.P. Chemicals is a must to study the interaction of drip fertigation and growth regulators on the pest status and biodiversity of beneficial insects in the precision farming through farmers participatory approach by using the selected Plant Protection Chemicals.

g. Plastic Crates

At present, the farmers are transporting vegetables like tomato and brinjal through Bamboo basket and small gunny bags, which will cause damage to the vegetables during transport. Hence it is programmed to supply Plastic crates, which favour quick loading and unloading without causing any damage to the vegetables during transport and handling.

h. Effective Microbes

Due to the reduction of organic matter status of the soil, the population of soil microbes reduce in a drastic manner. To increase the microbial population, it is a must to apply the bio-fertilizers for effective production in the farmer's field under NADP.

i. Banana Corm Injector

Rhizome weevil is the major Banana pest of this District. Both the adult and grub damages the Pseudostem and Rhizome. Since it is very difficult to take up spraying work in banana due to it is height and nonstick nature of the leaf surface, it is better to use the banana corm injector for taking up pseudo stem injection of monocrotophs 36wsc @ 1m/ph after diluting 1 ml in 4 ml of water at 45 days intervals. Since farmers are not using this banana corm injector at present in Karur district it is proposed to popularizes this instrument by distributing this instrument under NADP.

j. Mango Harvester

Since the District is nearer to Salem District and the prevailing seasonal conditions are favourable for the production of Mango, it is possible to cultivate mango in both dry and semi-dry conditions. Since the soil surface is very hard it is better to harvest the mangoes using mango harvester for getting quality fruits, without any damage. Hence it is a must to distribute mango harvester to mango growers.

k. Sales Outlet Points

Since the Agricultural Extension Centers are more congested with various Agricultural inputs to be distributed under various schemes, it is a must to open a Sales outlet separately for Horticultural inputs for the convenience of the farmers of this district under NADP. From this point, various Horticulture inputs can be easily distributed to the farmers.

l. District Level Farmers Workshop

It is must to conduct a district level farmers workshop to create awareness among farmers regarding the Precision Farming and other components of NADP since this is a new programme to this district.

m. Inter State Exposure Visit

It is proposed to include exposure visits to farmers since the programme is new to this district. Further it will be easy for the farmers to believe the success of the programme in Tamil Nadu and other states. After seeing the success of the programme in the farmer's field, they will take up the schemes readily with the hope of success under NADP.

n. Demo Plot

It is proposed to layout the 10 ha Mega demo plot in the farmer's fields since the farmers will believe only after seeing the success of technologies in demo plot.

o. Enterprising Farmers Association

Establishing the Farmers Associations is a must since the association will play a vital role in the inputs supply and marketing of produce in a collective manner which will benefit the farmers with more advantages of collective bargaining power. By the way of formation of the association and using the common logo and brand of their own produce will fetch higher rate. The association will have four virtues like quantity, quality, uniformity and timely delivery of inputs and eventually become farmers corporate to empower the farmers of this district.

Proposed budget of the Department of Horticulture is furnished in Table 48 through Table 53.

Table 48. Horticulture Department- Action Plan for 2008-09

(in Rs.)

S.No.	Particulars	Gloriosa	Aonala	Chilies	Tomato	Gourds	Banana	Other	Total
1	Area to be covered	10 (ha)	25 (ha)	20 (ha)	10 (ha)	10 (ha)	25 (ha)		100
2	Precision Farming	10 (ha)	25 (ha)	20 (ha)	10 (ha)	10 (ha)	25 (ha)		100
	i) Drip (Rs)	112000	280000	224000	112000	112000	280000		1120000
	ii) Input Cost (Rs)	250000	625000	500000	250000	250000	625000		2500000
	iii) Nursery (Rs)	50000	125000	100000	50000	50000	125000		500000
3	Net House Structure								
	i) Nursery and Vegetables Production			800000	400000				1200000
4	Pandal for vegetable production					1000000			1000000
5	Staking				100000				100000.00
6	Package for plant protection	30000	75000	60000	30000	30000	75000		300000
7	Plastics Crates for Vegetable handling and transport	25000	25000	25000	25000	25000			125000
8	Humic acid / Effective E Microbes	4000	10000	8000	4000	4000	10000		40000.00

Table 48. contd…

(in Rs.)

S.No.	Particulars	Gloriosa	Aonala	Chilies	Tomato	Gourds	Banana	Other	Total
9	Support System for crops								
	i) Banana	-	-	-	-	-	3750000	-	3750000
10	Banana corm injector	-	-	-	-	-	7500	-	7500
11	Mango Harvester @ Rs.500% No's	-	-	-	-	-	-	50000	50000
12	Sales outlet points in districts (Rent and Infrastructure) for 1 No's	-	-	-	-	-	-	260000	260000
13	District Level Farmers Workshop @ Rs.400/- Head / Day for 100 No's	-	-	-	-	-	-	40000	40000
14	Inter state exposure visit (5 days) for 50 farmers @ Rs. 5000 for farmer	-	-	-	-	-	-	250000	250000
15	10 hectare mega demo plot for the district for 1 No's	-	-	-	-	-	-	2500000	2500000
16	Enterprising farmers associations for 1 No's	-	-	-	-	-	-	2500000	2500000
	Total (Rs in lakhs)	**4.71**	**11.40**	**17.17**	**9.71**	**14.71**	**48.725**	**56.00**	**162.425**

Table 49. Horticulture Department - Abstract of Plan for 2008-09

(Rs in lakhs)

S.No.	Particulars	Total Area (Ha)	Total Amount
1	Drip	100	11.20
2	Input Cost		25.00
3	Nursery		5.00
4	Net House Nursery and Vegetables		12.00
5	Pandal for vegetable production		10.00
6	Steaking		1.00
7	Plant Protection Chemicals		3.00
8	Plastics Crates		1.25
9	Humic acid		0.40
10	Support System for crops		37.50
11	Banana corm injector		0.075
12	Mango Harvester		0.50
13	Sales out let points in districts		2.60
14	District Level Workshop		0.40
15	Inter state exposure visit		2.50
16	10 hectare mega demo plot		25.00
17	Enterprising farmers associations		25.00
	Total	**100**	**162.43**

Table 50. Horticulture Department - Action Plan for 2009-10

(In Rs.)

S.No.	Particulars	Gloriosa	Aonla	Chilies	Tomato	Gourds	Banana	Others	Total
1.	Area to be covered	15(ha)	30(ha)	25(ha)	15(ha)	15(ha)	30(ha)	-	130
2.	Precision Farming	15(ha)	30(ha)	25(ha)	15(ha)	15(ha)	30(ha)	-	130
	i) Drip	1,68,000	3,36,000	2,80,000	1,68,000	1,68,000	3,36,000	-	14,56,000
	ii) Input Cost	3,75,000	7,50,000	6,25,000	3,75,000	3,75,000	7,50,000	-	32,50,000
	iii) Nursery	75,000	1,50,000	1,25,000	75,000	75,000	1,50,000	-	6,50,000
3.	Net House structure								
	i) Nursery and Vegetables Production	-	-	5,00,000	12,00,000	-	-	-	17,00,000
4.	Pandal for vegetable production	-	-	-	-	15,00,000	-	-	15,00,000
5.	Steaking	-	-	-	1,50,000	-	-	-	1,50,000
6.	Package for plant protection	45,000	90,000	75,000	45,000	45,000	90,000	-	3,90,000
7.	Plastics Crates for Vegetable handling and transport	93,750	1,87,500	1,56,250	93,750	93,750	-	-	6,25,000
8.	Humic acid / Effective E Microbes	6,000	12,000	10,000	6,000	6,000	12,000	-	52,000
9.	Support system for Crops	-	-	-	-	-	-	-	-
	i) Banana	-	-	-	-	-	5,25,000	-	5,25,000

Table 50. contd…

(In Rs.)

S.No.	Particulars	Gloriosa	Aonla	Chilies	Tomato	Gourds	Banana	Others	Total
10.	Banana corm injector	-	-	-	-	-	27,000	-	27,000
11.	Mango Harvester@Rs.500/No's/100No's	-	-	-	-	-	-	50,000	50,000
12.	Sales outlet points in districts (Rent and infrastructure) for 1No's	-	-	-	-	-	-	2,60,000	2,60,000
13.	District level Farmers Workshop@Rs.400/Head/day for 100 No's	-	-	-	-	-	-	40,000	40,000
14.	Inter state Exposure visit (5 days) for 50 farmers @Rs.5000 for farmer	-	-	-	-	-	-	2,50,000	2,50,000
15.	10 hectare mega demo plot for the district for 1 No's	-	-	-	-	-	-	25,00,000	25,00,000
16.	Enterprising farmers associations for 1 No's	-	-	-	-	-	-	25,00,000	25,00,000
	Total	**762750**	**1525500**	**1771250**	**2112750**	**2262750**	**1890000**	**5600000**	**15925000**

Table 51. Horticulture Department - Action Plan for 2010-11

(in Rs)

S.No.	Particulars	Gloriosa	Aonala	Chilies	Tomato	Gourds	Banana	Others	Total
1.	Area to be covered (HA)	20	35	30	20	20	35	-	160
2.	Precision Farming	20	35	30	20	20	35	-	160
	i) Drip	224000	392000	336000	224000	224000	392000	-	1792000
	ii) Input Cost	393750	787500	656250	393750	393750	787500	-	3412500
	iii) Nursery	78750	157500	131250	78750	78750	157500	-	682500
3.	Net House structure	-	-	-	-	-	-	-	-
	i) Nursery and Vegetables Production	-	-	525000	1260000	-	-	-	1785000
4.	Pandal for vegetable production	-	-	-	-	1575000	-	-	1575000
5.	Staking	-	-	-	157500	-	-	-	157500
6.	Package for plant protection	47250	94500	78750	47250	47250	94500	-	409500
7.	Plastics Crates for Vegetable handling and transport	93750	187500	156250	93750	93750	-	-	625000
8.	Humic acid / Effective E Microbes	6000	12000	10000	6000	6000	12000	-	52000
9.	Support system for Crops	-	-	-	-	-	-	-	-
	i) Banana	-	-	-	-	-	825000	-	825000
10.	Banana corm injector	-	-	-	-	-	54000	-	54000

Table 51. contd…

(In Rs.)

S.No.	Particulars	Gloriosa	Aonala	Chilies	Tomato	Gourds	Banana	Others	Total
11.	Mango Harvester@Rs.500/Nos./100 Nos.	-	-	-	-	-	100000	-	100000
12.	Sales outlet points in districts (Rent and infrastructure) for 1No.	-	-	-	-	-	260000	-	260000
13.	District level Farmers Workshop@Rs.400/Head/day for 100 Nos.	-	-	-	-	-	-	40000	40000
14.	Inter state Exposure visit (5 days) for 50 farmers @Rs.5000 for farmer	-	-	-	-	-	-	250000	250000
15.	10 hectare mega demo plot for the district for 1 No's	-	-	-	-	-	-	2500000	2500000
16.	Enterprising farmers associations for 1 No's	-	-	-	-	-	-	2500000	2500000
	Total	**843500**	**1631000**	**1893500**	**2261000**	**2418500**	**2682500**	**5290000**	**17020000**

Table 52. Horticulture Department -Action Plan for 2011-12

(in Rs)

S.No.	Particulars	Gloriosa	Aonla	Chilies	Tomato	Gourds	Banana	Others	Total
1.	Area to be covered	25	40	35	25	25	40	-	190
2.	Precision Farming	25	40	35	25	25	40	-	190
	i) Drip	280000	448000	392000	280000	280000	448000	-	2128000
	ii) Input Cost	413438	826875	689063	413438	413438	826875	-	3583127
	iii) Nursery	82688	165375	137813	82688	82688	165375	-	716627
3.	Net House structure	-	-	-	-	-	-	-	-
	i) Nursery and Vegetables Production	-	-	551250	1323000	-	-	-	1874250
4.	Pandal for vegetable production	-	-	-	-	1653750	-	-	1653750
5.	Steaking	-	-	-	165375	-	-	-	165375
6.	Package for plant protection	49613	99225	82688	49613	49613	99225	-	429977
7.	Plastics Crates for Vegetable handling and transport	93750	187500	156250	93750	93750	-	-	625000
8.	Humic acid / Effective E Microbes	6000	12000	10000	6000	6000	12000	-	52000
9.	Support system for Crops	-	-	-	-	-	-	-	-
	i) Banana	-	-	-	-	-	866250	-	866250
10.	Banana corm injector	-	-	-	-	-	54000	-	54000

Table 52. contd…

(in Rs)

S.No.	Particulars	Gloriosa	Aonla	Chilies	Tomato	Gourds	Banana	Other	Total
11.	Mango Harvester@Rs.500/No's/100No's	-	-	-	-	-	100000	-	100000
12.	Sales outlet points in districts (Rent and infrastructure) for 1No's	-	-	-	-	-	260000	-	260000
13.	District level Farmers Workshop@Rs.400/Head/day for 100 No's	-	-	-	-	-	-	40000	40000
14.	Inter state Exposure visit (5 days) for 50 farmers @Rs.5000 for farmer	-	-	-	-	-	-	250000	250000
15.	10 hectare mega demo plot for the district for 1 No's	-	-	-	-	-	-	2500000	2500000
16.	Enterprising farmers associations for 1 No's	-	-	-	-	-	-	2500000	2500000
	Total	**925489**	**1738975**	**2019064**	**2413864**	**2579239**	**2831725**	**5290000**	**17798356**

Table 53. Overall Budget Expenditure for Horticulture Department

(in Rs)

S.No.	Particulars	2008-09		2009-10		2010-11		2011-12		Total	
		Total Area	Total Amount	Total Area	Total Amount	Total Area	Total Amount	Total Area	Total Amount	Total Area	Total Amount
1	Area to be covered			-	-	-	-	-	-	-	
2	Precision Farming			-	-	-	-	-	-	-	
	i) Drip	100	1120000	130	1456000	160	1792000	190	2128000	480	6496000
	ii) Input Cost		2500000	-	3250000	-	3412500	-	3583127	-	12745627
	iii) Nursery		500000	-	650000	-	682500	-	716627	-	2549127
3	Net House structure			-	-	-	-	-	-	-	-
	i) Nursery and Vegetables production		1200000	-	1700000	-	1785000	-	1874250	-	6559250
4	Pandal for vegetable production		1000000	-	1500000	-	1575000	-	1653750	-	5728750
5	Steaking		100000	-	150000	-	157500	-	165375	-	572875
6	Package for plant protection		300000	-	390000	-	409500	-	429977	-	1529477
7	Plastics Crates for Vegetable handling and transport		125000	-	625000	-	625000	-	625000	-	2000000
8	Humic acid / Effective Microbes		40000	-	52000	-	52000	-	52000	-	196000
9	Support system for Crops			-	-	-	-	-	-	-	-
	i) Banana		3750000	-	525000		825000	-	866250	-	5966250

Table 53. contd…

(in Rs)

S.No.	Particulars	2008-09		2009-10		2010-11		2011-12		Total	
		Total Area	Total Amount	Total Area	Total Amount	Total Area	Total Amount	Total Area	Total Amount	Total Area	Total Amount
10	Banana corm injector		7500	-	27000	-	54000	-	54000	-	142500
11	Mango Harvester@Rs.500/No's/100No		50000	-	50000	-	100000	-	100000	-	300000
12	Sales outlet points in districts (Rent and infrastructure) for 1No's		260000	-	260000	-	260000	-	260000	-	1040000
13	District level Farmers Workshop@Rs.400/Head/day for 100 No's		40000	-	40000	-	40000	-	40000	-	160000
14	Inter state Exposure visit (5 days) for 50 farmers @Rs.5000 for farmer		250000	-	250000	-	250000	-	250000	-	1000000
15	10 hectare mega demo plot for the district for 1 No's		2500000	-	2500000	-	2500000	-	2500000	-	10000000
16	Enterprising farmers associations for 1 No's		2500000	-	2500000	-	2500000	-	2500000	-	10000000
	Total	**100**	**16242500**	**130**	**15925000**	**160**	**17020000**	**190**	**17798356**	**480**	**66985856**

Budget proposal for Horticulture Deparrtment : Rs. 669.86 lakhs

6.3. Agricultural Marketing and Agribusiness Development

1) Current Status of Agribusiness

Agriculture, as a primary sector provides livelihood to 56 per cent of the population and contributes to around 13 per cent of the State GDP. In value terms between 65 and 75 per cent of agricultural produce is transacted in markets, usually through long marketing chains, regulated markets and an emerging commercialized retail system in urban centers. Unorganized small players (handling less than 0.5 t/day) process more than 75 per cent of industry output. The Government is taking efforts to achieve targetted growth rate of 4 per cent in Agriculture during XI Plan period. Though fertile soil, good quality water and long period of sunlight which are the basic requirements for Agriculture are available in abundance in Tamil Nadu, still the productivity has not been enhanced to its potential level.

The Government is taking efforts to attain sustainable agricultural development by bringing agriculture as a commercial venture by switching over from the present method of cultivation through adoption of new scientific method of cultivation to increase the productivity to manifold, value addition, processing and utilization of marketing opportunities. To improve the marketing opportunities for agricultural produce, the Uzhavar Santhai, post harvest management, cold storage facilities for perishables, food-processing, establishment of export zones and terminal markets have been taken up. To reduce the loss of the food products which are upto 30 per cent, necessary provisions are made in the Agricultural Industrial Policy to ensure remunerative price to the produce, encourage food processing sector and export to earn foreign exchange by increasing the food processing from the present level of one per cent to 10 per cent, out of the total production and increasing value addition from 7 per cent to 30 per cent. Under this policy, all assistance, which is provided to other industries, will be extended to agro-based industries, agricultural machineries and industries manufacturing micro irrigation equipments.

One Deputy Director of Agriculture (Agri Business) for each district, one Agricultural Officer for every two blocks and one Assistant Agricultural Officer for one block have been posted as per restructuring to regulate Agri Business and encourage entrepreneurs. In 103 Uzhavar Shandies, 51 Agricultural Officers and 52 Deputy

Agricultural Officers are posted. After restructuring, 239 original posts have been enhanced to 906 posts in Agricultural Marketing and Agri Business Department.

2) Agribusiness and the National Development Goals

The Planning Commission's Mid-Term Appraisal (MTA) of the Tenth Plan note that achieving higher growth rates depends on reversing the decline in growth of the agricultural sector and requires a move away from 'business as usual'. Under the eleventh Plan, areas identified for special attention in the agriculture sector included among others: (i) diversification to high value crops and activities; (ii) increasing cropping intensity; (iii) strengthening of marketing, processing and value addition infrastructure; (iv) revamping and modernizing the extension systems and encouraging the private sector to provide extension services; and (v) bridging the gap between research and farmers' yields.

For the agriculture sector, the eleventh Plan projected an annual growth rate of four per cent, which was seen as achievable if growth of 6 to 8 per cent could be achieved in horticulture. These growth rates have not attained largely because of constraints identified in the Plan have not been overcome. These constraints include lack of modern and efficient infrastructure, poor technological support and post harvest management, underdeveloped and exploitative market structures, inadequate research and extension to address specific agricultural problems and linkages with farmers and industry. The strong relationship between agriculture and rural poverty means that current plans, policy and sector performance will be unable to address the needs of rural poor.

The two most important programs related to agribusiness development are the Technology Mission for Integrated Development of Horticulture (TM) and the National Horticultural Mission (NHM). The focus of the TM is production of horticultural products in Hill states, whereas post harvest management and processing have only a nominal presence. The NHM has a broader coverage of states and addresses issues of market infrastructure development and processing. However, the key issue of coordination within value chains is not addressed. There needs to be a better understanding of why despite generous subsidies in the past, progress has been slow with private investment in market infrastructure and development of the processing industry. At present 21 Market committees are functioning in Tamil Nadu at district Level. There

are 277 Regulated Markets, 15 Check Posts, 108 Rural Godowns and 108 grading centres functioning under the Market Committees

3) Major Constraints and Challenges in Agricultural Marketing and Agribusiness Development in the State

Current agricultural marketing and agribusiness system in the state is the outcome of several years of Government intervention. The system has undergone several changes during the last 50 years owing to the increased marketed surplus; increase in urbanization and income levels and consequent changes in the pattern of demand for marketing services; increase in linkages with distant and overseas markets; and changes in the form and degree of government intervention. An important characteristic of agricultural produce markets in Tamil Nadu has been that private trade has continued to dominate the market. With the large quantities required to be handled by the private trade, the size and structure of markets over time have considerably expanded. There are a large number of wholesalers and retailers to handle the trade in food grains. Apart from traders, processors also play an important role as they also enter in the market as bulk buyers and sellers.

Agricultural development continues to remain the most important objective of State planning and policy. The experience of agricultural development in the state has shown that the existing systems of delivery of agricultural inputs and marketing of agricultural output have not been efficient in reaching the benefits of technology to all the sections of farmers. The timely, quality and cost effective delivery of adequate inputs still remains a dream despite the marketing attempts of the corporate sector and the developmental programmes of the state. Also, the farmers are not able to sell their surplus produce remuneratively. There are plenty of distress sales among farmers both in agriculturally developed as well as backward regions of the State. There are temporal and spatial variations in the markets and the producers' share in consumers' rupee has not been satisfactory, except for a few commodities. In fact, in some of the commodities like tomato in some regions of the State, producers end up making net losses at the same time when traders make substantial profits from the same crop. However, it needs to be recognized that producers' relative share in the final price of a product certainly goes down with the increase in the number of value-adding stages, and therefore, cannot be used as an indicator of a market's efficiency or inefficiency. Nevertheless, the other aspects of the market performance like absolute share of the producer in terms of

remunerability, fluctuations in prices across seasons, large spatial price differences and lack of proper market outlets itself, are the issues which have become increasingly crucial in the present context. There are structural weaknesses of agricultural markets like unorganized suppliers as against organized buyers, weak holding capacity of the producers and the perishable nature of the produce in the absence of any storage infrastructure. In the presence of these characteristics of the market, the rural producers cannot simply be left to fend for themselves so far as marketing of their produce is concerned. And if the marketing system does not assure good returns to producers, not much can be achieved in the field of product quality and delivery, which are critical for processing and manufacturing sectors. In the environment of liberalization and globalization, the role of the state in agricultural marketing and input supply is being reduced, and an increasing space is being provided to the private sector to bring about better marketing efficiency in input and output markets. On the other hand, processors and/or marketers face problems in obtaining timely, cost effective, and adequate supply of quality raw materials.

Small farms produce more than 35 percent of State total grain, and over half of total fruits and vegetables despite being resource constrained. The marginal farmers have higher cropping intensity compared with that of the small, medium and large farmers, mainly owing to higher irrigated area as percentage of net sown area. The small and marginal farmers are certainly going to stay for long time in State though they are going to face a number of challenges. Therefore, what happens to small and marginal farmers has implications for the entire State and people's livelihoods. But, they can adequately respond to these challenges only if there is efficient marketing system for handling their small surpluses. Otherwise, they will only be losers in the process of globalization and liberalization. The viability of the smallholdings is an important issue and promoting agricultural diversification towards high value crops through an efficient marketing system is argued to be one of the means through which this can be achieved. Hence there is an urgent need for specific intervention in agricultural marketing in Tamil Nadu.

4) Sector Problem Analysis

The core problem for agribusiness development in Tamil Nadu is the general failure in coordinating the decisions of private stakeholders (e.g. farmers, traders and agro-processors in the case of the agrifood system) and service providers from the public, private and nongovernmental organizations (NGO) sectors.

Farmers fail to link among themselves through effective producer organizations to be able to undertake joint decisions in production and marketing. Farmers have weak linkages with enterprises and often fail to link effectively to markets because of limited access to relevant market intelligence and inadequate market infrastructure. Farmers are also poorly linked to research and extension providers to be able to address their specific technology and knowledge needs that would enable them to innovate into high value production systems.

Entrepreneurs have weak linkages with farmers through contacts and vertical integration arrangements and are distant from consumers because of the absence of organized retail chains. Linkages with service providers are characterized by a lack of confidence particularly in the case of research and extension organizations. The absence of proper certification, quality assurance systems and inadequate infrastructure continues to limit the integration of production with international markets.

Most of service providers agencies fail to link with each other, particularly during implementation of national programs. Links between states and central agencies are often limited. Service providers from the public sector are often unable to provide effective services due to lack of funding, bureaucratic hurdles and the lack of a culture that is client and business oriented. Most NGOs are not used to working in the field of enterprise development and their presence in the agribusiness sector is marginal. Service providers from the private sectors are emerging but are mainly oriented to the needs of corporate clients rather than small and medium enterprises or producer groups that dominate total production.

Past interventions to improve technology, infrastructure and access to credit and markets had modest impact on growth of the sector. The policy assumption that more funds and subsidies will lead to the desired results has proven to be incorrect. Steps for ensuring coordination within each value chain have not been recognized. In spite of subsidies, progress has been slow with few effective value chains emerging and few stakeholders investing in market infrastructure such as the cooperative sector in Bangalore. The capacity of individuals, groups and service providers to understand and practice value chain principles and management remains low.

For growth to accelerate substantially a new way of thinking about agribusiness development in Tamil Nadu and promoting agribusiness is needed. This new way, and the related business practices that go with it, implies overcoming significant coordination failures. This requires appropriate institutional mechanisms that currently do not exist within the current policy setting.

5) Project Rationale

The rationale for the proposed Augmentation of Agricultural Marketing and Agribusiness development in Tamil Nadu through NADP funding is based on the following:

1. The rate of agricultural growth over the past decade has been declining in Tamil Nadu. Agribusiness through its linkages to production, industry and services has the potential to transform the agricultural system into a more dynamic sector.

2. As urbanization and incomes grow, there is a growing demand for a wider range of agri food products, of higher quality and greater convenience, in Tamil Nadu. Meeting this demand requires organized retailing and effective agribusiness supply chains.

3. Agribusiness contributes to the production of higher value products and diversification away from staple foods. Through this diversification and the development of the value chain between producers and consumers, the rural economy benefits from innovation and the creation of non-farm employment.

4. Tamil Nadu has a comparative advantage in a number of agricultural commodities. Increasing integration with global markets and the potential to become a stronger player in agricultural trade requires quality assurance and competitive advantage.

5. The State Government has identified agribusiness development as a strategic priority. In Tamil Nadu, agribusiness has a significant role to play in rural and economic development, and agro-enterprises could be a major source of rural non-farm employment and income.

6. The existing government programs to promote agricultural diversification are broad-based programs with multiple objectives. For agribusiness development to happen, a more focused approach is needed to complement the initiatives already covered by the different national programs.

6) Project Strategy

The project will promote the Agri-business practices and models required to support agribusiness development in Tamil Nadu, allowing the sector to contribute to economic growth, particularly in rural areas. New Agri-business practices will be introduced relating to: (i) farmers and entrepreneurs engaging service providers to solve specific technology problems (ii) learning to work together in the value chain (iii) making effective use of market intelligence in decision making; and (iv) making investments in supply chain infrastructure and market places.

7) Project Approach

The project aims at improving business practices needed for agribusiness development in Tamil Nadu. Profit motivations are critical to the improvement of business practices. Rather than starting from a production point of view, stakeholders are encouraged to start from understanding market requirements and opportunities. The project will help stakeholders to access the relevant technologies and knowledge services needed for realizing the identified profit opportunities. Those profit opportunities are realized by working together with other stakeholders in the value chain, and by improving linkages through investments and existing physical infrastructure.

8) Project Goal

The expected impact of the project will be an increasingly competitive agribusiness sector, informed by the adoption of improved business practices in the Agriculture sector, leading to diversification, higher value addition, and higher incomes for farmers, farm workers and entrepreneurs and reduced rural poverty. The expected outcome of the project will be increased benefits (incomes) for farmers, farm workers and entrepreneurs in the selected value chains.

Through the adoption of improved agribusiness practices, the project will facilitate the development of a competitive agribusiness sector in Tamil Nadu, promoting

diversification and contributing to the transformation of agriculture into a system producing higher value and contributing to the reduction of poverty in rural areas.

The envisaged project's interventions will provide higher value for consumers, value that will be shared as distributed benefits to value chain stakeholders including farmers, entrepreneurs and workers. This will be achieved through activities that improve business practices related to use of market information, investment in technology transfer and knowledge services, development of value chain linkages and investment in market infrastructure. The distributed benefits will provide incentive for ongoing involvement and further innovation from which the sector can extend its development.

The project **impact** is to develop an increasingly competitive agribusiness sector in Tamil Nadu attained through the adoption of improved business practices in the horticultural sector leading to higher value added and higher income of farmers, farm workers and entrepreneurs, particularly women amongst them.

The project **outcome** is increased benefits to farmers, entrepreneurs and workers who are involved in selected value chains in Tamil Nadu

9) Needed interventions

1. Establishment/ organization of commodity groups for marketing in the state with financial assistance from NADP
2. Facilitation of Contract Farming between farmers and bulk buyers in the state with financial assistance from NADP
3. Dissemination of Market intelligence
4. Arrangement of Buyers - Sellers Meet
5. Organizing the exposure visits to important markets within the state and outside the state by commodity groups / farmers and extension functionaries.
6. Strengthening of market extension centre at each district/ block level for capacity building and dissemination of marketing information.
7. Strengthening of selected village shandies with financial assistance from NADP
8. Capacity building of farmer's skill
9. Price surveillance
10. Regulated Market / Uzhavar Shandies Publicity and
11. Market Infrastructure

6.3.1. Establishment/ Organization of Commodity Groups

i) Project Rationale

According to Government sources, the inefficient marketing system leads to an avoidable waste of around Rs 50,127 crores. A major part of this can be saved by introducing scale and technology in agricultural marketing. Milk and eggs marketing are two success areas of role of scale and technology in marketing. The extent to which the farmer-producers will benefit (out of saving of avoidable waste) depends on the group-marketing practices adopted by the farmers. In this sense, Farmers' Groups/ Commodity Groups need to be promoted for undertaking marketing activities on behalf of the individual members of the group.

Based on the international experience, in view of expanding retail trade, organizing the farmers and equipping the commodity groups can facilitate the aggregation of produce and also enhance the bargaining power of the farmers. The experience in Malaysia, Thailand and Philippines indicated that the retail chains will depend on some intermediary agency for sourcing the produce. If this role can be taken by the farmers' commodity groups, the commodities can move directly to the market without any intermediary. Further, adoption of technology both in production and post-harvest management which is expected to flow from the organized retailers and other research institutions can be efficient through the farmers' commodity groups. There is no single model for organizing the farmers for the whole country. Depending on the strength of the existing farmers' institutions, various models could be adopted. The model of farmers' marketing commodity groups cannot be the same throughout the country. It can be cooperatives, SHGs or any other form. Therefore it is proposed to organize the commodity groups for marketing of agricultural commodities in Tamil Nadu over the period of four years.

ii) Project Strategy

Formation of commodity groups for group marketing in the State with financial assistance from NADP.

iii) Project Goals

Organizing group marketing of major agricultural commodities for realizing higher prices through establishing commodity groups.

iv) Project Components

1.Organising meetings with large number of farmers

2.Identification of willing / co operating Farmers

3.Organising the willing farmers into groups and

4.Periodical meeting with groups and coordinating the activities

v) Project cost and Financing

Arranging / organising Commodity Groups involves several rounds of meeting with large number of farmers to begin with and finally arriving at about required number of farmers for group marketing. To organize these, an amount of Rs.20000/= is provided per group.

In this project, it is proposed to organize 224 commodity groups in seven commodities for marketing of agricultural commodities in the district over the period of four years. This will require resources of Rs 51.52 Lakhs for the period of four years. The details are presented in Table 55 A.

vi) Reporting

1. Quarterly progress reports to be sent to the Deputy Director (Agricultural Marketing and Agri Business) by the concerned Agricultural Officer (Agricultural Marketing and Agri Business) and Secretaries of Marketing Committees.

2. Periodical Inspection to be undertaken by the Deputy Director (Agricultural Marketing and Agri Business)

6.3.2 Facilitation of Contract Farming between Farmers and Bulk Buyers

i) Project Rationale

Apart from linking the farmer to consumer through farmers' organizations, another initiative for reducing transaction cost is establishment of direct channel between farmer-processor/bulk consumers, through contract farming (CF). For different reasons, both farmers and farm product processors/distributors may prefer contracts to complete vertical integration. A farmer may prefer a contract, which gives access to additional sources of capital, and a more certain price by shifting part of the risk of adverse price

movement to the buyer. Farmers also get an access to new technology and inputs, including credit, through contracts which otherwise may be beyond their reach. For a processor or distributor, contracts are more flexible in the face of market uncertainty, make smaller demands on scarce capital resources and impose less of an additional burden of labour relations, ownership of land, and production activities on management.

At more macro economic level, contracting can help to remove market imperfections in produce, capital (credit), land, labour, information and insurance markets; facilitate better coordination of local production activities which often involve initial investment in processing, extension etc.; and can help in reducing transaction costs. It has also been used in many situations as a policy step by the State to bring about crop diversification for improving farm incomes and employment. Contract farming is also seen as a way to reduce costs of cultivation as it can provide access to better inputs and more efficient production methods. The increasing cost of cultivation was the reason for the emergence of contract farming in Japan and Spain in the 1950s and in the Indian Punjab in the early 1990s. Though there are concerns about the ability of the small farms and firms to survive in the changing environment of agribusiness, still there are opportunities for them to exploit like in product differentiation with origin of product or organic products and other niche markets. But, the major route has to be through exploitation of other factors like external economies of scale through networking or clustering and such other alliances like CF.

Marketing tie-ups between farmers and processors or bulk purchasers have special significance for small farmers, who have small-marketed surplus and do not have staying power. Such arrangements are being encouraged to help in reducing price risks of farmers and to also expand the markets for farm products. It is to be noted that contract farming of sugarcane is going on for more than 50 years in Tamil Nadu. In case of cotton, maize and medicinal plants there are few cases of contract farming. Contract farming in milk, eggs and broiler production is successfully taking place in large scale in Tamil Nadu. The lessons learnt in case of sugarcane, cotton and other commodities have to be taken into account during formulation of the project. In this NADP programme, facilitation contract farming between the traders and producer is proposed.

ii) Project Strategy

Facilitation contract farming between the traders and producer by organising buyers and sellers meet at the block levels

iii) Project Components

1. Organising meeting with farmers, large scale buying firms, crop insurance companies and banks.
2. Identification of willing / co operating Farmers/ commodity clusters
3. Organising the willing farmers into groups
4. Arranging the Groups to have contract/agreement with select large scale buyers, banks and crop insurance firms.
5. Periodical watching of contracts and conflict management.

iv) Project cost and Financing

Arranging / organising Commodity Groups involve several rounds of meeting with large number of farmers and traders, train them in contract specification and monitor them. To organize these an amount of Rs.10,000/= is provided.

In this project, it is proposed to organize the meeting on various crops, regarding contract farming between farmers and bulk buyers in the district for marketing of agricultural commodities in Tamil Nadu over the period of four years. This will require resources of Rs 3.68 lakhs for the period of four years. The details are presented in Table 55 A.

v) Reporting

1. Quarterly progress reports to be sent to the Deputy Director (Agricultural Marketing and Agri Business) by the concerned Agricultural Officer (Agricultural Marketing and Agri Business) and Secretaries of Marketing committees.
2. Periodical Inspection undertaken by the Deputy Director (Agricultural Marketing and Agri Business)

6.3.3 Dissemination of Market intelligence

i) Project Rationale

Rural (primary and periodic) Markets are the first contact points of farmers with the market economy, both for selling and buying. As there have been high price differentials many times between the Wholesale Markets and the Rural Markets, there is

room for arbitrage, which is being exploited by the traders to their advantage. Therefore, it is imperative to make the Wholesale Markets as the price discovery point and the Rural Markets as the price takers with due consideration for transport and other costs. As the Rural Markets have few traders, the tendency to collude among them is high. In the Wholesale Markets, as traders are many, one can expect a fair price. In a country like India with 70 percent of its population living in about 6.25 lakhs villages and depending on agriculture as their main occupation, accurate and timely information about the market prices of the agricultural commodities is of extreme significance.

The most important marketing information is price data. Agricultural price data are based on thousands or millions of transactions, many of them on a small scale, that are taking place every day all over the country. Collecting an adequate sample and making sure that these are representative enough to be useful is not an easy task. As farmers become more market oriented, extension workers need to be in a position to advise them not only on how to grow crops but also on how to market them. Knowledge of produce handling, storage and packaging is also essential. An understanding of costs and margins is essential for all those involved with agricultural marketing. Before any agro-processing venture is started, or before an existing venture decides to expand its product line, an understanding of the market for the planned products is essential. Market research can never guarantee success but it can certainly increase the likelihood that the new business will turn out to be profitable. Hence in this project is included the dissemination of market intelligence provided by the Domestic and Export Market Intelligence Cell, Centre for Agricultural and Rural Development Studies, Tamil Nadu Agricultural University, Coimbatore and other agencies.

ii) Project Strategy

Dissemination of Market intelligence provided by the Domestic and Export Market Intelligence Cell, Centre for Agricultural and Rural Development Studies, Tamil Nadu Agricultural University, Coimbatore and other agencies through different mass media.

iii) Project Components

1. Procurement of market intelligence reports and
2. Dissemination of Market intelligence to all the stake holders through different mass media.

iv) Project cost and Financing

In this project, it is proposed to disseminate market intelligence of agricultural commodities to all the stake holders through different mass media in the district over the period of four years. This will require resources of Rs 9.52 lakhs for the period of four years. The details are presented in Table 55 A.

v) Reporting

1. Quarterly progress reports to be sent to the Deputy Director (Agricultural Marketing and Agri Business) by the concerned Agricultural Officer (Agricultural Marketing and Agri Business) and Secretaries of Marketing committees.

2. Periodical Inspection undertaken by the Deputy Director (Agricultural Marketing and Agri Business).

6.3.4 Arrangement of Buyers - Sellers Meet

i) Project Rationale

Indian farmers usually produce diverse goods and services to meet the family requirements. Marketable surpluses, if any, are disposed off immediately after harvest to meet the cash requirements when prices are generally depressed and often to specific buyers who have provided credit.

There is limited market for all good and services produced by the farmers in the vicinity. In contrast, quite often, they buy goods and services in lean period when prices are generally higher. Therefore, the nature, degree and the complexity of the problems faced vary among the farmers, regions, and markets.

Several alternatives are available within each market for the farmers. Critical evaluation of the alternatives is important in deciding a profitable set to determine the overall profitability of the farms.

The most important aspect of the agricultural market intelligence is to create awareness about the demand and quality requirements for various agricultural produce among farmers and also to build knowledge on the availability of various agricultural commodities among the traders.

There is increasing pressure on all segments of the agriculture produce economy to respond to the challenges that the global markets pose in the new post: WTO world trade order.

Buyers and sellers meet functions as platform linking agribusiness community namely farmers, traders, commission agents, agricultural processed food organizations, millers and machinery manufacturers in an egalitarian exchange of ideas and materials.

It is beautifully explained as a business partnership between producers and buyers to enhance their knowledge for mutual gain.

Arrangement of these meetings brings together the two important aspects of success i.e. technology and human resources. Besides display of agricultural commodities through exhibitions, the meet aspect covers all the latest market related interventions and provides need-based solutions to farmers through direct contact with experts.

ii) Project Cost and Financing

In this project, it is proposed to arrange for 32 buyers - sellers meet in the district over the period of four years. This will require resources of Rs.3.68 Lakhs for the period of four years. The details are presented in Table 55 A.

6.3.5. Organizing the Exposure visits to Important Markets within the State the State by Commodity Groups / Farmers and Extension Functionaries.

i. Project Rationale

The goal of four per cent growth in agriculture can only be achieved by increasing productivity per unit of land. Considering the costs and constraints of resources such as water, nutrients and energy, the genetic enhancement of productivity should be coupled with input use efficiency. This can be made possible only by creation and utilization of new and improved technology. Since new technology creation and development is a slow process, for attaining the desired four per cent growth during the XIth Plan period, we will have to rely more on known and proven technology. Agriculture research system claims to have a large number of promising technologies to achieve high growth and promote farming systems that improve natural resource base. However, these are not seen

at farmers' fields at large. Visit of other areas, where new technologies are being implemented successfully i.e., exposure visits is an important thing to enlighten the farmers for implementing those technologies in their areas also. It is easy to know the new technology through demonstration. Farmers will be selected to visit different places within the State where the technologies are well adopted. Therefore it is proposed to organize the exposure visit to important markets within the state and outside the State by commodity groups / farmers and extension functionaries in the State for marketing of agricultural commodities in Tamil Nadu over the period of four years.

ii) Project Strategy

Organizing the exposure visits to important markets within the State and outside the State by commodity groups / farmers and extension functionaries.

iii) Project Goals

Organizing the exposure visit to important markets within the State and outside the State by commodity groups / farmers and extension functionaries in the State for marketing of agricultural commodities in Tamil Nadu over the period of four years from NADP funding

iv) Project Components

1. Organizing the exposure visit to important markets within the State by commodity groups / farmers
2. Organizing the exposure visit to important markets outside the State by commodity groups / farmers
3. Organizing the exposure visit to important markets within the State and outside the state by extension functionaries

v) Project Cost and Financing

Visit of important markets, where new opportunity for marketing of the commodity and consumer preference i.e., exposure visits to SAFAL market Bangalore is an important thing to enlighten the farmers for marketing their produce as well as consumer preference. It is easy to know the marketing of the commodity through observation and participation in the well-developed markets. Farmers will be selected to visit different market places where the new opportunities for marketing of commodities exist. This will require resources of Rs.22.66 Lakhs for the period of four years. The details are presented in Table 55 A.

vi) Reporting

1. Quarterly progress reports to be sent to the Deputy Director (Agricultural Marketing and Agri Business) by the concerned Agricultural Officer (Agricultural Marketing and Agri Business) and Secretaries of Marketing committees.

2. Periodical Inspection undertaken by the Deputy Director (Agricultural Marketing and Agri Business)

6.3.6 Strengthening of Market Extension Centre at Each District/ Block level for Capacity Building and Dissemination of Marketing Information.

i) Project Rationale:

Over the last few years, mass media has seen a phenomenal growth in the country both in terms of reach and advance in technology. This medium has not been exploited to its full potential for the purpose of agricultural extension specifically market led extension. A concerted and well-coordinated effort now needs to be made to use the electronic media in the Extension strategy by strengthening infrastructure facility. Market led Extension is now becoming more diversified, technology intensive, knowledge oriented and more demand-driven. This requires the extension workers at the cutting edge level to be master of so many trades, which is neither practicable nor possible. Use of IT in extension enables the extension workers to be more effective in meeting the information needs of farmers. The growing Information and communication technology is used widely in the entire developmental sector except in agricultural sector. Use of interactive multimedia and such other tools will help the extension workers to serve the farmers better. Similarly, extension systems have to utilize the existing print and electronic mass media for faster dissemination of information to farmers. The technological advancement in telecommunication and space technology has to be fully tapped for devising appropriate programs for farmers. Hence there is an urgent need to strengthening of market extension centre at each district/ block level with LCD projectors and lap top computer including Internet facilities.

ii) Project Strategy

Strengthening of market extension centre at each district/ block level for capacity building and dissemination of marketing information.

iii) Project Goals

Strengthening of market extension centre at each district/ block level for capacity building and dissemination of marketing information in Tamil Nadu over the period of four years from NADP funding.

iv) Project Components

Strengthening of market extension centre at each district/ block level.

v) Project cost and Financing

Over the last few years, mass media has seen a phenomenal growth in the country both in terms of reach and advance in technology. This medium has not been exploited to its full potential for the purpose of agricultural extension specifically market led extension. A concerted and well-coordinated effort now needs to be made to use the electronic media in the Extension strategy by strengthening infrastructure facility. In this project, it is proposed to strengthening market extension centre in the district over the period of four years. This will require resources of Rs.2.50 Lakhs for the period of four years. The details are presented in Table 55 A.

vi) Implementation

The project will be implemented over a period of four years.

vii) Reporting

1. Quarterly progress reports to be sent to the Deputy Director (Agricultural Marketing and Agri Business) by the concerned Agricultural Officer (Agricultural Marketing and Agri Business) and Secretaries of Marketing committees.

2. Periodical Inspection undertaken by the Deputy Director (Agricultural Marketing and Agri Business).

6.3.7. Capacity Building of Farmers' Skill

i) Project Rationale

Apart from pursuing policies and creating formal organizations to intervene in agricultural marketing, governments have adopted several programmes of providing market support services. It appears that the types of programmes initiated cover a very wide spectrum of possible solutions to help small and marginal farmers. However, the benefits have not adequately reached the intended target groups. The main reason is that

agricultural marketing and business related aspects of training, education and research have remained neglected in our country.

The role of the market as knowledge and information exchange amongst the converging farmers needs to be appreciated and harnessed. Farmers get benefit from deregulation of markets, minimum guaranteed price scheme, contract farming, and crop/income insurance, only to the extent they organize in marketing groups, self-help groups, cooperatives or companies and learn skills suited to the new marketing environment. Understanding quality standards (including FAQ), learning the terms of contract and insurance, and choosing and preparing the produce for the market are going to be essential skills for farmers. There is a need for greater synergy between extension services and market. State Marketing Departments and Boards, APMCs, Krishi Vigyan Kendras (KVKs), Marketing Cooperatives, NGOs and PRIs should pay increasing attention to train the farmers in marketing related skills. All stakeholders in the Supply Chain (i.e. from farmers to consumers) should be exposed to the following characteristics and complexities of the marketing system to make it more efficient. Hence in this project the following training programmes are proposed with budget requirement of Rs. 14.72 Lakhs.

- Training on Warehousing and storage
- Training on Grading
- Training on Market intelligence
- Training on Post Harvest Management of selected commodities
- Massive awareness programme to be undertaken to demystify the commodity futures markets and enable the farmers to enter into futures contract so as to insure their price risk and
- Training to farmers on selected commodities for Export Promotion.

ii) Project Strategy

Training will be organized for farmers / commodity groups on Warehousing and storage, Grading, Market intelligence, Post Harvest Management of selected commodities and awareness programme to be undertaken to demystify the commodity futures markets and enable the farmers to enter into futures contract so as to insure their price risk in the State with financial assistance from NADP.

iii) Project Components

Organising training to farmers / commodity groups on Warehousing and storage, Grading, Market intelligence, Post Harvest Management of selected commodities and awareness programme to be undertaken to demystify the commodity futures markets and enable the farmers to enter into futures contract so as to insure their price risk.

iv) Project Cost and Financing

In this project, it is proposed to organize about 128 trainings under Capacity Building of Farmers Skill titles for marketing of agricultural commodities in the district over the period of four years. This will require resources of Rs 14.72 Lakhs for the period of four years. The Details are presented in Table 55 A.

v) Reporting

1. Quarterly progress reports to be sent to the Deputy Director (Agricultural Marketing and Agri Business) by the concerned Agricultural Officer (Agricultural Marketing and Agri Business) and Secretaries of Marketing committees.

2. Periodical Inspection undertaken by the Deputy Director (Agricultural Marketing and Agri Business).

6.3.8 Strengthening of selected Market Infrastructure (equipments) through NADP Funding

i) Rationale

Considering the importance of different markets, there is an urgent need to develop these markets in a phased manner with necessary infrastructural amenities to have a strong base of the marketing channel. Suitability and adequacy of marketing infrastructure depends on the type and quantity of marketed surpluses of agricultural produce in the State. The estimated marketed surpluses of various commodities given in Table. 54 reflected the need for improvement in the market infrastructure in coming years.

Table 54. Estimates of Marketed Surpluses of Various Commodities

Commodity	Marketed surplus ratio (%)
Rice	51.9
Wheat	53.8
Jowar	39.7
Bajra	45.4
Maize	46.2
Other Coarse Cereals	57.1
Pulses	53.9
Food grains	
Oilseeds	79.6
Sugarcane	92.9
Fruits and Vegetables**	88.2
Cotton	100.0
Fish	100.0
Milk	60.0
Mutton and Goat Meat	100.0
Beef and Buffalo Meat	100.0
Meat(Total)	100.0
Eggs	88.2

** Source of Marketed Surplus (MS) Output Ratio for Fruits and Vegetables is Achyra, S S (2003). Agril. Marketing in India, (as a Part of Millennium Study of Indian Farmers), P134 (Original Source- Agril Statistics at a Glance 2001. Agril. Statistics Division, Directorate of Economics and Statistics, Ministry of Agriculture, New Delhi).

ii) Project Components:

1. Purchasing and establishing price display board and mobile controlled display board
2. Purchasing and establishing collection centres
3. Purchasing and establishing chilli dryers
4. Purchasing and establishing cool Chambers/cold storage
5. Purchasing and establishing Price Display Mechanism and Electronic Weighing Machines
6. Purchasing and establishing Moisture meter
7. Purchasing and Distribution of Tarpaulins, Plastic crates and Storage bins.

iii) Project Cost and Financing

In this project, it is proposed to strengthen market infrastructure in Karur district over the period of four years. This will require resources of Rs.17.25 Lakhs for the period of four years. The details are presented in Table 55 A.

iv) Reporting

1. Quarterly progress reports to be sent to the Deputy Director (Agricultural Marketing and Agri Business) by the concerned Agricultural Officer (Agricultural Marketing and Agri Business) and Secretaries of Marketing committees.

2. Periodical Inspection undertaken by the Deputy Director (Agricultural Marketing and Agri Business).

6.3.9 Establishment of Price Surveillance Mechanism through NADP Funding

i) Rationale

Collection of real time data in the open markets for major agricultural commodities and further analysis is essential for forecasting of prices well in advance of the sowing season so that farmers can take their sowing decisions on a scientific basis. This will enhance the income of the farmers, which is one of the objectives of the project.

ii) Project Components

This involves collection of data on prices of different commodities in the unregulated markets in the notified area. This entails collection of time series and current/real time data which will be sent to Domestic and Export Market Intelligence Cell of Tamil Nadu Agricultural University, for processing and further analysis to forecast prices of major agricultural commodities.

iii) Project Cost and Financing

In this project, it is proposed to collect data at a minimum interval of one month from major assembly markets on a continuous basis in Karur district over the period of four years. This will require resources of Rs. 2.30 Lakhs for the period of four years. The details are presented in Table 55 A.

iv) Reporting

1. Quarterly progress reports to be sent to the Deputy Director (Agricultural Marketing and Agri Business) by the concerned Agricultural Officer (Agricultural Marketing and Agri Business) and Secretaries of Marketing committees.

2. Periodical Inspection undertaken by the Deputy Director (Agricultural Marketing and Agri Business).

6.3.10 Strengthening of Regulated Market and *Uzhavar* Shandies Publicity through NADP Funding

i) Rationale

Arrivals to market yards of regulated markets are only about 15 per cent of the marketed surplus in Tamil Nadu. Similarly sale through *Uzhavar* Shandies is also limited in case of fruits and vegetables. Hence it is necessary to have publicity programme on the benefits of sale through regulated markets and *Uzhavar* Shandies so that the net price realized by the farmers could be increased. To achieve this, publicity and propaganda programmes will be undertaken in this district for the next four years

ii) Project Components

Hoardings, publicity through F.M. radio, posters, folders, wall paintings and village cultural programmes will form the components.

iii) Project Cost and Financing

In this project, it is proposed to have the publicity programmes with the above components in this district with a financial outlay of Rs. 23 Lakhs over the period of four years. The details are presented in Table 55 A.

iv) Reporting

1. Quarterly progress reports to be sent to the Deputy Director (Agricultural Marketing and Agri Business) by the concerned Agricultural Officers (Agricultural Marketing and Agri Business) and Secretaries of Marketing committees.

2. Periodical Inspection undertaken by the Deputy Director (Agricultural Marketing and Agri Business).

10. Project Cost

The total cost for development of agricultural marketing so as to increase the profitability of farmers would be Rs. 493.68 Lakhs for this district for the eleventh plan period.

11. Implementation

Department of Agricultural Marketing and Agribusiness, Government of Tamil Nadu will be the implementing agency for proposed project. The Deputy Director of Agricultural Marketing along with the team of Officials and the Secretary of District Market Committees and team of Officials of Market Committee and Regulated Markets will be implementing the project jointly.

12. Project Performance Monitoring System

Outcomes of the project will be measured against initial baseline data, which will provide a benchmark for future interventions. The details of each monitoring and evaluation activity will be refined and finalized during the first six months of the project, as a joint effort of the management of the project, the stakeholders and technical assistance by the Performance Monitoring Evaluation unit.

13. Sustainability

Project sustainability refers to the continuation of benefits generated by the project even after project completion. Through the project activities, stakeholders will improve their capacity in identifying market opportunities and taking sound business decisions regarding investment, production and marketing. The improved capacity will result in the emergence of profitable enterprises to be able to adapt better market conditions and seize existing opportunities and benefits; the enterprises and the benefits will continue to exist even after the completion of the project. However, the success of the project also depends on the sustainability of some of the institutional mechanisms (for example DEMIC) introduced by the project. In some cases, the institutional support will have to be continued for the benefits to continue to flow after the completion of the project and result in the models and practices introduced by the project to be replicated by other stakeholders in the agricultural sector in the State. Budget for the Department of Agri Business and Marketing is given in the Table 55A.

Table 55A. Original Project Proposals for Agricultural Marketing and Agri-Business

(Amount in Rupees)

S. No	Components	2009			2010			2011			2012			
		Unit cost	Phy	Fin.	Unit cost	Phy.	Fin.	Unit cost	Phy.	Fin.	Unit cost	Phy	Fin.	Total
1	Commodity group Formation													
	Paddy	20000	8	160000	22000	8	176000	24000	8	192000	26000	8	208000	736000
	Maize	20000	8	160000	22000	8	176000	24000	8	192000	26000	8	208000	736000
	Sunflower	20000	8	160000	22000	8	176000	24000	8	192000	26000	8	208000	736000
	Banana	20000	8	160000	22000	8	176000	24000	8	192000	26000	8	208000	736000
	Groudnut	20000	8	160000	22000	8	176000	24000	8	192000	26000	8	208000	736000
	Pulses	20000	8	160000	22000	8	176000	24000	8	192000	26000	8	208000	736000
	Gingelly	20000	8	160000	22000	8	176000	24000	8	192000	26000	8	208000	736000
2	Market Intelligence Dissemination													
	Block level training	10000	16	160000	11000	16	176000	12000	16	192000	13000	16	208000	736000
	Printing Leaflets	2	10000	20000	3	10000	30000	4	10000	40000	5	10000	50000	140000
	Forecast Board	10000	3	30000	11000	0	0	12000	0	0	13000	0	0	30000
	Purchase of marketing materials	10000	1	10000	11000	1	11000	12000	1	12000	13000	1	13000	46000

Table 55A. contd…

(Amount in Rupees)

S. No	Components	2009			2010			2011			2012			
		Unit cost	Phy	Fin.	Unit cost	Phy.	Fin.	Unit cost	Phy.	Fin.	Unit cost	Phy	Fin.	Total
3	Facilitation of contract Farming													
	Maize training	10000	4	40000	11000	4	44000	12000	4	48000	13000	4	52000	184000
	Sunflower training	10000	4	40000	11000	4	44000	12000	4	48000	13000	4	52000	184000
4	Exposure visit to markets													
	Outside state	75000	2	150000	82500	2	165000	90000	2	180000	97500	2	195000	690000
	Within State	20000	2	40000	22000	2	44000	24000	2	48000	26000	2	52000	184000
	Visit to national market	150000	2	300000	165000	2	330000	181500	2	363000	199650	2	399300	1392300
5	Arrangement of buyer seller meetings	10000	8	80000	11000	8	88000	12000	8	96000	13000	8	104000	368000
6	Strengthening of market extension centre													
	LCD with internet	250000	1	250000	275000		0	300000		0	325000		0	250000
7	Strengthening of village shandies	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Market price surveillance	10000	5	50000	11000	5	55000	12000	5	60000	13000	5	65000	230000

Table 55A. contd…

(Amount in Rupees)

S. No	Components	2009			2010			2011			2012			
		Unit cost	Phy	Fin.	Unit cost	Phy.	Fin.	Unit cost	Phy.	Fin.	Unit cost	Phy	Fin.	Total
9	Publicity - regulated market	500000	1	500000	550000	1	550000	600000	1	600000	650000	1	650000	2300000
10	Trainings on													
	Grading	10000	4	40000	11000	4	44000	12000	4	48000	13000	4	52000	184000
	Market Intelligence	10000	4	40000	11000	4	44000	12000	4	48000	13000	4	52000	184000
	Post Harvest	10000	4	40000	11000	4	44000	12000	4	48000	13000	4	52000	184000
	Commodity Markets	10000	4	40000	11000	4	44000	12000	4	48000	13000	4	52000	184000
	Trainings - Value Additon	10000	4	40000	11000	4	44000	12000	4	48000	13000	4	52000	184000
	Export promotion													
	Banana	10000	2	20000	11000	2	22000	12000	2	24000	13000	2	26000	92000
	Vegetables	10000	2	20000	11000	2	22000	12000	2	24000	13000	2	26000	92000
	Value Addition	10000	4	40000	11000	4	44000	12000	4	48000	13000	4	52000	184000
	Demonstration	10000	4	40000	11000	4	44000	12000	4	48000	13000	4	52000	184000
11	Market infrastructure activities													
	Tarpaulin	5000	25	125000	5500	25	137500	6000	25	150000	6500	25	162500	575000
	Minimizing PH losses													
	Plastic Crates	500	500	250000	550	500	275000	600	500	300000	650	500	325000	1150000
		Total	**10662**	**3485000**		**10658**	**3533500**		**10658**	**3865000**		**10658**	**4199800**	**15083300**

Table 55B. Additional Project Proposals for Agricultural Marketing and Agri-Business DDA(AB)

Rs.in lakhs

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
I.	**Infrastructure**								
1	Construction of rural godowns in the premises of the regulated markets	0	0.00	0	0.00	0	0.00	0	0.00
2	Distribution of tarpaulins to small and marginal farmers	100	5.00	100	5.00	100	5.00	300	15.00
3	Construction of new drying yards/renovation of dilapidated ones	5	15.00	5	16.00	5	17.00	15	48.00
4	Construction of new auction halls/modernizing the existing ones	3	24.00	3	27.00	3	28.00	9	79.00
5	Construction of money disbursement halls/counters	0	0.00	0	0.00	0	0.00	0	0.00
6	Construction of office buildings and staff quarters	0	0.00	0	0.00	0	0.00	0	0.00
7	Installation of processing units/purchase of new instruments in the premises of the regulated markets	0	0.00	0	0.00	0	0.00	0	0.00
	(i) Mechanical drier	0	0.00	0	0.00	0	0.00	0	0.00
	(ii) Mechanical winnower	0	0.00	0	0.00	0	0.00	0	0.00
	(iii) Groundnut decorticator	0	0.00	0	0.00	0	0.00	0	0.00
	(iv) Sieving machine	0	0.00	0	0.00	0	0.00	0	0.00
	(v) Cotton Ginning Unit / Pressing Unit	0	0.00	0	0.00	0	0.00	0	0.00
	(vi) Coconut Kernel drying and oil processing units	0	0.00	0	0.00	0	0.00	0	0.00

Table 55B. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
	(vii) Packaging Units	0	0.00	0	0.00	0	0.00	0	0.00
8	Strengthening the State Ghee and Oil Grading Laboratories	1	0.10	0	0.00	0	0.00	1	0.10
9	Strengthening the Commercial Grading Centres with Laboratory facilities (more numbers can also be included)	0	0.00	0	0.00	0	0.00	0	0.00
10	Strengthening the infrastructure facilities in the Uzhavar Shandies	5	12.00	0	0.00	0	0.00	5	12.00
11	Construction of cold storage facilities in Uzhavar Shandies and in rural godowns	2	12.00	0	0.00	0	0.00	2	12.00
12	Office automation with computer facility for billing etc. in regulated markets	3	3.00	3	3.00	3	3.00	9	9.00
13	Lawying and relawying of village link roads	0	0.00	0	0.00	0	0.00	0	0.00
14	Provision of Oil moisture meters	0	0.00	0	0.00	0	0.00	0	0.00
15	Provision of Oil testing machines	0	0.00	0	0.00	0	0.00	0	0.00
16	Provision of Electronic weighing machines	0	0.00	0	0.00	0	0.00	0	0.00
17	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00
	i) Construction Deputy Director of Agriculture Office building 49'x30' @ Rs.750/-sq.ft.	1	11.00	0	0.00	0	0.00	1	11.00

Table 55B. Contd.,

	ii) Construction of Compound wall & gate for Agmark ab (76'x102')	1	3.00	0	0.00	0	0.00	1	3.00
	iii) Construction of jeep shed for Deputy Director of Agriculture office (20'x11')	1	2.00	0	0.00	0	0.00	1	2.00
II.	**Public relations**	0	0.00	0	0.00	0	0.00	0	0.00
1	Construction of bus-stop shed un front of the regulated markets and in selected villages	2	2.00	2	2.00	2	2.00	6	6.00
2	Taking up public relations activities in the villages	0	0.00	0	0.00	0	0.00	0	0.00
3	Construction of common village threshing floors	10	25.00	10	30.00	10	35.00	30	90.00
4	Construction of village common discussion (Chavadi) hall	1	2.00	1	2.00	1	2.00	3	6.00
5	Distribution of tarpaulins to small and marginal farmers (20'x15') @ Rs.5000/-	25	1.25	25	1.25	25	1.25	75	3.75
6	Installation of electric light facilities including solar lights in the community threshing floors	0	0.00	0	0.00	0	0.00	0	0.00
7	Construction of over head tanks, laying of street pipelines and provision of public drinking water taps in a village or two wherein the market arrivals are more	0	0.00	0	0.00	0	0.00	0	0.00
8	Provision of Education loan to the children of a few regular customers	0	0.00	0	0.00	0	0.00	0	0.00
9	Celebrating the regulated market fortnight in each district (just like co-operative weeks/fortnight)	0	3.00	0	3.00	0	4.00	0	10.00
10	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00

Table 55B. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
III.	**Facilities to farmers / Stakeholders**	0	0.00	0	0.00	0	0.00	0	0.00
1	Construction of rest/stay rooms for farmers I regulated markets	2	10.00	2	10.00	2	10.00	6	30.00
2	Construction/modernization of the common toiletry facilities in the regulated markets	2	2.00	2	2.00	2	2.00	6	6.00
3	Provision of parking lot facilities in the needy centers	0	0.00	0	0.00	0	0.00	0	0.00
4	Providing drinking water facilities to animals	0	0.00	0	0.00	0	0.00	0	0.00
5	Provision of transport facilities/routing the vehicle to transport commodities to the regulated markets	0	0.00	0	0.00	0	0.00	0	0.00
6	Creating farm inputs retailing facilities	0	0.00	0	0.00	0	0.00	0	0.00
7	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00
IV.	**Any other innovative interventions (specify)**	0	0.00	0	0.00	0	0.00	0	0.00
	Grand Total	**164**	**132.35**	**153**	**101.25**	**153.00**	**109.25**	**470**	**342.85**

Budget Abstract

(Rs.in lakhs)

Sl.No.	Particulars	2008-09	2009-10	2010-11	2011-12	Total
A.	Original Project	34.850	35.335	38.650	42.00	150.83
B.	Additional Project DDA(AB)	-	132.35	101.25	109.25	342.85
	Grand Total	**34.850**	**167.69**	**139.90**	**151.25**	**493.68**

6. 4. Animal Husbandry Department

The proposed plan for Animal husbandry department and Fodder development plan proposed by TNAU are presented in Table 56.

6.4.1 Intervention Required Areas

(i) Livestock and Poultry Sector

Village fodder nursery establishment- fodder production-tree fodder biomass production-cold storage facilities for vaccines- immunization for FMD Anthrax, HS-Clean milk production-automatic milk units Aavin societies-milk chilling facilities to prepare value added products- supply of micro nutrients – door to door A.I. Service-capacity building of farmers on newer technologies to augment fertility, productivity, production

(a) Sheep and Goat

Fodder production- tree fodder biomass production- cold storage facilities for vaccines- immunization for PPR, BTV, Sheep pox-supply of micro nutrients- supply of rams and bucks to augment fertility, productivity and production. Capacity building of farmers on new technologies

(b) Poultry

Desi chicken hatching, rearing and marketing Turkey, guinea fowls, pigeons, love birds rearing-supply of feed to supplement foraging- immunization against NCD door to door –capacity building of rural women and farmers- distribution of Turkeys for revenue generation.

(ii) Knowledge Empowerment on ethno Veterinary Medicine (EVM)

Rural farmers may be educated on ethno veterinary medicine for primary health care of livestock and poultry (EVM)

(iii) Knowledge Empowerment on Ethno Veterinary Medicine and Practice (EVP)

Veterinarians may be educated on ethno veterinary medicine and practice for primary health care of livestock and poultry

(iv) Strengthening the Infrastructure of Existing Units and Expansion of Ongoing Development Schemes

Veterinary University Training and Research center, Karur, Department of Animal Husbandry, Karur and Karur district co-operative milk producers union (TDCMPU) require strengthening the infrastructure of existing units and expansion of ongoing development schemes pertaining to capacity building of rural farmers, milk chilling, preparation of value added milk products, handling the excess milk during flush season, encouraging rural dairy farmers to produce more milk so as to earn more profit, door to door immunization and A.I. facilities for the above programmes. Automatic milk units in selected Aavin societies for producing clean milk.

(v) Project Components

It involves feed and fodder development, genetic up gradation, improvement of livestock health, processing facilities, marketing and export facilities, finance required, Strengthening of existing units and expansion of ongoing development schemes. Under each mentioned category the following is the action plan proposed for each component.

6.4.2. Feed and Fodder Development: For Dairy, Sheep Goat farming

(i) Abstract (Summary of the project): To augment fertility, milk, meat production, clean milk production feeding the livestock with required quantity of nutrient rich perennial fodder and tree fodder is essential. Current status of 90 % deficit of green fodder should be given priority and hence village fodder nurseries, cultivation of green fodder, tree fodder, chaff cutter usage to enhance digestibility and to prevent wastage of feed is proposed.

(ii) Background Problem Focus: Deficit of green fodder is 90 % and hence it is essential to feed the crossbred milch animals with nutrient rich perennial fodder and tree fodder biomass to explore the full genetic potential of the livestock. The present background with regard to dairy, sheep and goat farming in this district is mainly grazing wherever possible, feeding with available greens in the market and feeding the milch animals with polish bran, oil cakes, cotton seed. Sheep and goat are taken for grazing only. No supplemental feed, grains, concentrate is given to them. Immunization against endemic diseases is carried out by Department of Animal Husbandry, ASCAD program. Desi chicken is allowed for foraging and kitchen left over and available excess grains are fed to the extent possible.

Keeping this background, the action plan is proposed to focus these problems namely village fodder nursery, fodder cultivation, chaff cutter usage, distribution of feed and grains for livestock and birds to the extent possible during the XI plan period

(iii) Project Rationale: To augment fertility, productivity and production of livestock to achieve 4 per cent annual growth rate during XI plan period. The action plan is prepared to achieve this target.

(iv) Project Strategy: Based on current background of livestock sector, project strategy is proposed involving Tamil Nadu Veterinary and animal sciences university, Department of Animal Husbandry, Karur district co-operative milk producers union (the implementing agencies) to achieve the target with technical interventions for the target group namely the rural women, farmers and entrepreneurs. The project strategy is proposed to strengthen the existing infrastructure and expansion of ongoing development scheme of the implementing agencies. The strategy will be spread out for four years for project works whereas the strengthening of existing infrastructure and expansion of ongoing development scheme will be carried out during the first year i.e. II year of XI plan period.

(v) Project Goals: To improve milk yield, to produce clean milk, to facilitate chilling of milk, to prepare value added milk products, door-to-door clinical services including A.I and immunization of livestock and poultry. Capacity building of farmers, veterinarians, NGO's for technological interventions through adoption for improving milk, meat and eggs. To empower farmers, rural women, officers on Ethno veterinary medicine and practice for primary health care of livestock and poultry. All these proposed activities will lead to achievement of stipulated goals in stipulated time. Overall goal is to augment fertility, productivity which will envisage revenue generation of stakeholders.

(vi) Project Components: under each mentioned broad category, the following is the action plan proposed.

Feed and Fodder Development

- Village fodder nursery
- Green fodder cultivation
- Supply of feed for birds
- Chaff cutter supply

(vii) Implementation chart of the project: The above proposed action plan activities will be carried out by respective implementing agency or collectively by more than one agency on need basis.

(viii) Reporting: It is suggested to set up one project monitoring and evaluation cell exclusively to monitor and evaluate the project works in accordance with the stipulated objectives to achieve target with in the time schedule proposed during the XI plan period.

6.4.3 Genetic Upgradation: For Dairy, Sheep, Goat and Poultry Farming

(i) Abstract: To improve the genetic potentials of the local breed, Artificial insemination at the doorstep of the farmers are to be provided. Elite rams and bucks are provided to improve the genotype of the local breeds and the artificial insemination through mobile veterinary clinic, provision of elite rams and bucks to the farmers and cold storage facility for storage of semen is proposed.

(ii) Background / Problem Focus: The availability of AI at the doorstep of the farmers in this district is very much restricted. Keeping this background, the action plan is proposed to focus these problems namely availability of AI facilities and elite rams and bucks at village level during the XI plan period.

(iii) Project Rationale: To augment fertility, productivity and production of livestock to achieve 4 % annual growth rate during XI plan period. The action plan is prepared to achieve this target.

(iv) Project Strategy: Based on current background of livestock sector, project strategy is proposed involving Tami Nadu Veterinary and Animal Sciences University, Department of Animal Husbandry, Karur district co-operative milk producers union (the implementing

agencies) to achieve the target with technical interventions for the target group namely the rural women, farmers and entrepreneurs. The project strategy is proposed to strengthen the existing infrastructure and expansion of ongoing development scheme of the implementing agencies. The strategy will be spread out for four years for project works whereas the strengthening of existing infrastructure and expansion of ongoing development scheme will be carried out during the first year i.e. II year of XI plan period.

(v) Project Goals: To improve milk yield, to produce clean milk, to facilitate chilling of milk, to prepare value added milk products, door-to-door clinical services including A.I and immunization of livestock and poultry. Capacity building of farmers, veterinarians, NGO's for technological interventions through adoption for improving milk, meat and eggs. To empower farmers, rural women, officers on Ethno veterinary medicine and practice for primary health care of livestock and poultry. All these proposed activities will lead to achievement of stipulated goals in stipulated time. Overall goal is to augment fertility and productivity which will envisage revenue generation of stakeholders.

(vi) Project Components: This involves development of mobile veterinary clinic to provide AI facilities at the doorstep of the farmers and provision of elite rams and bucks to improve the potentialities of the local breeds.

(vii) Implementation chart of the project: The above proposed action plan activities will be carried out by respective implementing agency or collectively by more than one agency on need basis.

(viii) Reporting: It is suggested to set up one project monitoring and evaluation cell exclusively to monitor and evaluate the project works in accordance with the stipulated objectives to achieve target with in the time schedule proposed during the XI plan period.

6.4.4 Improvement of Livestock Health: For Dairy, Sheep, Goat and Poultry Farming

(i) Abstract: Better health of the animals is very much important for the full expression of the genetic potentials. With this prime idea, supplementation of micronutrients, grains, vaccines at doorstep to sheep, goat and poultry are proposed.

(ii) Background / Problem Focus: Maintenance of good health of the animals

(iii) Project Rationale: To augment fertility, productivity and production of livestock to achieve 4 per cent annual growth rate during XI plan period. The action plan is prepared to achieve this target.

(iv) Project Strategy: Based on current background of livestock sector, project strategy is proposed involving Tamil Nadu Veterinary and Animal Sciences University, Department of Animal Husbandry, Karur district co-operative milk producers union (the implementing agencies) to achieve the target with technical interventions for the target group namely the rural women, farmers and entrepreneurs. The project strategy is proposed to strengthen the existing infrastructure and expansion of ongoing development scheme of the implementing agencies. The strategy will be spread out for four years for project works whereas the strengthening of existing infrastructure and expansion of ongoing development scheme will be carried out during the first year i.e. II year of XI plan period.

(v) Project Goals : To improve milk yield, to produce clean milk, to facilitate chilling of milk, to prepare value added milk products, door-to-door clinical services including A.I and immunization of livestock and poultry. Capacity building of farmers, veterinarians, NGO's for technological interventions through adoption for improving milk, meat and eggs. To empower farmers, rural women, officers on Ethno veterinary medicine and practice for primary health care of livestock and poultry. All these proposed activities will lead to achievement of stipulated goals in stipulated time. Overall goal is to augment fertility and productivity which will envisage revenue generation of stakeholders.

(vi) Project Components: This involves supplementation of micronutrients, hosalas, supplementation of grains, vaccines at door step to sheep, goat and poultry.

(vii) Implementation Chart of the Project: The above proposed action plan activities will be carried out by respective implementing agency or collectively by more than one agency on need basis.

(viii) Reporting: It is suggested to set up one project monitoring and evaluation cell exclusively to monitor and evaluate the project works in accordance with the stipulated objectives to achieve target with in the time schedule proposed during the XI plan period.

6.4.5 Marketing and Export Facilities:

(i) Abstract: Hygienic production of the meat, egg, milk and their products are very much important for fetching higher prices and for a steady demand for the products. Better production of meat at abattoir and cold storage facilities for preserving meat and milk are proposed.

(ii) Background / Problem focus: Hygenic production and preservation of milk, meat and egg

(iii) Project Rationale: To augment fertility, productivity and production of livestock to achieve 4 % annual growth rate during XI plan period. The action plan is prepared to achieve this target.

(iv) Project Strategy: Based on current background of livestock sector, project strategy is proposed involving Tamil Nadu Veterinary and Animal Sciences University, Department of Animal Husbandry, Karur district co-operative milk producers union (the implementing agencies) to achieve the target with technical interventions for the target group namely the rural women, farmers and entrepreneurs. The project strategy is proposed to strengthen the existing infrastructure and expansion of ongoing development scheme of the implementing agencies. The strategy will be spread out for four years for project works whereas the strengthening of existing infrastructure and expansion of ongoing development scheme will be carried out during the first year i.e. II year of XI plan period.

(v) Project Goals: To improve milk yield, to produce clean milk, to facilitate chilling of milk, to prepare value added milk products, door-to-door clinical services including A.I and immunization of livestock and poultry. Capacity building of farmers, veterinarians, NGO's for technological interventions through adoption for improving milk, meat and eggs. To empower farmers, rural women, officers on Ethno veterinary medicine and practice for primary health care of livestock and poultry. All these proposed activities will lead to achievement of stipulated goals in stipulated time. Overall goal is to augment fertility and productivity which will envisage revenue generation of stakeholders.

(vi) Project Components: This involves supply of chaff cutter and automatic milk collection units to the farmers.

(vii) Implementation Chart of the Project: The above proposed action plan activities will be carried out by respective implementing agency or collectively by more than one agency on need basis..

(viii) Reporting: It is suggested to set up one project monitoring and evaluation cell exclusively to monitor and evaluate the project works in accordance with the stipulated objectives to achieve target with in the time schedule proposed during the XI plan period.

6.4.6 Extension Facilities

(i) Abstract: In order to bring the lab to land transfer of technology, better extension facilities are proposed. The imparting of scientific knowledge about the latest information is achieved through conduct of several training programmes to the farmers and officers.

(ii) Background / Problem Focus : Dissemination of the scientific information to the end users is the prime focus.

(iii) Project Rationale: To augment fertility, productivity and production of livestock to achieve 4 % annual growth rate during XI plan period. The action plan is prepared to achieve this target.

(iv) Project Strategy: Based on current background of livestock sector, project strategy is proposed involving Tamilnadu Veterinary and Animal Sciences University, Department of

Animal Husbandry, Karur district co-operative milk producers union (the implementing agencies) to achieve the target with technical interventions for the target group namely the rural women, farmers and entrepreneurs. The project strategy is proposed to strengthen the existing infrastructure and expansion of ongoing development scheme of the implementing agencies. The strategy will be spread out for four years for project works whereas the strengthening of existing infrastructure and expansion of ongoing development scheme will be carried out during the first year i.e. II year of XI plan period..

(v) Project Goals: To improve milk yield, to produce clean milk, to facilitate chilling of milk, to prepare value added milk products, door-to-door clinical services including A.I and immunization of livestock and poultry. Capacity building of farmers, veterinarians, NGO's for technological interventions through adoption for improving milk, meat and eggs. To empower farmers, rural women, officers on Ethno veterinary medicine and practice for primary health care of livestock and poultry. All these proposed activities will lead to achievement of stipulated goals in stipulated time. Overall goal is to augment fertility and productivity which will envisage revenue generation of stakeholders.

(vi) Project Components: This involves training to farmers and the officers.

(vii) Implementation Chart of the Project: The above proposed action plan activities will be carried out by respective implementing agency or collectively by more than one agency on need basis.

(viii) Reporting: It is suggested to set up one project monitoring and evaluation cell exclusively to monitor and evaluate the project works in accordance with the stipulated objectives to achieve target with in the time schedule proposed during the XI plan period.

6.4.7 Strengthening of Existing Unit: for Dairy Farming

(i) Abstract: Better storage of milk will lead to improvement of the shelf life of the product. Hence, the existing storage facilities of the milk are strengthened.

(ii) Background / Problem Focus:. Improvement of the storage facilities.

(iii) Project Rationale: To augment fertility, productivity and production of livestock to achieve 4 % annual growth rate during XI plan period. The action plan is prepared to achieve this target.

(iv) Project Strategy: Based on current background of livestock sector, project strategy is proposed involving Tamilnadu Veterinary and Animal Sciences University, Department of Animal Husbandry, Karur district co-operative milk producers union (the implementing agencies) to achieve the target with technical interventions for the target group namely the rural women, farmers and entrepreneurs. The project strategy is proposed to strengthen the existing infrastructure and expansion of ongoing development scheme of the implementing agencies. The strategy will be spread out for four years for project works whereas the strengthening of existing infrastructure and expansion of ongoing development scheme will be carried out during the first year i.e. II year of XI plan period.

(v) Project Goals: To improve milk yield, to produce clean milk, to facilitate chilling of milk, to prepare value added milk products, door-to-door clinical services including A.I and immunization of livestock and poultry. Capacity building of farmers, veterinarians, NGO's for technological interventions through adoption for improving milk, meat and eggs. To empower farmers, rural women, officers on Ethno veterinary medicine and practice for primary health care of livestock and poultry. All these proposed activities will lead to achievement of stipulated goals in stipulated time. Overall goal is to augment fertility and productivity which will envisage revenue generation of stakeholders.

(vi) Project Components: This involves supply of high capacity storage facilities.

(vii) Implementation of the Project: The above proposed action plan activities will be carried out by respective implementing agency or collectively by more than one agency on need basis.

(viii) Reporting: It is suggested to set up one project monitoring and evaluation cell exclusively to monitor and evaluate the project works in accordance with the stipulated objectives to achieve target with in the time schedule proposed during the XI plan period.

Table 56. Proposed Plan - Animal husbandry Department - 2008-09 and 2009-12

Sl. No.	Name of the Progrmme	Unit cost Rs. in lakhs	2008-09		2009-10		2010-11		2011-12		Total	
			Units	Cost in lakhs	Units	Cost in lakhs	Units	Cost in lakhs	Units	Cost in lakhs	Units	Cost in lakhs
1	**Cattle & Buffalo**											
I	**Feed And Fodder Development**											
1	Perennial fodder production@8 acre/ block/year (10 blocks) & for 4 years (DAH)	0.235	80	18.80	80	18.80	80	18.80	80	18.80	320	75.200
2	Popularizing Chaff cutter for efficient nutrient utilization with 50% subsidy/DAH	0.125	25	3.125	25	3.125	25	3.125	25	3.125	100	12.500
3	Fodder development activities for production of fodder seed / slips in dairy or chilling centre & land of DDD.(acres) / DDD	2.10	2	4.20	-	-	-	-	-	-	2	4.200
4	Fodder development activities (in IDF villages & in farmers field) / DDD	0.235	40	9.40	15	3.525	15	3.525	10	2.35	80	18.800
5	Chaff cutters for elite farmers (small type) @Rs.20000-with 100% grant / DDD	0.20	4.00	0.80	2.00	0.40	2.00	0.40	2.00	0.40	10.00	2.000
6	Chaff cutters(mechanized) for IDF villages on community basis / DDD	0.70	2.00	1.40	2.00	1.40	2.00	1.40	2.00	1.40	8.00	5.600
II	**Genetic Upgradation**											
1	Distribution of Bucks / DAH	0.04	125	5	125	5	125	5	125	5	500	20.000
2	Distribution of Rams / DAH	0.04	125	5	125	5	125	5	125	5	500	20.000
3	Programmed breeding of indigenous cattle & buffalo to increase conception rate / DDD	0.007	1500	10.50	1500	10.50	1500	10.50	1500	10.50	6000	42.000
4	Buffalo calf development programme-DDD	0.148	200	29.60	200	29.60	200	29.60	200	29.60	800	118.400

Table.56 contd…

Sl. No.	Name of the Progrmme	Unit cost Rs. in lakhs	2008-09		2009-10		2010-11		2011-12		Total	
			Units	Cost in lakhs	Units	Cost in lakhs	Units	Cost in lakhs	Units	Cost in lakhs	Units	Cost in lakhs
III	**Improvement Of Livestock Health**											
1	Mobile Veterinary Clinics-1/taluk / DAH	5.83	3	17.49	-	-	-	-	-	-	3	17.490
2	Mobile disease diagnostic laboratory / DAH	12	1	12	-	-	-	-	-	-	1	12.000
3	Popularizing Mineral mixture to improve livestock production@1kg/month/ Animal-one/ block/year / DAH	0.006	1000	6	1000	6	1000	6	1000	6	4000	24.000
4	Control of parasitic diseases through treatment to enhance vaccine response / DAH	-	-	6.92	-	6.92	-	6.92	-	6.92	-	27.680
5	Intensive system of sheep/goat rearing (20+1=1unit)/block / DAH	0.42	8	3.36	-	-	-	-	-	-	8	3.360
6	Identification & traceability of bovines/ DAH	0.0002	157000	31.4	-	-	-	-	-	-	157000	31.400
7	Supply of Mineral mixture to milch animals at subsidized cost (50%) @18 kg per year / DDD	0.005	500	2.50	200	2.50	500	2.50	500	2.50	2000	10.000
8	Supply of by-pass protein feed to milch animals (360 kg / year / animal @ 50% subsidised cost of Rs.9-/kg / DDD	0.033	400	13.20	400	13.20	400	13.20	400	13.20	1600	52.800
9	Milking machines for ID farms	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	8.00	8.000
10	Portable milking machines for farmers / DDD	0.18	13	2.34	13	2.34	12	2.16	12	2.16	50	9.000
11	PC based automatic milk collection stations to IDF villages, milk producers co-op. societies/ DDD	1.75	8	14.00	4	7.00	4	7.00	4	7.00	20	35.000
IV	**Processing Facilities**											
1	Bulk milk coolers / DDD	30.00	1	30.00	-	-	-	-	-	-	1	30.000
2	Walk-in-coolers / DDD	30.00	1	30.00	-	-	-	-	-	-	1	30.000
3	Manufacturing facilities for Milk khoa / DDD	0.77	1	0.77	1	0.77	-	-	-	-	2	1.540

Table. 56 contd…

Sl. No.	NAME OF THE PROGRMME	Unit cost Rs. in lakhs	2008-09		2009-10		2010-11		2011-12		Total	
			Units	Cost in lakhs	Units	Cost in lakhs	Units	Cost in lakhs	Units	Cost in lakhs	Units	Cost in lakhs
IV	**Extension facilities**											
1	Veterinary Institutions-Infrastructure development. Fencing, bore well with water troughs, minor repair / DAH	5.00	14.00	70.00	-	-	-	-	-	-	14.00	70.000
2	Revival of dormant MPCS / DDD	1.00	7.00	7.00	6.00	6.00	6.00	6.00	6.00	6.00	25.00	25.000
3	Milk weighing machine for milk producers co-op. societies / DDD	0.17	35	5.95	35	5.95	30	5.10	30	5.10	130	22.100
4	Farmers study tour @ Rs.5000- per farmer / DDD	0.05	40	2.00	40	2.00	40	2.00	30	1.50	150	7.500
5	Orientation training /workshop for milk producers at society level / DDD	0.20	4	0.80	4	0.80	4	0.80	4	0.80	16	3.200
6	Capacity building (to) training for farmers & village level campaigns (TANUVAS)	0.005	500	2.50	500	2.50	500	2.50	500	2.50	2000	10.000
7	Capacity building (to) training for officers & village level campaigns (TANUVAS)	0.05	50	2.50	50	2.50	50	2.50	50	2.50	200	10.000
8	Strengthening of TANUVAS centre for training for to extension program for capacity building & skill enhancement / TANUVAS	10.00	1	10.00	-	-	-	-	-	-	1	10.000
9	Training farmers on EVM / TANUVAS	0.003	100	0.30	100	0.30	100	0.30	100	0.30	400	1.200
10	Touch screen facilities/TANUVAS	1	5	5	5	5	5	5	5	5	20	20.000
11	Field tour for farmers / TANUVAS	0.25	1	0.25	1	0.25	1	0.25	1	0.25	4	1.000
12	Turkeys(3+1), feed and health cover – as a pilot program to popularize among rural SHG / TANUVAS	0.01	100	1	100	1	100	1	100	1	400	4.000
13	Popularizing Japanese quail among rural women SHG / TANUVAS	0.4	1	0.4	1	0.4	1	0.4	1	0.4	4	1.600
	TOTAL			**367.51**		**144.78**		**142.98**		**141.01**		**796.570**

6.4.8 Proposal on

(i) Technologies for Sustainable Forage Crops Production in Karur District

a) Project Synopsis

Livestock rearing forms the backbone of the livelihood of the farmers and landless rural poor and is the only major asset for them. Livestock rearing offers substantial income to poor rural people particularly during non-agricultural seasons, which can create an impact in the shortest period on the rural economy. Women contribute 71 per cent of the labour force in livestock farming. There is an old saying "*Milk is not there in the udder of (milch) cattle but it is in its mouth*". This highlights the importance of forage and feed to milch animals. India has the largest livestock wealth while the animal performance is one of the lowest in the world. The success of an efficient dairy, sheep, goat, piggery, poultry and other livestock industry revolves around the supply of nutritious forage and feeds. Green forages are also required for the maintenance of draught animals. The main reasons for poor performance of cattle and buffaloes in India are inadequate supply of nutritious forage and feeds and lower production potential of the animals. Only 6.9 million or 4.4 % of the country's cropped area is under fodder crops and there is hardly any scope of expansion because of pressure on agricultural land for food and cash crop. The forest grazing resources are also dwindling at the rate of roughly 1.5 millions of forests every year. The monsoonal grasslands of India are also impoverished, over grazed and infested with bushes. The grazing intensity is very high *viz*., 2.6 adult cattle unit per ha against 0.8 adult cattle unit per ha in the developed countries. This underlines the need to rejuvenate the natural grasslands, pastures *etc*., and also to increase the productivity fodder crops. There is lack of sufficient amount of good quality fodder (both green and dry) and concentrates. In the absence of appropriate feeding schedule even the best animals fail to express their inherent productivity. Year round supply of forage is very important in order to stabilize animal production especially in the milk-shed areas and also for small farmers who maintain dairy animals as a regular source of income. The solution lies in maximizing forage production in space and time, identifying new forage resources, increasing forage production within the existing farming systems and utilizing marginal, sub-marginal dry lands and problem soils for developing feed and fodder resources.

Moreover, the green forages form the cheap source of needed nutrients. This in turn governs the overall economics of livestock farming since feeding alone accounts 66 percent of the total cost of animal production.

Condition of the Animals In Relation to Forage Production:

i) Semi starvation
ii) Emaciated in appearance
iii) Prolonged dry periods leading to poor forage yield
iv) Poor milk yield (200 kg compared to 4000 kg per year in temperate countries)
v) Poor health except higher resistance to disease
vi) Unproductive cattle are competing with productive farm animals and human beings.
vii) Poor quality forage.
viii) Pastures are not being maintained due to lack of even distribution of rain and heavy pressure of land because of population explosion.

Importance is not given for yield maximization in forage crops, like cereals crops, through increased input use efficiency and sustainable use of resources. Although improved technologies are available in forage crops production, steps are not taken to popularize among the farming community. There is need for wide spread adoption of improved technologies to feed the livestock with quality feed to harvest livestock products such as milk, meat, egg, skin, *etc*,. With this background, the project is proposed to be taken up in Karur district of Tamil Nadu by the Anbil Dharmalingam Agricultural College and Research Institute, (Tamil Nadu Agricultural University) Tiruchirapalli since this district is having good potential for forage crops production in wetlands, garden lands and dry lands. The mandate of this Institute is to organize inter disciplinary research for solving the location specific problems for the different ecological situations in Tiruchirappalli and neighbouring districts and to provide technical know-how for the development of Agriculture and Agro-based industries in this region. The activities and implementing agencies involved are given in Table 59.

b) Agencies Involved

1. Agriculture Department, Government of Tamil Nadu
2. Tamil Nadu Agricultural University (Technical Support and Training)

a. Anbil Dharmalingam Agricultural College and Research Institute,

b. Navalur Kuttapattu, Tiruchirappalli Sarasvathi Krishi Vigyan Kendra, Puzhutheri, Karur district

3. Tamil Nadu Veterinary and Animal Sciences University (Training)

Table 57. Activities and Implementing Agencies Involved

Activities	Implementing Agency
Selection of beneficiaries in clusters	Agriculture Department
Input distribution	Agriculture Department
Overall Technological Support and training	ADAC & RI, Tiruchirappalli, Sarasvathi KVK, Puzhutheri, Karur district from TNAU and VUTRC, Karur from TANUVAS.
Monitoring / mid term evaluation and corrective measures	TNAU and Agriculture Department

c) Objectives

i. To demonstrate improved technologies on forage crops production in farmer's holdings

ii. To train the rural youth and women on the improved technologies for forage production and cattle maintenance for year round employment and income generation opportunities and

iii. Monitoring the implementation of best management practices for forage production and preservation in Karur district

d) Proposed Activities and Methodologies

Farmers who are interested in animal husbandry and fodder crops production will be selected through All India Radio announcements and through local officials in the Department of Agriculture with assistance from local Panchayat in Karur district of Tamil Nadu. 800 farmers will be identified based on their resources position. Establishment and maintenance of forage crop slips / seeds Centre at Anbil Dharmalingam Agricultural College and Research Institute, Tiruchirappalli, Agricultural Engineering College and Research

Institute, Kumulur, Sugarcane Research Institute, Sirugamani of Tamil Nadu Agricultural University and Saraswathi KVK, Puzhutheri, Karur district located in the study area and procurement of forage crop (s) slips / seeds from IGFRI, Jhansi, Forage Crops Regional Centres of Government of India, Department of Forage Crops, TNAU, Coimbatore, *etc*, to supply to the innovative farmers @ 0.25ha per farmer on average. Development of two hundred numbers of community nursery units to the innovative farmers' field for sustainable fodder slips / seeds supply and farm income even after the project period. Cultivation of fodder trees on tank bunds, development of community pasture lands in identified wastelands, problem soils and tank bunds and supply of manual chaff cutters to create awareness among the farmers will be carried out. Farmers, Self Help Group and Rural youth will be provided inputs such as seeds / setts / slips of grasses and legumes and two day training with class room lectures followed by field visit, will be given in phased manner during four years on production technology of forage crops, tree fodders and on feeding the forage crops to maximize production performance in livestock and also in documenting the impact of the same on milk yield, calving interval, conception rate of livestock and overall economic status of the farmers in collaboration with Tamil Nadu Veterinary and Animal Sciences University Training and Research Centres (VUTRCs) at Karur. Exhibitions / Field days on Forage crops will be arranged for the benefits of farmers.

e) **Status of the Proposed Technologies:** Research on forage crops was initiated in the Botany section at the Agricultural College and Research Institute, Coimbatore in Tamil Nadu as far back as 1959. It was identified as one of the Coordinating Centres of the All India Co-ordinated Project for Research on Forage Crops by the ICAR in 1971. A full-fledged Department, the first of its kind in India, dealing with breeding, agronomy and nutrition of fodder crops came into existence in the year 1976, at TNAU, Coimbatore. It has developed many forage crop varieties and developed package of practices for realizing maximum green fodder yield. (Table 58).

Table 58. Varietal Particulars of Different

Forage Crops Released at TNAU, Coimbatore

Crop / Variety	Green fodder yield (t/ha)	Special features
Bajra -Napier Hybrid grasses CO 3 / KKM 1 / TNCN 014	350-400	High yield, high leaf stem ratio, highly palatable
Cenchrus glaucus (Blue Anjan) CO-1	40-45	Highly suitable for rainfed
Deenanath grass CO-1 (60-65 days)	40-45	High tillering, thin stem, highly palatable
Desmanthus virgatus (Velimasal)	80-85	High yield, drought tolerant, pasture legume
Stylo/ Siratro / Peablue	30-35	Rainfed pasture legume
Sorghum COFS 29 (Multi cut)	170 (in 5 cuts)	More tillers, Ratoonable (4 times)

f) Technologies Proposed for Adoption / Execution

- Improved varieties of different forage crop varieties released from TNAU, Coimbatore and other institutes such as IGFRI, Jhanshi, (along with cultivation practices) will be popularized among farmers having irrigated / rainfed lands
- Under irrigated conditions, Bajra-Napier grass CO 3 + Desmanthus at 3:1 ratio is the best for high yield and protein rich fodder
- Under rainfed conditions, Cenchrus grass + Sirato / Stylo / Pea blue pasture legumes at 3:1 ratio is the best
- Planting 3-4 feet long Bajra-Napier stem cuttings horizontally is more economical and high yielding
- Velimasal seeds should be soaked in hot water at 80^0C for 4-5 minutes for better germination.

g) Technical Manpower for Project Guidance and Monitoring. It is available at Anbil Dharmalingam Agricultural College and Research Institute, Tiruchirapalli and Sarasvathi Krishi Vigyan Kendra, Puzhutheri, Karur district. Agricultural scientists are available in discipline such as Agronomy, Soil Science and Agricultural Chemistry, Plant Breeding and Genetics, Agricultural Microbiology, Agricultural Extension, *etc*,. For project execution,

Senior Research Fellows and Junior Research Fellows are required at Block level in Karur district.

h) Technologies, Input Costs and Budget Estimate

From the 8 blocks, 100 farmers from each block will be selected for forage production in irrigated lands. Inputs for the establishment of fodder crops in an area of 0.25ha each will be supplied. For rainfed forage production, 50 farmers from each block will be selected. Inputs for the establishment of forage crops in dry land will be supplied for one acre for each farmer. All the farmers will be trained on the fodder production technologies by TNAU and on cattle maintenance by TANUVAS.

Cumbu Napier Hybrid Grass - CO 3 / KKM 1 / TNCN 014 and Hedge Lucerne mixed cropping under irrigated condition. (For 100 farmers per block; 8 blocks; 0.25 ha each = 200 ha).

Table 59. Cost of Technology and Inputs for Fodder Production in Irrigated Lands

S.No.	Technology intervention	Materials Required	Cost (Rs)	To be implemented by
1.	Seed materials	Hybrid grass seed material @ 40,000 setts per ha. Sett cost @ Rs.250 per 1000 Nos. (200 ha x Rs.10000)	20,00,000	ADAC & RI, Tiruchirappalli
2.	Biofertilizers	Azospirillum @10 pockets ha^{-1} and Phosphobacteria @ 10 pockets ha^{-1} Biofertilizers cost Rs.6 per pocket (200 ha x Rs.120)	24,000	Saraswathi KVK, Puzhutheri, Karur district
		VAM @ 5 kg ha^{-1} and VAM cost Rs.75 per kg (200ha x Rs.375)	75,000	
3.	Fertilizers	NPK Fertilizer @ 50:50:50 kg ha^{-1} as basal dressing (200 ha x Rs. 2132)	4,26,400	Agriculture Department - JDA, Karur
		Top dressing of 100 kg N ha^{-1} after each cut (6 cuts per year) (200ha x Rs.6600)	13,20,000	
		Micronutrient @ 12.5 kg ha^{-1} and micronutrient cost Rs. 60 per kg (200ha x Rs.750)	1,50,000	

Cenchrus grass / Deenanath grass + Siratro / Stylo / Pea Blue mixed cropping under rainfed condition. (For 50 farmers per block; 8 blocks; one acre each = 400 acres = 160 ha)

Table 60. Costs of Technology and Inputs for Fodder Production in Dry Lands

S.No.	Technology intervention	Materials Required	Cost (Rs)	To be implemented by
1.	Seed materials	Cenchrus seed rate @ 6 kg ha^{-1} and seed cost is @ Rs.250 per kg (160 ha x 1500)	2,40,000	ADAC & RI, Tiruchirappalli
		Siratro seed rate @ 5 kg ha^{-1} and seed cost is Rs.90 per kg (160ha x Rs.450)	72,000	
2.	Biofertilizers	Azospirillum @10 pockets ha^{-1} and Phosphobacteria @ 10 pockets ha^{-1} Biofertilizers cost Rs.6 per pocket (160ha x Rs.120)	19,200	Saraswathi KVK, Puzhutheri, Karur district
		VAM @ 5 kg ha^{-1} and VAM cost Rs.75 per kg (160 ha x 375)	60,000	
3.	Fertilizers	NPK Fertilizer @ 25:40:20 kg ha^{-1} as basal dressing (160 ha x Rs.1440)	2,30,400	Agriculture Department - JDA, Karur
		Top dressing of 25 kg N ha^{-1} after each cut (160ha x Rs.1405)	2,24,800	
		Micronutrients @ 12.5 kg ha^{-1} and micronutrient cost Rs. 60 per kg (160ha x Rs.750)	1,20,000	

Table 61. Cost of Staff on Contractual Basis - Anbil Dharmalingam Agricultural College and Research Institute, Tiruchirappalli

(Rs)

Faculty	No	I Year	II Year	III Year	IV Year	Total
Senior Research Fellow (1 Nos.)						
Agronomy / Soil Science and Agricultural Chemistry/Agricultural extension	1	1,54,800	1,54,800	1,78,800	1,78,800	**6,67,200**
Junior Research Fellow (2 Nos)						
B.Sc.(Agri) @ 1 per 4 blocks	2	2,10,000	2,10,000	2,10,000	2,10,000	**8,40,000**
Total		**3,64,800**	**3,64,800**	**3,88,800**	**3,88,800**	**15,07,200**

Senior Research Fellow: @ Rs. 12,000/- + HRA Rs. 900 per month for I and II year & Rs.14, 000/- + HRA Rs. 900 per month from III year onwards

Junior Research Fellows: @ Rs.8000/- + HRA Rs. 750 per month

i) Budget Component for Training during 2008-09 to 2011-12

From the 8 blocks, 100 farmers from each block will be trained on the best management practices for forage production in irrigated lands and 50 farmers from each block will be trained on the best management practices for forage production in dryland lands @ 25 farmers per batch, with a total of 1200 farmers. Anbil Dharmalingam Agricultural College and Research Institute, Tiruchirappalli and Saraswathi Krishi Vigyan Kendra, Puzhutheri, Karur district, will adopt 4 blocks each. The total number of trainings will be 48 and divided into 24 each for ADAC & RI, Tiruchirappalli and KVK, Sirugamani. The trainings will be spanned throughout the project period.

All the 1200 farmers, those who got trained on the forage production technologies will be trained on livestock management for better milk and meat yield by Tamil Nadu Veterinary and Animal Sciences University. The total number of trainings will be 48.

Table 62. Budget Component for Training during 2008-09 to 2011-12 – Anbil Dharmalingam Agricultural College and Research Institute, Tiruchirappalli

S. No	Particulars	Budget (Rs.)
1.	Accommodation charges @ Rs.100/day/farmer (Rs.100 x 600 farmers)	60,000
2.	Breakfast, lunch, Dinner and Refreshment charges .Rs.200/farmer/day Rs.200 x 600 farmers	1,20,000
3.	Training hall rent @ Rs.2000 /day2000 x 24 days	48,000
4.	Fuel charges for vehicle for demonstration and training programme	30,000
5.	Training kit, Stationery items, CDs etc @ Rs.200 per farmer Rs.200 x 600 farmers	1,20,000
6.	Training manual, course materials & books @Rs.100 per farmer Rs.100 x 600 farmers	60,000
7.	Logistic charges which include Honorarium to SMS, Course Managers and secretarial charges etc. @ Rs.250/- per lecture; 6 lectures per day (Rs.250 x 6 lectures x 24 trainings)	36,000
8.	Honorarium to nodal officer @ Rs.500/- per training Rs.500 x 24 trainings	12,000
9.	Secretarial Assistance, Computer lab charges, class arrangement, stationeries and other incidental expenses and other logistics including Miscellaneous charges @ Rs.2,500 per training Rs.2500 x 24 trainings	60,000
	Total	**5,46,000**

Table 63. Budget component for training during 2008-09 to 2011-12 - Saraswathi Krishi Vigyan Kendra, Puzhutheri, Karur district

S.No.	Particulars	Budget (Rs.)
1.	Accommodation charges @ Rs.100/day/farmer (Rs.100 x 600 farmers)	60,000
2.	Breakfast, lunch, Dinner and Refreshment charges @.Rs.200/farmer/day Rs.200 x 600 farmers	1,20,000
3.	Training hall rent @ Rs.2000 /day 2000 x 24 days	48,000
4.	Fuel charges for vehicle for demonstration and training programme	30,000
5.	Training kit, Stationery items, CDs etc @ Rs.200 per farmer Rs.200 x 600 farmers	1,20,000
.No.	**Particulars**	**Budget (Rs.)**
6.	Training manual, course materials & books @Rs.100 per farmer Rs.100 x 600 farmers	60,000
7.	Logistic charges which include Honorarium to SMS, Course Managers and secretarial charges etc. @ Rs.250/- per lecture; 6 lectures per day (Rs.250 x 6 lectures x 24 trainings)	36,000
8.	Honorarium to nodal officer @ Rs.500/- per training Rs.500 x 24 trainings	12,000
9.	Secretarial Assistance, Computer lab charges, class arrangement, stationeries and other incidental expenses and other logistics including Miscellaneous charges @ Rs.2,500 per training Rs.2500 x 24 trainings	60,000
	Total	**5,46,000**

Table 64. Budget component for training during 2008-09 to 2011-12 -Tamil Nadu Veterinary and Animal Sciences University Component VUTRCs at Karur district

S.No.	Particulars	Budget (Rs.)
1.	Accommodation charges @ Rs.100/day/farmer (Rs.100 x 1200 farmers)	1,20,000
2.	Breakfast, lunch, Dinner and Refreshment charges @.Rs.200/farmer/day Rs.200 x 1200 farmers	2,40,000
3.	Training hall rent @ Rs.2000 /day 2000 x 48 days	96,000
4.	Fuel charges for vehicle for demonstration and training programme	60,000
5.	Training kit, Stationery items, CDs etc @ Rs.200 per farmer Rs.200 x 1200 farmers	2,40,000
6.	Training manual, course materials & books @Rs.100 per farmer Rs.100 x 1200 farmers	1,20,000
7.	Logistic charges which include Honorarium to SMS, Course Managers and secretarial charges etc. @ Rs.250/- per lecture; 6 lectures per day (Rs.250 x 6 lectures x 48 trainings)	72,000
8.	Honorarium to nodal officer @ Rs.500/- per training Rs.500 x 48 trainings	24,000
9.	Secretarial Assistance, Computer lab charges, class arrangement, stationeries and other incidental expenses and other logistics including Miscellaneous charges @ Rs.2,500 per training Rs.2500 x 48 trainings	1,20,000
	Total	**10,92,000**

Table 65. Budget allotment for different implementing agencies (Abstract)

(Rupees)

S.No.	Technology intervention and other particulars	Implementing agency				Total
		ADAC & RI, Tiruchi rappalli	Saraswathi KVK, Puzhutheri, Karur district	TANUVAS	Agriculture Department, JDA-Karur	
1.	Staff on contractual basis	15,07,200	-	-	-	**15,07,200**
2.	Cost of inputs					
	Seed materials	23,12,000	-	-	-	**23,12,000**
	Bio fertilizers	-	1,78,200	-	-	**1,78,200**
	Fertilizers	-	-	-	24,71,600	**24,71,600**
3.	Training	5,46,000	5,46,000	10,92,000	-	**21,84,000**
4.	Traveling Allowances	1,15,000	1,15,000	1,15,000	-	**3,45,000**
5.	Total	**44,80,200**	**8,39,200**	**12,07,000**	**24,71,600**	**89,98,000**
6.	Institutional Charges/ Overhead Charges @ 15%	6,72,030	1,25,880	1,81,050	3,70,740	**13,49,700**
7.	**Grand total**	**51,52,230**	**9,65,080**	**13,88,050**	**28,42,340**	**1,03,47,700**

Table 66. Year wise consolidated budget for 2008-09 to 2011-12

(Rupees)

Budget particulars	I Year	II Year	III Year	IV Year	Total
Cost of Persons	3,64,800	3,64,800	3,88,800	3,88,800	15,07,200
Cost of inputs	12,40,450	12,40,450	12,40,450	12,40,450	49,61,800
Training	5,46,000	5,46,000	5,46,000	5,46,000	21,84,000
Traveling cost	86,250	86,250	86,250	86,250	3,45,000
Sub Total	**22,37,500**	**22,37,500**	**22,61,500**	**22,61,500**	**89,98,000**
TNAU Share	7,24,050	7,24,050	7,48,050	7,48,050	29,44,200
TANUVAS Share	2,73,000	2,73,000	2,73,000	2,73,000	10,92,000

Table 66. contd…

(Rupees)

Budget particulars	I Year	II Year	III Year	IV Year	Total
Agriculture Department share	12,40,450	12,40,450	12,40,450	12,40,450	49,61,800
Institutional Charges/Overhead charges @ 15% (TNAU)	1,08,608	1,08,608	1,12,208	1,12,208	4,41,630
Institutional Charges/Overhead charges @ 15% (TANUVAS)	40,950	40,950	40,950	40,950	1,63,800
Institutional Charges/Overhead charges @ 15% (Agriculture Department)	1,86,068	1,86,068	1,86,068	1,86,068	7,44,270
Total TNAU Share	8,32,658	8,32,658	8,60,258	8,60,258	33,85,830
Total TANUVAS Share	3,13,950	3,13,950	3,13,950	3,13,950	12,55,800
Total Agriculture Department share	14,26,518	14,26,518	14,26,518	14,26,518	57,06,070
Grand Total	**25,73,125**	**25,73,125**	**26,00,725**	**26,00,725**	**1,03,47,700**

Table 67. Action plan for Fisheries sector

Sl. No.	Components	Imple-menting Agency	Unit cost Rs.in lakh)	Total	2008-09		2009-10		2010-11		2011-12		Total cost (Rs.in lakh)
				Units	Units	Cost	Units	Cost	Units	Cost	Units	Cost	
1	Development of Chinese hatchery in Thirukampuliyur Govt. fish farm	Fisheries Department	22.08	1.00	1.00	22.08							22.08
2	Supply of fishing implements (Gear) 50% subsidy	Fisheries Department	0.05	200.00	50.00	2.50	50.00	2.50	50.00	2.50	50.00	2.50	10.00
3	Setting up of modern retail outlet	TAFCOFED	10.00	2.00	1.00	10.00	1.00	10.00					20.00
4	Supply of Moped with ice box(50% subsidy)	TAFCOFED	0.15	30.00	10.00	1.50	10.00	1.50	10.00	1.50			4.50
	Grand Total		**32.28**	**233.00**	**62.00**	**36.08**	**61.00**	**14.00**	**60.00**	**4.00**	**50.00**	**2.50**	**56.58**

The detailed interventions for the fisheries sector are furnished in the Appendix -II

Table 68. Total budget proposed for Animal Husbandry Department

(Rs in lakhs)

S.No	Name of the Department	2008-2009	2009-2012	Total
1.	Animal Husbandry and Dairy Development Department	367.51	429.06	796.57
2.	Department of Fisheries	36.08	20.5	56.58
	Total	**403.59**	**449.56**	**853.15**
3.	TNAU Proposal	25.73	77.73	103.46
	Grand Total	**429.32**	**527.29**	**956.61**

Project Proposal for Fishery Sector

1. Development of Chinese hatchery in Thirukampuliyar Government Fish Farm

Abstract

Composite fish culture is in growing phase in Karur district owing to the increased awareness on fish culture. They need to depend on carp hatcheries of Salem district for the seeds which involve long duration of transportation. Establishment of a Chinese hatchery in Thirukampuliyur would meet out the fish seed requirement of fish farmers of this district.

Budget : Rs. 22.08 lakhs

Background / Problem Focus

Inadequate fish seed supply is the major bottleneck for the development of fish culture in this district. It is the need of the hour to establish a Chinese hatchery to cater the fish seed requirement of this district.

Project Rationale

Cost of fish seed is an important component of operational cost in fish farming Further, availability of good quality fish seeds is a prerequisite for successful operation of composite fish culture system. Therefore a Chinese hatchery at Thirukampuliyur, where adequate water potential is felt has been proposed.

Project Strategy

About 5 acres of land with good water facility will be made available at Thirukampuliyur for the establishment of Chinese hatchery with a capacity of producing 100 million hatchlings/yr. The hatchery complex would have a overhead tank, bore well and other accessories. Breeder and nursery ponds will be excavated as per the requirement the electrical and pipeline connections will be laid. Good brooders will be procured from either from government or private farms. Breeding activities will be started through induced breeding. Care will be taken to ensure the supply of good quality seeds through proper selection of breeders.

Project Goals

- To cater the fish seed requirement of fish farmers of Karur district.
- To ensure the supply of quality fish seeds to the Government fish farm Asoor, Kulithalai, Thirukampuliyur and Thattamanai patti.
- To reduce the cost of transportation involved in fish seed transport from neighboring districts of Karur district.

Project Cost and Financing

Particulars	Cost Rs. in Lakhs
Bore well	1.00
Overhead tank	3.00
Brood stock maintenance tanks	1.00
Nursery ponds	2.58
Chinese hatchery system	13.00
Electrical and Pipeline connections	1.50
Total	**22.08**

Implementation Chart of the Project

Sl. No.	Particulars	2008-09			
		I Qtr	II Qtr	III Qtr	IV Qtr
1.	Site selection & procurement of land	√			
2.	Establishment of Chinese hatchery, overhead tank, bore well	√			
3.	Excavation of nursery ponds, breeder ponds & breeder tanks		√		
4.	Laying of electrical & water connection			√	
5.	Procurement of breeder			√	
6	Induced breeding & nursery rearing				√

Reporting

The progress of the project will be reported periodically to the concerned authorities.

2) Supply of Fishing Implements (Gear) 50% subsidy

Abstract

Improving the fishing efficiency of the fisher folk it is proposed to distribute 100 units of gill nets (20 Kgs. gill net). The fishing implements will be supplied at 50% subsidy to the beneficiaries.

Budget : Rs. 10.00 lakhs

Background / Problem Focus

Providing fishing implements, particularly note and traps will greatly favour the farmers to enhance the fishing operation. The yield can also be improved.

Project Rationale / Project Strategy / Project Goals

- To enhance fish production through capture fisheries.
- To provide 200 nos. of gillnets to the inland fishermen.
- To intervene fishing in natural water bodies.

Project Components

Supply of gillnets at 50 per cent subsidy.

Project Cost and Financing

1.	Subsidy as the cost of gillnets (20 kg)	Rs.5000.00
2.	Total No. of units to be supported	Rs.200.00
	Total Budget	Rs.10.00 Lakhs

Implementation Chart of the Project

S.No	Particulars	2008-09			
		I Qtr	II Qtr	III Qtr	IV Qtr
1.	Selection of boats	√			
2.	Fetting with numbers gears /implements		√	√	√

Reporting

The progress of the project will be reported periodically.

3. Setting up of Modern Fish Retail Outlet

Abstract

In Karur district, there are established fish markets run by the municipalities concerned. The improperly stored unsold fish kept overnight result in fish spoilage and loss of quality and revenue. To avoid this, intervention is necessary to establish modern fish retail outlets at Karur.

Budget : Rs. 20.00 lakhs

Background / Problem Focus

The modern fish retail outlet will be used to keep the excess stock until selling.

Project Rationale

To avoid fish spoilage & loss of quality & revenue.

Project Strategy

The facility will be established at Karur.

Project Goals

To avoid loss of revenue this outlet will be established.

Project Components

I year - One retail market

II year - One retail market

Project Cost and Financing

a)	Cost for constriction of stalls	Rs.7.00 Lakhs
b)	Providing water lines, electrical fittings, weighing scales, etc.	Rs.2.00 Lakhs
c)	Providing waste disposal, and central storage facility	Rs.1.00 Lakh
	Total	**Rs.10.00 Lakhs**

Implementation Chart of the Project

TNFDC will be established and monitored the retail outlet.

Reporting

The progress report will be reported periodically.

4. Moped with Ice Box (50 per cent subsidy)

Abstract

The mopeds with ice box will be provided to inland fishermen for hygienic marketing.

Budget : Rs. 4.50 lakhs

Background / Problem Focus

For transporting and progressing fish hygienically.

Project Rationale

Fishermen and vendors will be provided with ice box and mopeds could help make available of the fish produce in time with quality retention.

Project Strategy

Making available mopeds and ice box at affordable price to meet the fishermen needs.

Project Goals

To promote and sale of fish of high quality with hygiene

Project Components

Supply of 30 units of mopeds with ice box at 50% subsidy

Project Cost and Financing

Subsidy for

1. Cost of moped	:	Rs.12,500
2. Cost of ice box	:	Rs. 2,500
Total cost	:	Rs.15,000

Rs. 0.15 lakh for 50 units

Project Cost and Financing

Rs. 4.50 lakhs for 30 units

Implementation Chart of the Project

TAFCOFED will implement this project.

Reporting

Progress of the project will be evaluated by State Fisheries Department.

6.5 Public Works Department

The proposed plan of the PWD department is furnished in Table 68 through Table 72 (river system wise).

6.5.1 Stabilizing and increasing the Ayacut Area under Amaravathi System by Modernising and Rehabilitation of Amaravathi Old and New System in Karur District

The Amaravathi System is one of the oldest systems in Tamil Nadu and irrigates Coimbatore, Erode and Karur Districts having perennial supply of water from Western Ghats near Moonar at Kerala State and Anamalai's range of hills. This system comprises of three Districts in two-command area namely Old Command and New Commnad. Old command comprises of 29,387 acres and new command comprises of 25,250 acres. At present the old ayacut irrigated by Amaravathi River through 16 anicuts and 18 channels with a duty of 30. The new ayacut irrigated through Amaravathi main canal, which off take from left flank of Amaravathi Dam with a duty of 60. By modernization, Rehabilitation and effective water management of Amaravathi System, the duty of old ayacut system is expected to increase from 30 to 50 and new ayacut system from 60 to 75. For the improved duty, a water budget statement is prepared with 15 years inflows adopting 75% dependability and is analysed. The present proposal is viable and achievable (statement enclosed). Even though entire Amaravathi Old system comes under double crop only 7500 Acres in Coimbatore District irrigates as double crop and 21887 Acres irrigates as single crop.

After rehabilitation of Amaravathi system whole 29,387 acres in old systems comes under double crop system and an extent of 25,250 acres comes under new system under single crop will be benefited by bridging a gap of 2500 acres, thereby benefiting about 500 new small farmers family with per capita income Rs.30, 000/- per year. Food production will be increased by 66,000 Mt and thereby with an Economic growth of Rs.33 crores per year and also it will create new employment for farm labourers.

a) Present Status

All the old anicut constructed across river in 18th Century are in dilapidated condition and the leading channels, supply channels, masonry structures such as retaining walls, cross masonry works, sluices and its shutters, lining and bunds are not in good condition and not upto the standards which lead to water loss and thereby water management is a very difficult task and even distribution from head to tails is failed and thereby crop failure is unavoidable. It makes economic loss to the nation.

b) Proposals

To avoid crop failure and economic loss to the nation, to improve water management without any water loss, it is proposed for improving the irrigation water use efficiency better and equitable distribution of water to all the farmers in the command area through strengthening the existing irrigation infrastructure of Amaravathi Old and New canal systems in Canal irrigation in Karur District at an estimate outlay of Rs.50 Crores.

The proposal envisages project components such as

- Improving the water retention capacity of anicuts
- To achieve proportionate distribution of water to all the fields in the command area through repairing of the sluices and shutters in the system.
- To avoid seepage losses and percolation losses of water in the channels, it is proposed to the up selective lining and strengthening of the canal.
- Improving the social capital formation to run the irrigation infrastructure efficiently in sustainable manner by way of forming WUA and farmers irrigation system turn over were included.

Table 69. Financial Plan Schedule for the period from 2008-09 to 2011-2012- Amaravathi River System

(Rs. in Lakhs)

S.No.	Name of work	Estimate Amount in Lakhs	Year	2008-09	2009-10	2010-11	2011-12	Total Cost
			Escalation Charges	10%	15%	20%	25%	
	III - KARUR DISTRICT							
1	Rehabilitation of Chinnadharapuram Anicut, Leading Channel and Cross Masonry works in Amaravathi River System	550.00		550.00				550.00
2	Rehabilitation of Nanjaikalakurichi Anicut, Leading Channel and corss masonry works in Amaravathi River System	220.00			220.00			220.00
3	Rehabilitation of Pallapalayam Anicut, Leading Channel and corss masonry works for the Left Bank Canal in Amaravathi River System	1310.00		500.00	810.00			1310.00
4	Rehabilitation of Chetipalayam Anicut, Leading Channel and corss masonry works for the Right Bank Canal in Amaravathi River System	920.00				500.00	420.00	920.00
	Total	**3000.00**	**0.00**	**1050.00**	**1030.00**	**500.00**	**420.00**	**3000.00**

6.5.2. Rehabilitaion and Improvements to PWD Tanks, Anicuts, Rivers, Supply Channels and Surplus Courses in Karur District

One of the irrigation section Kulilthalai in Ariyar Basin Division, Trichy is looking after maintenance of PWD tanks having an ayacut of more than 100 acres and system tanks fed by anicuts and jungle streams in Kulithalai and Krishnapuram Taluks in Karur District. Moreover these tanks are receiving water from the hills such as Kadavur and Veerappur hills etc.

The M.I tanks, supply channels and surplus courses including masonry structures are also under the maintenance of and section is under the over all administrative control of the Executive Engineer, PWD-WRO, Ariyaru Basin Division, Trichy.

This proposal is proposed for rehabilitation and improvements to tanks, supply channels and surplus courses including masonry structures to its original standards and the total ayacut of 1526.17 hectares can be stabilized in the NADP funds. The details of tanks and anicuts are given below.

Table 70. Tanks and area irrigated in Ariyar basin division

S.No	Name of the Tank	Ayacut in Hectares
1	Puduvur Tank	114.00
2.	Veerakkiyam Tank	71.88
3.	Kovaikulam Tank	97.92
4.	Pappakkapatti Tank	42.68
5.	Sivayam Tank	136.79
6.	Ayyankulam Tank	54.64
7.	Nallur Tank	186.16
8.	Mavathur Tank	39.01
9.	Pannappatti Tank	364.63

Table 70. Contd….

S.No	Name of the Tank	Ayacut in Hectares
10.	Kalugur Tank	80.23
11.	Puthur Tank	55.00
12.	Gudalur Tank	51.85
13.	Kapperi Tank	52.07
14.	Vadaseri Tank	64.78
15.	Panjapatti Tank	114.53
	Total	**1526.17**

Table 71. Name of Anicuts in Ariyar Basin Division

S.No	Name of the Anicut
1.	Pungaru old anicut
2.	Pungaru new anicut
3.	Neppili anicut
4.	Vadaseri anicut

Due to long age and no major special nature of repairs and improvement works have been carried out so far, the following deficiencies are noted below:

1. These anicuts were constructed long back and now they are in partially dilapilated condition. The apron and the off-take sluice structures are in damaged condition at many places.
2. The existing sand vent and its screw gearing shutters arrangements are not in working condition in many places.
3. The leading channels are earthern channel where the banks are found weak in many places, besides with full of vegetation growth. Siltation all along the way due to ageing the sides initially paved with stone pitching, have now become damaged.

4. The tank bund, which are also serve as service roads and public utility roads are eroded in many places due to long and extensive usages.

5. The supply channels are now become out of standard/designed cross-section profile in many of the stretches. The in-effective sectional profile of the channel and the free flow of water is not possible in channel.

6. Heavy siltation is noticed in upstream side of the anicuts, which ultimately affects the free flow through the off-take sluices of the supply channels to the required extent.

7. The across masonry structures and utililty structures are found damaged in most of the channels for which complete restoration is required at present.

a) Proposals

Now it has been proposed to carryout all improvements work like strenghthening, tank bund and reconstruction of damaged sluices, weirs, desilting the supply channel, surplus course, selective lining of the field channels and to upkeep the shutter arrangements.

b) Conclusion

The cost of estimate is prepared based on the current scheduled of rates for the year 2008-09 applicable to the Karur district and cost works out to Rs.5.00 crores. The expenditure under restoration project is chargeable to the Head of Account “NADP”.

c) Benefit

After completion of the project, apart from stabilizing the existing irrigation, ayacut can also be improved to maximum extent thereby the livelihood of farmers will be improved. By impounding the water in the tanks to its full level, ground water level in and around the tank will be maximized.

Table 72. Financial plan schedule for the period from 2008-09 to 2011-2012-

Kulithalai Sub Basin, Cauvery River Non – System

(Rs in Lakhs)

S. No.	Name of work	Estimate (Amount in Lakhs)	Year	2008-09	2009-10	2010-11	2011-12	Total Cost
			Escalation Charges	10%	15%	20%	25%	
	Karur district							
1	Rehabilitation and improvements to Mavathur Tank, Pungaru new anicut and Pannappatti Tank Channels and masonry works of Kulithalai Taluk in Karur District.	125.00		125.00				125.00
2	Rehabilitation and improvements to Panjapatti Tank and Pungaru old anicut Channels and masonry works of Krishnaraya-puram Taluk in Karur District.	45.00		45.00				45.00
3	Rehabilitation and improvements to Kosur Ayyankulam Tank, Kalgur Tank, Gudalur Tank and Nallur tank Channels and masonry works of Kulithalai Taluk in Karur District.	110.00		110.00				110.00

Table 72 Contd…. **(Rs in Lakhs)**

S. No	Name of work	Estimate (Amount in Lakhs)	Year	2008-09	2009-10	2010-11	2011-12	Total Cost
			Escalation Charges	10%	15%	20%	25%	
4	Rehabilitation and improvements to Vadaseri anicut, Vadaseri tank and Kapperi tank Channels and masonry works of Kulithalai Taluk in Karur District.	50.00		50.00				50.00
5	Rehabilitation and improvements to Veerarakiyam tank, Valayalkaranpudur tank and Kovaikulam tank Channels and masonry works of Krishnaraya-puram Taluk in Karur District.	100.00		100.00				100.00
6	Rehabilitation and improvements to Neppili anicut and Puthur tank Channels and masonry works of Kulithalai Taluk in Karur District.	20.00		20.00				20.00
7	Rehabilitation and improvements to Pappakkapatti tank and Sivayam tank Channels and masonry works of Kulithalai Taluk in Karur District.	50.00		50.00				50.00
	Total	**500.00**	**0.00**	**500.00**	**0.00**	**0.00**	**0.00**	**500.00**

6.5.3. Rehabilitation and Modernization of Anicuts, Supply channels, Leading Channels and Drain in Cauvry River Systems of Middle Cauvery Basin in Karur District

a) Cauvery River

The River Cauvey is one of the major river systems in Tamil Nadu State and Irrigates ayacut and drinking water needs in Salem, Namakkal, Erode, Karur and Trichy Districts and Delta Districts such as Thanjavur, Thiruvarur and Nagapattinam. Cauvery River traverses a length of about 86 km in Karur District and passing through Trichy, Thanjavur, Nagai Districts and confluence into the Bay of Bengal.

b) Tributaries of Cauvery River

Cauvery river receives water from upper reservoir such as Kabini, Krishnarajasagar, Herangi and Hemavathi in Karnataka State and Tributoreies viz, Bhavani, Noyyal and Amaravathi rivers.

c) Cauvery River Irrigation

The irrigation component of the systems comprises many anicuts. The river irrigation system is served by 17 irrigation channels, off taking from 4 anicuts, such as Jaderpalayam anicut, Kattalai bed regulator upper anicut and Grand anicut and some of the channels offtaking directly from Cauvery river by making temporary Korambu formation in Non-Mettur season. At present the Cauvery River system comprises several supply channels and leading channels in Karur District. Since no major special nature of repairs and improvement works had been carried out for a long time, several deficiencies are noted in the system.

1. The 75 years old anicut constructed across river Cauvery are now in partially dilapidated condition. The apron and the off-take sluice structures are in damaged condition at many places.

2. The existing regulators and its screw gearing shutters have been in damaged condition.

3. The leading channels are earthern channel where the banks are found weak in many stretches, besides with full of vegetation growth. Siltations all among the channel bed due to ageing of the sides initially paved with stone pitching have now become damaged to a larger extent.

4. The channel banks, which also serve as service roads and public utility roads are eroded in many places due to long and extensive usage by the farmers.

5. The supply channels are now become out of standard/designed cross-section profile in many of the stretches. The in-effective sectional profile of the channel will not allow the free flow of water in the channel

6. Heavy siltation is noticed in the fore bays of almost all the regulators, which ultimately affects the free flow through the off-take sluices of the supply channels to the required extent.

7. The cross masonries structures and utility structures are found damaged in many of the channels for which complete restoration is required at present.

d) Conclusion

After completion of restoration and improvement works, no doubt that the system efficiency will immensely be improved for optimum distribution and equitable assured water supply up to the tail and ayacut.

The cost of estimate is prepared based on the current schedule of rates for the year 2007-2008 applicable to the Karur district and local rates obtained from the reputed local firms. The cost of the estimate works out to be Rs 26.04 Crores.

The expenditure under restoration project is chargeable to the Head of Account "NADP".

Table 73. Rehabilitation of Supply Channels, Leading Channels, Drains and Cross Masonry walls in Cauvery River System in Karur District (2008-09 to 2011-2012)

S.No	Name of Work	Estimate (Amount in Crores)	2008-2009	2009-2010
1.	Rehabilitation of Pugalur Channel and Pugalur pallavoikkal, Papularmudaliyar channel and cross masonries in Cauvery System	3.24	1.24	2.00
2.	Rehabilitation of Nerur channel and cross masonries in Cauvery system	0.88	0.40	0.48
3.	Rehabilitation of Vangal channels and cross masonries in Cauvery System	3.60	1.60	2.00
4.	Rehabilitation of South Bank Canal and cross masonries in Cauvery system	3.75	1.50	2.25
5.	Rehabiliation of Kattalai High Level channel and Cross masonries in Cauvery System	5.86	2.50	3.36
6.	Rehabilitation of New Katalai High level channel and cross masonries in Cauvery System	5.42	2.50	2.92
7.	Rehabilitation of major Drains and Cross masonries in Cauvery system	2.39	1.50	0.89
8.	Rehabilitation of Rain bed tanks Uppidamangalam, Velliyanai and Sanapadi tanks	0.90	0.45	0.45
	Total	**26.04**	**11.69**	**14.35**

Table 74. Total Budget Proposed for PWD

(Rs in Lakhs)

S. No	Name of the Department	2008-2009	2009-2010	2010-2011	2011-2012
1	PWD-WRO Amaravathy Basin Karur	1050.00	1030.00	500.00	420.00
2	PWD-WRO Cauvery River Non - System	500.00	0	0	0
3	PWD-WRO Cauvery RC Division	1169.00	1435.00	0	0
	Total	**2719**	**2465**	**500**	**420**

6.6. Department of Seed Certification

6.6.1. Establishment of Seed Testing Laboratories

a) Introduction

"The Agriculture of any country will be as strong as its seed programme. If the seed programs are weak, the agriculture is weak and if the agriculture is weak the nation is weak" (Rao, 1989).

National Agricultural Development Programme (NADP) aims in bringing about quantifiable changes in production and productivity of various components of Agriculture and allied structure in a holistic manner. The purchase of equipments for the 18 New Seed Testing Laboratories is not covered under the components under NADP (a to p) and hence the purchase of Equipments for the 18 New Seed Testing Laboratories is proposed under component (q) innovative schemes.

Seed the living embryo is considered as the basic and cheapest input in modern agriculture in enhancing and stabilizing the productivity. The cost of seed usually is usually negligible when compared to total production cost. Yet seed can affect the yield potential of a crop more than any other input factor. The quality seed is one with high physical purity, germinability, vigour, and genetic purity and free of pest and diseases.

Quality control programs are pointless unless they involve seed testing. Conversely, a seed-testing laboratory has little value unless it is apart of a seed certification program, a seed law enforcement program or a production and marketing activity.

Seed tests can provide information on pure seed, other crop seed and weed seed (by percentage and number per unit weight of different species), inert matter, normal and abnormal seedlings, fresh or hard seed, dead seed and moisture content.

The main aim of seed testing is to obtain accurate and reproducible results. The seed-testing laboratory is an institution in carrying out the seed production and certification program.

To meet the increasing demand from farming community, seed growers, seed producers, seed dealers of Tamilnadu and far easy accessibility to the poor farming community for the purpose of enhancing agricultural production in the state, it is necessary to have a new seed-testing laboratory in each district.

b) Objectives of Seed Testing

The main objective of seed testing in these laboratories will be to obtain accurate and reproducible results regarding the purity composition, moisture content, the occurrence of weed seeds and the percentage of germination to produce normal seedlings under favorable conditions. In some instances such additional information such as the presence of seed borne diseases and pests and varietal purity is desired. Seed testing will be a guide to the person who will plant the seed and for seed quality control purposes. In all these cases, the ultimate purpose of making the test is to determine the value of seed for planting.

c) Role of Seed Testing Laboratories in Seed Quality Control

On analysis of the past data on productivity and quantity of seeds distributed to farming community it is well understood the seed is very important among all other factors which influences agricultural production considerably.

While encouraging distribution of Quality seeds, regulation of seeds distributed to farmers is also very much required to safe guard the interests of the farmers and to keep up the agricultural production.

d) Seed Quality Control Activities

Seed Quality control activities carried out in the state during 2006-07 is given below. Past performance depicts that the intensification of regulatory activities have led to reduction in distribution of sub standard seeds in the state. Tamil Nadu stands first among other states and Union territories in implementation of the Seeds Act, 1966, The Seeds Rule 1968 and the Seed Control Order 1983.

Table 75. Seed Quality Control Activities during 2006-07

Sl.No	Details	Achievements
1	Inspection of seed selling points	32336
2	Seed samples taken	25178
3	No. of stop sales orders issued	2018
4	Quantity of seeds stopped from sale (M.T.)	1238
5	Value of seeds stopped from sale (L. Rupees)	355
6	No. of cases filed in the court of law	395
7	No. of cases disposed	328
8	Percentage of substandard samples	7.21

Table 76. Seed Analysis Carried out during 2006-07

Sl.No.	Category	Analysed (Numbers)	Sub standard (Numbers)	Percentage
1	Certified	20427	1544	7.56
2	Official	22970	1326	5.77
3	Service	12545	1162	9.26
	Total	**55942**	**4032**	**7.21**

To safe guard the interests of farming community and to increase agricultural production in the state a strong seed production program and quality control mechanism plays a vital role.

Seed testing plays a pivotal role in modern agriculture. It is being carried out to analyze the factors like germination, physical purity, moisture, seed health and admixture of other distinguishable varieties. Seed testing is carried out in the notified seed testing laboratories. The seed testing results are very important for the successful implementation of seed certification program and seed law enforcement programs. Certified seed samples, official seed samples from quality control wing and the service samples sent by the farmers, seed dealers and seed producers are tested in the laboratories.

e) Need for Establishing Seed Testing Laboratories

At present 11 Seed testing laboratories are located at Coimbatore, Ooty, Erode, Salem, Madurai, Trichy, Dharmapuri, Tanjore, Tirunelveli, Villupuram and Kancheepuram in addition to state referral lab at Directorate of Seed Certification, Coimbatore and Genetic purity testing laboratory at Kannampalayam, Coimbatore district. These are functioning in accordance with various provisions of the Seed Act 1966 and Environmental (Protection) Act 1986 to cater the needs of farming community, Seed growers, seed producers and seed dealers of Tamil Nadu.

f) Seed Distribution

The data on seed distribution reveals a considerable quantum of labeled seeds are being distributed through licensed seed selling points in general and in respect of horticultural and vegetable seed crops. The labeled seeds distribution is dominating. Under these circumstances, ensuring the quality of the seed lots before its usage by the farming community is very much essential. The quality of such seed lots can be ensured only by testing these seed lots in the Seed Testing Laboratories for its seed standards. The seed testing of these seed lots which are not covered under the preview of Seed Certification and that are covered to some extent under seed quality control program can be ensured only by inculcating the practice of sending service samples by seed producers, seed dealers and farmers. In the present scenario, where limited laboratories are available in 11 districts only

the seed producers, seed dealers and farmers find it very difficult to send the seed samples for analysis. Hence, facilitating the seed producers, seed dealers and farmers by establishing Seed Testing Laboratories in all districts will be of much use. Accordingly, eighteen laboratories are proposed under this project.

In order to meet the increasing demand of quality seeds and to ensure that the farmers, dealers, producers receive the results of Seed Testing Laboratories at correct time without delay it is proposed to establish new Seed Testing Laboratories at Dindugal, Theni, Cuddalore, Kanyakumari, Krishnagiri, Sivagangai, Ramanathapuram, Vellore, Thiruvallur, Namakkal, Thiruvarur, Nagapattinam, Perambalur, Pudukkotai, Karur, Thiruvannamalai, Thoothukudi and Virudhunagar districts of the State under National Agricultural Development Programme at a financial outlay of Rs.6.00 lakhs per laboratory.

g) Activities Proposed

To establish a Seed Testing Laboratory to test moisture, purity, germination and ODV of the given seed sample the following equipments are necessary.

h) Requirement of Equipments for Establishing Seed Testing Laboratories

i) Mixing and Dividing Equipments

Seed samples entering a laboratory should be thoroughly mixed before they are divided for making a purity analysis. Soil type divider is proposed to be purchased as these mixers and dividers are faster and more accurate.

ii) Moisture Testing Equipment

Moisture testing equipment for making rapid moisture determinations to provide quick moisture percentage on seed lots. Digital moisture meter is to be purchased.

iii) Weighing Equipments

It is proposed to purchase Top loading weighing balance and Electronic Weighing balance (to weigh a minimum of 0.1 mg) for weighing the submitted samples and moisture determinations.

iv) Purity Analysis Equipment

Purity analysis equipments are used to analyze the physical purity of submitted seed sample, which is pre requisite for conducting germination test. The Illuminated purity work board is to be purchased for physical purity analysis.

v) Germination Equipment

Seed Germination in the laboratory should be made under ideal conditions. This necessitates controlled temperature and humidity. For conducting germination test under prescribed temperature and humidity for various agricultural and horticultural crop seed samples Cabinet germinator is very much required. Germination Trays, Petri dishes are necessary for conducting Germination Test. Germination paper, filter paper are the media that are to be purchased for the new Seed Testing Laboratories.

vi) Storage Equipment

The Seeds received for testing should be stored at controlled conditions for future use. Hence it is proposed to purchase seed storage racks.

vii) General

Thermometers, Hygrometer to measure temperature and humidity respectively are needed. Trolley (Movable) for transporting sand, Air Conditioner to maintain prescribed temperature is required. Worktable and work chair are necessary for carrying out various works like germination, purity analysis and for working of equipments etc.

viii) Computers with Accessories

Computer with accessories are needed for declaring the results in the internet and storing data on seed analysis.

ix) Cost Aspects

The Seed Testing Laboratories that are to be established should have the following equipments for the purpose of analyzing seed samples for moisture, physical purity, germination and Other Distinguishable Varieties (Table 77).

Table 77. Proposed Budget for the Establishment of Seed Testing Laboratory

Sl. No.	Name of the Instrument/Equipment	Approx. qty required for One lab	Approx. cost Per unit rupees	Approx. cost for one lab Rupees
1	Weighing Balance-Top Loading	1	5000	5000
2	Illuminated purity Work board	1	4000	4000
3	Electronic Weighing balance (0.1 mg.)	1	30000	30000
4	Soil type divider	1	7500	7500
5	Digital moisture meter with stabilizer	1	17500	17500
6	Germination trays	200	175	35000
7	Petri dishes	50	300	15000
8	Thermometer	1	300	300
9	Hygrometer	1	1500	1500
10	Cabinet Germinator (Double door) along with stabliser	1	225000	225000
11	Air Conditioner (split type) along with stabilizer	2	35000	70000
12	Work Table	5	4000	20000
13	Work Chair	4	2500	10000
14	Trolley (Movable)	1	5000	5000
15	Computer with accessories	1	60000	60000
16	Germination Paper (Roll towel) in Kgs	200	165	33000
17	Filter paper (Nos.)	50	35	1750
18	Seed Storage Rack	2	6000	12000
19	Telephone Connection with Broad band	1	1250	1250
20	Miscellaneous items			46200
	Total			**600000**

(Rupees Six lakhs only per lab)

xi) Benefits

The seed-testing laboratory is an important institution in carrying out the seed production and seed certification program. The accuracy and reproducibility in the analyzed results is of paramount importance to the seed producer, processor, certification and seed law enforcement officials. Establishment of seed testing laboratories at Dindugal, Theni, Cuddalore, Kanyakumari, Krishnagiri, Sivagangai, Ramanathapuram, Vellore, Thiruvallur, Namakkal, Thiruvarur, Nagapattinam, Perambalur, Pudukkotai, Karur, Thiruvannamalai, Thoothukudi and Virudhunagar districts will help the farming community, seed dealers and producers in getting the results in time, in getting quality seeds at the sowing period and curtailing the sale of substandard seeds to the farmers well ahead of sowing so that agricultural production of the state is enhanced.

xii) Expected Date of Completion

The equipments for seed testing laboratories are expected to be purchased during 2007-08.

xiii) Monitoring and Evaluation

Project on implementation of the proposed project shall be evaluated then and there by Director of the Department of Seed Certification, which is the implementing department.

6.7 Sericulture Department

The details of scheme components and costs involved are furnished in Table 78.

Table 78. NADP Sericulture Component 2008-2009 to 2011-2012

(Rupees in Lakhs)

S. No.	Scheme Components	2008-09			2009-10			2010-11			2011-12		
		Projected Area 350 Acre			Projected Area 500 Acre			Projected Area 625 Acre			Projected Area 750 Acre		
		Projected Cocoon 2.10 Kgs			Projected Cocoon 3.00 Kgs			Projected Cocoon 3.75 Kgs			Projected Cocoon 4.50 Kgs		
		No.of Units	Unit Cost	Total Cost	No.of Units	Unit Cost.	Total Cost	No.of Units	Unit Cost	Total Cost	No.of Units	Unit Cost	Total Cost
1	Drip Irrigation (2.5 acre)	25	11200	2.80	35	11200	3.92	45	11200	5.04	50	11200	5.60
2	Mulberry Seedlings	25	5000	1.25	35	5000	1.75	45	5000	2.25	50	5000	2.50
3	Fertilizer	25	15000	3.75	35	15000	5.25	45	15000	6.75	50	15000	7.50
4	Insecticides / Pesticides Disinfectants	25	5000	1.25	35	5000	1.75	45	5000	2.25	50	5000	2.50
5	Training Tour etc.,	25	3800	0.95	35	3800	1.33	45	3800	1.71	50	3800	1.90
	Total	**25**	**40000**	**10.00**	**35**	**40000**	**14.00**	**45**	**40000**	**18.00**	**50**	**40000**	**20.00**

6.8 Agricultural Engineering Department

The details of scheme components and costs involved are furnished in Table 79.

Table 79. Proposal of Agricultural Engineering Department

(Rs. in Lakhs)

S. No.	Project Component	Unit Cost	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
	STREAM -1												
I	**Introduction of Newly Developed Agri. Machinery / Implements**												
1	Mini combined Harvester TNAU model	2.50	50%										
2	Multi crop Thrasher (High Capacity)	2.10	50%	1	1.05	1	1.05	1	1.05	1	1.05	4	4.20
3	Power Weeder with attachment (all models)	1.00	50%										
4	Power Thrasher	1.00	50%										
5	Paddy Transplanter	1.40	50%										
6	Post Hole Digger	0.85	50%	6	2.55	6	2.55	6	2.55	6	2.55	24	10.20
7	Shredder (Heavy)	1.00	50%										
8	Shredder (Medium)	0.40	50%										
9	Maize Husker Sheller	0.90	50%										
10	Coconut De - Husker	0.60	50%										
11	Ground nut decorticator	0.35	50%										
12	Chiesel plough	0.12	50%										

Table 79. Contd… **(Rs. in Lakhs)**

S. No.	Project Component	Unit Cost	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
13	Power Weeder - Oleomac	0.65	50%										
14	Ratoon Manager	1.00	50%										
15	Multi Crop Thrasher (Tractor PTO)	1.25	50%										
16	Knapsac Power Operated Hydrualic Sprayer	0.20	50%	5	0.50	10	1.00	10	1.00	10	1.00	35	3.50
17	Shredder (Tractor PTO operated)	0.85	50%										
18	Power Operated Chaff Cutter	0.30	50%	10	1.50	10	1.50	10	1.50	10	1.50	40	6.00
19	Jappanese Yanmar 6- row trasplanter with nursery raising system	7.50	50%										
20	Jappanese Yanmar 8- row trasplanter with nursery raising system	10.50	50%										
21	Korean 4 - row walk behind transplanter	2.00	50%										
22	Combine Harvester - Tractor Operated	12.00	50%	1	6.00	2	12.00	1	6.00	2	12.00	6	36.00
23	Combine Harvester - Self propelled	16.00	50%										
24	Maize combine Harvester	16.00	50%										
25	Gender friendly equipments	0.08	75%	50	3.00	50	3.00	50	3.00	50	3.00	200	12.00

Table 79. Contd… **(Rs. in Lakhs)**

S. No.	Project Component	Unit Cost	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
II	**Innovative Water Harvesting Structures**												
1	Lined farm pond with mobile sprinkler	3.00	90%										
2	Rejuvanation of percolation ponds with 2 Recharge Shafts	1.00	100%	30	30.00	30	30.00	30	30.00	30	30.00	120	120.00
III	**Control of Sea Water Intrusion**												
1	Recharge Shafts to prevent sea water intrusion	0.50	100%										
IV	**Promoting the Concept of Mechanised Villages**												
1	Distribution of crop based package of Agri. Machinery on cluster basis in the adopted villages	varied	75%										
	1. Paddy	33.08	75%	1	24.8085	1	24.8085	1	24.8085	1	24.8085	4	99.234
	2. Sugarcane	8.25	75%			1	6.1875			1	6.1875	2	12.375
	3. Minor Millet	3.01	75%			1	2.2575			1	2.2575	2	4.515
	4. Gingelly	0.65	75%	1	0.4875			1	0.4875			2	0.975
	5. Sunflower	1.60	75%	1	1.20	1	1.20	1	1.20	2	2.40	5	6.00
	STREAM -1 TOTAL				**71.10**		**85.55**		**71.60**		**86.75**		**314.999**

Table 79. Contd… **(Rs. in Lakhs)**

S. No.	Project Component	Unit Cost	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
	STREAM –II												
1	**Popularisation of Agricultural Mechanisation through Conventional Machinery / Equipments**												
a	Power Tiller	1.16	25%	25	7.25	25	7.25	25	7.25	25	7.25	100	29.00
b	Rotavator	0.90	25%	10	2.25	10	2.25	10	2.25	10	2.25	40	9.00
c	Cultivator	0.16	25%	10	0.40	10	0.40	10	0.40	10	0.40	40	1.60
d	Off - set Disc Harrow	0.47	25%										
e	Disc Plough	0.35	25%	2	0.18	2.00	0.18	2.00	0.18	2.00	0.175	8	0.72
	Sub Total												**40.32**
2	**Water Harvesting Structures**												
a	Farm Pond - Unlined	0.50	90%	100	45.00	100	45.00	100	45.00	100	45.00		180.00
b	Check dam - Minor	0.30	100%										
C	Check dam - Medium	0.75	100%										
D	Check dam - Major	1.00	100%										
E	Percolation pond	3.25	100%	4	13.00	4	13.00	2	6.50	2	6.50	12	39.00
F	Recharge Shaft	0.30	100%	5	1.50	5	1.50	5	1.50	5	1.50	20	6.00
G	New Village Tank	1.50	100%	5	7.50	5	7.50	5	7.50	5	7.50	20	30.00
H	Collection Well	0.40	90%	5	1.80	5	1.80	5	1.80	5	1.80	20	7.20
	Sub Total												**262.20**

Table 79. Contd… **(Rs. in Lakhs)**

S. No.	Project Component	Unit Cost	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
3	**Soil Conservation Works**												
A	Compartmental Bunding	0.03	90%	800	21.60	800	21.60	800	21.60	800	21.60	3200	86.40
B	Land Shaping	0.10	90%	50	4.50	50	4.50	50	4.50	50	4.50	200	18.00
C	Terrace Support Wall	0.30	90%										**104.40**
4	**Water Management Works**												
A	PVC Pipe Laying	0.15	90%	200	27.00	200	27.00	200	27.00	200	27.00	800	108.00
B	Ground Level Reservoir	0.80	90%										
C	Fertigation Assembly	0.12	90%										
	Sub Total												**108.00**
5	**Farmers Training**		100%		1.25		1.25		1.25		1.25		5.00
	Stream -II TOTAL				**133.23**		**133.23**		**126.73**		**126.73**		**519.915**
	Grand Total				**204.33**		**218.78**		**198.33**		**213.48**		**834.914**

Table of Contents

List of Tables

List of Tables contd…

List of Tables contd…

List of Tables contd…

List of Figures

List of Appendices

APPENDIX – II

I. Feed & Fodder development: For dairy, sheep and goat farming

Abstract (Summary of the Project)

To augment fertility, milk, meat production, clean milk production feeding the livestock with required quantity of nutrient rich perennial fodder and tree fodder is essential. Current status of 90 % deficit of green fodder should be given priority and hence village fodder nurseries, cultivation of green fodder, tree fodder, chaff cutter usage to enhance digestibility and to prevent wastage of feed is proposed.

Budget : Rs. 118.30 lakhs

Background / Problem focus

Deficit of green fodder is 90% and hence it is essential to feed the crossbred milch animals with nutrient rich perennial fodder and tree fodder biomass to explore the full genetic potential of the livestock. The present background with regard to dairy, sheep and goat farming in this district is mainly grazing wherever possible, feeding with available greens and feeding milch animals with polish, bran, oil cakes, cotton seed. Sheep and goat are taken for grazing only. No supplemental feed, grains, concentrate is given to them. Immunization against endemic diseases is carried out by Department of Animal Husbandry, ASCAD program. Desi chickens are allowed for foraging and kitchen left over and available excess grains are fed to the extent possible. Chaff cutter usage to enhance digestibility and to prevent wastage of feed is proposed.

Keeping this background, the action plan is proposed to focus these problems namely perennial fodder cultivation, chaff cutter usage, distribution of feed and grains for livestock and birds to farmers.

Project rationale

To augment fertility, productivity and production of livestock to achieve 4 % annual growth rate during XI plan period. The action plan is prepared to achieve this target

Project strategy

Based on current background of livestock sector, project strategy is proposed involving Tamil Nadu Veterinary and Animal Sciences University, Department of Animal Husbandry, Karur District Co-operative Milk Producers Union (the implementing agencies) to achieve the target with technical interventions for the target group namely the rural women, farmers and entrepreneurs. The project strategy is proposed to strengthen the existing infrastructure and expansion of ongoing development scheme of the implementing agencies. The strategy will be spread out for four years for project works whereas the strengthening of existing infrastructure and expansion of ongoing development scheme will be carried out during the first year i.e. II year of XI plan period.

Project goals

To improve milk yield, to improve fat and solids not fat in milk, to produce clean milk, to facilitate chilling of milk, to prepare value added milk products, door to door clinical services to facilitate livestock health cover and A.I. and immunization of livestock and poultry. Capacity building of farmers, veterinarians, NGOs for technological interventions through adoption for improving milk, meat and eggs. To empower farmers, rural women on Ethno Veterinary Medicine and Practice for Primary health care of livestock and Poultry. All these proposed activities will lead to achievement of stipulated goals in stipulate time. Overall goal is to augment fertility, production, productivity which will envisage revenue generation of stake holders.

Project components

This broad area of the project components involves

- Perennial fodder cultivation
- Tree fodder production
- Popularising chaff cutter

I. Fodder production

1. **Perennial Fodder production @ 8 acres/ block/year (10 blocks) & for 4 years by the Department of Animal Husbandry and the Aavin, Karur -- Rs. 0.235 Lakhs/Acre:**

I. Training Cost		
S.No.	**Details**	**Amount (in Rs.)**
1.	Incentive @ Rs.100/person/day, for 2 days, for 15 members	3,000.00
2.	Refreshment expenses @ Rs.10/day/person, for 2 days, 15 persons	300.00
3.	Study materials including scribbling pad, pen etc.@ Rs.15/person, for 15 members	225.00
	Total training cost per SHG	**3,525.00**
II. Fodder Cultivation of Fodder (Co-3) per Acre		
1 a)	Bush clearance and land reclamation	2,600.00
1.b)	Cost of ploughing	1,600.00
2.	Formation of ridges and furrows/beds and irrigation channels	500.00
3.a)	Cost of Farmyard manure 10 mt. @ Rs.300/mt.	3,000.00
3.b)	Labour cost for transportation and application, loading and unloading	1,000.00
4.a)	Cost of slips 16,000 numbers @ Rs.0.25 /slip	4,000.00
4.b)	Planting cost	840.00
5.a)	Cost of chemical fertilizers N 150 Kg @ Rs.5.48/kg – 822.00 P 50 Kg @ Rs.10.88/kg – 544.00 K 40 Kg @ Rs.3.85/Kg - 154.00	1,520.00

5. b)	Cost of labour for application	200.00
6.	After cultivation weeding	840.00
7.	Cleaning the channels	500.00
8.	Irrigation charges	800.00
9.	Harvesting charges and transportation	1,600.00
10.	Miscellaneous expenses	800.00
	Total Cost Required Per Acre	20,000.00
	III. Financial Requirement Per Self Help Group	
1.	Cost of training per SHG	0.035
2.	Cost of fodder cultivation	0.20
	Total Requirement per SHG	0.235
DAH	Total requirement for 10 blocks with 14 SHG @ 8 Acres /Block/year for 4 years, 320 acres totally by DAH	75.20
DDD	Fodder development activities (in IDF villages & in farmers field)Total requirement for 80 acres totally by DDD	18.80

2. Fodder development activities for production of fodder seed / slips in dairy or chilling centre & land of DDD Aavin, Karur at Unions, CCs, Dairies and MPCS

Sl.No	Particulars	Amount (Rs. in Lakhs
I	**Capital Investment**	
1.	Demarcation of boundary and fencing	0.60
2.	Land development	0.10
3.	Farm sheds for equipments, seeds manure etc.,	0.20
4.	Purchase of agricultural implements	0.10
5.	Creation of irrigation facilities (wells, pumps, powerline, water tanks, pump room, pipeline etc.,)	0.50
	Sub –Total (I)	**1.50**
II	**Recurring Expenditure**	
1.	Wages of supervising staff	0.20
2.	Sedds, fertilizers / manure and insecticides	0.20
3.	Cultivation charges	0.05
4.	Irrigation charges	0.05
5.	Maintenance of store / dead stock	0.05
6.	Miscellaneous	0.05
	Sub-Total (II)	**0.60**
	Grand Total (I + II)	**2.10**

Rs. 2.10 lakhs/acre as above. Totally for 2 Acres – Rs. 4.20 Lakhs

Project cost and financing :

Rs. in lakhs

Action plan / Implementing agency	Unit Cost	2008-2009		2009-2010		2010-2011		2011-2012		Grand total	
		Unit	Cost	Unit	Cost	Unit	Cost	Unit	Cost	Total Unit	Total Cost
DAH											
Perennial Fodder production @ 10 acre/ block/year(8 blocks) & for 4 years	0.235	80	18.80	80	18.80	80	18.80	80	18.80	320	75.20
Popularizing chaff cutter for efficient nutrient utilization with 50% subsidy	0.125	25	3.125	25	3.125	25	3.125	25	3.125	100	12.50
DDD											
Fodder development activities for production of fodder seed / slips in dairy or chilling centre & land of DDD.(acres)	2.10	2	4.20	-	-	-	-	-	-	2	4.20
Fodder development activities (in IDF villages & in farmers field)	0.235	40	9.40	15	3.525	15	3.525	10	2.35	80	18.80
Chaff cutters for elite farmers (small type)@Rs.20000-with 100% grant	0.20	4	0.80	2	0.40	2	0.40	2	0.40	10	2.00
Chaff cutters (mechanized) for IDF villages on community basis	0.70	2	1.40	2	1.40	2	1.40	2	1.40	8	5.60
Total											**118.30**

Implementation chart of the project

(Year wise-2008-09;2009-10;2010-11;2011-12)

Works proposed	I Quarter	II Quarter	III Quarter	IV Quarter
DAH				
Perennial Fodder production @ 10 acre/ block/year(8 blocks) & for 4 years	20-20-20-20	20-20-20-20	20-20-20-20	20-20-20-20
Popularizing chaff cutter for efficient nutrient utilization with 50% subsidy	10-10-10-10	05-05-05-05	05-05-05-05	05-05-05-05
DDD				
Fodder development activities For production of fodder seed / slips in dairy or chilling centre & land of DDD.(acres)	0	0	1	1
Fodder development activities (in IDF villages & in farmers field)	10-0-0-0	10-5-5-0	10-5-5-5	10-5-5-5
Chaff cutters for elite farmers (small type)@Rs.20000-with 100% grant	1-1-1-1	1-1-1-1	1-0-0-0	1-0-0-0
Chaff cutters(mechanized) for IDF villages on community basis	1-1-0-0	1-1-0-0	1-0-0-0	1-0-0-0

Reporting

The implementing agencies viz. Department of Animal Husbandry, Karur; Karur District Co-operative Milk Producers Union and the TANUVAS, Veterinary University Training and Research Centre, Karur will submit periodical project report to their controlling officers

II. Genetic upgradation

For dairy, sheep and goat farming

Abstract (Summary of the Project)

To augment fertility strengthening A.I. service will be of much useful at field level. To augment fertility, meat production and to offset the effect of inbreeding distribution of elite bucks and rams is proposed. Programmed breeding of cattle and buffalo will offset the declining buffalo population apart from improving its fertility, productivity and production. Indigenous cattle, now at declining trend will have more such animals apart from its improved production and productivity. Proposed mobile input units will enhance fertility and improve the genetic performance of milch animals. Buffalo calf development prograame will give a thrust to improve buffalo population.

Budget : Rs. 200.40 Lakhs

Background / Problem focus

Cattle reared in rural areas often attains the age of first calving at 50 to 60 months of age, mostly due to lack of knowledge on scientific practices and traditional rearing practices. To improve the local cattle and crossbred milch animals fertility, milk yield, calving rate and calving interval, strengthening of A.I. services is important. Conservation and improvement of performance of indigenous cattle and buffalo is the need of the hour and hence proposal to address these problems is included. Buffalo calf development programme will give a thrust to improve the buffalo population. Sheep flocks are taken for grazing to a long distance and post harvested fields. Animals breed

naturally and hence every likely hood that the effect of inbreeding will affect the flock performance. Keeping this problem it is focused to distribute elite bucks and rams to upgrade the genetic performance of goat and sheep during XI plan period.

Project Rationale

To improve per animal milk yield of indigenous cattle from 2.76 kg and from 4.22 kg in buffalo. To arrest the fall and to stabilize the buffalo population support need to be provided to the buffalo reares to rear female buffalo calves up to first calving. To augment fertility, productivity and production of sheep and goat. A.I will augment fertility and upgrade local cattle and establish desirable exotic blood in the cross bred cattle and buffalo. Increasing fertility in indigenous cattle and buffalo is very important to maintain their population. Buffalo calf development is the need of the hour.

Project strategy

Based on current background of livestock sector, project strategy is proposed to distribute elite bucks and rams to farmers to augment fertility and productivity. The proposal of programmed breeding indigenous cattle and buffalo will increase conception rate and thereby increase the population, production and productivity. By Intensive system of calf rearing, income generation will be more.

Project goals

To improve fertility in crossbred cattle, indigenous cattle, buffalo. To produce more buffalo calves. To improve the genetic performance of sheep and goat to augment fertility, production, productivity which will envisage additional revenue generation of farmers. To reduce age at first calving in buffaloes from 50 to 60 months to 30 to 35 months of age. To save cost on feed and will lead to early milk production. Buffalo / calf mortality will be reduced by about 50% due to quality health cover proposed.

Project components

- **Distribution of Bucks & Rams** @ Rs.4000/- per buck or ram. A total of 500 bucks and 500 rams will be distributed. **- DAH**

- **Programmed breeding of indigenous cattle & buffalo** to increase conception rate @ Rs.700/animal, for 6000 animals.(DDD)- will result in 3150 additional adult female buffaloes are brought in and additional revenue of Rs.3.024 lakh per day is created to the farmer through additional milk expected to be produced **- DDD**

- **Buffalo calf development programme** @ Rs. 14,800/- per calf, The cost includes feed cost, identification, insurance, deworming, vaccination, breeding and health cover, 200 calves/year, 800 calves for 4 years **– DDD**

Project cost and financing

Rs. in Lakhs

Action plan / Implementing agency	Unit Cost	2008-2009		2009-2010		2010-2011		2011-2012		Grand total	
		Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total Units	Total Cost
DAH											
Distribution of Bucks @ Rs. 4000/ buck DAH	0.04	125	5.00	125	5.00	125	5.00	125	5.00	500	20.00
Distribution of Rams @ Rs.4000 /ram DAH	0.04	125	5.00	125	5.00	125	5.00	125	5.00	500	20.00
DDD											
Programmed breeding of indigenous cattle & buffalo to increase conception rate / DDD	0.007	1500	10.50	1500	10.50	1500	10.50	1500	10.50	6000	42.00
Buffalo calf development programme-DDD	0.148	200	29.60	200	29.60	200	29.60	200	29.60	800	118.40
Total											**200.40**

Implementation chart of the project -
(Year wise-2008-09; 2009-10;2010-11;2011-12)

Works proposed	I Quarter	II Quarter	III Quarter	IV Quarter
Distribution of Bucks (125 X 4) / DAH	30-30-30-30	30-30-30-30	30-30-30-30	35-35-35-35
Distribution of Rams (125 X 4) / DAH	30-30-30-30	30-30-30-30	30-30-30-30	35-35-35-35
Programmed breeding of indigenous cattle & buffalo to increase conception rate / DDD	400-400-400-400	400-400-400-400	400-400-400-400	300-300-300-300
Buffalo calf development programme -DDD	50-50-50-50	50-50-50-50	50-50-50-50	50-50-50-50

Reporting

The implementing agencies viz. Department of Animal Husbandry, Karur District Co-operative Milk Producers Union and the TANUVAS, Veterinary University Training and Research Centre, Karur will submit periodical project report to their controlling officers.

III. Improvement of livestock health

For dairy, sheep, goat and poultry farming

Abstract (Summary of the Project)

To provide comprehensive livestock health cover including immunization against important viral, bacterial diseases and to cover almost all animals including poultry required programmes are proposed. This will protect livestock and poultry from diseases and overall improvement in health is anticipated. To maintain livestock health micronutrients and mineral mixture to be supplied. The proposal " Identification and traceability of bovines" will enable creation and maintenance of breedable bovine population which is very important for policy decision. Control of parasitic diseases will enhance vaccine response which will ensure optimum immunity. Intensive system of model sheep/goat unit will motivate the farmers to adopt such technologies for sustainable and economically viable farming wherever possible. Mobile veterinary disease diagnostic laboratory will monitor and maintain continued health cover and disease forecasting system. Supply of mineral mixture/micro nutrients will ensure adequate health cover to animals and by pass protein will help the milch animals to utilize the nutrients effectively and economically. Mobile input units in Aavin will cover the health of animals. Milking machines will ensure quality and clean milk production. PC based milking stations will save time and encourage farmers to produce more clean, quality milk.

Budget : Rs. 230.73 Lakhs

Background / Problem focus

Artificial insemination service to livestock, immunization of animals and birds are carried out with the available manpower. Mobile veterinary disease diagnostic laboratory facility and mobile veterinary clinics will help in disease diagnosis, disease mapping and disease forecasting easily and quickly and immunization and deworming of livestock and poultry. Further almost all the domestic animals are deficient in micro nutrients since most of the animals are allowed only for grazing especially sheep and goat. For better digestibility of feed consumed and also to satisfy the micro nutrient requirements it is proposed to supplement mineral mixture to livestock to improve production and fertility apart from augmenting its fertility.

Project Rationale

To provide optimum health cover of livestock through quick, effective and timely disease diagnosis one Mobile veterinary laboratory facility is proposed. Supplementing livestock with micro nutrients would ensure their optimal health cover. Controlling parasitic diseases will ensure optimum immunity.

Project strategy

Mobile veterinary laboratory facility will help in disease diagnosis, disease mapping and disease forecasting easily and quickly. Supplementing livestock with micro nutrients would ensure their optimal health cover. Immunization against Newcastle disease.

Project goals

To provide optimum health cover to livestock and poultry including immunization for NCD. It is proposed to supplement the livestock with micro nutrients which will result in optimum performance of livestock and poultry which will ensure improved productivity and production. To increase milk production and also to produce clean, quality milk effectively and economically.

Project components

- **Mobile Veterinary Clinics - DAH**

Anticipated expenditure (recurring and non-recurring expenditure) for one year for Mobile Veterinary Clinic

Non-recurring expenditure

1) Equipments (Rs.30, 000)	:	Rs.0.30 lakh
2) LN2 container (Rs. 30,000)	:	Rs.0.30 lakh
3) Small LN2 container (Rs.5000)	:	Rs.0.05 lakh
4) Jeep	:	Rs.4.75 lakh

Recurring Expenditure

Diesel 90 Lit x 12 xRs.40	:	Rs.0.432 lakh
Total cost	**:**	**Rs.5.832 lakh**

List of equipments and instruments required for one mobile veterinary unit

Sl.No	Name of the the Item	Unit cost (in Rs.)
1.	Surgical Kit	5000
2.	Obstetrical Kit	5000
3.	Microscope	20000
	Total	**30,000**

- **Mobile Veterinary Laboratory : One unit is Rs. 12 lakhs - DAH**

For mobility and to provide diagnosis at the farmer's doorsteps, the Animal Disease Diagnostic unit will be provided with one vehicle with facilities to make on the spot diagnosis. The vehicle will be fitted with a refrigerator, a centrifuge, a microscope and equipments to conduct post mortem examinations. This will help in identification of the pathogens quickly and thus undertake disease control measures without wastage of time.

The cost of the vehicle is approximately Rs.11.00 lakh. The cost of microscope will be Rs.0.50 lakh cost of refrigerator will be Rs.0.25 lakh, cost of centrifuge will be Rs.0.15 lakh, cost of post mortem kits and other chemicals and chemical reagents will be Rs.0.10 lakh.

- **Popularizing Mineral mixture by supplying at subsidized cost - DAH**

  Popularizing Mineral mixture to improve livestock production to dairy cows @ Rs.600/cow/year, 1 kg / cow / month @ Rs.50/kg,12 kg/year, 1000 cows/year, 4000 cows/years- 4 Blocks (DAH). Total amount Rs.24 lakhs

- **Control of parasitic diseases - DAH**

  Control of parasitic diseases to enhance vaccine response @ Rs.1/- per sheep or goat and Rs.3/- per calf below one year, 4 times /year, Rs. 6.92 Lakhs/year, for 4 years (DAH) for 49,288 calves, 2,18,514 Sheep and 1,73,591Goats

- **Intensive system of sheep/goat rearing - DAH**

  It is proposed to provide, sheep/Goats each unit comprising of 20 ewes/buck and one Ram/ Doe, by formation of Self Help Groups. The cost per unit (20 females and 1 male) will be Rs.42,000/-

- **Identification & traceability of bovines** @ Rs. 20 /animal **- DAH**

- **Supply of mineral mixture to milch animals at subsidized cost** (50%) @ 18 kg per year @ Rs.500/- per animal **- DDD**

- **Supply by-pass protein feed to the milch animals of the members of the society**

  360 kg/animal/year) for 1600 cows @ 50% subsidy of Rs.9/- per kg **- DDD**

- **Milking machines for ID farms** @ Rs. 1.00 lakh per unit**- DDD**

- **Portable milking machines for farmers** @ Rs.0.18 lakh per unit **- DDD**

- **PC based automatic milk collection stations to IDF villages** @ Rs.1.75 lakhs per unit **– DDD**

Project cost and financing :

Rs. in Lakhs

Action plan / Implementing agency	Unit Cost	2008-2009		2009-2010		2010-2011		2011-2012		Grand total	
		Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total Units	Total Cost
DAH											
Mobile Vety.Clinics-1/taluk / DAH	5.83	3	17.49	-	-	-	-	-	-	3	17.49
Mobile disease diagnostic laboratory / DAH	12.00	1	12.00	-	-	-	-	-	-	1	12.00
Popularizing Min. mix to improve livestock production @ 1kg / month / Animal-1 block/year / DAH	0.006	1000	6.00	1000	6.00	1000	6.00	1000	6.00	4000	24.00
Control of parasitic diseases through treatment to enhance vaccine response / DAH	-	-	6.92	-	6.92	-	6.92	-	6.92	-	27.68
Intensive system of sheep/goat rearing (20+1=1unit)/ block / DAH	0.42	8	3.36	-	-	-	-	-	-	8	3.36
Identification & traceability of bovines / DAH	0.0002	157000	31.40	-	-	-	-	-	-	157000	31.40
DDD											
Supply of Min. mix. to milch animals at subsidized cost (50%) @ 18 kg per year / DDD	0.005	500	2.50	200	2.50	500	2.50	500	2.50	2000	10.00

Project cost and financing contd…

Rs. in Lakhs

Action plan / Implementing agency	Unit Cost	2008-2009		2009-2010		2010-2011		2011-2012		Grand total	
		Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total Units	Total Cost
Supply of by-pass protein feed to milch animals (360 kg / year / animal @ 50% subsidised cost of Rs.9-/kg / DDD	0.033	400	13.20	400	13.20	400	13.20	400	13.20	1600	52.80
Milking machines for ID farms	1.00	2	2.00	2	2.00	2	2.00	2	2.00	8	8.00
Portable milking machines for farmers / DDD	0.18	13	2.34	13	2.34	12	2.16	12	2.16	50	9.00
PC based automatic milk collection stations to IDF villages, milk producers co-op. societies/ DDD	1.75	8	14.00	4	7.00	4	7.00	4	7.00	20	35.00
										Total	**230.73**

Implementation chart of the project

(year wise-2008-09;2009-10;2010-11;2011-12)

Works proposed	I Quarter	II Quarter	III Quarter	IV Quarter
DAH				
Mobile Vety.Clinics-1/taluk / DAH	1-0-0-0	1-0-0-0	1-0-0-0	0-0-0-0
Mobile disease diagnostic laboratory / DAH	Tender invitation	Tender processing	Purchase & establishment	Started functioning
Popularizing Min. mix to improve livestock production@1kg/month/ Animal-1 block/year / DAH	250-250-250-250	250-250-250-250	250-250-250-250	250-250-250-250
Control of parasitic diseases through treatment to enhance vaccine response / DAH	-	-	-	-
Intensive system of sheep/goat rearing (20+1=1unit)/block / DAH	2-0-0-0	2-0-0-0	2-0-0-0	2-0-0-0
Identification & traceability of bovines / DAH	40000	40000	40000	37000
DDD				
Supply of Min. mix. to milch animals at subsidized cost (50%) @18 kg per year / DDD	175-175-175-175	400-400-400-400	400-400-400-400	400-400-400-400
Supply of by-pass protein feed to milch animals (360 kg / year / animal @ 50% subsidised cost of Rs.9-/kg / DDD	100-100-100-100	100-100-100-100	125-125-125-125	125-125-125-125
Milking machines for ID farms	1-1-0-0	1-1-0-0	1-1-0-0	1-1-0-0
Portable milking machines for farmers / DDD	4-4-3-3	3-3-3-3	3-3-3-3	3-3-3-3
PC based automatic milk collection stations to IDF villages, milk producers co-op.socities/ DDD	2-1-1-1	2-1-1-1	2-1-1-1	2-1-1-1

Reporting

The implementing agencies viz. Department of Animal Husbandry, Karur District Co-operative Milk Producers Union and the TANUVAS, Veterinary University Training and Research Centre, Karur will submit periodical project report to their controlling officers.

IV. Processing facilities

For TDCMPU (Aavin) Karur

Abstract (Summary of the Project)

Facilities to handle excess milk during flush season and also making available of value added milk products to consumers are proposed. Bulk milk coolers and Walk in coolers will facilitate more milk production by farmers.

Budget : Rs. 61.54 Lakhs

Background / Problem focus

The quality of milk need to be improved, limited chilling milk units threatens the quality maintenance and hence it needs to be strengthened and expanded to handle excess milk during flushing season, to encourage rural dairy farmers to produce more milk, to market quality milk, preparation of value added milk products and to maintain the plant and machineries clean to increase shelf life of milk at consumers home and place. Based on this background, the existing problems are addressed through above mentioned facilities.

Project Rationale

To produce clean milk and to measure the quality (fat and SNF) and quantity of milk, save time and to collect accurate data on milk parameters. To encourage more milk production, to sustain rural family earnings, to handle the milk during flush season, To convert excess milk in to khoa required facilities are proposed and thereby encouraging the farmers to produce more milk.

Project strategy

To strengthen the existing dairy plant of Aavin and to expand the development schemes to ensure quality milk for the consumers and to encourage rural dairy farmers to produce more clean milk and to increase their profit. To prepare value added milk product.

6. Project goals : To strengthen the existing dairy plant of Aavin and to expand the development schemes to ensure quality milk for the consumers and to encourage rural dairy farmers to produce more clean milk and to increase their profit. To prepare value added milk product.

Project components

- Bulk milk coolers
- Walk-in-coolers
- Manufacturing facilities for Milk khoa

Project cost and financing: Rs. in Lakhs

Action plan / Implementing agency	Unit Cost	2008-2009		2009-2010		2010-2011		2011-2012		Grand total	
		Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total Units	Total Cost
Bulk milk coolers / DDD	30.00	1	30.00	-	-	-	-	-	-	1	30.00
Walk-in-coolers / DDD	30.00	1	30.00	-	-	-	-	-	-	1	30.00
Manufacturing facilities for Milk khoa / DDD	0.77	1	0.77	1	0.77	-	-	-	-	2	1.54
										Total	**61.54**

Implementation chart of the project
(year wise-2008-09;2009-10;2010-11;2011-12)

Works proposed	I Quarter	II Quarter	III Quarter	IV Quarter
Bulk milk coolers / DDD (2008-2009 only)	Tender invitation	Tender processing	Purchase & establishment	Started functioning
Walk-in-coolers / DDD (2008-2009 only)	Tender invitation	Tender processing	Purchase & establishment	Started functioning
Manufacturing facilities for Milk khoa / DDD (2008-2009 & 2009-2010 only)	Tender invitation	Tender processing	Purchase & establishment	Started functioning

Reporting

The implementing agencies viz. Department of Animal Husbandry, Karur District Co-operative Milk Producers Union and the TANUVAS, Veterinary University Training and Research Centre, Karur will submit periodical project report to their controlling officers.

V. Extension facilities

For stake holders, to enrich knowledge, infuse skill, empower them to earn through self employment and to strengthen the infrastructure of implementing agencies.

Abstract (Summary of the Project)

To empower knowledge of stake holders, to impart skill, to transfer technologies for adoption proved extension programmes is highly essential. It is proposed to carryout the required extension facilities to farmers, rural women, entrepreneurs, veterinarians, officers, NGOs, etc mainly by the Tamilnadu Veterinary and Animal Sciences University peripheral centre, Karur and also by Department of Animal Husbandry and Aavin. Revival of dormant Aavin societies is essential to encourage farmers to produce more milk. Milk weighing machines will save time and man power. Infra structure development of implementing agencies is proposed to strengthen them to handle the required extension programmes. Capacity building, study tour, orientation programmes are proposed to empower and creating opportunity fro self employment for sustainable additional revenue generation. Training farmers on Ethno Veterinary Medicine will help them to offer primary health care of livestock. It is proposed to popularize turkeys and Japanese quails among rural farmers / rural women SHGs to have additional revenue generation. Touch screen facilities will make the rural farmers to have easy, quick access on innovative technologies on livestock farming and marketing so as to offer him for easy, quick and profitable decision making.

Budget : Rs. 185.60 lakh

Background / Problem focus

Capacity building exercises are offered to rural farmers, women, officers, entrepreneurs, NGOs by many agencies. To empower large sector of the stake holder and to update their knowledge on advanced, user friendly technologies, communication tools and other extension facilities are proposed for training thousands of farmers, rural women and officers. The knowledge on Ethno veterinary medicine for primary health care of livestock and poultry will be shared with farmers and veterinarians. Popularizing turkeys and Japanese quails in rural area will result in additional revenue generation. Strengthening the infrastructure of the implementing agencies is required to offer extension programs effectively.

Project Rationale

To empower stake holders, officers on recent advances in technology, EVM and EVP and user friendly technologies like touch screen facility for easy access

Project strategy

For knowledge sharing, capacity building exercise for farmers, women, officers, etc. by Tamil Nadu veterinary and Animal Sciences University, Department of Animal Husbandry and Aavin. To popularize turkey rearing among rural women, supply of turkeys with some feed is proposed. This will fetch them a satisfactory profit during festive seasons. Japanese quails as a model will create awareness for additional revenue generation with less space and investment and a satisfactory returns. Study tour will help them to know the latest, user friendly technologies for adoption.

Project Components

- **Infra Structure Development of Veterinary Institutions - DAH**
  Fencing, borewell with water troughs, minor repair of Veterinary Institutions for 20 units @ Rs. 5.00 lakhs per unit
- **Revival of dormant Aavin milk societies @ Rs.1.00 lakh - DDD**
- **Milk weighing machines** @ Rs.17,000 per unit - **DDD**

- **Farmers study tour** @ Rs.5000- per farmer 150 farmers totally - **DDD**
- **Orientation training/workshop for milk producers' at society level** Rs.20,000 per programme, 4 programmes/year, for 4 years - **DDD**
- **Capacity building training farmers and village level campaigns** @ Rs.500 per farmer **- TANUVAS**
- **Capacity building training officers and village level campaigns** @ Rs.5000 per officer **- TANUVAS**
- **Strengthening of the TANUVAS Centre at Karur**
  Strengthening of the TANUVAS with a mobile disease investigation cum training unit comprising of a van (Rs. 7.00 lakhs), binocular microscope (Rs.0.20 Lakhs), LCD Projector and other accessories (Rs. 2.50 Lakhs) and other AV Aids (Rs.0.30 Lakhs)Training farmers and officers
- **Sensitizing Veterinarian on EVM and veterinarians on EVP** @ Rs.3000/- per head - **TANUVAS**
- **Field tours of farmers**, MCP, Infertility camps, farmers workshop, conference, etc. @ Rs.25,000/- per unit for 25 to 50 farmers. - **TANUVAS**
- **Touch screen facilities** @ Rs.1.00 lakh inclusive of computer and accessories - **TANUVAS**
- **Distribution of turkeys**(3+1) and 10 kg feed + health cover @ Rs.10,000/- per unit - **TANUVAS**
- **Popularizing Japanese quail among rural women SHGs** along with feed and health cover @ Rs.40,000/- per unit – **TANUVAS**

Project cost and financing : Rs. in lakhs

Action plan / Implementing agency	Unit Cost	2008-2009		2009-2010		2010-2011		2011-2012		Grand total	
		Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total Units	Total Cost
DAH											
Vety.Institutions-Infra.dev. Fencing, borewell with water troughs, minor repair / DAH	5.00	14	70.00	-	-	-	-	-	-	14	70.00
DDD											
Revival of dormant MPCS / DDD	1.00	7	7.00	6	6.00	6	6.00	6	6.00	25	25.00
Milk weighing machine for milk producers co-op. societies / DDD	0.17	35	5.95	35	5.95	30	5.10	30	5.10	130	22.10
Farmers study tour @ Rs.5000- per farmer / DDD	0.05	40	2.00	40	2.00	40	2.00	30	1.20	150	7.50
Orientation training /workshop for milk producers at society level / DDD	0.20	4	0.80	4	0.80	4	0.80	4	0.8	16	3.20
TANUVAS											
Capacity building (ToT) training for farmers & village level campaigns (TANUVAS)	0.005	500	2.50	500	2.50	500	2.50	500	2.50	2000	10.00
Capacity building (ToT) training for officers & village level campaigns (TANUVAS)	0.05	50	2.50	50	2.50	50	2.50	50	2.50	200	10.00

Project cost and financing contd…

Rs. in lakhs

Strengthening of TANUVAS centre for training for ToT, extension program for capacity building & skill enhancement / TANUVAS	10.00	1	10.00	-	-	-	-	-	-	1	10.00
Training farmers on EVM / TANUVAS	0.003	100	0.30	100	0.30	100	0.30	100	0.30	400	1.20
Touch screen facilities/TANUVAS	1.00	5	5.00	5	5.00	5	5.00	5	5.00	20	20.00
Field tour for farmers / TANUVAS	0.25	1	0.25	1	0.25	1	0.25	1	0.25	4	1.00
Turkeys(3+1), feed and health cover – as a pilot program to popularize among rural SHG / TANUVAS	0.01	100	1.00	100	1.00	100	1.00	100	1.00	400	4.00
Popularizing Japanese quail among rural women SHGs / TANUVAS	0.40	1	0.40	1	0.4	1	0.4	1	0.4	4	1.60
										Total	**185.60**

Implementation chart of the project
(year wise-2008-09;2009-10;2010-11;2011-12)

Works proposed	I Quarter	II Quarter	III Quarter	IV Quarter
Vety.Institutions-Infra.dev. Fencing, borewell with water troughs, minor repair / DAH (2008-2009 only)	5	5	5	4
Revival of dormant MPCS / DDD	2-2-2-2	2-2-2-2	2-1-1-1	1-1-1-1
Milk weighing machine for milk producers co-op. societies / DDD	Tender invitation 9-8-8	Tender processing 9-8-8	20-9-8-8	15-8-6-6
Farmers study tour @ Rs.5000- per farmer / DDD	0-0-0-0	0-40-0-0	0-0-40-0	40-0-0-30
Orientation training/workshop for milk producers at society level / DDD	1-1-1-1	1-1-1-1	1-1-1-1	1-1-1-1
Strengthening of TANUVAS centre for training for ToT, extension program for capacity building & skill enhancement / TANUVAS	Tender invitation	Tender processing	Establishment.	Function
Capacity building (ToT) training for farmers & village level campaigns / TANUVAS	125-125-125-125	125-125-125-125	125-125-125-125	125-125-125-125
Capacity building (ToT) training for officers (TANUVAS)	0-25-0-25	25-0-25-0	0-25-0-25	25-0-25-0
Training farmers on EVM / TANUVAS	25-25-25-25	25-25-25-25	25-25-25-25	25-25-25-25
Touch screen facilities/TANUVAS	1-2-1-2	2-1-1-1	2-1-1-1	1-1-1-1
Field tour for farmers / TANUVAS	0-0-0-1	0-1-0-0	0-0-1-0	1-0-0-0
Turkeys(3+1), feed and health cover – as a pilot program to popularize among rural SHG / TANUVAS	25-25-25-25	25-25-25-25	25-25-25-25	25-25-25-25
Popularizing Japanese quail among rural women SHGs / TANUVAS	0-0-0-1	0-1-0-0	0-0-1-0	1-0-0-0

Reporting

The implementing agencies viz. Department of Animal Husbandry, Karur District Co-operative Milk Producers Union and the TANUVAS, Veterinary University Training and Research Centre, Karur will submit periodical project report to their controlling officers.

Fisheries Sector

1. Development of Chinese hatchery in Thirukampuliyar Govt. fish farm

Abstract

Composite fish culture is in growing phase in Karur district owing to the increased awareness on fish culture. They need to depend on carp hatcheries of Salem district for the seeds which involve long duration of transportation. Establishment of a Chinese hatchery in Thirukampuliyur would meet out the fish seed requirement of fish farmers of this district.

Budget : Rs. 22.08 lakhs

Background / Problem focus

Inadequate fish seed supply is the major bottleneck for the development of fish culture in this district. It is the need of the hour to establish a Chinese hatchery to cater the fish seed requirement of this district.

Project Rationale

Cost of fish seed is an important component of operational cost in fish farming Further, availability of good quality fish seeds is a prerequisite for successful operation of composite fish culture system. Therefore a Chinese hatchery at Thirukampuliyur, where adequate water potential is felt has been proposed.

Project strategy

About 5 acres of land with good water facility will be made available at Thirukampuliyur for the establishment of Chinese hatchery with a capacity of producing 100 million hatchlings/yr. The hatchery complex would have a overhead tank, bore well and other accessories. Breeder and nursery ponds will be excavated as per the requirement the electrical and pipeline connections will be laid. Good brooders will be procured from either from government or private farms. Breeding activities will be started through induced breeding. Care will be taken to ensure the supply of good quality seeds through proper selection of breeders.

Project Goals

- To cater the fish seed requirement of fish farmers of Karur district.
- To ensure the supply of quality fish seeds to the Government fish farm Asoor, Kulithalai, Thirukampuliyur and Thattamanai patti.
- To reduce the cost of transportation involved in fish seed transport from neighboring districts of Karur district.

Project cost and financing

Particulars	Cost Rs. in Lakhs
Bore well	1.00
Overhead tank	3.00
Brood stock maintenance tanks	1.00
Nursery ponds	2.58
Chinese hatchery system	13.00
Electrical and Pipeline connections	1.50
Total	**22.08**

Implementation chart of the project

Sl. No.	Particulars	2008-09			
		I Qtr	II Qtr	III Qtr	IV Qtr
1.	Site selection & procurement of land	√			
2.	Establishment of Chinese hatchery, overhead tank, bore well	√			
3.	Excavation of nursery ponds, breeder ponds & breeder tanks		√		
4.	Laying of electrical & water connection			√	
5.	Procurement of breeder			√	
6	Induced breeding & nursery rearing				√

Reporting

The progress of the project will be reported periodically to the concerned authorities.

2) Supply of fishing implements (Gear) 50% subsidy

Abstract

Improving the fishing efficiency of the fisherfolk it is proposed to distribute 100 units of gill nets (20 Kgs. gill net). The fishing implements will be supplied at 50% subsidy to the beneficiaries.

Budget : Rs. 10.00 lakhs

Background / Problem focus

Providing fishing implements, particularly note and traps will greatly favour the farmers to enhance the fishing operation. The yield can also be improved.

Project Rationale / Project Strategy / Project Goals

- To enhance fish production through capture fisheries.
- To provide 200 nos. of gillnets to the inland fishermen.
- To intervene fishing in natural water bodies.

Project components

Supply of gillnets at 50% subsidy

Project cost and financing

1.	Subsidy as the cost of gillnets (20 kg)	Rs.5000.00
2.	Total No. of units to be supported	Rs.200.00
	Total Budget	Rs.10.00 Lakhs

Implementation chart of the project

S. No	Particulars	2008-09			
		I Qtr	II Qtr	III Qtr	IV Qtr
1.	Selection of boats	√			
2.	Fetting with numbers gears /implements		√	√	√

Reporting

The progress of the project will be reported periodically.

3. Setting up of Modern Fish Retail Outlet

Abstract

In Karur district, there are established fish markets run by the municipalities concerned. The improperly stored unsold fish kept overnight result in fish spoilage and loss of quality and revenue. To avoid this, intervention is necessary to establish modern fish retail outlets at Karur.

Budget : Rs. 20.00 lakhs

Background / Problem focus

The modern fish retail outlet will be used to keep the excess stock until selling.

Project Rationale

To avoid fish spoilage & loss of quality & revenue.

Project Strategy

The facility will be established at Karur

Project Goals

To avoid loss of revenue this outlet will be established.

Project components

I year	-	One retail market
II year	-	One retail market

Project cost and financing

a)	Cost for constriction of stalls	Rs.7.00 Lakhs
b)	Providing water lines, electrical fittings, weighing scales, etc.	Rs.2.00 Lakhs
c)	Providing waste disposal, and central storage facility	Rs.1.00 Lakh
	Total	Rs.10.00 Lakhs

Implementation chart of the project

TNFDC will be established and monitored the retail outlet.

Reporting

The progress report will be reported periodically.

4. Moped with ice box (50% subsidy)

Abstract

The mopeds with ice box will be provided to inland fishemen for hygienic marketing.

Budget : Rs. 4.50 lakhs

Background / Problem focus

For transporting and progressing fish hygienically.

Project Rationale

Fishermen and vendors will be provided with ice box and mopeds could help make available of the fish produce in time with quality retention.

Project Strategy

Making available mopeds and ice box at affordable price to meet the fishermen needs.

Project goals

To promote and sale of fish of high quality with hygiene

Project components

Supply of 30 units of mopeds with ice box at 50% subsidy

Project cost and financing

Subsidy for

1. Cost of moped	:	Rs.12,500
2. Cost of ice box	:	Rs. 2,500
Total cost	:	Rs.15,000

Rs. 0.15 lakh for 50 units

Project cost and financing

Rs. 4.50 lakhs for 30 units

Implementation chart of the project

TAFCOFED will implement this project.

Reporting

Progress of the project will be evaluated by State Fisheries Department.

RT Pages 6 & 8
ments: Pages 5 & 6

Nagapattinam Yesterday 37/27 » Karur Yesterday 40/26 » Tiruchchirapalli Yesterday 39/27 »

Conditions/ max temp/min temp in Celsius:

Tiruchchirapalli Airport Today

The day will remain warm & cloudy sky in the afternoon. Light t'storm is possible at night. High 38°C, low 27°C. RH max 81%.

Agricultural development programme for Karur

Priority for increasing area under local and indigenous crops

Staff Reporter

- **Local body members to draft action plan for each district**
- **Agricultural University has allotted one scientist for each district**

KARUR: National Agricultural Development Programme (NADP) is to be implemented in Karur district from the current year.

Proposals worth Rs. 107 crore have been forwarded for implementation in the Centrally-sponsored four-year programme that would see coordinated efforts involving several governmental agencies and departments in a bid to make the life of farmers better.

The NADP aims at increasing the funding of development programmes being implemented by the Agriculture and allied departments, empowering fully the states to prepare action plans for the betterment of farmers and agriculture in every district, preparing plans in accordance and in tune with the local ecology, meteorology and technology.

Also the programme would seek to accord priority for increasing area under local and indigenous crops, prepare plans to reduce the gap in raising staple crops and to elevate farm and allied activities to make them viable for farmers to enjoy better living conditions among other things.

Elected local body members and chiefs would be involved in drafting and discussing the action plan for each district. In fact, for discussing the proposals, a special meeting of the elected local body chiefs was convened here recently and the panchayat chiefs gave valuable inputs in tinkering with the plan to suit the local needs.

Besides Agriculture, departments such as Agriculture Engineering, Agriculture Marketing, Horticulture, Animal Husbandry, Sericulture, Seed Certification, Public Works Department's various wings have been involved in drafting the proposals under the NADP.

The Tamil Nadu Agricultural University (TNAU), which is the coordinating agency for implementing the project h[as] allotted one scientist for ea[ch] implementing district.

While Agriculture Depart[ment] has forwarded propos[als] worth Rs. 8.89 cror[e] Horticulture has come u[p] with plans worth Rs. 1.0[2] crore, Agri Marketing Rs. 1.0[3] crore, Agri Engineering R[s] 8.34 crore, Animal Husband[ry] Rs. 24.86 crore, Sericultur[e] Rs. 62 lakh, and Seed Certifi[ca]tion has put forward pro[po]sals worth Rs. 6 lakh.

The River Conservancy Di[vi]sion of the Public Works De[pa]rtment has submitted plans estimated to cost Rs. 26.04 crore while the department's Amaravathy Basin Division and Non-System Division have prepared projects estimated to cost Rs. 30 crore and Rs. 5.01 crore respectively. In all the departments have together sent draft plans worth Rs. 107 crore.

Appendix 1

Proceedings of the meeting

தேசிய வேளாண்மை வளர்ச்சித்திட்டம் (NADP) 2008–09 முதல் 2011–2012 முடியவுள்ள காலத்திற்கு செயல்திட்டம் தயாரித்தல் குறித்த ஊராட்சி மன்றத் தலைவர்களுடனான கலந்துரையாடல் கூட்ட நடவடிக்கைகள்.

*****

மேற்படி கூட்டம் மாவட்ட ஊராட்சித் தலைவர் முன்னிலையில், வேளாண்மை இணை இயக்குநர், கரூர் தலைமையில் 19.5.2008ம் தேதி காலை 10.30 மணியளவில் கரூர் மாவட்ட ஊராட்சி அலுவலக கூட்ட மன்றத்தில் நடைபெற்றது. கோவை, தமிழ்நாடு வேளாண்மைப் பல்கலைக் கழக பேராசிரியர் டாக்டர். செல்வராஜ் அவர்கள் செயல்திட்டம் பற்றி விரிவாக எடுத்துக் கூறினார்.

கூட்டத்தில் கலந்து கொண்ட அலுவலர்கள்.

1) தோட்டக்கலை துணை இயக்குநர், கரூர்.
2) துணை இயக்குநர்(வேளாண் விற்பனை மற்றும் வேளாண் வணிகம், கரூர்)
3) செயற்பொறியாளர், அரியாறு வடி நில கோட்டம், திருச்சி மாவட்டம்
4) உதவி செயற்பொறியாளர், ஆதார பாசன உட்கோட்டம், பொதுப்பணித்துறை, குளித்தலை
5) பணி ஆய்வாளர், பொதுப் பணித்துறை நீர் வள ஆதார அமைப்பு அரியாறு வடி நில பாசனப் பிரிவு, குளித்தலை
6) வேளாண்மை உதவி இயக்குநர், அரவக்குறிச்சி.
7) வேளாண்மை உதவி இயக்குநர், குளித்தலை
8) வேளாண்மை உதவி இயக்குநர், கிருஷ்ணராயபுரம்
9) விதை ஆய்வாளர், கரூர்.
10) விதைச்சான்று உதவி இயக்குநர், கரூர்
11) வேளாண்மை அலுவலர், க.பரமத்தி
12) வேளாண்மை உதவி இயக்குநர், கரூர்
13) வேளாண்மை உதவி இயக்குநர், தோகமலை
14) வேளாண்மை உதவி இயக்குநர், தாந்தோணி
15) உதவி பட்டு ஆய்வாளர், ராயனூர்.
16) வேளாண்மை இணை இயக்குநர், வேளாண் விற்பனை, கரூர்.

கூட்டத்தில் கலந்து கொண்ட ஊராட்சி மன்றத் தலைவர்கள். (திரு/திருமதி)

	அதனை சீர் செய்தால் எங்கள் பகுதியில் உள்ள 5 ஊராட்சிகளில் உள்ள விவசாய நிலம் பயனடையும் எனவும், அதற்கென ஒரு சிறப்புத் திட்டம் தயாரித்து 100 சத மானியத்தில் குளத்தை சீரமைக்க வேண்டும் எனவும் கருத்து கூறினார். 4 வருடங்களுக்கு ரூ.2486 லட்சம் போதாது என்பதால் திருந்திய மதிப்பீட்டுத் திட்டம் தயாரிக்கக் கூறினார். தார்ப்பாய் அதிக அளவில் விநியோகம் செய்ய வேண்டும் என கோரிக்கை விடுத்தார்.	தடுப்பூசி, நடமாடும் கால்நடை மருத்துவ மனை, உறை விந்து கிடங்கு, தீவன விதை விற்பனை, பால் கொள்முதல் நிலையம், பால் கறவை இயந்திரம் போன்றவற்றிற்கு நான்கு வருடத்திற்கு ரூ.2486 லட்சம் திட்டம் போட்டுள்ளதாகத் தெரிவித்தார்கள். கால்நடைத் துறையில் இருந்து திருந்திய திட்டம் தயார் செய்து அனுப்ப வேளாண்மை இணை இயக்குநர் கேட்டுக்கொண்டார்கள். கூடுதலாக தார்ப்பாய்கள் விநியோகம் செய்ய நடவடிக்கை எடுப்பதாகத் தெரிவித்தார்கள்.
5.	திரு.பி.எஸ்.நல்லுசாமி, வெஞ்சமாகூடலூர் அவர்கள் முருங்கையில் பூச்சிகளைக் கட்டுப்படுத்த விஞ்ஞானிகளை அழைத்து வந்து கூட்டுத் தல ஆய்வு மேற்கொள்ளக் கூறினார். சூரியகாந்தி சான்று பெற்ற விதை விற்பனை செய்ய நடவடிக்கை எடுக்க வேண்டும் என்றும் தரமான உரம் தட்டுப்பாடின்றி கிடைக்க வேண்டும் எனவும் கருத்து கூறினார்.	சூரியகாந்தி சான்று பெற்ற விதை விற்பனை செய்ய மாநில அரசு அறிவிக்கப்பட்ட ரகமாக மாற்றம் செய்யப்பட்டால் தான் விற்பனை செய்ய இயலும். விவசாயிகள் இரசாயன உரங்களை நம்பியிருக்காமல் இயற்கை உரங்களை பயன்படுத்த வேண்டும். யூரியா மற்றும் டிஏப்பி தவிர பொட்டாஷ் போன்ற உரங்கள் வெளி நாட்டிலிருந்து இறக்குமதி செய்வதால் சற்று காலதாமதமாகிறது. எனினும் குறுவை சாகுபடி காலத்திற்குள் உரத்தட்டுப்பாடு நீங்கி விடும் என்றும் சொட்டுநீர்ப்பாசனம் மூலம் திரவ உரம் சப்ளை ஆகிக் கொண்டிருப்பதைப் விவசாயிகள் பயன்படுத்துமாறு வேளாண்மை உதவி இயக்குநர், தாந்தோணி அவர்கள் தெரிவித்தார்கள்.
6	திரு.ஐஆர்ப்பி.ராஜகோபால், ராஜபுரம் ஊராட்சி அவர்கள் பேசுகையில் அமராவதி ஆற்றுப் பகுதி, சின்னதாராபுரம், கடைமடை பாசனப் பகுதிக்கு விவசாயத்திற்கு தண்ணீர் வருவது அரிது. முன்னர் மூன்று போகம் சாகுபடி செய்ததில் தற்போது ஒரு போகம் கூட சாகுபடி செய்ய இயலவில்லை. ஏனெனில் கலிங்கு நீர் பிடிப்புப் பகுதிக்கு கழிவு நீர் வருவதாலும், தடுப்பணைணையைப் புதுப்பித்துத் தந்தால் 2000 ஏக்கர்	அமராவதி ஆற்றை இத்திட்டத்தின் மூலம் செய்யப்படும். வாழை, மஞ்சள் போன்ற விளை பொருட்களை ஒழுங்குமுறை விற்பனைக் கூடத்தில் வைத்து விற்பனை செய்ய துணை இயக்குநர், வேளாண் வணிகம் நடவடிக்கை எடுப்பதாக உறுதி அளித்தார். வேளாண்மை இணை இயக்குநர் அவர்கள் நமது மாவட்டத்திற்கு நவப்ரா திட்டத்தில் 19 இடங்கள் தேர்வு செய்யப்பட்டுள்ளதாகத் தெரிவித்தார்கள்.

	பரப்பளவில் ஒரு போக சாகுபடி நடைபெறும் எனவும் தெரிவித்தார். கால்நடை வளர்ப்பிற்கு அதிக மானியம் தர வேண்டும். பால் உற்பத்தியாளர்கள் சங்கம் அமைக்க வேண்டும். மஞ்சள், வாழை விளை பொருட்களுக்கு நல்ல விலைகள் கிடைக்க ஏற்பாடு செய்ய வேண்டும். வேளாண் விஞ்ஞானிகளைக் கொண்டு தொழில் நுட்ப ஆலோசனைக் கூட்டங்கள் நடத்தப்பட வேண்டும். அமராவதி கால்வாய் சீர் கெட்டதை சரி செய்ய நடவடிக்கை எடுக்க வேண்டும்.	
7	நெரூர், ஊராட்சி மன்றத் தலைவர், அவர்கள் பேகையில் சுமார் 20 வருடங்களுக்கு முன்பு வேளாண்மைப் பொறியியல் துறை மூலம் பாசனப் பகுதி மேம்பாட்டுத் திட்டம் மூலம் அனைத்து கிளை வாய்க்கால்களுக்கு கருங்கல் சுவர் கட்டி நீர் பங்கீட்டினை சீர் அமைத்தது போல தற்போதும் கருங்கல் சுவர் இல்லாத வாய்க்கால்களுக்கு கருங்கல் சுவர் அமைக்க ஏற்பாடு செய்யுமாறு கூறினார்.	வேளாண்மை இணை இயக்குநர் அவர்கள் பேசுகையில் ஐசோபாம் என்ற திட்டம் (நில வள நீர் வளத் திட்டம்) பிற மாவட்டங்களில் அமுல் படுத்தப்பட்டுள்ளது. நமது மாவட்டத்தில் இத்திட்டம் செயல்படுத்தப்–படவில்லை. வரும் காலங்களில் இத்திட்டம் சேர்க்கப்பட்டு விடும் எனவும் கூறினார்கள்.
8.	நெடுங்கூர் ஊராட்சி மன்றத் தலைவர் திரு. பரமசிவம் அவர்கள் பேசுகையில் நுண்ணீர் பாசனத்திற்கு 50சத மானியம் அளிப்பதை 75 சதமாக உயர்த்தித்தருமாறு கேட்டுக்கொண்டார்.	வேளாண்மை இணை இயக்குநர் அவர்கள் பேசுகையில் நுண்ணீர் பாசனத்திற்கு 75சத மானியம் உயர்த்தித் தர நடவடிக்கை எடுக்கப்படும் என தெரிவித்தார்கள்.
9.	திரு.செல்லமுத்து, தென்னிலை ஊராட்சி மன்றத் தலைவர் பேசுகையில் விவசாயிகளுக்கு வழங்கப்படும் 50 சத மானியத்தில் 20 சத மானியம் தான் கிடைக்கப் பெறுகிறது. நிறுவனத்தார்கள் விவசாயிகளுக்கு நேரிடையாக மானியம் கொடுக்க வேண்டும்.	உரிய நடவடிக்கை எடுக்கப்படுவதாக வேளாண்மை இணை இயக்குநர் அவர்கள் தெரிவித்தார்.

	நிர்வாகத்தினர் ஒப்புதல் அளிக்கலாம். ஆனால் விலை நிர்ணயம் அரசு முடிவு செய்ய வேண்டும்.	
10.	திருமதி.ராணி, ஊராட்சி மன்றத் தலைவி, புத்தூர் பேசுகையில் புத்தூர் பகுதியில் உள்ள ஏரிகளுக்கென அதிக நிதி ஒதுக்கீடு செய்ய வேண்டும் எனக் கருத்துத் தெரிவித்தார்.	உரிய நடவடிக்கை எடுக்கப்படுவதாக வேளாண்மை இணை இயக்குநர் அவர்கள் தெரிவித்தார்.
11.	திரு.வி.எஸ்.ராகவன், பில்லூர் ஊராட்சி மன்றத் தலைவர் பேசுகையில் பில்லூர் பெரிய குளத்தில் உள்ள இரண்டு குழுமியை சரி செய்யவும், தூர் வாரவும், கரையை பலப்படுத்தி அகலப்படுத்தவும், நீர் வரத்து வாய்க்காலையும் நீர் வெளியேறும் வாய்க்காலை சீரமைக்கவும், கேட்டுக்கொண்டார். இதன் மூலம் 300 ஏக்கர் நிலம் பாசனம் பெறுவதால் இதனை சிறப்பினமாகக் கருதி செய்யுமாறு கேட்டுக்கொண்டார். கால்நடை கிளை நிலையம் அமைக்க கேட்டுக்கொண்டார். எங்கள் ஊராட்சியில் தானியங்கி வானிலை மையம் அமைக்க வேண்டும். நுண்ணிர் பாசனம் மூலம் விவசாயம் செய்ய எங்கள் பகுதி விவசாயிகளுக்கும் வாய்ப்பு வழங்க வேண்டும்.	உரிய நடவடிக்கை எடுக்கப்படுவதாக வேளாண்மை இணை இயக்குநர் அவர்கள் தெரிவித்தார்.

இறுதியாக வேளாண்மை உதவி இயக்குநர், தாந்தோணி நன்றி கூற கூட்டம் இனிதே முடிவடைந்தது.

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27. பி.எம்.செல்லப்பன், நன்னியூர்
28. ப.நரசிங்கம், தேவர்மலை
29. எம்.மரியலூயிஸ், காளையாபட்டி
30. பி.சசிசுமார், கடம்பங்குறிச்சி
31. பி.எஸ்.நல்லுசாமி, வெஞ்சமாங்கூடலூர்(மேற்கு)
32. பி.சுதா, அத்திப்பாளையம்
33. ஜி.ராஜேஸ்வரி, வேட்டமங்கலம்
34. எம்.நம்பெருமாள், மஞ்சநாயக்கன்பட்டி
35. ஆர்.செந்தில்குமார். திருக்காம்புலியூர்
36. டி.வாசுதேவன், ஈசனத்தம்
37. என்.ராஜேந்திரன், தென்னிலை(கிழக்)
38. என்.பி.பழமுதிர்வேல், சோமூர்
39. க.பேரானந்தன், சேந்தமங்கலம்(கிழக்கு)
40. எம்.கணபதி, கொடையூர்

41. பி.பவித்திரன், பி.அனைப்பாளையம்
42. எஸ்.கைலாசம், வெள்ளப்பட்டி
43. பெ.ரங்கசாமி, வடவம்பாடி
44. வி.எஸ்.ராகவன், பில்லூர்
45. நல்லசிவம், நெடுங்கூர்
46. ஆர். ஐயர், கொசூர்
47. லட்சுமி, அப்பிபாளையம்
48. சசிக்குமார், தலைவர், புஞ்சைக்கடம்பன்குறிச்சி

கூட்டத்தில் கலந்து கொண்ட உழவர் ஆய்வு மன்ற அமைப்பாளர்கள்

1. எஸ். மனோகரன், கோவிந்தம்பாளையம், கரூர்
2. கே.எஸ். சுப்பிரமணியன், காட்டுப்பாளையம், தென்னிலை
3. கே.பி. ராமசாமி, மலையம்பாளையம், தென்னிலை
4. ஆர். சதிஷ், வலையப்பட்டி
5. பெ. பாக்கியம், நெய்தலூர்

மேற்படி கூட்டத்தில் கலந்து கொண்ட அனைவரையும் வேளாண்மைத் துணை இயக்குநர் (மத்திய அரசு திட்டம்) அவர்கள் வரவேற்றார்.

வேளாண்மை இணை இயக்குநர், கரூர் அவர்கள் பேசுகையில் தேசிய வேளாண்மை வளர்ச்சித்திட்டம் மத்திய அரசால் மாநில அரசு மூலமாக ஒவ்வொரு பகுதிக்கும் தேவையான மானியத்தொகை 100சதவீத அளவிற்கு வழங்கப்படவுள்ளது. வேளாண்மை வளர்ச்சி ஆண்டு தோறும் 4 சதவீத அளவிற்கு உயர்த்துவதே இத்திட்டத்தின் நோக்கமாகும். எனவே ஊராட்சி மன்றத் தலைவர்கள் அனைவரும் தங்கள் பகுதியில் விவசாயம் சம்பந்தமான பணிகள் சிறப்பாக நடைபெற என்னென்ன திட்டங்கள் செயல்படுத்தலாம் என்ற ஆலோசனையை வழங்கினால் அரசுக்கு பிரேரணை அனுப்ப ஏதுவாக இருக்கும். எனவே அனைத்து ஊராட்சி மன்றத் தலைவர்களும் தங்களது பகுதிகளில் உள்ள விவசாயத் திட்டங்கள் குறித்த ஆலோசனைகள் விவரமாக எடுத்துக் கூற கேட்டுக்கொண்டார்கள்.

ஒவ்வொரு பகுதியிலும் உள்ள விவசாயிகள் சங்கம் ஒன்றை அமைத்து அங்குள்ள விவசாயிகளைக் கலந்துபேசி தேவையான இடு பொருட்கள் மற்றும் தொழில்

நுட்பங்கள் கிடைப்பதற்கு திட்டங்கள் தீட்ட வேண்டும். தரமான விதைகள் விவசாயிகளுக்கு சென்றடைய விதைச் சான்றுத் துறை என்று தனியாக ஒரு துறை உள்ளது. கரூர் மாவட்டத்திற்கு மட்டும் தேசிய வேளாண்மை வளர்ச்சித் திட்டத்தினை அமுல் படுத்திய ரூ. 107 கோடி மதிப்பீட்டிலான திட்டம் தயார் செய்யப்பட்டுள்ளது. மேற்படி தொகை முழுவதையும் பயன்படுத்தி கரூர் மாவட்டத்திற்கு என்னென்ன பயன்கள் சென்றடையும் என்பதை ஊராட்சித் தலைவர்கள் தங்களது கருத்துக்களைத் தருமாறு கேட்டுக் கொண்டார்கள்.

இந்த வருடத்திற்கு இம்மாவட்டத்தில் உள்ள 5 ஒன்றியங்களுக்கு மட்டும் திட்டங்கள் செயல்படுத்த நிதி ஒதுக்கீடு செய்யப்பட்டுள்ளது. அடுத்த முறை மற்ற ஒன்றியங்களுக்கு தேவைப்படும் நிதியினை பஞ்சாயத்துத் தலைவர் அவர்களுடன் பேசி மாவட்ட அளவில் முடிவு செய்து வேளாண்மைப் பல்கலைக்கழகத்திற்கு அனுப்பிடக் கேட்டுக்கொண்டார்கள். முதன் முறையாக இருப்பதனால் ளுகூசுநுஹஆ 1 ல் நடப்பு ஆண்டில் நடைமுறைப் படுத்தப்பட்டுள்ளது. ஏற்கனவே நடைமுறையில் இருக்கிற திட்டங்களை ளுகூசுநுஹஆ 2ல் அந்தந்த பகுதி விவசாயிகளுக்கு தேவையான தொகையினை அந்தந்த பகுதியில் செயல்படுத்தலாம். ளுகூசுநுஹஆ 2 தொகையினை அலுவலர்கள் வைத்து அறிக்கையாக போடலாம். வேளாண்மை மற்றும் வேளாண் சார்ந்த துறைகளில் திட்டம் செயல்படுத்த சுமார் 107 கோடி ரூபாய் அளவிற்கு திட்டம் தயார் செய்யப்பட்டு அறிக்கையாக அனுப்பப்பட்டுள்ளது. இதில் ஏதாவது மாறுதல் இருந்தால் ஊராட்சித் தலைவர்கள் தங்களது கருத்துக்களைக் கூறவும் கேட்டுக்கொண்டார்கள். புதிய திட்டங்களாக இருந்தால் தனியாக அறிக்கை கொடுக்கலாம் எனவும் கேட்டுக்கொண்டார்கள்.

திரு.செல்வராஜ், பேராசிரியர், தமிழ்நாடு வேளாண்மைப் பல்கலைக் கழகம், கோவை அவர்கள் பேசுகையில் தேசிய வேளாண்மை வளர்ச்சித் திட்டம் குறித்து வேளாண்மை இணை இயக்குநர், கரூர் அவர்கள் விரிவாக எடுத்துக் கூறியுள்ளதாகவும் கரூர் மாவட்டத்திற்கு என்னென்ன திட்டங்கள் தேவைப்படுகிறது ; அதற்கு என்னென்ன திட்டங்கள் தேவை என்பதை பஞ்சாயத்துத் தலைவர்கள்

கூறினால் இத்திட்ட அறிக்கையுடன் சேர்த்துக்கொள்ளப்படும் எனவும் கடந்த 10 ஆண்டுகளாக வேளாண் துறை வளர்ச்சியில் பின் தங்கிய நிலையில் உள்ளது எனவும் வேளாண்மைத் துறையின் விவசாய வளர்ச்சியினைத் துரிதப்படுத்த என்னென்ன நடவடிக்கை மேற்கொள்ளலாம் என்பதனை அறிந்து வேளாண்மை உற்பத்தியினைப் பெருக்க வேண்டும் எனவும் கேட்டுக்கொண்டார்கள். கிராமப் புறங்களில் விவசாயப் பணிகளை விரிவு படுத்த எல்லா ஊராட்சித் தலைவர்களுடன் கலந்து பேசி மாவட்ட திட்டத்தினை மாநிலத் திட்டமாக மாற்ற நடவடிக்கை எடுக்குமாறு கேட்டுக்கொண்டார்கள். நெல் உற்பத்தித் திட்டப் பணிகளுக்கு 15 சதம் மானியம் கொடுக்கிறார்கள். டான்வெப் குழுவிற்கு விதை உற்பத்தி மற்றும் விதை விநியோகத்திற்காக ரூபாய் 50 ஆயிரம் ஒரு குழுவிற்கு வழங்கப்படும். விதை உற்பத்தி ஊக்கத் தொகையாக ஒரு குழுவிற்கு ஒரு கிலோவிற்கு ரூ.3/– வீதம் மானியம் வழங்கப்படுகிறது. விதை, உரம், பூச்சி மருந்து, இரும்புக்கலப்பை போன்றவைகளுக்கு மானியத் தொகை மத்திய அரசுசால் நிர்ணயம் செய்யப்படுகிறது. இந்த தலைப்பில் வேளாண்மைத் துறை திட்டத்திற்கு 5 வருடங்களுக்கு ரூ. 335 லட்சம் கேட்டுள்ளார்கள். தோட்டக்கலைத் துறை பண்ணையத் திட்டத்திற்கு ரூ. 161.43 லட்சம் கேட்டுள்ளார்கள். இதே போல் விற்பனைத் துறைக்கு விதைகளை சேமிப்பு செய்வதற்கு ரூ.105.05 லட்சம் ஒதுக்கீடு செய்துள்ளார்கள். ஒழுங்கு முறை விற்பனைக் கூடங்கள் மூலம் தரகு, கமிஷன் இன்றி விளை பொருட்களை விற்பனை செய்ய வியாபாரிகளை அழைத்து விவசாயிகளின் விளை பொருட்களை நல்ல விலைக்கு விற்க ஏற்பாடுகள் செய்யப்பட்டு வருகிறது. கால்நடை பராமரிப்புத் துறையைப் பொறுத்தவரையில் (2008–09க்கு) கரூர் மாவட்டத்தில் பரமத்தி, அரவாக்குறிச்சி, கரூர், தாந்தோணி, தோகமலை, கடவூர் ஒன்றியங்களில் ஆடு வளர்ப்பை அபிவிருத்தி செய்ய வேண்டும். 60 சதவீத மக்கள் கால்நடை வளர்ப்பில் ஈடுபட்டுள்ளனர். நமது மாவட்டத்திற்கு அதிகமாக கால்நடைத் துறைக்கு இத்திட்டத்தின் மூலம் நிதி ஒதுக்கீடு செய்ய கேட்டுக்கொண்டார்கள்.

நமது மாவட்டத்தில் உள்ள ஆறுகளான அமராவதி, காவேரி, நொய்யல் மற்றும் ஏரிகள் மூலம் பாசனம் நடைபெறுகிறது. அமராவதி ஆற்றினை தூர் வாருவதற்கும் மதகுககள் சரி செய்வதற்கும் 5 வருடங்களுக்கு ரூ.30 கோடி

கேட்டுள்ளார்கள். காவிரி ஆற்றுப் பாசனத்திற்கு 2008–2009ம் ஆண்டிற்கு ரூ. 500 லட்சம் மாயனூர் முதல் கடைமடை வரை தூர் வாரி பாசனம் சீராக நடைபெற மேற்படி தொகை கேட்டுள்ளார்கள். இம்மாவட்டத்தில் உள்ள ஏரிகளை தூர் வார 2008–2009ம் ஆண்டிற்கு ரூ.50 கோடி கேட்டுள்ளார்கள். இது தவிர தமிழ்நாடு வேளாண்மைப் பல்கலைக் கழகத்தில் இரண்டு திட்டங்களைக் கொடுத்துள்ளார்கள். கரூரில் உள்ள தொழிற்சாலைகளில் இருந்து வெளியேறும் சாயப்பட்டறை கழிவு நீர் அமராவதி ஆற்றில் கலப்பதால் மேற்படி நீரினால் பாசனம் செய்யப்படும் வயல்களை முற்றிலுமாக மண் பகுப்பாய்வு மேற்கொண்டு அவ்வறிக்கையின்படி சாகுபடி முறையைக் கையாள வேண்டும் எனவும் தெரிவித்தார்கள்.

விதைச்சான்றுத் துறையின் மூலமாக தரமான விதைகள் விவசாயிகளுக்கு பெருமளவில் சென்றடைகிறது. நமது கரூர் மாவட்டத்திற்கு விதைப்பரிசோதனை நிலையம் ரூ.6 லட்சம் மதிப்பீட்டில் அமைக்க தேசிய வேளாண்மை விரிவாக்கத் திட்டத்தில் சேர்த்திட கேட்டுக்கொண்டார்கள்.

பட்டு வளர்ப்புத் துறையில் 2008–2009ம் ஆண்டிற்கு ரூ.10 லட்சம் செலவில் திட்டங்களைச் செயல்படுத்த உள்ளார்கள்.

வேளாண்மைப் பொறியியல் துறையில் வேளாண் கருவிகள்(புதியது), அறுவடைக் கருவிகள், நடவுக் கருவிகள் 2008–2009ம் ஆண்டிற்கு ரூ.71 லட்சம் கேட்டுள்ளார்கள். விவசாயிகளுக்கு மானிய விலையில் கருவிகளை வழங்கலாம்.

இத்திட்டம் 2007–2008ல் தமிழ்நாட்டில் 9 மாவட்டங்களில் மட்டுமே செயல்படுத்தப்பட்டது. தற்போது எல்லா மாவட்டங்களிலும் செயல்படுத்தப்பட்டு வருகிறது. முக்கியமாக எல்லா ஒன்றியத்திற்கும் சேர்த்து துல்லிய பண்ணையம் மூலம் சொட்டு நீர்ப் பாசனத்திற்கென 250 ஹெக்டர் கொடுக்கப்பட்டுள்ளது. வட்டார அளவில் பயிர் மருந்தகம் மற்றும் மண் மாதிரி ஆய்வுக் கூடம் நடத்துவதற்கு 5 வேளாண் பட்டதாரிகளுக்கு மான்யமாக ரூ. 15 இலட்சம் அளவில் வழங்கப்படவுள்ளது. தானியங்கி வானிலை மையம் அமைக்க நிதி ஒதுக்கீடு செய்யப்பட்டுள்ளது. தானியங்கி

வானிலை மையம் 5 ஒன்றியங்களுக்கு நிறுவ உத்தேசிக்கப்பட்டு ஒவ்வொரு வட்டாரத்திலும் 3 இடங்கள் தேர்வு செய்யப்பட்டுள்ளது. இதனை அமைக்க 1 சென்ட் நிலம் விவசாயி தரப்பட வேண்டும். இந்தத் திட்டம் நடைமுறைக்கு இவ்வாண்டு செயல்படுத்தப்படும்.

வ.எண்	கருத்து அளித்தவர் பெயர்	சம்பந்தப்பட்ட அலுவலரின் பதிலுரை
1	பூவை ரமேஷ் பாபு, மாவட்ட ஊராட்சித் தலைவர் – மத்திய அரசு வேளாண்மைத் துறைக்காக பல்வேறு சலுகைகளை வழங்கி வருகிறது. தமிழ்நாட்டில் பல்வேறு திட்டங்களை நல்ல முறையில் செயல்படுத்தி வருகிறது தமிழக அரசு. வேளாண்மைத் துறை அமைச்சர் அவர்கள் இங்கு வந்திருந்த போது இம்மாவட்டத்தில் செயல்படுத்தப்படும் வேளாண்மைத் துறை திட்டங்கள் பற்றியும் அதன் மீது எடுக்கப்பட்ட நடவடிக்கை பற்றியும் விரிவாக எடுத்துக் கூறினார்கள். இந்த நடைமுறையின் மீது நம்முடைய கிராம ஊராட்சித் தலைவர்கள் தங்கள் ஊராட்சிக்காக வேளாண்மைத் துறைக்கு உங்களது கருத்துக்களைத் தெளிவாக ஆலோசனைகளை நல்குமாறு கேட்டுக்கொள்கிறேன். நமது மாவட்டத்தில் கிராமப் புறத்தில் பயிரிட்டுக் கொண்டிருக்கும் வேளாண் நிலங்களை வீடு கட்டிக் கொண்டிருக்கிற சூழ்நிலையாக மாறிக் கொண்டிருக்கிறது. பல்வேறு துறைகளைச் சேர்ந்த இந்த அற்புதமான திட்டத்தை செயல்படுத்த நாம் எல்லோரும் அவர்களுக்கு உறுதுணையாக இருக்க வேண்டும். மாற்றங்கள் தேவைப்பட்டால் நாம் நமது கருத்துக்களைக் கூற வேண்டும்.	உரிய நடவடிக்கை எடுக்கப்படுவதாக வேளாண்மை இணை இயக்குநர் அவர்கள் தெரிவித்தார்.

2	திரு.கோபால், அஞ்சூர் ஊராட்சி மன்றத் தலைவர், அவர்கள் பேசுகையில் அஞ்சூர், மஞ்சனூர், கார்விழி ஆகிய கிராமங்களின் கீழ் பவானி பாசனக் கால்வாய் மூலம் பாசனம் நடைபெறுகிறது. முக்கியமாக நெல், எள் மற்றும் பயறுவகை பயிரிடப்பட்டு வருகிறது. எங்கள் ஊராட்சிக்கு கால்நடைகள் அதிகம் இருப்பதால் கால்நடை மருத்துவமனை அமைத்துத் தரவேண்டும் என்றும் இந்தப் பகுதியில் 5 ஆயிரம் ஏக்கர் நெல் சாகுபடி செய்யப்பட்டு வருகிறது என்றும் தரமான விதை நெல் பெறுவதற்கு எங்கள் பகுதியில் வேளாண்மை விரிவாக்க மையம் ஒன்று ஏற்படுத்தித் தர வேண்டும் என்றும் தற்போதுள்ள சூழ்நிலையில் விவசாயக் கூலி வேலை செய்ய ஆட்கள் கிடைக்காத நிலையில் சிறிய அளவில் நடவு இயந்திரம் ஒன்று அறிமுகப்படுத்தி அதனை மானிய விலையில் கிடைக்க ஏற்பாடு செய்ய வேண்டும் என்றும் பருவ காலங்களில் மட்டும் நடமாடும் மண் பரிசோதனை நிலையம் எங்கள் பகுதிக்கு வந்து மண் பகுப்பாய்வு செய்து அறிக்கை தர வேண்டும் என்றும் கடந்த 15 ஆண்டுகளாக ஆத்துப்பாசன அணையினை சீர் அமைக்க வேண்டும் என்றும் இதனால் குன்னம், சத்திரம் , மண்மங்கலம் வரையுள்ள விவசாய நிலங்கள் பாசனம் பெறுவதற்கு ஏதுவாக இருக்கும் என்றும் நொய்யலில் வெள்ளக் காலங்களில் வெளியேறும் நீரை ஆற்றுப் பாசன அணைக்கு திருப்பி விட்டால் அந்த நீரைக் கொண்டு விவசாயம் செய்ய ஏதுவாக இருக்கும் என்றும் தார்ப்பாய், விசைத் தெளிப்பான், கைத்தெளிப்பான்	வேளாண்மை இணை இயக்குநர் அவர்கள் மண் மாதிரிகள் பகுப்பாய்வு செய்வதற்கு கிராமப் புறங்களில் உள்ள வேளாண் பட்டதாரிகளை இப்பணிகளில் அமர்த்தப்படுவார்கள். களை எடுக்கும் கருவி, அறுவடைக் கருவி மானிய விலையில் வழங்க ஏற்பாடு செய்யப்படும். ஊராட்சி மன்றத் தலைவர் விதை நெல் விற்பனை செய்ய ஏதுவாக இடம் அளித்தால் அந்தந்த பருவத்திற்கு ஏற்றவாறு விதை விற்பனை செய்ய நடவடிக்கை எடுக்கப்படும். ஆத்துப்பாளையம் அணையின் மூலம் பாசனம் பெறும் பாதிக்கப்பட்ட நிலங்களை கூட்டுத் தல ஆய்வு செய்ய நடவடிக்கை எடுக்கப்படும்.

	ஆகியவை மானிய விலையில் வழங்க வேண்டும் என்றும் கருத்துக் கூறினார்.	
3	திரு.சதீஷ், உழவர் மன்ற அமைப்பாளர், வலையப்பட்டி. விதைச்சான்றுத் துறைக்காக இத்திட்டத்தில் 6 லட்சம் கேட்டுள்ளதில் என்னென்ன திட்டங்கள் சேர்க்கப்படுகிறது எனக் கருத்துக் கேட்டார். நச்சலூர் மற்றும் வலையப்பட்டி பகுதியில் சென்ற வருடம் செம்பை நெல் சாகுபடித் திட்டத்தில் 20 ஹெக்டரில் நல்ல மகசூல் கிடைத்தது. அதே போன்று இவ்வாண்டும் செம்மை நெல் சாகுபடித் திட்டத்திற்கு அதிக பரப்பு ஒதுக்கீடு செய்யப்பட வேண்டும். பண்ணையத் திட்டத்தின் கீழ் நுண்ணீர் பாசனம் சங்கம் அமைக்கக் கோரினார். விவசாயி விளைபொருட்களுக்கு நல்ல விலை கிடைக்க ஏற்பாடு செய்யக் கோரினார்.	விதைச்சான்று உதவி இயக்குநர், கரூர் அவர்கள் பதில் கூறுகையில் தனியாக அரசு ஒவ்வொரு மாவட்டத்திற்கும் விதைப்பரிசோதனை நிலையம் அமைக்க ஒப்புதல் வழங்கியுள்ளது என்றும் இதன்படி கரூர் மாவட்டத்தில் விதைப்பரிசோதனை நிலையம் அமைக்க ரூ.25 லட்ச மதிப்பீட்டில் கட்டிடம் கட்டவும், உபகரணங்கள் வாங்க ரூ.6 லட்சம் ஒதுக்கீடு செய்யவும் ஒப்புதலுக்காக வைத்துள்ளோம் . வேளாண்மை இணை இயக்குநர் பதிலளிக்கையில் இவ்வாண்டு இப்பகுதிக்கு செம்மை நெல் சாகுபடி திட்டத்திற்கு அதிக பரப்பு ஒதுக்கீடு செய்யப்படும். 20 நபர்கள் கொண்ட சங்கம் அமைத்து துல்லிய பண்ணைத் திட்டத்தின் கீழ் 150 ஹெக்டர் ஒதுக்கீடு செய்யப்பட்டு 10 ஹெக்டர் மாதிரி துல்லிய பண்ணையத் திட்டம் செயல்படுத்தப்படுவதாக வேளாண்மை இணை இயக்குநர் தெரிவித்தார்கள். விற்பனைத் துறை துணை இயக்குநர் அவர்கள் பேசுகையில் ஒழுங்குமுறை விற்பனைக் கூடம் மூலம் விளை பொருட்களுக்கு நல்ல விலை கிடைக்க ஏற்பாடு செய்யப்படுவதாகத் தெரிவித்தார்கள்.
4.	திரு.சிவசாமி, ஊராட்சி மன்றத் தலைவர், மூக்கணாங்குறிச்சி, அவர்கள் பேசுகையில் கரூர் மாவட்டம் மழையை நம்பியுள்ளதால் கால்நடை வளர்ப்பு தான் முக்கிய பங்காக உள்ளது. கால்நடை வளர்ப்பு அதிகரித்தால் தான் 158 பஞ்சாயத்து வளர்ச்சியடையும். பாகநத்தம் பகுதியில் உள்ள 200 ஏக்கர் பரப்புள்ள குளம் உடைந்த நிலையில் உள்ளதால்	இது குறித்து சம்பந்தப்பட்ட அலுவலரான கால்நடைத்துறை அலுவலர் வரப்பெறாததால் கால் நடைத் துறை அலுவலர் அளித்த திட்டத்தைப் பற்றி வேளாண்மை இணை இயக்குநர் அவர்கள் அந்தத் திட்டம் பற்றி எடுத்துரைத்தார்கள். தீவன நாற்றங்கால் அமைக்கவும், பச்சைத் தீவன புல் அமைக்க மானியம் அளிக்கவும், கோழி தீவனம், மாட்டுத் தீவனம் தயாரிக்க யூனிட்டுகள் அமைக்கவும், பச்சைத் தீவன வெட்டி, பறவை

NADP Sensitization Workshop and Discussion on District Agriculture Plan - Karur District held on 19.05.2008

Joint Director of Agriculture addresses the meeting

Professor of Agricultural Economics presents the action plan

Panchayat Presidents in the meeting

Participants in the meeting